

# **Co-operating to Compete: A Future for Irish Farm Forestry**

**A report for**



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# Contents

<b>Executive Summary</b> .....	<b>4</b>
<b>Introduction</b> .....	<b>8</b>
<b>Report Objectives</b> .....	<b>10</b>
<b>Methodology</b> .....	<b>11</b>
<b>Chapter 1: Policy Context and Government Commitment to the Industry</b> .....	<b>12</b>
New Planting .....	12
Mobilising Existing Asset.....	13
<b>Chapter 2: The Role of Farmer</b> .....	<b>15</b>
<b>Co-operation</b> .....	<b>15</b>
Discussion Groups .....	15
Wood Fuel Supply Cooperative Case studies.....	17
Stage 1 - The Laois Farm Forestry Group – A Representative voice for private forest owners .....	17
Stage 2 – Donegal Woodland Owners Society - Forest Cooperatives.....	18
<b>Chapter 3: Empowering Private Forest Owners</b> .....	<b>21</b>
The role of Forest Management Companies.....	21
Forest Inventory Requirements.....	23
<b>Chapter 4: State Forest Assets and the Sale of Cutting Rights</b> .....	<b>26</b>
Sustainability of the Timber Processing Industry.....	26
Multiuse Potential of State Forestry .....	27
<b>Conclusions</b> .....	<b>30</b>
<b>Recommendations</b> .....	<b>32</b>
<b>Acknowledgements</b> .....	<b>33</b>
<b>References:</b> .....	<b>34</b>
<b>Appendices (Explanatory notes and sample documents)</b> .....	<b>35</b>
Appendix 1: A Note on thinning .....	35
Appendix 2: A Note on Clustering .....	36
Appendix 3: Application Process for the Afforestation Scheme (summary) .....	37
Appendix 4: Provenance Declaration Form .....	39
Appendix 5: Mandate of Grants .....	40
Appendix 6: Assignment of Grant to Registered Forester.....	41
Appendix 7: Sample Management Plan (Year 5 -10).....	42
Appendix 8: Management Checklist (Year 5-10).....	43

# Executive Summary

Ireland currently has the lowest level of forest cover in Europe at approximately 11% of the land area; the European average is 38%. Despite this alarming statistic Ireland has a number of advantages relative to many of our neighbours who have a longer tradition of forestry and larger national estates. Irish conditions are among the best in Europe for the growing of commercial Sitka Spruce plantation forestry<sup>1</sup>, and its forests are among the healthiest, with its island status affording it a natural level of protection from the spread of infectious disease and the infiltration of foreign pest species. Moreover, there is a healthy level of private afforestation driven by the farming community<sup>2</sup>. This report seeks to identify a future for farm forestry in Ireland: how we can grow a sustainable forestry industry in the context of a growing and maturing, farmer-led private forest estate.

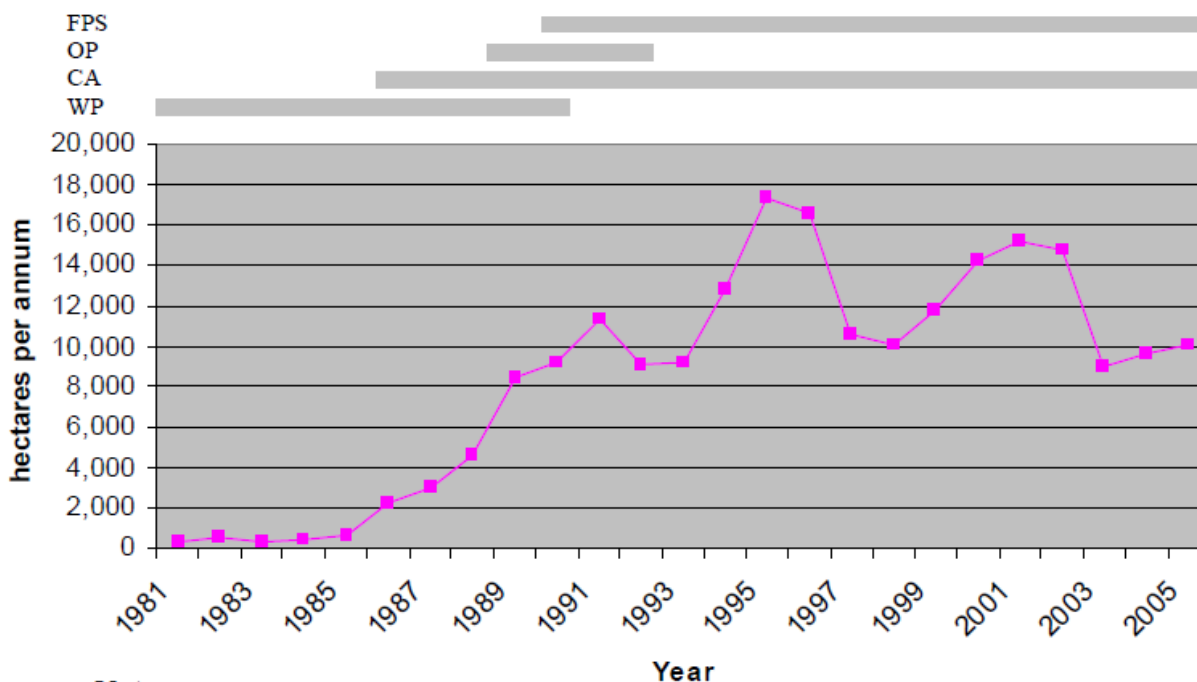
Understanding past developments and the current structure of Ireland's forest estate, relative to European neighbours with a more developed forest industry, is necessary in understanding the potential threats and opportunities involved in growing a truly sustainable industry into the future. In 1920 Ireland's forest cover was 1% of the land area, with afforestation and commercial forestry previously seen as a state area of responsibility. It was not until the pioneering work of a number of individuals in the 1970s and 1980s that the potential of forestry to provide an alternative land use and attractive return to the farming community was highlighted. Such pioneering work saw the opportunities to grow the private forest estate through the farming community rather than large investment companies and pension funds. People such as Ray Gallagher (formerly of ICOS and later of the Western Forestry Cooperative) and Michael Bulfin (Teagasc) were influential figures in this promotion process. The culmination of such peoples' work was the introduction of private planting incentive schemes in the 1980s, first with the Western Forestry Package in 1980 (extended to a national scheme in 1987) and later the Forest Premium Scheme in 1990. These schemes and their subsequent amendments introduced attractive establishment grants and guaranteed subsidy payments subject to certain conditions and sustainable management practices. The result has been a significant increase in private planting since the mid-1980s, which has brought us from a position where private planting was almost negligible to our current position of 11% forest cover, 47% of which is privately owned. Of private forest planters 84% (16,000) are farmers (Hynes, 2007).

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<sup>1</sup> The Irish climate is very favourable for growing trees and growth rates of over three times the European Union (EU) average have been recorded for Sitka spruce (Savill et al, 2005).

<sup>2</sup> The rate of new private planting has dropped back in recent years from a peak in 1995.

**Growth in the level of private afforestation (ha) since 1980.**  
**Time line of each grant scheme shown at the top of the graph (Farrelly, 2008)**



**Note:**  
 Western Package (WP): 1981-1991  
 Compensatory Allowances (CA): 1986- indefinite  
 Forestry Operational Programme (OP): 1989-1993  
 Forestry Premium Scheme (FPS): 1990-indefinite

It is estimated that 100,000 hectares of private forestry is currently ready to be thinned or approaching thinning stage<sup>3</sup> (IFFPA, 2011). This creates an unprecedented challenge for the industry and particularly for this segment of the farming community. A significant percentage of these farmers can be characterised as having a low level of knowledge of silviculture management and forestry markets. Many have not been engaged in active management of their crop since its establishment over a decade ago. However there is clear growth potential and opportunities within the sector which can be driven by the farming community. These opportunities should not be missed. Private farm forestry is at a crucial stage in its development., This report has been motivated by the belief that the targeting of farmers for the development of the forest industry has being one of the key strategic decisions which has the potential to provide a sustainable and growing forestry industry into the future. ”Where we go from here depends on the dynamism and leadership of private farm foresters. The facilitation in the growth of a private forest industry and development of a forest culture must be nurtured by a supportive policy environment which recognises the true value and

<sup>3</sup> For a description of the thinning process, see Appendix 1.

potential of the forest estate in the provision of fuel, fibre, food, leisure and employment”<sup>4</sup> (Dooley, 2008).

Arising from this Nuffield study are four key themes which aim to investigate how this can be achieved:

### **1. The Role of Farmer Cooperation**

There is an immediate need to facilitate farmer cooperation through informal cooperative structures such as discussion groups. This could most easily and efficiently be facilitated through an extension of the ‘Cluster’<sup>5</sup> group project run by Teagasc to identify suitable participants in targeted areas coming to the first thinning stage of tree management. Such an initiative would require the commitment of additional resources to facilitate groups as current staff already has a substantial work commitment, with nine dedicated advisors for the entire country. The scheme would require specialist staff but there is institutional expertise in Teagasc in relation to discussion groups, particularly in the Dairy sector.

### **2. The Role of Forest Management Companies**

Forestry management companies’ role in the establishment and early management of private plantations needs to be addressed. Currently in Ireland the majority of planting and the first four years of management are undertaken by forest management companies who receive the establishment grant and maintenance grant at the end of the four year period, after which point they are generally no longer involved with the management of the plantation or in communication with the farmer. The problem with the current structure is that in many cases the farmer is not involved in the active management of their own farm. At the end of this four year period some have little knowledge about their own plantation, the species that make up their plantation, the management that has been undertaken, future management practices required, special features about his/her plantation. One practical proposal is the need for farmers to have access to practical management plans from an early stage. In leading forest nations such as the Scandinavian countries, there is cataloguing of in depth, practical and usable information on plantation plots. There should be an onus on management companies to provide a practical understandable management plan, forest map, special forest features and plan for clearfell, which they would explain and leave in the hands of the farmer. Farmers would then be better equipped to manage their own forests.

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<sup>4</sup> Extract of interview with Dr Nuala Ni Fhlatharta, Head of the Forestry Development Unit, Teagasc Athenry.

<sup>5</sup> For a description of the Cluster project see Appendix 2.

### **3. The Irish policy context and Government commitment to the industry**

There must be a clear commitment by Government to the planting programme through the afforestation scheme if we are to halt the eroding of confidence in prospective planters and to meet current afforestation targets, which will be essential in sustaining the forestry sector and wider processing industry into the future. Government have made a commitment to achieve an annual afforestation level of almost 10,000 hectares and to increase this to 15,000 hectares from 2015 onward. The afforestation level for 2011 was closer to 7,000 hectares. Government afforestation targets will not be met unless there is a real commitment given to potential planters that the afforestation programme will be protected into the future.

In addition, the policy environment needs to focus on the existing resource and the maximization of that resource. Private forestry is now at a very interesting stage: up to now private forestry was very much focused on planting and establishment, but many private forests are now at the stage that timber is starting to be extracted. In particular, there is a serious need to maintain adequate investment to allow the development of essential road infrastructure to enable harvesting and thinning operations.

### **4. State Forest Assets and the Sale of Cutting Rights**

The government is currently examining the option of selling the harvesting rights to the Coillte forests for a period of 70 to 80 years. This study looked at the effect the sale of cutting rights has had on the development of the New Zealand forestry industry. In NZ, long term lease agreements for 100 years of cutting rights were arranged. Much of the feedback over the course of the study indicated that these agreements proved a missed opportunity for the sector. It appears that some of the larger investment companies have focused on growing trees to sell logs at the expense of building indigenous processing capacity and the ability to add value to NZ timber. As a result a large percentage of the annual harvest leaves the country in log form, particularly to China, its largest export destination. Whilst New Zealand does not provide a like-for-like comparison there are lessons to be learned from the overseas experience.

The findings of this report thus draw on the prior experiences of farm foresters in the UK, Finland, Estonia, New Zealand and Australia, and point to the importance of the co-operation of all stakeholders in the development of a sustainable and economically viable model for Farm Forestry in Ireland. Recommendations thus target the range of industry stakeholders.

# Introduction

The forest sector currently makes a significant contribution to the national economy. Forest and forest products generate approximately €1.89 billion in output annually, representing 1% of GDP. The sector employs 16,000 people, the vast majority in rural areas. There are also significant environmental and downstream benefits associated with the forest sector. In 2010 alone 18 million people made recreational visits to forests, valued at €97 million which in turn generated €268 million in economic activities in rural communities (Fitzpatrick and Associates, 2005; IFFPA, 2011). In terms of complying with the Kyoto Protocol, the carbon sink value of new Irish forests planted after 1990 equates to an estimated saving to the taxpayer of €220 million for the five year period 2008-2012 (Coford, 2009).

The result of the introduction of private planting incentives schemes at the start of the 1980's has been a substantial increase in private afforestation, bringing us from a position where private planting was almost negligible to our current position of 11% forest cover. Indeed the relative importance of the private forest sector is now substantial, with 47% of the national estate now in private ownership and its role is set to significantly increase. Significant growth opportunities exist, which will be driven by the farming community. Almost 50% of plantations are under 25 years old (Farrelly, 2008). These are predominantly under private farmer ownership and by 2030 the production capacity of Irish forests is projected to almost double. Indeed the volume of output from first thinnings in the private sector is forecast to increase from 200,000 cubic metres in 2010 to 1 million cubic metres by 2018. Timber demand is forecast to significantly increase from 4.3 million cubic metres to 6 million cubic metres by 2020, mainly due to increased demand from the wood energy sector. There is clear growth potential and opportunities within the sector which should not be missed (IFFPA, 2011).

Of immediate concern to the industry is the 100,000 hectares of private forestry which is currently ready to be thinned or approaching thinning stage. This is creating unprecedented challenges for the industry and particularly for this segment of the farming community. Maximising this immediate asset is the focus of this report and should be the key goal for the industry right now.

A key challenge identified over the research period both at home and abroad is the need to increase the knowledge base of growers and facilitate communication and cooperation between growers, with the goal of maximising the immediate forest asset approaching thinning and ultimately develop a sustainable forestry industry and forest culture into the



future. Many forest owners approaching first thinning have not been engaged in active management of their crop since establishment over a decade ago. Subsequently a significant percentage of this group have a low level of knowledge of silviculture management and forestry markets. However with developments in wood energy having the potential to create significant demand and the output from thinnings set to increase, there is clear growth potential and opportunities within the sector which can be driven by the farming community. For what is a relatively new and burgeoning industry, the empowerment of the producer through the provision of information and education must be a key objective. This report highlights the important challenges and opportunities the industry faces and proposes recommendations to ensure the aim of maximising the potential of the forest estate is successfully achieved.

### **Murray Timber Yard: Example of Ireland's modern processing industry**



# Report Objectives

The initial objective of this study as outlined in the application proposal are summarised as follows:

- Investigation of silvicultural best practice as applied in the relevant leading forestry nations at all stages in the management process with the ultimate aim of adding value to the final crop. Future Management practices.
- Investigation of markets for forestry produce (timber and non-timber values) from the local to the international level. Identify the potential of new and developing markets for maximising the value of thinning operations to private forest owners such as the wood biomass market. Developing Markets.
- Investigate important issues constraining mobilisation of private forest asset in the Irish context. Focus on private estate approaching first thinning. Remedial Actions.

As outlined here, this study proposal was wide in its scope. It sought to investigate many of the key issues affecting the forestry industry and of relevance to the farm forest owner. At the same time it emphasised the necessity to pay particular attention to the first thinning stage of the forest management. Over the course of the study period research priorities evolved. Alternative solutions were highlighted which have been identified as having significant potential to facilitate the mobilisation of the existing assets and assure the sustainability of the sector into the future. This further broadened the scope of this report and paved the way for the four key research themes previously introduced in the executive summary. One such research area identified over the study period is the benefits associated with farmer-to-farmer cooperation. The facilitation of farmer cooperation and communication through informal cooperative structures such as discussion groups is seen as being a first step in the development of robust timber supply chains and the future emergence of farmer owned forestry cooperatives. Indeed the role of cooperation among all industry stakeholders has been identified as key to unlocking the potential of the forest asset and the development of a truly sustainable industry into the future. Forestry requires a significant long term commitment on the part of all stakeholders for its continued success and support of the environment, jobs and rural communities.

# Methodology

This Nuffield study is a Comparative study tour investigating the forestry industries of Ireland, the UK, Finland, Estonia, New Zealand and Australia. Through an investigation of best practice and expertise as applied in countries running mature forestry industries, this study aims to return with firm conclusions about the challenges and opportunities facing farmers as profitable stakeholders in the timber, recreation, amenity and energy industries of Ireland. This study has been undertaken over a two year period and represents over 6 months of planning, preparation, meetings, research and travel both at home and abroad.

This study has been conducted by means of electronic communication with leading industry stakeholders; farmer representative groups, research institutes and universities, management companies, sawmills and timber processors, forest owner cooperatives, Government Departments and through personal communication and meetings with individuals from these representative groupings.

## **Lowther Forest Management Company grounds, Penrith, Cumbria**



# Chapter 1: Policy Context and Government Commitment to the Industry

## New Planting

There must be a clear commitment by Government to the planting programme through the afforestation scheme if we are to halt the eroding of confidence in prospective planters and to meet current afforestation targets which will be essential in sustaining the forestry sector and wider processing industry into the future. Growing for the Future, The Strategic Plan for the Development of the Forestry Sector in Ireland was published in 1996 and set out annual targets for afforestation to 2030. The Strategy document stresses the need for sustained commitment to the annual targets so that a critical mass of roundwood production could be attained and the full range of benefits to the national economy maximised. The planting target was 25,000 ha/year up until the year 2000 and 20,000 ha/year from 2001 (DAFF, 1996). The afforestation level for 2011 however was closer to 7,000 hectares (Teagasc, 2012)<sup>6</sup>. The strategy document is often used as a reference document. However it is very out of touch with the current level of afforestation and government commitment to the industry.

*“The long-term nature of forestry in comparison to the short term nature of governments and politics results in an unjustified lack of commitment to the industry”*  
(Oliver, 1993)

Government afforestation targets are not being met and will not be met unless there is a real commitment given to potential planters that the afforestation programme will be protected into the future. The result of the stop-go nature of funding for forestry programmes has undermined confidence in the sector, resulting in insufficient rates of annual planting and associated concerns over gaps in future production across the entire national estate. The significant problems associated with gaps in production were highlighted in my travels to New Zealand, where they witnessed an extreme variation in national forest cover over a relatively short period of time. From increases in the forest estate of up to 100,000 hectares annually in the early nineties to a loss of 100,000 hectares of forestry in the mid-2000s due to substantial reconversions to dairy. Smoothing of production over time is an important area of

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<sup>6</sup> The Private planting figure represents total afforestation.

current research and deliberation within the sector to ensure they will be able to deal with the glut of product that will be coming to clearfell in ten years from now and the subsequent shortfall.

Whilst the issue is more apparent in New Zealand, the increase in private planting since 1985 poses new challenges to the sustainability of the wood processing sector in Ireland. Ideally a well-developed forest resource would have an even age class distribution. This means that each age class across a typical rotation length is growing on equal areas of land (area and growth potential). This results in a consistent annual supply of timber and facilitates simpler timber production forecasts. Forecasts can then be calculated by the total area and average Yield Class of the estate.

As in New Zealand even age class distribution rarely exists and Ireland's private farm forestry resource has been shaped by considerable variation in annual afforestation activity. This is exacerbated by differing conifer and broadleaf mixtures relating to changing Forest Service advice over time. Indeed almost 50% of the forest estate in Ireland is under 25 years. To be prepared for the challenges this brings it is essential that we have a better private forest inventory. Previously, production forecasts were more easily produced. Throughout the 90's and until recently the only production forecast that really mattered to any significant degree came from Collite forests. The timber processing industry relied on one producer and its forecasts. As the importance of the private industry increases, the complexity of obtaining reliable timber production forecasts will increase. It will be much more difficult to obtain site specific information from all 16,000 private forest owners. It is a major challenge for the industry and one which all stakeholders must strive to answer. Possible ways of approaching this problem are dealt with in chapter 2. (Pursur, 2010)

## **Mobilising Existing Asset**

In addition, the policy environment needs to focus on the existing resource and maximize that resource. Up to now private forestry was very much focused on planting and establishment, but many of these forests are now at the stage that timber is starting to be extracted. There exists a serious need to maintain adequate investment to allow the development of essential road infrastructure to enable harvesting and thinning operations. At the end of 2011 the government temporarily suspended the road grant scheme. Upon reopening the scheme at the start of 2012, grant aiding had been reduced from €45 to €35 a linear metre. Forest roads are essential in opening up plantations for forest operations from thinning through to clearfell. These grant aid schemes are key to mobilising the private asset. The lack of recent forest road

construction activity is due to recent curtailments in grant availability and uncertainty with regard to future funding, which left many forest owners uncertain as to whether to proceed with grant applications. The temporary closing of the scheme has increased pressure on the national timber supply, reduced the incentives to thin, and, consequently a percentage of growers will probably miss the thinning window. Furthermore, new legislation is proving counterproductive with proposals to require planning permission for forest entrances through the planning authority and not the forest service. A coordinated approach is needed between the forest service and local planning authorities, so that essential forest operations are facilitated and not hindered. Failure to do so will only be counterproductive and take away from the potential of such forest operations to benefit private growers, local economies and ultimately the State.

**Apple Trees on the farm of George Snell, Herefordshire.**

**George is a (2006) UK Nuffield Scholar, Partner in the Poplar Tree Company and chairman of Certainly Wood (The UK's largest firewood processor)**



# Chapter 2: The Role of Farmer Co-operation

## Discussion Groups

There is an immediate need to facilitate farmer cooperation and communication through informal cooperative structures such as discussion groups. This could most easily and efficiently be facilitated through an extension of the Cluster group project run by Teagasc to identify suitable participants in targeted areas coming to the first thinning stage of tree management. Such an initiative would require the commitment of additional resources to facilitate groups as current staff already has a substantial work commitment with nine dedicated advisors for the entire country. The scheme would require specialist staff but there is institutional expertise in Teagasc in relation to discussion groups, particularly in the Dairy sector. Such an initiative would be particularly beneficial to tree growers as there are currently varying levels of knowledge within the industry. The role of educating farmers new to forest management practices is of paramount importance to developing a forest culture; ensuring farmers take an active role in the management of their forests, do not miss the thinning window and ultimately add value to the forest estate and future net worth of the industry. In New Zealand, discussion groups have played an important role in organising farmers, developing local networks and improving the knowledge base. These groups were organised through the forest owners associations such as the New Zealand Forest Owners Association and New Zealand Farm Forestry Association. The situation for private growers in Ireland is complicated by the large number of small plantations with an average plantation size of eight hectares, often fragmented, with difficult road access, distance to markets and mixed quality crops. Cooperation will be essential going forward if farm forestry is to take advantage of the possible economies of scale, a pooled knowledge of local expertise, and a stronger market position including the combined selling of roundwood from cluster areas. The ultimate goal is to develop a true forest culture which will only be achieved if we can get to a stage where farmers can sit down and discuss roundwood prices in the same way they do livestock prices or any other agricultural good.

Identified cluster groups should explore the possibility of developing a simple application to pinpoint member's plantations that are at or approaching first thinning stage. This would, however, effectively require a more substantial inventory of the forests of group

members. This information is currently unavailable due to data protection laws. Developing groups would need to promote the voluntary sharing of basic plantation details (location, size & age) and associated owner contact details among members in order to capitalise on any potential for cooperative approaches to thinning operations<sup>7</sup>.

In the last number of years there has been growing interest in the growth potential of formally organised forms of farmer cooperation, such as forest owner groups and forestry cooperatives, particularly within the context of developing local wood fuel supply chains. Visits to successful case studies and consultation with industry stakeholders reveal the significant potential within the sector and significant growth opportunities for such cooperatives. These developing structures have the potential to create new markets, local jobs and improve management of the forests<sup>8</sup>. Furthermore they will be driven by private growers and thus the farming community. However, both successful and failed case studies point to the fact that sustainable and efficient organisations require significant initial voluntary time commitment by members; in establishing communication, a common purpose, identification of local market demands, drafting of a legal structure and commitment of resources. Indeed, key issues which challenge the setting up of forest owner cooperatives relate to the characteristics of farm forest owners and their plantations. Many farmers tend to have a significant off farm employment or alternative farm enterprise, with accompanying time and resource commitments. Furthermore private plantations can generally be categorised as being of low acreage, often fragmented, with poor access. In the face of such challenges the significant time required from owners to commit and organise such a venture has in the past proved prohibitive. Successful examples generally grew from a bottom-up approach driven by leaders emerging from the group who forged ahead in promoting and developing an agreed common ethos. Trust among members was necessary in such ventures. This is not something that can be earned in an overnight coming together. This compounds the immediate need to facilitate informal cooperative structures as a first step on the road to developing fully fledged formal and legally binding forms of forest cooperatives. For such initiatives to emerge and succeed, farmers need to be in communication, they need to be organised and identify common goals, market demand and ultimately develop relationships of trust. Discussion groups, which could potentially be developed through an extension of the Cluster group project, have the potential to facilitate this cooperative process and nurture the leaders required to emerge and drive the forging of such enterprises. Prescribed cooperative structures applied to farmers according to geographic area will not work and will not be an overnight

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<sup>7</sup> The need for greater inventory of the private forest estate is discussed in detail in Chapter 2.

<sup>8</sup> Particularly through the developing biomass market, demand for which is projected to double by 2030.



success. Successful examples tended to develop through a bottom up approach led through forest owners. Furthermore, for much of the country, there exists a ready market for thinning produce with significant demand by the sawmilling industry for forest produce from thinning through to clearfell. As such, there is the potential of informal cooperative structures to take advantage of economies of scale through the combined selling of roundwood from cluster groups. The more communication farmers have with their neighbouring forest owners the more likely such an initiative is to succeed and to allow them to avail of a stronger market position. This again points to the potential benefits of discussion groups.

In locations where distance to market makes it more expensive to transport produce to one of the nine major sawmills, there is obviously a greater need for farmers to identify local markets and develop formal cooperative structures which support a reliable local wood fuel supply chain. Such cooperatives can operate at many scales, targeting the production of biomass with everything from firewood sales to fully supply and installed woodchip boiler services for domestic or industrial heat and hot water provision.

## **Wood Fuel Supply Cooperative Case studies**

In case studies visited, successful woodland owner groups had increased the saleability of members produce and brought forest owners plantations into active management, increasing the quality of their produce and thus present and future returns. Any emerging cooperative society should be conceived against the backdrop of the learning outcomes to be gained by studying other successful, pioneering farm forest co-ops both at home and abroad. This report presents key findings from successful case studies visited. Whilst numerous successful co-ops in operation in the UK, Continental Europe, New Zealand and Ireland were visited over the course of the Nuffield study, this report will focus on the learning outcomes of two notable examples;

- The Laois Farm Forestry Group
- The Donegal Woodland Owners Society Ltd (DWOSL)

### **Stage 1 - The Laois Farm Forestry Group – A Representative voice for private forest owners**

A notable Irish exponent of the potential benefits offered by cooperative working is the developing Laois Farm Forestry Group. The group was established in 2009 to represent private forestry owners in County Laois who planted forestry prior to 2002. Promoted by the

Teagasc Forest Development Department, IFA Farm Forestry and local forest owners, it provides a representative voice for private forest owners with plantations approaching or at the timber production stage. The group is currently providing a useful networking and knowledge sharing function, with particular emphasis on preparing plantations for first thinning. Members recognise and are informed of the challenges facing the private forestry sector; the relatively small scale of farm forestry plantations and the lack of practical experience among owners. The Laois Farm Forestry Group aims to tackle this issue by facilitating knowledge sharing and the development of economies of scale among members to optimise returns from farm forestry enterprises. There is a clear mechanism in place, both in terms of the financial and institutional resources available to facilitate farmers coming together in an initial informal cooperative structure and network. There is clear potential and interest to develop a formalised forest owners' cooperative among leading members of the organisation. Cooperative working has been recognised as having the potential to reduce overall road development costs within the county and possibly lead to opportunities for further cooperation during thinning operations and timber sales. However, as will be the case in most forest owners' groups, the benefits of cooperation are not balanced. It is inevitable that some members are in a "weaker" position regarding resources, whether in terms of their plantation's scale or access, capital resources (forestry equipment) or knowledge of silviculture and forest markets. This is where the good will and relationships of trust among members of the organisation will be required.

## **Stage 2 – Donegal Woodland Owners Society - Forest Cooperatives**

The second case study looks at what is probably Ireland's most successful example of a forestry cooperative, the *Donegal Woodland Owner's Society* (DWOS). The context for the initial establishment of this legally binding registered forestry cooperative is key to understanding the driving force of farmers behind its successful and continued development. Donegal has second highest level of forest cover of any county in the Republic. However, due to its relatively isolated geographic position in the North West of the country, it has few large processors in relative proximity. Significant distance to market for the large number of growers and associated negative impacts on return due to transport costs were a significant driver behind the establishment of the DWOS. Furthermore there were a number of key individuals who emerged and led the development of the organisation. People such as John

Jackson, its long standing chairman, voluntarily commit considerable time to developing an organisation with an ethos which reflects the interests of Donegal woodland owners. This was achieved through the holding of frequent, consistent meetings of members which enables the development of a structure to accurately reflect their views and interests. The ethos of the DWOS as explained by members can be summarised as: an organisation which aims to add value to the long term potential of forest owner's plantations and add value to the immediate produce being extracted from these plantations, in other to ensure the benefit of Donegal woodland owners and the long-term benefit of their forests.

In Donegal there are clear examples of mechanisms and expert bodies which have facilitated the organisations development and advised on the legal structure of the forest cooperative. In the DWOS case study this was provided through the mechanism of the Forest Link Project with combined funding from Donegal County Council, the DAAF and run in conjunction with Teagasc. The original Donegal Forestry Forum operated as a forum where forestry issues can be raised in an inclusive partnership approach and acted in an advisory and monitoring. The subsequent Forest Link Project<sup>9</sup> was established through the forum with the aim of improving market outlets for private timber growers. This was achieved through demonstration projects of wood fuel supply chains for the domestic and commercial heating market. Private woodland owners played a key role, with the DWOS emerging from the project. This project provided expert staff (Steven Meyen, Teagasc) to facilitate in organising private growers with a dedicated forester/coordinator and subsequent access to important grant aiding through the Leader programme. Indeed Leader funding has a role to play in making itself more available to initiatives which promote timber mobilisation and local wood fuel supply chains. There is a very real opportunity to create new local markets to meet existing fuel demand, adding value to timber locally, increasing the future net worth of plantations, keeping money in local rural economies and creating local jobs. If Leader funding is to be successful in facilitating wood fuel supply chains and cooperatives there needs to be some institutional expertise within the organisation in relation to forestry and forest markets so that such projects are correctly directed and not hindered. Furthermore there is a clear role for the Irish Cooperative Organisation Society (ICOS). ICOS was pivotal in developing a legal framework for the DWOS. ICOS has agreed Model Rules and can assist in the establishment and registration of emerging forest cooperatives, as has been the case in Donegal.

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<sup>9</sup> The Donegal Forest Link Project is part of a fully integrated Donegal county development strategy.

Wood fuel supply co-operatives have the potential to support and promote everything from planting to timber marketing. It is envisaged that members should be dedicated to developing a sustainable approach to energy use with a long term view. An ethos needs to be clearly outlined at the formation stage of any such cooperative structure. A number of successful case studies of wood fuel supply cooperatives were visited over the course of the study. One of the key lessons identified is the need to establish a well-defined bottom-up ethos. This is of particular importance due to the nature and likely makeup of most potential forest owner cooperatives. The individual plantations of the majority of forest owners will tend to be small in terms of forest area and it is important that a cooperative would be structured with the long term goal of improving the owner's forest asset and maximising the return to thinning and harvesting operations by adding value to produce. The benefits of clustering will not always be balanced, with owners of smaller plantations benefiting more than owners of larger, more viable plantations. Effective clustering will require the support of the owners of larger, more independently viable plantations. Ultimately successful initiatives necessitate relationships of trust. Ultimately a culture of co-operation must be nurtured, starting in the education system and eventually forming part of our enterprise culture as has been the case in other European countries that have strong cooperative cultures such as Denmark and Sweden<sup>10</sup>. In these countries Government has also provided direct support for co-operative development, and industry has also been directly engaged, creating mutual economic benefit.

### **Estonia: National Forest Park**



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<sup>10</sup> Ireland has a strong tradition of agricultural cooperatives particularly in the dairy sector.

# Chapter 3: Empowering Private Forest Owners

## The role of Forest Management Companies

Forestry management companies' role in the establishment and early management of plantations needs to be addressed. Currently in Ireland the majority of planting and the first four years of management are undertaken by forest management companies who receive the establishment grant and maintenance grant at the end of the four year period, after which point they are generally no longer involved with the management of the plantation or in communication with the farmer. The problem with the current structure is that in many cases the farmer is not involved in the active management of their own farm. At the end of the period some have little knowledge about their own plantation, the species that make up their plantation, the management has been undertaken, future management practices required, special features about his/her plantation. We are finding that it is often ten years later that the farmer is back and engaged with the management of their forest and in some cases is unaware of the importance of the thinning process in adding value to their potential final crop trees. In many cases farmers will miss the thinning window. What is needed in the context of a relatively new and burgeoning industry is the empowerment of farmers through education and the provision of information. A large amount of resources are currently being directed to re-educating farmers about silviculture management practices and making them familiar with their own forests. This is essential work and should continue into the future. Teagasc are playing an important role in this process through open days, farm walks and thinning demonstrations. However, for new planters there is an important role for forest management companies in promoting farmers to actively manage their forests. Farmers need to be aware that if they hand over management to a forestry company for the first four years, they have to stay involved, because after four or five years, unless you maintain the contract, the companies are no longer involved and at that stage you're left with an asset that you have to manage on your own. One practical proposal is the need for farmers to have access to practical management plans from an early stage. In leading forest nations such as Estonia and Finland it is remarkable the cataloguing of in depth, practical and usable information available on plantation plots.

The problem is that the private planter is not being actively encouraged to engage in the management of their forests. The repercussions of this short run focus are only now being

witnessed because these plantations are approaching first thinning. Forest management companies, the Department of Agriculture Fisheries and Food (DAFF) and the forest service are important established stakeholders who are perpetuating this narrow focus. It is clear from the terms and conditions of the afforestation programme as they currently serve to exclude the farmer from engaging in the establishment and early, and hence subsequent, management of the forest. Indeed the common practice in private planting is the mandating of planting and establishment contracts and thus responsibility through management contracts. Forest management companies promote themselves to prospective planters in terms of the provision of comprehensive management contracts in which they undertake to establish a forest for the farmer utilising the grant paid by the Forest Service. They promote contracts in terms of relieving the owner of all the risks in establishing their plantation whilst leaving the farmer free to concentrate on their main farming activities. Convenience and security are the selling points that the contract offers. The problem with the current structure is that it means the forestry sector is totally grant driven. A consequence of that is a phenomenon where the sector is grant-centric and the range of interests dependent on the grant process is also unique and extensive. This in turn has put a very strong focus on the day to day operation of the grant schemes (Malone, 2007). As part of the obligations to the afforestation scheme, management companies provide forest management plans at the end of year four for forests over 10 hectares. The owner of these “larger plantations” must subsequently provide an updated management plan in year 10 (for year 10 to 20) in conjunction with an approved forester to avail of subsequent premia. This is generally done through forestry companies with whom the farmer previously planted. This condition, at least to some extent, engages the farmer with his plantation and the management of that plantation. However, for those forests less than 10 hectares there is no such provision. Whilst various studies report the average size of private plantations as ranging from 8 to 11 hectares, it is reasonable to assume the majority of private plantations will be less than 10 hectares. Taking findings from the Laois Forestry Resource Study (Pursur et al, 2010) there is a significant proportion (64%) of conifer plantations less than 10 hectares in size within the Laois private forestry resource. However, the 36% of conifer plantations greater than 10 hectares in size account for over 74% of the total Laois farm forestry conifer resource. Indeed, at 11.8 hectares the average size of a farm forestry plantation in County Laois is well above the national average irrespective of what report you look at, whilst half of all farm forestry plantations in the county are 7.4 hectares or less.

If management companies had to provide a practical understandable management plan before drawing down the final funding at the end of year four, including forest map, special

forest features and management plan to first thinning or to year twenty, which they would explain and leave in the hands of the farmer, then the industry will be in a better place 15 years from now and farms would be better equipped to manage their own forests. This should be a condition for all plantations irrespective of size and the onus should be put on the management companies to provide this information. Much of the site specific information required is already available and has been documented by the same companies for application for planting to the forest service. Comprehensive management plans already in place for plantations over 10 hectares can be applied to smaller plantations. These plans can subsequently be easily manipulated into a practical usable document to be left in the farmers' hands. Failure to implement such an initiative by the forest service would be a missed opportunity. Furthermore there are significant potential benefits associated with cataloguing data on the potential future inventories of forest assets, in terms of the national estate for national forest inventories, timber forecasts and strategic planning within the sector and also in terms of local farmer cooperative initiatives and local inventory and management of cluster groups. There is a strong inter-dependence between stakeholders (government, management companies, growers and processors) which is not being fully recognised in practice. Up until now there has been little linkage between the grower and the market, which does not correspond to an effective strategy for any productive sector. Many owners have not been encouraged to manage their own forests. There is a need to promote the sector more effectively, to bring more cohesion as well as encouraging a wider and deeper forest culture in this country (Malone, 2007).

## **Forest Inventory Requirements**

Despite this increase in the amount of forestry in Ireland, the State does not have an inventory of the entire national forest estate. The location and extent of most forests is known and Coillte maintains an inventory of its forests. The composition and condition of much of the private forest estate is not known however. Private forest inventory information is essential to facilitate the sustainable development of our forests. The lack of information on the composition of our forests in relation to timber volumes, and in relation to plant and animal species, is an impediment to the management of the national forest resource, including planning at both local and national levels.

As part of its on-going work to foster a co-operative approach to farm forestry timber production operations within the county, the aforementioned Laois Farm Forestry Group

commissioned a study of the private farm forestry resource within the county. The study focused on private forestry plantations established prior to 2003, with a sample of 50 plantations chosen to represent the population of plantations. This study is one of the first steps in developing a co-ordinated strategy to produce and market timber from forest owners groups. It has the potential to provide a template for similar studies by emerging woodland owners' organisations wishing to develop a sustainable timber supply chain themselves.

Historic afforestation records simply tell us what was planted in the past. They do not provide an insight into the on-going performance of establishing forest crops or their future potential to produce viable timber harvests. In Laois this was assessed by conducting a detailed ground survey of a sample of plantations, from which a forecast of potential future harvests (1<sup>st</sup> thinning and 2<sup>nd</sup> thinning) and associated annual workloads were produced. As in many counties, due to the low levels of private sector activity to date there is no established timber supply chain specifically serving the private farm forestry sector. This is of major concern to the nation's private growers who manage the 100,000 hectares of plantation forestry at or approaching 1<sup>st</sup> thinning. The potential for identifying specific local cooperative groupings is hindered by the nature of current producer confidentiality laws and lack of robust centralised databases. It is not possible to source a geospatial database of private farm forests in order to analyse the geographic locations of clustered farms. This limits the opportunity for properly assessing the scope for "clustering" of forthcoming thinning operations within the county. Areas of relatively high density of private farm forestry plantations presents definite opportunities to develop clusters or timber producer groups within local regions, providing the benefits of increased scale and improved operational efficiencies, and hence leading to higher financial returns to owners from thinning operations. These areas should be targeted to promote the voluntary sharing of basic plantation details (location, size & age) and owner contact details among members in order to capitalise on any potential for cooperative approaches to thinning operations (Purser, 2010).

Essentially, the development and subsequent success or failure of cluster group initiatives such as the combined selling of roundwood relies on the buying in of private growers. However, there are a number of measures detailed previously in this report which could facilitate growers to cooperate and also streamline the provision of both regionalised cluster group inventories and larger Group inventories, such as a more in-depth Laois Farm Forestry Group inventory. Larger regional groups participating in the Cluster group project should identify targeted areas with a high density of plantations approaching first thinning. Smaller regionalised groups could thus be formed and accommodated through a potential



discussion group forum. An inventory of these plantations could subsequently be undertaken provided there was buy in by members. If there was an incentive structure in place for these potential discussion groups, as is currently the case with the successful dairy discussion group initiative and planned beef discussion groups, then farmer participation and engagement would be more likely. Furthermore, incentives could be linked to the achievement of deliverables such as local group meeting attendance, inspection paths (access and assessment), management plan delivery, and participation in an inventory study. In turn, in terms of facilitating future inventory studies in the context of the potential cooperative structures proposed, the development of management plans by management companies for all private plantations would allow inventory studies to be coordinated far more readily. If this initiative was in place a registered forester would be able to access the management plan and site specific information as completed at the end of establishment in year four (initiative for plantations under 10 hectares as proposed in chapter 2). Much of the site specific information would remain and could be accessed quickly, particularly if a simple user friendly electronic template was agreed by the Forest Service. Furthermore there would be future scope to develop a national database of private growers' management plans which could be accessed online by an approved forester. This would be useful tool in the case of updated inventory studies of local cluster/discussion groups and would require the prior permission by private growers. Such an initiative would allow management plans to be accessed through an online facility in the same way as the current iNET facility for the submission of Form 1s and pre-planting approval<sup>11</sup>.

### **Typical high pruned New Zealand commercial tree crop (Lawson Cypress)**



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<sup>11</sup> See appendix 3 for a note on the iNet facility.

# Chapter 4: State Forest Assets and the Sale of Cutting Rights

## Sustainability of the Timber Processing Industry

The government is currently examining the option of selling the harvesting rights to Coillte forests for a period of 70 to 80 years. This study looked at effect the sale of cutting rights to NZ State Forestry in 1987 has had on the development of the New Zealand forestry industry. In NZ long term lease agreements for 100 years of cutting rights were arranged. Some smaller, often family owned, Japanese firms invested in processing capacity, such as mills. At the other end of the scale, large pension funds such as the Canadian Teachers pension fund and Harvard Pension Fund, TIMOs (Timber Investment Management Companies) and Chinese investment firms bought cutting rights with a short run focus on investor return. Such focus translated to the goal of growing trees to produce logs. In New Zealand private forestry is very much the domain of large investment companies and pension funds. Larger investment firms are able to spread greater investment across a diverse portfolio of plantation investments in terms of age class and thus ensure a constant rate of return to investment. As the initial investment is so high and return so long term few farmers plant trees without private planting incentives. Radiate Pine is the dominant commercial crop and constitutes 90% of plantation forests in New Zealand. Like Sitka Spruce in Ireland it is a non-native exotic conifer species with impressive growth rates and a short rotation length. Radiate pine has an even shorter rotation than Sitka at 28 years and is the raw material of choice for a wide range of manufacturing processes and products.

Much of the feedback over the course of the study indicated that the sale as executed was something of a missed opportunity for the sector. That is not to say that forestry and timber production is not an important and progressive industry in New Zealand. On the contrary the industry employs almost 30,000 in first-stage processing activities alone, accounts for 7 per cent of GDP and is the country's third largest export earner. However, it appears that, to an extent, some of the larger investment companies have focused on growing trees to sell logs at the expense of building indigenous processing capacity and fostering the ability to add value to NZ timber. As a result, a large percentage of the annual harvest leaves the country in log form, particularly to China, which is its largest export destination (NZFOA, 2011). Whilst New Zealand will not provide a like for like comparison there are lessons to be learned from overseas before any potential far reaching decision were to be made. Another

issue highlighted was that it is better to privatize forests where there are no public interest issues at stake. This topic will be dealt with in the following section.

## **Multiuse Potential of State Forestry**

This report now looks at the Multiuse potential of State forestry assets in the context of a potential sale of cutting rights to Coillte forests. Analysis builds on the work of a previous Nuffield report by Mrs Penny Oliver examining effects of the privatisation of New Zealand State Forests on Access and Recreational Opportunities (Oliver, 1993). This work updates the 1993 report with lessons from abroad through consultation in both the UK and New Zealand. Mrs Penny Oliver is a Policy and Development Officer with the Forestry Commission based in the North West of England and she provided insight into the significant development of the multipurpose aspects of UK state forest assets in the intervening period, particularly in relation to recreation and forest trails. Indeed through meeting with Penny and her Forestry Commission colleagues, and through consultation about the various Forestry Commission private planting incentive schemes, it is evident how far the wheel has turned from a commercial timber focus to a focus on the multiuse aspects of UK forestry. These multiuse values include: landscape values, recreation values and the associated promotion of diverse native hardwood planting initiatives, such as in the Glastir Scheme in Wales. The Glastir Woodland Creation Scheme and Better Woodlands for Wales are just two examples of sustainable land use management schemes which aim to create “woodland” with potential future multiuse, as opposed to “plantation” forestry with a narrower focus on commercial timber production. The new ambitious tree planting programme, as part of the targeted element of Glastir aims to create 100,000 hectares of new diverse broadleaf woodland in the next 20 years. At the time of the Penny’s report, the UK government was examining the options of privatising State forestry. In the past year the English government once again raised the option of privatising England’s State forest assets. The Irish government is currently examining the options for Coillte forests. In light of these developments the findings of Penny’s report and this Nuffield Farming Scholarship become all the more relevant.

Some of the key findings of Penny’s report into the effect of the sale of cutting rights to New Zealand state forest assets include:

- In 1987, by dividing the country into commercial exotic forests and non-commercial native forest, New Zealand rejected the concept of multipurpose resource management

- Multipurpose Forestry and a role for forestry in recreation were missed upon privatisation.
- If the full recreational opportunities of forests had been realised they would not have been sold.
- In New Zealand the privatisation of State assets led to the many non-timber benefits of forestry been largely overlooked. Short term financial gain dominated the decision making process.
- The UK timber processing industry in 1992 was worried about continuity of supply in the face of possible privatisation of State Forest Assets. This concern was borne out in the New Zealand case study with increasing log exports and subsequent loss of added value opportunities.
- The long-term nature of forestry in comparison to the short term nature of governments and politics results in an unjustified lack of commitment to the industry (Oliver, 1993).

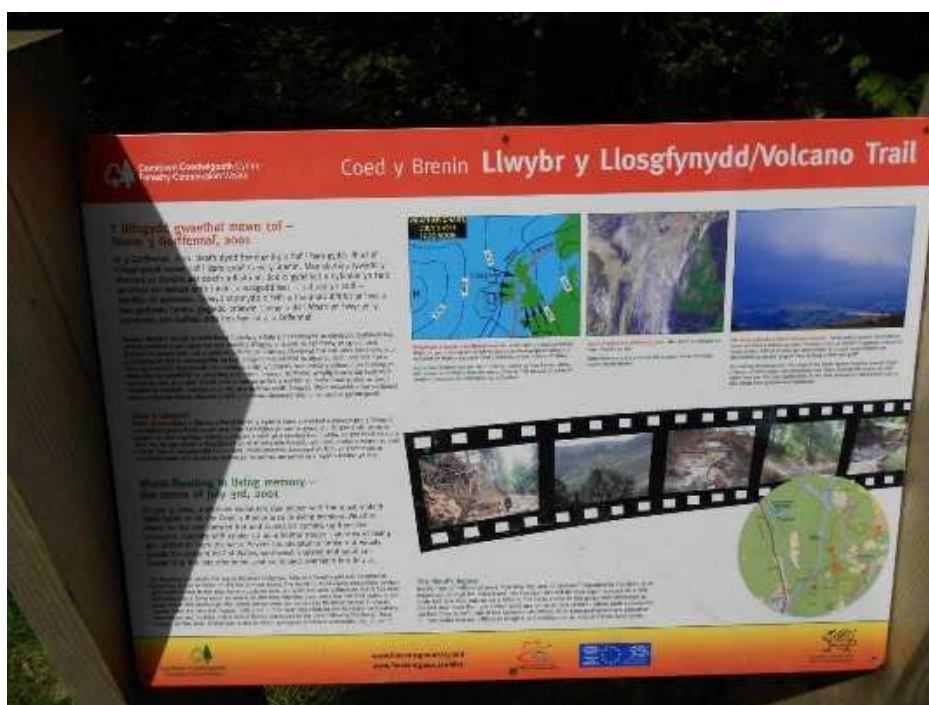
Looking at the Irish situation, developments in forest recreation have been somewhat muted until quite recently. There are two conflicting signals; government policy which promotes Coillte's position as a commercial enterprise dictating a concentration on commercial timber production. On the other hand, government policy states a full commitment to multiuse forest management. Nonetheless there have been some practical developments with the publishing of a number of policy documents: Coillte's 'Recreation Policy – Healthy Forest, Healthy Nation' and the Forest Service's recreation guide 'Forest Recreation in Ireland: A Guide for Forest Owners and Managers'. This demonstrates that there is an emerging recognition of recreation as an important function of forests (Coford, 2010). Whilst there are recreational projects in the pipeline the level of investment thus far has been low. Meetings with individuals from the Forest Commission in the UK highlight the emergence of the multiuse functions of state forest assets in the past twenty years. In particular, a meeting with Sir Dafydd Davis, formerly of the FC recreation department and now a freelance trail designer, highlighted how recreation in targeted sites has the potential to outstrip the timber producing value of the same plantation forests if managed sympathetically and according to best practice<sup>12</sup>. Indeed speaking with representatives<sup>12</sup> of the Forest Commission and seeing the influx of site users to Coed Y Brenin and its surrounding villages was clear anecdotal evidence of the positive spill over effects to local traditional rural farming communities such

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<sup>12</sup> Dafydd Davis was the driving force behind the development of mountain biking and walking trails in the UK, first in Coed Y Brenin in Wales and later at several other major UK sites. Dafydd received an MBE in 2004 for his 'services to forestry'.

as Dolgellau. It is estimated over 145,000 visitors annually are brought to Dolgellau and its surrounding hinterland, with forest trails contribution millions to these thriving local communities. However, it should be noted that the Forest Commission in the past was very much driven by a focus on commercial timber by traditional foresters. Similarly it will require a commitment by all Coillte staff to ensure that such targeted recreational sites are managed according to best silvicultural management whilst being receptive to and accommodating of the recreational aspects and facilities in place for walkers and leisure pursuits. It is a positive direction that Coillte should follow such an initiative and it would be a further step towards developing a positive forest culture within the wider public. Pushing the boundaries and developing the multiuse aspects of forestry is necessarily a state remit. It was clear that some of the major recreational sites in the UK with excellent facilities such a Coed Y Brenin can do little more than break even in terms of direct return to Forest Commission investment. However, as with all investment in the forest sector, a long term focus is required and benefits need to be viewed in terms of the positive externalities accruing to local economies, and ultimately the state. Faced with the possibility of an across the board sale of State forest assets for a period of 70 to 80 years, the potential for state to positively influence the development of multiuse forestry would be significantly eroded. However the government has stated that any sale would exclude high amenity sites. Whether this is a piecemeal statement or whether there is real commitment and government backing for proposed projects remains to be seen. What is needed is the development of targeted high amenity sites in close proximity to urban centres. Unlike the UK, which has a huge urban population on its doorstep and potentially 10 million domestic visitors alone, Ireland has smaller pool of potential users and site location is important.

### Forest Commission: Forest Trails at Coed Y Brenin



# Conclusions

Private farm forestry is at a crucial stage: up to now private forestry was very much focused on planting and establishment, but many privately owned forests are now at the stage that timber is starting to be extracted. It is estimated that 100,000 hectares of private forestry is currently ready to be thinned or approaching thinning stage. This creates an unprecedented challenge for the industry and particularly for this segment of the farming community. Furthermore there are clear growth potential and opportunities within the sector which can be driven by the farming community. These opportunities should not be missed (IFFPA, 2011).

However, there also exist a number of threats and challenges which must be addressed if we are to achieve the goal of delivering a sustainable forest industry in the future. In Ireland, forestry is a relatively new and burgeoning industry and the key message from this report is the need to empower the producer, most immediately and as a first step through the provision of information and education. Compared to leading forestry nations such as Estonia and Finland, which have mature forest estate and significantly larger forest cover, the space that forestry and its multiple attributes occupy in the national consciousness is far smaller in Ireland. Indeed, in such countries there is a far greater understanding by laypeople of the importance of the forest industry to the national economy, including commercial silviculture management practices and multi-attribute benefits of forests from fungi and berries to recreation. In terms of management expertise, a significant percentage of forest owners can be characterised as having a low level of knowledge of silviculture management and forestry markets. Many have not been engaged in active management of their crop since establishment over a decade ago. Leading countries have much larger forest covers, and this is clearly evident travelling through the countryside. Furthermore they benefit from a greater diversity of native tree species and the sector also provides a more important contribution to the national economy. In this context, the ultimate goal for Ireland is the development of a forest culture, not just among private producers but also within the nation and wider public. To do this we need to sustain an afforestation programme which promotes a sufficient level of consistent planting. Furthermore, we need to raise the profile of forestry within the nation. The environmental and downstream economic benefits accruing to local economies need to be highlighted. The multi-use attributes of the forest estate have not been fully harnessed and not fully appreciated. Projects such as Coillte's recreational forest trail needs to be extended and promoted. There should be a role for trees, and in particular the planting of broadleaves, in the green initiatives being proposed as part of CAP restructuring post-2014. In this context, trees have a number of roles to play, from the maintenance of sensitive riparian zones, as shelter

belts for livestock and for the promotion of local ecosystems and biodiversity. This report would envisage such a scheme as separate from the current afforestation scheme, which needs to maintain a commercial focus. The scheme would have the potential to promote forestry, particularly in more intensive agricultural areas, but not at the expense of the productive capacity of farms. Such an initiative would also promote native broadleaf species planting and would allow the targeted planting of broadleaves in suitable sites. This would allow the promotion of the multi-use attributes of trees, increase consciousness of the benefits of trees and improve the image of forestry both within the farming community and to the general public.

The key to the future success of Ireland's commercial private farm forestry sector will be the development of a fair and transparent timber supply chain that safeguards the interests of the grower by optimising financial returns and the future value and viability of their plantations. It is widely recognised that stand-alone thinning operations within small scale farm forestry enterprises are highly inefficient. Efforts must be made to minimise unit costs and maximise timber prices, and, for many owners, this will not be achieved on a farm by farm basis. Some form of co-operative or coordinated approach to timber sales and harvesting operations must be developed. The first step to developing some form of coordinated approach to timber production within a region is to have a clear understanding of the resource available and the strengths and weaknesses of the resource and its many owners (Purser et al, 2010).

**John Pryce's sustainably managed native Beech and Oak Woodland. John works in successful cooperation with fellow farm forest owners in Wales**



# Recommendations

To recap on some of the key findings from this report, the following recommendations relate to the four areas of focus detailed in Chapters One to Four:

- There is a need to facilitate farmer cooperation, discussion and education through an initiative such as the formation of discussion groups. This is most readily provided through an extension of the Cluster group project run by Teagasc. Requires significant additional resources.
- There is a need for clear government commitment to the industry. Whilst the budget allocation has been maintained at €112.5 million for 2012, with no changes to grant and premium rates, this will only be sufficient to fund an afforestation programme of 7,000 hectares, far from the target of 15,000 hectares. This issue, the stop-start nature of producer grants (such as the road scheme) and the issue of local planning legislation need to be addressed.
- Forest management companies have a role in supporting private owners in actively managing their plantations. There should be an onus on them to provide practical, usable, site-specific management plans to first thinning at the end of the four year period as part of planting and establishment funding for all private planters with whom they are contracted to, regardless of area.
- There are lessons to be learned from abroad in relation to the sale of cutting rights to state assets. Any decision will have long term repercussions in terms of the sustainability of commercial timber supply chains into the future and thus the sustainability of the sector. Also there are important questions in relation to the government commitment to multiuse aspects of forestry such as recreation, and the promotion of the benefits of forestry to the wider public.

The findings of this report thus draw on the prior experiences of farm foresters in the UK, Finland, Estonia, New Zealand and Australia and point to the importance of the co-operation of all stakeholders in the development of a sustainable and economically viable model for Farm Forestry in Ireland.



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Thanks to Nuffield Ireland for choosing me and the Nuffield network at home and abroad for all their help, hospitality and friendship along the way. The people encountered along the way, the selfless giving of time and the relationships formed during my travels have been the outstanding part of the Nuffield experience for me. This Scholarship has given me a wonderful opportunity to travel the world, to see new developments and changes in world agriculture. The Nuffield network allowed me to visit leading farmers across a multitude of enterprises whilst research institutions and universities opened their doors to me. This opportunity has afforded me access to international cutting edge research, advice and created a significant network of farmers and researchers with whom I plan on maintaining contact and friendships long into the future.

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# Appendices (Explanatory notes and sample documents)

## Appendix 1: A Note on thinning

Thinning involves the removal of part of the forest crop in order to concentrate future volume growth on fewer and better quality stems. By thinning a forest, the quality of the crop is improved (straighter, healthier trees) and individual trees can reach a larger, more valuable size within a shorter timeframe. Depending on prevailing timber market conditions and plantation specific operational costs, first thinning operations can generate modest revenues while adding significant value to future harvests. However, not all forests are suitable for thinning due to the excessive risk of wind damage. Understanding the thinning potential of crops is an important precursor to forecasting the potential volumes of timber produced. If forests are not thinned, harvest volumes will be significantly delayed and the average size of harvested trees will be smaller (Teagasc, 2005).

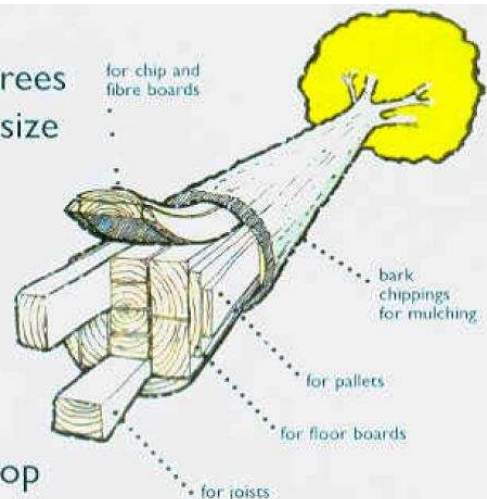
### What is thinning?

Thinning is the removal of a proportion of trees from a forest. This increases the quality and size of the remaining trees, allowing larger commercial timber to grow.

### Why thin?

If properly carried out, thinning:

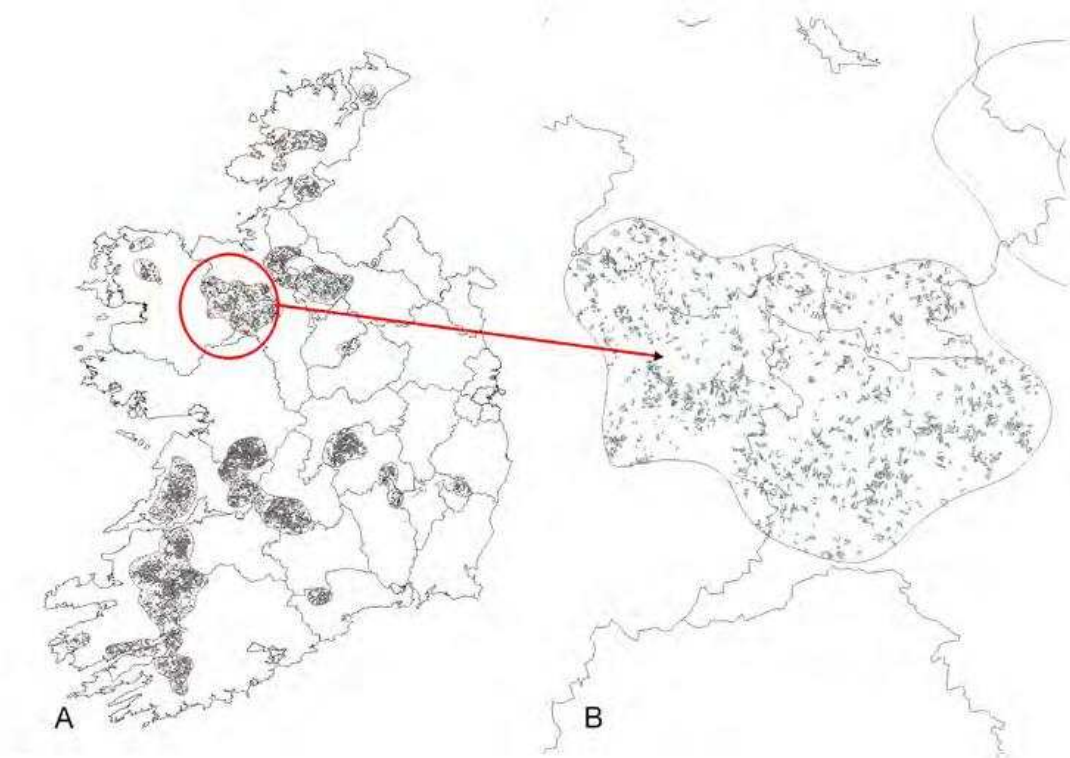
- optimises the return from your forest crop
- provides periodic returns as the crop matures
- improves the biodiversity value of the forest



## Appendix 2: A Note on Clustering

A cluster-based approach is being developed by Teagasc, with the support of COFORD, with the intent to conduct research to address critical issues facing farm forestry, such as the lack of local level information about forests for specific market requirements with the aim of improving the ability of farm forest owners to market and sell their produce. The research uses a cluster approach performed in a GIS for locating areas with large concentrations of private forest cover.

A map of the 16 national cluster areas & inset (B) target cluster area in Mayo, Sligo and Roscommon chosen for study<sup>13</sup>



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<sup>13</sup> (Farrelly et al, 2008)

### **Appendix 3: A Summary of the Application Process for the Afforestation Scheme<sup>14</sup>**

All proposed afforestation developments must receive the prior written approval of the Forest Service. Following completion of the works, formal applications for payment of the Afforestation Grant (1st and 2nd Instalments) and Premiums must be made by the applicant. Application for Pre-planting Approval must be completed and signed by the applicant and a qualified forester and the following enclosures must accompany the application:

- Application (Form 1)
- Site Location Map
- Certified Species Map
- Biodiversity Map
- Fencing Map (if applicable)
- Drainage Survey report
- Soil Analysis report

The application is processed by the Forest Service and assigned a unique Forest Service reference number known as “Contract No.”. An Online facility, called iNET, for the submission of a Form 1 is also available and all registered foresters have been notified of the required procedure. Registered foresters can register to use iNET by logging onto the Department’s website [www.agriculture.gov.ie](http://www.agriculture.gov.ie).

The 1st instalment of the Afforestation Grant and 1st Premium are due for payment upon successful completion of the initial site operations and submission of a completed Form 2 by both the applicant and the registered forester to whom pre-planting approval issued.

The following enclosures must be submitted with the application:

- Certified Species map 4
- Biodiversity map
- Statement of Costs
- Current Tax Clearance Certificate(s) for applicant and forester and contractor(s) used
- Provenance Declaration Forms for all species planted Appendix 4
- A valid mandate, if the grant is mandated to a Registered Forester / Forestry Company

The formation costs to year 4 to be claimed at Form 2 stage, where 75% will be paid at the 1<sup>st</sup> instalment and 25% will be paid at the 2nd instalment.

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<sup>14</sup> For greater detail about the application process see: [www.agriculture.gov.ie](http://www.agriculture.gov.ie)

Payment of the 2nd instalment afforestation grant is due 4 years after the completion date of the plantation. Applications for the 2nd instalment grant may be subject to a site inspection by a Forestry Inspector to ensure the plantation has been established and managed to the required standard. The application for payment of the 2nd instalment afforestation grant (Form 3) must be completed and signed by the applicant and a registered forester

All grant beneficiaries must submit a Forest Management Plan for Year 5 to Year 10 at Form 3 stage for (i) plantations which are 10 hectares or greater, and (ii) for broadleaf plantations which are 5 hectares or greater. Any application for 2nd instalment afforestation grant which is not accompanied by a Forest Management Plan will be returned to the applicant. A Forest Management Plan provides a general outline of how the forest will be managed and what operations will be required and undertaken over a specified time period. When plantations are 10 years old, and before payment of the 11th and subsequent premiums, a Forest Management Plan for Year 11 to Year 20 must be submitted detailing proposed management from year 11 to year 20.

An example of a management plan is given in Appendix 6. A Forest Management Plan must be prepared by a registered forester.

The following details must be included in the management plan for years 5 to 10:

- Current Crop details
- Estimated age of first thinning and clearfell age per plot or sub compartment Management Checklist
- A fire plan (refer to Forest Protection Guidelines for further information)
- A declaration by the applicant stating that at year 10 a subsequent management plan will be provided
- Any other comments / details relevant to the status of the contract / plantation

The following details must be included in the management plan for years 11 to 20

- Updated certified species map
- Revised estimated age of first thinning and clearfell age per plot or sub compartment Management Checklist
- Top height and yield class assessment
- Road requirements
- Any other comments / details relevant to the status of the contract / plantation.

# Appendix 4: Provenance Declaration Form

**PART A Supplier's Document (To be completed by the Nursery/Supplier -Issued in accordance with Council Directive 1999/105/EC)**

Supplier's Official Registration Number:  Supplier's Document Number:

Species: Common Name: \_\_\_\_\_ Botanical Name: \_\_\_\_\_

Master Certificate of Provenance Number : \_\_\_\_\_ Country of Issue: \_\_\_\_\_

Note: The Master Certificate of Provenance Number refers to the number of the original seed Certificate of Provenance issued by a designated Nation Authority.

Provenance Details : Country: \_\_\_\_\_ Provenance: \_\_\_\_\_

Origin: Indigenous  Unknown  If Non-Indigenous: Country: \_\_\_\_\_ Region: \_\_\_\_\_

Category: Source Identified  Selected  Qualified/ Untested Seed Orchard  Tested  Less stringent requirements/Derogation

Type of Basic Material: Seed source  Stand  Seed Orchard  Parents of families  Clone  Clonal mixture

National Register Reference or identity code for region of provenance: \_\_\_\_\_

Purpose: Multifunctional forestry  Other specific purposes (please indicate)  \_\_\_\_\_

Length of time in nursery and production type: \_\_\_\_\_

Unique identity/batch no. assigned by the Supplier: \_\_\_\_\_ Quantity dispatched: \_\_\_\_\_ Date of Dispatch: \_\_\_\_\_

Name and Address of Purchaser: \_\_\_\_\_

\_\_\_\_\_

Delivery Address (if different): \_\_\_\_\_

Plant Passport Details (where applicable): EU Plant Passport IRL/DAF /Registration Number: \_\_\_\_\_ PZ Code: \_\_\_\_\_  
Replacement Passport Details: Country: \_\_\_\_\_ Reg. No: \_\_\_\_\_ Batch No: \_\_\_\_\_

It is hereby declared that all of the above details are correct, that the origin/provenance complies with the accepted origin/provenance lists Service Forestry Schemes Manual and/or the Native Woodland Scheme Manual, and that where applicable the original Supplier's available for inspection.

Name and address of Nursery/Supplier: \_\_\_\_\_

Authorised Person: \_\_\_\_\_

Authorised Person's signature: \_\_\_\_\_

Date: \_\_\_\_\_

Nursery/Supplier Stamp

**PART B To be completed by the Contractor/Applicant**

Contract No:  Applicant's Name: \_\_\_\_\_

PART A is an Original:  PART A is a Photocopy:

This Provenance Declaration Form accounts for:  
 All of the trees planted of the above species on this contract:  Part of the quantity planted of the above species on this contract:

If Part indicate the number planted and complete a separate Provenance Declaration Form for the remainder:

If Part state the Plot Number(s) applicable to this Provenance Declaration Form:

It is hereby declared that all of the above provenance details for the above contract are correct and that where the Nursery/Supplier Declaration (Part original is available for inspection.

Applicant's signature: \_\_\_\_\_

or

Name of Contractor: \_\_\_\_\_

Contractor's Authorised Person: \_\_\_\_\_

Authorised Person's signature: \_\_\_\_\_

Date: \_\_\_\_\_

Contractor Stamp (where applicable)

## Appendix 5: Mandate of Grants

**Mandates /assignments of payments to Registered Foresters / Forestry Companies must comply with the following:**

- 1 All mandate / assignment forms must be properly and fully completed, signed and dated.
- 2 The file reference (Contract number), location (townland and county) and the area (hectares) of the development must be stated.
- 3 The parties referred to in the mandate / assignment must be clearly identified.
- 4 The signature of the grant applicant should be independently witnessed on the form.
- 5 The mandate / assignment should also be signed by the party in whose favour it is made. In the case of a company, the mandate / assignment must be signed by the company secretary and must bear the company seal.
- 6 The mandate / assignment must include the following sentence:- *"This mandate / assignment in favour of 'X' applies only on the satisfactory completion of the work by 'X'."*
- 7 The mandate / assignment must state clearly whether one or both instalments of the grant is referred to.
- 8 The grant applicant should be independently advised as to the nature and extent of the mandate / assignment and the following sentence included:- *"I have been independently advised as to the nature and extent of this mandate / assignment and I am aware of its contents" or "I have been given an opportunity to seek independent advice".*
- 9 The mandate / assignment should state when and how it expires and if and how it can be terminated.
- 10 All mandates / assignments should include the following disclaimer signed by the grant applicant and the party in whose favour it is:-

*" I understand that should the Minister fail to make payments in accordance with this mandate / assignment (when they become certified as due) no liability whatsoever shall attach to the Minister and the applicant hereby indemnifies and keeps indemnified the Minister in respect of all claims, losses and damages howsoever arising there from."*



## Appendix 6: Assignment of Grant to Registered Forester

Forest Service Contract No.

1. WHEREAS I/We \_\_\_\_\_ (Name of Applicant)  
Of \_\_\_\_\_  
Have applied to the Department of Agriculture, Food and the Marine (Forest Service) for a Forestry Grant in respect of my / our Forestry Development more particularly described in Part 1 of the Schedule hereto.
2. NOW I / WE FURTHER AUTHORISE AND DIRECT the Department of Agriculture, Food and the Marine (Forest Service) (or the Minister from time to time responsible for the administration of the scheme of Forestry Grants) to pay the Afforestation / 2<sup>nd</sup> Instalment Grant Moieties as specified in Part 2 of the Schedule hereto to \_\_\_\_\_ (Name of Company)
3. I/WE FURTHER AUTHORISE AND DIRECT the Department of Agriculture, Food and the Marine (Forest Service) to accept and abide by any notice from this company calling for payment of such Grant monies.
4. This Authorization is irrevocable without the prior written consent of \_\_\_\_\_ (the Company)
5. This Mandate / Assignment in favour of \_\_\_\_\_ (the Company) applies only on satisfactory completion of the work by \_\_\_\_\_ (the Company aforementioned)
6. I have been independently advised as to the nature and extent of this mandate / assignment and I am aware of its contents.
7. I understand that should the Minister fail to make payments in accordance with this mandate / assignment (when they become certified as due) no liability whatsoever shall attach to him and the applicant\* hereby indemnifies and keeps indemnified the Minister in respect of all claims, losses and damages howsoever arising there from.  
*\*alternatively the Company may indemnify the Minister in this regard.*

Signature of Applicant \_\_\_\_\_

Signature on behalf of the Company \_\_\_\_\_

### SCHEDULE

**Part 1: Description of Development :** Approx \_\_\_\_\_ hectares at \_\_\_\_\_ County \_\_\_\_\_

**Part 2:** Afforestation Grant  2<sup>nd</sup> Instalment Grant

Signed (Applicant) \_\_\_\_\_ Date \_\_\_\_\_

Address: \_\_\_\_\_

Independent Witness \_\_\_\_\_ Date \_\_\_\_\_

### FOR COMPLETION BY COMPANY

We hereby authorise and direct the Department of Agriculture, Food and the Marine (Forest Service) to pay the afforestation / 2<sup>nd</sup> Instalment (*delete as appropriate*) grant monies for the above development direct to:



BANK ACCOUNT NO: \_\_\_\_\_

BANK NAME: \_\_\_\_\_

BANK SORT CODE: \_\_\_\_\_

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
(To be signed by the Company Secretary)

Name(Block Capitals) \_\_\_\_\_

## Appendix 7: Sample Management Plan (Year 5 -10)

APPLICANT DETAILS	PLANTATION LOCATION
Name: <i>Mr Joe Bloggs</i>	Contract No: <i>CN1234</i>
Address: <i>Farm House Co Wexford</i>	Townland: <i>Ballymote</i>
Contact No: <i>053 9112345</i>	County: <i>Wexford</i>
	O.S 6"MapNo: <i>WX 24</i>

### Current Plantation Plot Details\*

Plot	Area Ha	Land Use Type	Species	Species Canopy %	Mixture Type	Planting Year	Est. Yield Class	Avg Height (m)	Estimated Year of First Thinning/Respacing	Est. Clearfell age	Excl Area	Excl Type
<i>1</i>	<i>8.5</i>	<i>CHF</i>	<i>DF</i>	<i>100</i>	<i>P</i>	<i>2001</i>	<i>18</i>	<i>3.8</i>	<i>2020-2023</i>	<i>2047 (46yrs)</i>	-	-
<i>2</i>	<i>2.0</i>	<i>MHF</i>	<i>PO</i>	<i>50</i>	<i>R</i>	<i>2001</i>	<i>6</i>	<i>1.9</i>	<i>2016-2020</i>	<i>2131 (130yrs)</i>	-	-
			<i>SP</i>	<i>50</i>	<i>R</i>	<i>2001</i>	<i>12</i>	<i>2.0</i>	<i>2016-2020</i>	-	-	-
Total	<i>10.5</i>											

\* In order to update the above details, all plots must be accessible in the plantation. Access to all plots will facilitate future management and Department inspections. The above plot details and plot boundaries on the current certified species map must accurately reflect the forest on the ground.

### Certified Species Map

Revised Map dated and signed by Forester

No revisions required   
(Forester must sign and date existing map to certify that no revisions are required)

### Harvesting Road Present

Yes

No

Road required for harvesting

### Inspection Paths

Present every ~ 100 m

Existing access adequate

### Fire Plan Map attached

Yes

No

## Appendix 8: Management Checklist (Year 5-10)

<i>The following management operations and decisions should be addressed over the next 10 years</i>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
• Check weed growth on established sites and control if necessary	✓		
• Maintain fences, drains and silt traps	✓		
• Maintain firebreaks and access tracks	✓		
• Vermin Control	✓		
• Monitor crops for signs of insect and fungal damage and take appropriate action if necessary	✓		
• Carry out foliar analysis and apply fertiliser if necessary	✓		
• If access is not adequate, install and maintain inspection paths at 100m intervals to monitor crops performance	✓		
• Formative shaping of broadleaves where required	✓		
• Monitor growth rates of conifers in broadleaves mixtures.	✓		
• Assess stocking rates and volume of crop and prepare for thinning. First thinning usually takes place between 18 and 25 years of age, depending on species.	✓		
• Apply to the Forest Service for a general felling license before tending/thinning	✓		
• Remember to revise management plan and resubmit for years 10 - 20	✓		
• Other	✓		

### GENERAL COMMENTS

- *Deer culling is taking place in surrounding fields to prevent browsing damage which is currently localised in northern section of crop*
- *I have joined a local timber producer group with the aim of marketing timber in the future and to explore certification to a recognised forest management standard*

### Declaration by Registered Forester

I declare that I have carried out a field assessment to prepare this management plan and have correctly recorded and updated all species, areas and plot boundaries on the attached certified species map.

<b>Foresters Name</b>	<i>John Forester BAgrSC Goodtrees Ltd</i>	<b>Date of Field Assessment</b>	<i>1/11/2005</i>
<b>Foresters Signature</b>	<i>John Forester</i>	<b>Date of Report</b>	<i>3/11/2005</i>
<b>Forest Owners Name</b>	<i>John Farmer</i>		
<b>Forest Owners Signature</b>	<i>John Farmer</i>	<b>Date</b>	<i>4/11/2005</i>