

# **The harvesting behaviour of Irish private forest owners and the suitability of the private estate for thinning**

Áine Ní Dhubháin, Karl Maguire and  
Niall Farrelly



## **Forestry in Ireland in 2010**

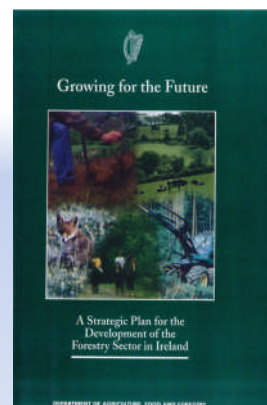
- **697,000 hectares – 10% of land area**
- **43% privately owned**
- **Fastest growth rates in Europe**
- **Almost two-thirds of the forest area is less than 20 years of age**
- **Timber output – over 3 million m<sup>3</sup>**

## Private forest owners

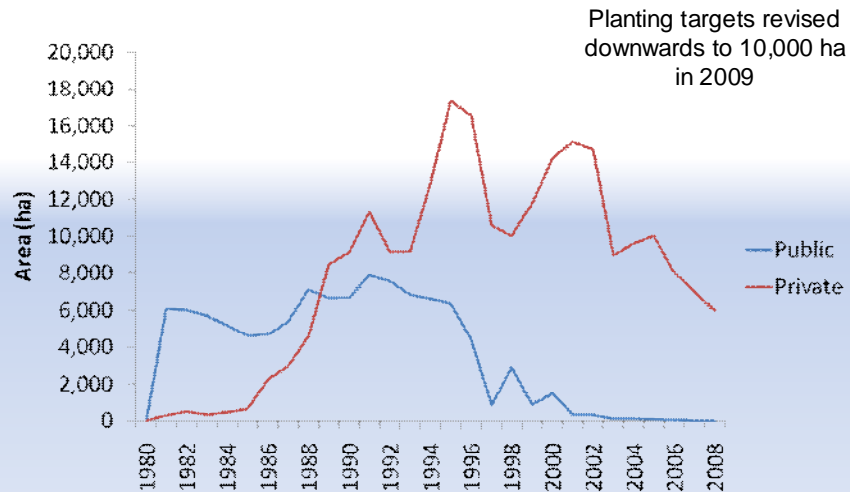
- **Prior to 1980 – private forestry negligible**
- **1981 – EU grant-aid for forestry**
- **1990 – annual premiums (for up to 20 years) to landowners who afforested**
- **18,000 landowners planted 212,000 ha since 1980**

## Government policy (1996)

- **To plant 25,000 ha per annum to year 2000;  
20,000 ha per annum to year 2030 (17% of area)**
- **12 million m<sup>3</sup> per annum by 2030**
- **A ratio of 30:70 public to private afforestation**

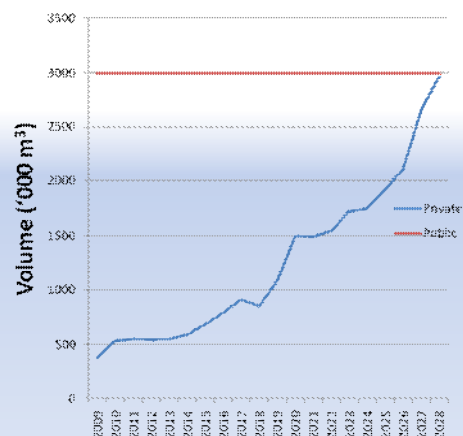


## Afforestation rates



## Timber production forecasts

It is assumed that private plantations would be managed and harvested in a similar way to State plantations



## Silvicultural management

- **Conifers**
  - Fast growth rates
  - Rotation lengths of 40-50 years
  - Thinning commences approx. year 20
  - Thinned every 3-4 years thereafter
  - Clearfelled in year 40-50
  - Harvesting carried out by machine
  - Brought to roadside using a forwarder

## Aims of the study

- **Identify the objectives of private forest owners**
- **Determine harvesting intentions of private forest owners**
- **Assess the suitability of the private estate for thinning**

***Will they thin? Should they thin?***

## Methods

- **Personal interviews with 120 forest owners**
- **Silvicultural audit of their forests**



## Characteristics of forests

- **Sitka spruce monoculture (1981-1990)**
- **Broadleaved and conifer/broadleaf mixes (1991-date)**
- **Average size 8.8 ha**



## Objectives of owners? <sup>84%</sup>

Objective	Primary	Secondary	Tertiary
Produce timber for sale	45	1	1
Produce timber for own use	5	8	1
Produce timber (unsure about use)	20	1	2
Enhance landscape	5	10	1
Pass on to family member	3	10	2
Provide recreation	1	4	4
Don't know	10	4	1
Provide shelter	1	5	1
Other (i.e. sell forest)	7	3	1
Help biodiversity	1	3	1
Use for hunting	0	0	2
Nothing	1	51	81

## Management and extension

- **Forests established by companies/contractors**
- **Over 50% currently managing their forests and will do so in the future**
- **50% attended extension activities (50% thinning courses)**



## Will they thin?

- **75% will thin**
- **12% unsure**
- **13% will not thin**



## What influences whether they will thin?

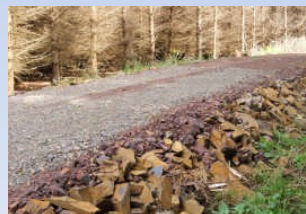
- **Timber production as an objective**
- **Having a written management plan for the forest**
- **Attendance at extension activities**

## Suitable for thinning?

- **Ground conditions (good; average; poor) – indicator of whether a machine can extract timber on the site**
- **Access (good; poor)- function of density of roading required to facilitate harvesting**
- **Windthrow risk (low; medium; high) indicator of whether safe to thin - assessed using windthrow risk probability model**

## Suitable for thinning?

- **Suitable stands**
  - good to average ground conditions
  - good road access
  - risk of windthrow <50%





## Silvicultural suitability of owners' decision

Decision	% of respondents	Area owned (ha)	Area suited for thinning (ha)	% who made correct decision
Plan to thin	72	854	441	49
Unsure	12	74	22	-
Will not thin	16	106	30	74

## Extension and knowledge

Attended course on thinning?	Correct to thin?	
	Yes	No
Yes	63	37
No	51	49

## Summary

- **Owner**
  - 84% timber production objective
  - Only half of these plan to sell timber
- **Forest**
  - Only half the area suited for thinning
    - Poor ground conditions
    - No access

## Summary

- **Owner and forest**
  - those attending courses no more likely to make correct decisions regarding thinning than those who did not attend

***Will forecasts for timber production  
in private forests be met?***

**No!**

**Thank you!**