

Photo courtesy of Donal Magner, Magner Communications

Sitka Spruce and Ireland's Afforestation Programme

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FOREST SOLUTIONS

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Outline of Presentation

1. **Why Ireland needed an Afforestation Programme?**
2. **Why Sitka spruce?**
 - History of Sitka spruce in Ireland**
 - Seed Origin**
 - Contribution to Afforestation**
 - Growth and Yield**
3. **Ireland's Afforestation Programme(s)**
4. **Impact of Sitka spruce and Afforestation on Ireland & Economy**

1. Why Ireland Needed an Afforestation Programme

The Beginnings

- 1903
 - Forestry Branch established in Department Agriculture & Technical Instruction
 - Avondale (550 acres) acquired as forestry training centre.
 - Year of the big storm
- 1904
 - First batch of six students enter Avondale



Avondale House

1. Why Ireland Needed an Afforestation Programme

The Beginnings

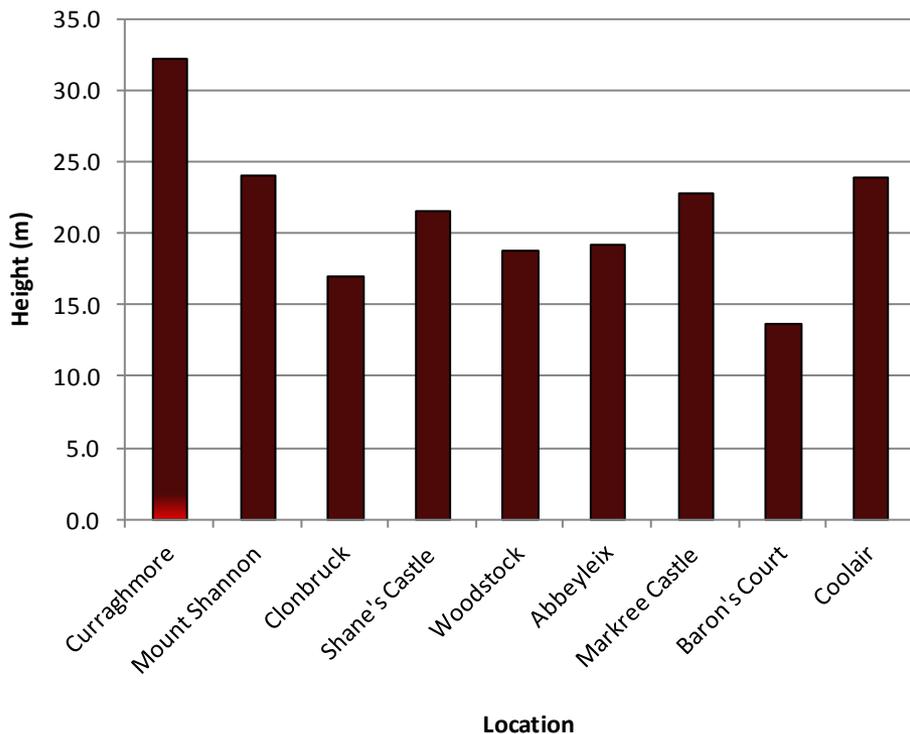
- 1907 Departmental Committee on Forestry
 - Advocated purchase of 300,000 acres mountain land of which 2/3 plantable
 - Afforest over 40 years
 - Cost of £3,000,000
- 1908-14
 - Vote of £6,000 to purchase woodland from Land Commission. Number of estates purchased.
 - Modest Forest Service established

2. Why Sitka spruce?

1. **Very few native species – Oak, Ash, Birch, Alder, Scots etc**
2. **Only poorest land to be used for afforestation**
3. **Foresters looked outside Ireland for species – similar latitude**
4. **Looked at performance of specimen trees from 1800s**
5. **A Henry gave species glowing recommendation 1907**
6. **AC Forbes gave species his recommendation 1925**

2. Why Sitka spruce?

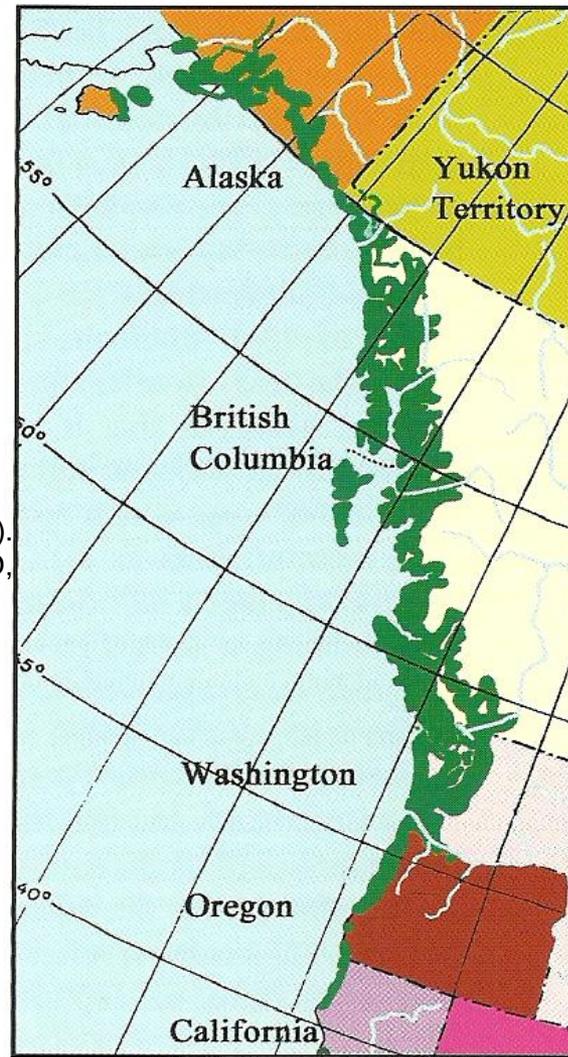
Sitka Spruce Specimens Measured 1891-1906



2. Why Sitka spruce?

 Sitka spruce distribution

Joyce, P.M. and OCarroll, N. (2002).
Sitka Spruce in Ireland. COFORD,
Dublin.



500km 1000km 1500km

2. Why Sitka spruce?



Photo courtesy of David Thompson, Coillte

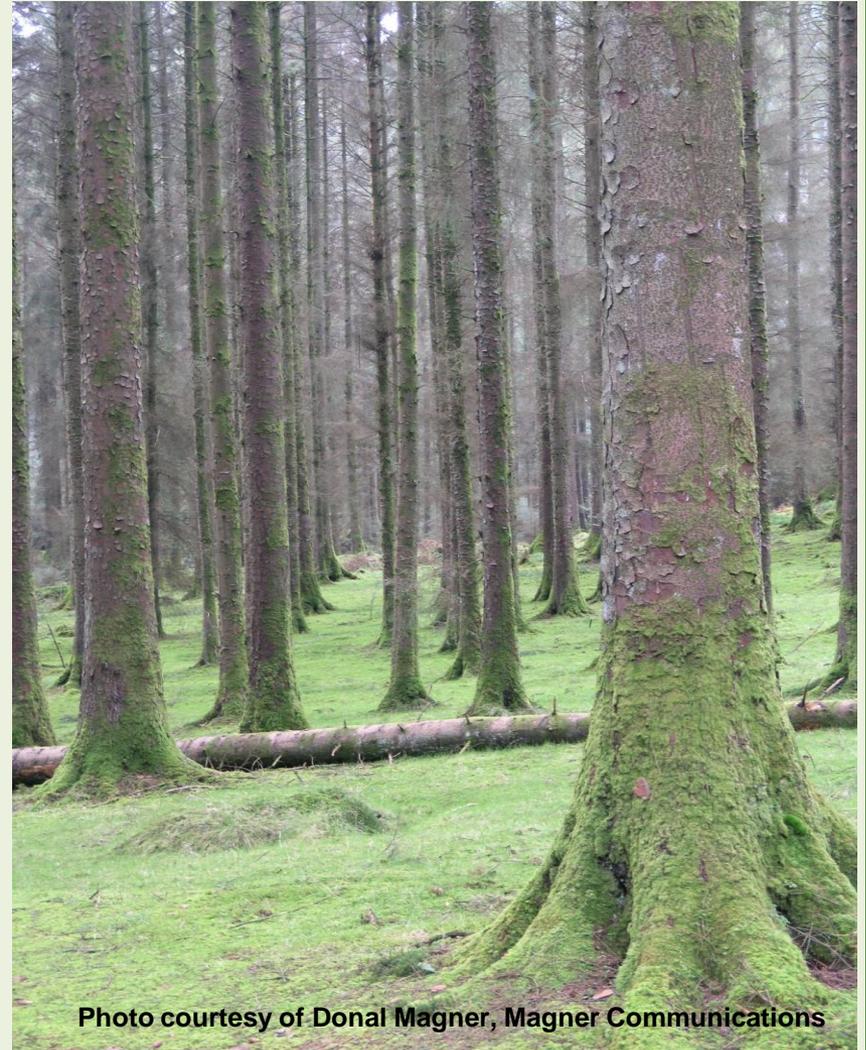
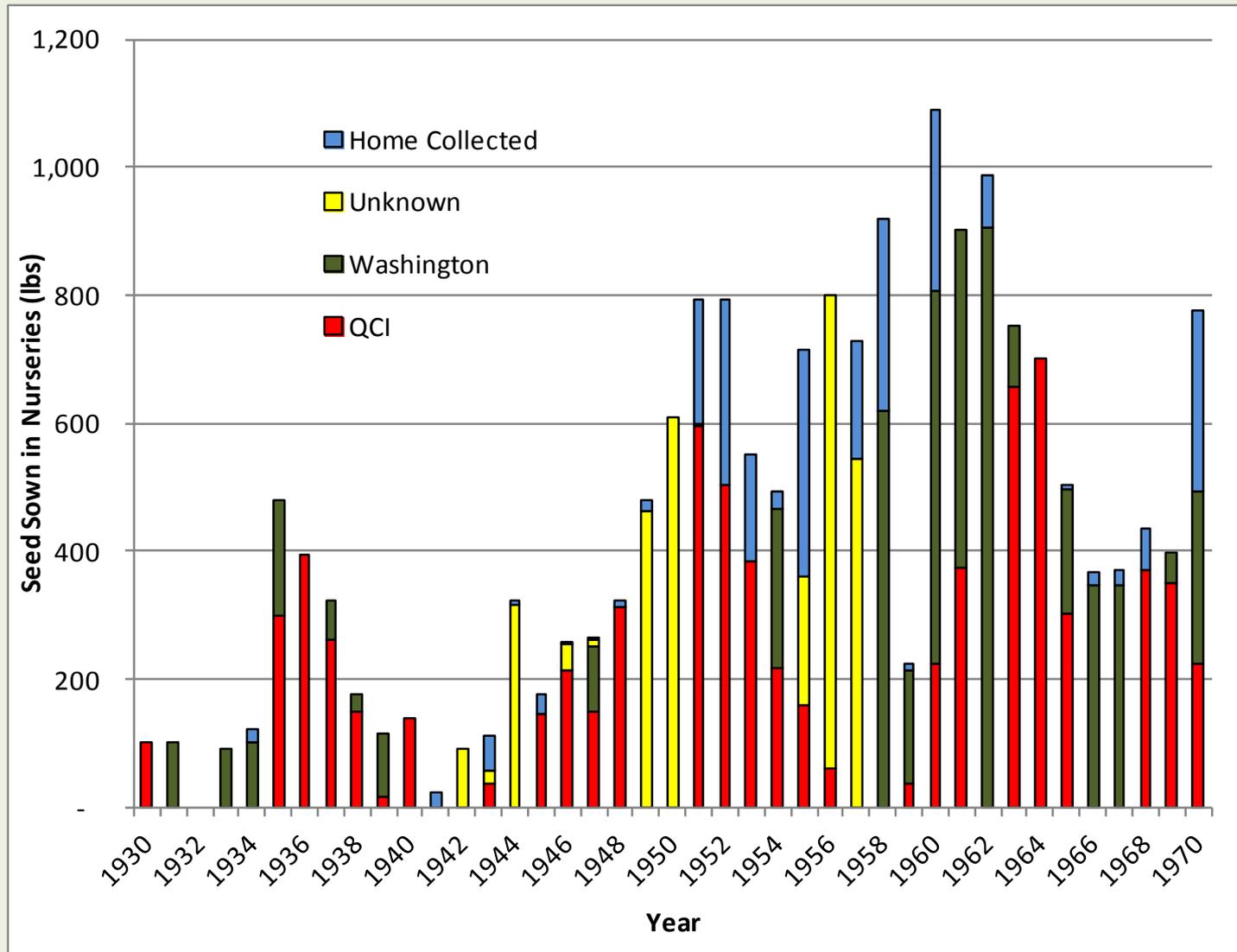


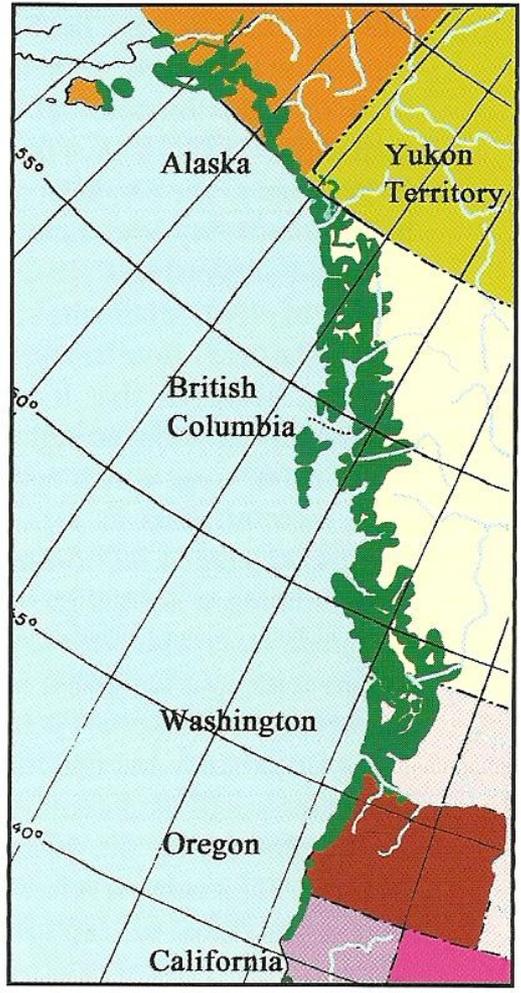
Photo courtesy of Donal Magner, Magner Communications

Sitka Spruce Plus Tree and Glendine Property County Laois

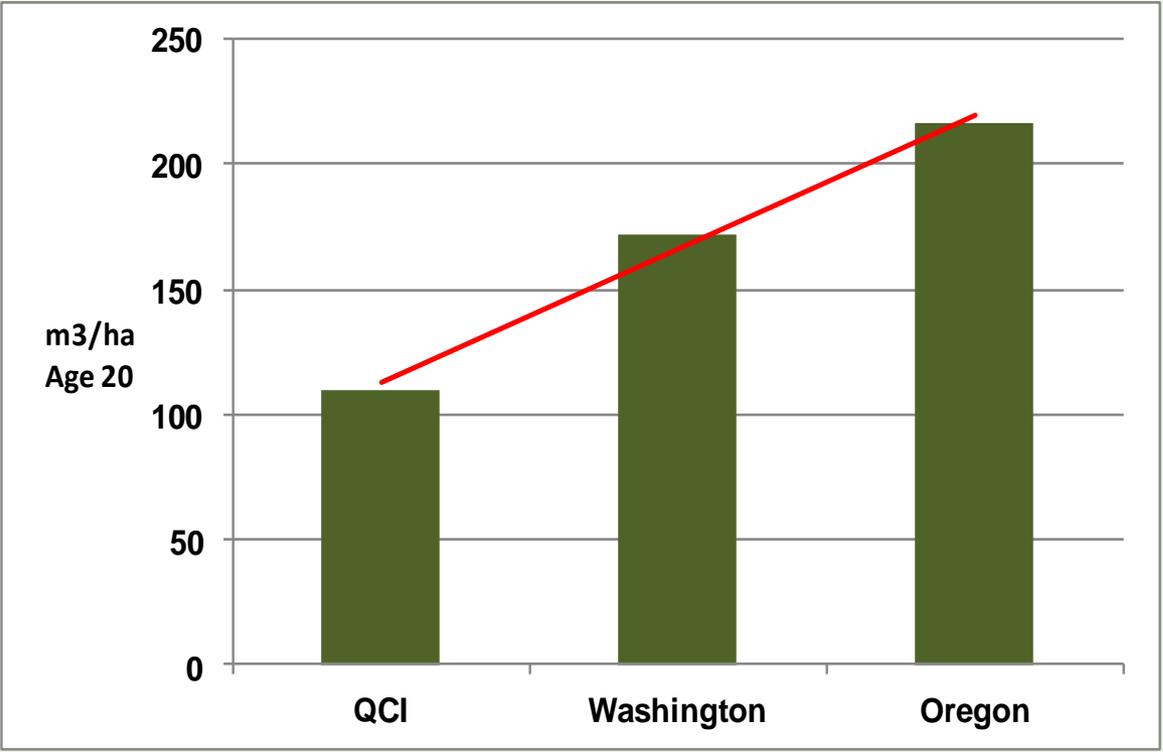
Sitka spruce Seed Sources



Sitka spruce Seed Sources



Shillelagh Gene Bank



Sitka spruce Forest Service Requirements

Planting

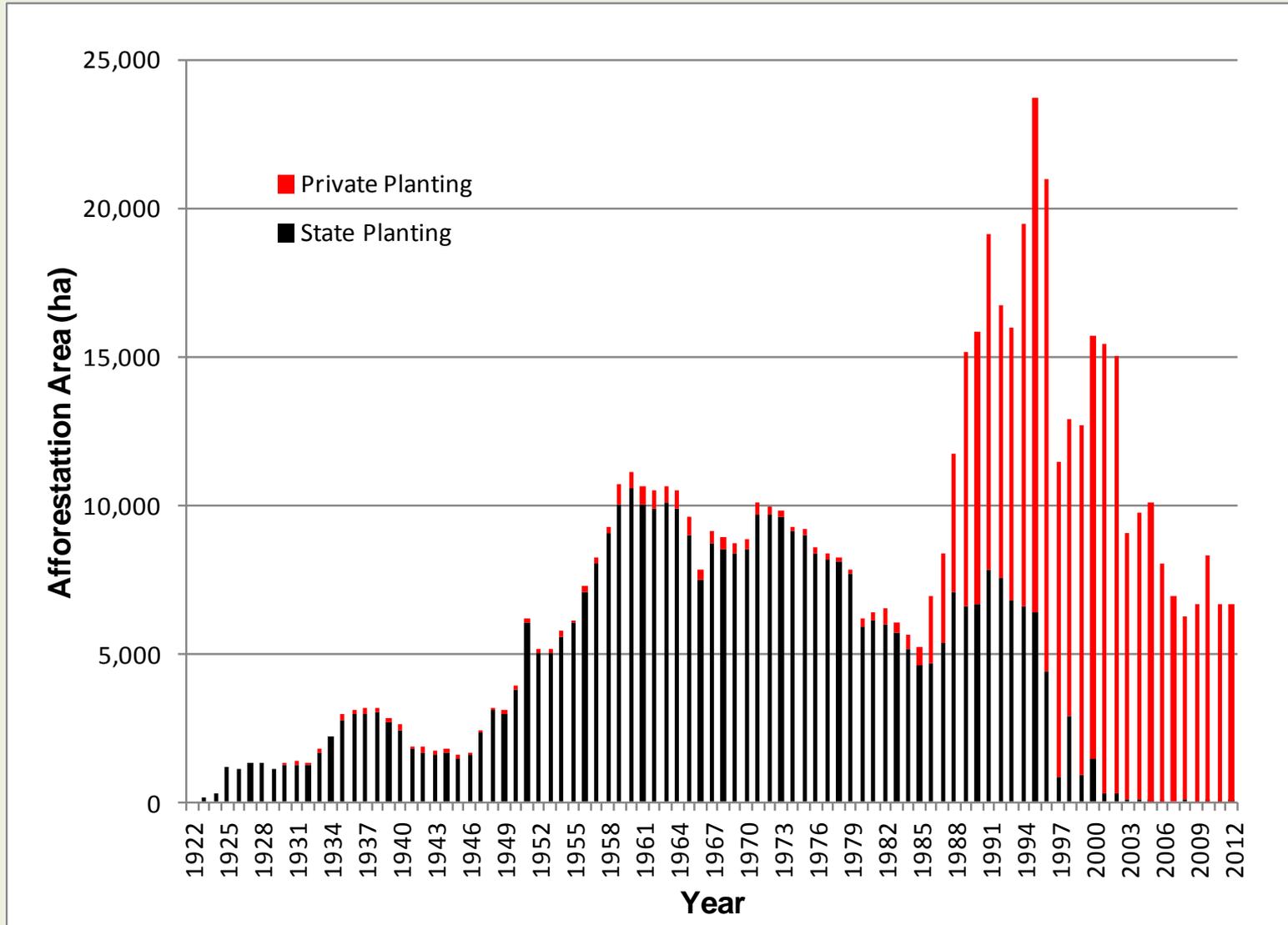
a) On most sites (low to mid elevation)

a) South Washington and North Oregon

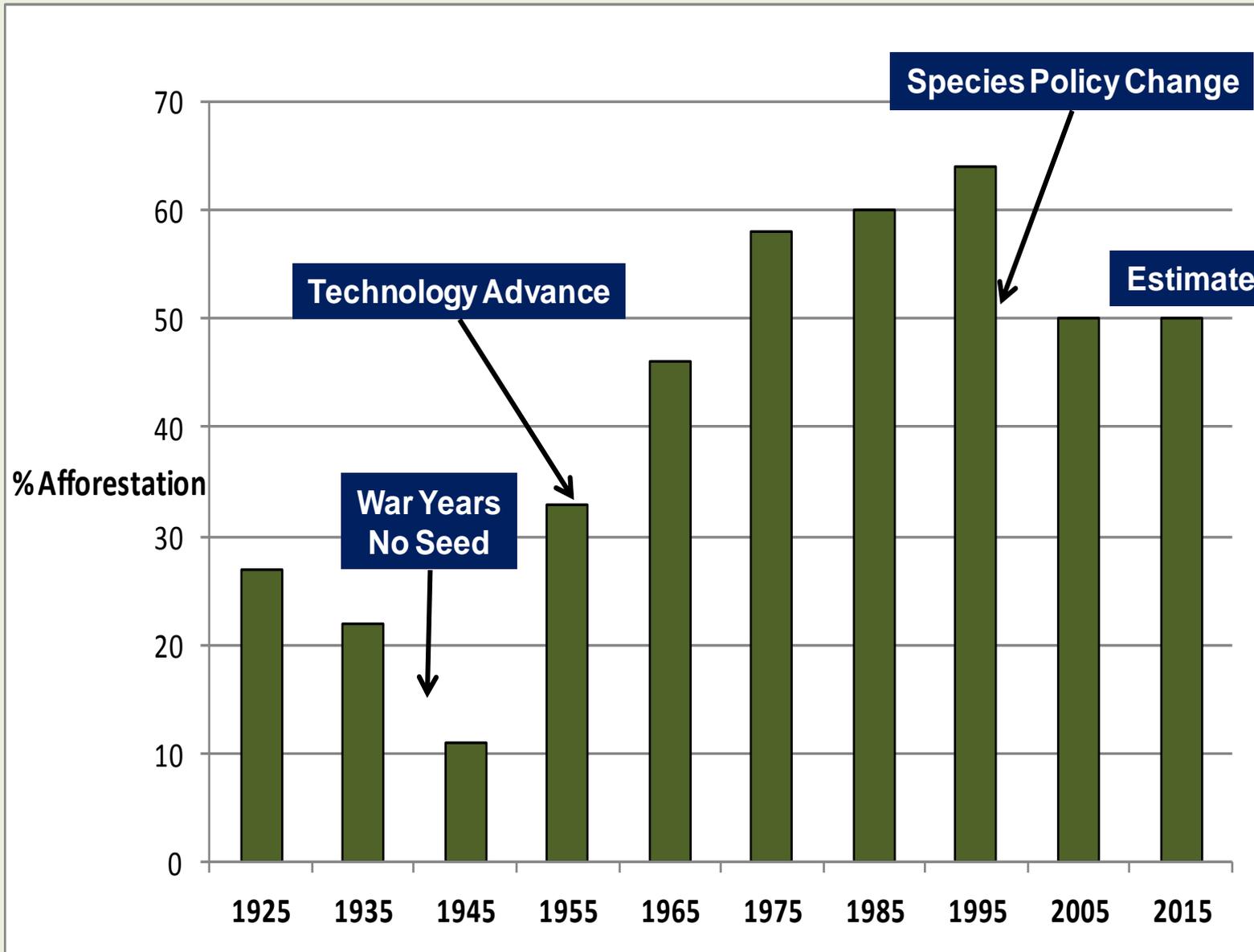
b) Frost prone sites and >300m elevation

a) Queen Charlotte Island (QCI)

Sitka spruce Contribution to Afforestation

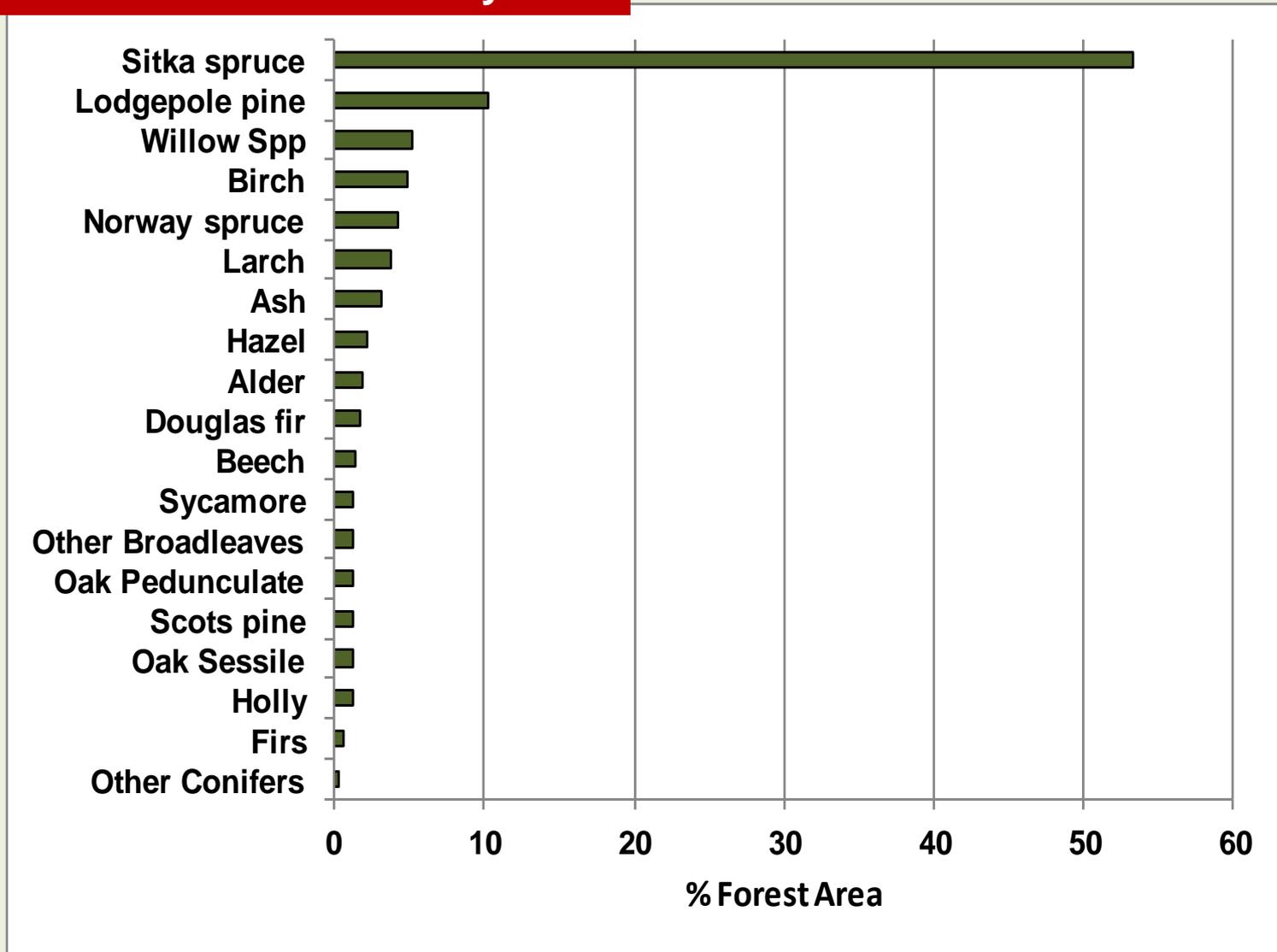


Sitka spruce Contribution to Afforestation



Sitka spruce Contribution to Afforestation

National Forest Inventory 2007



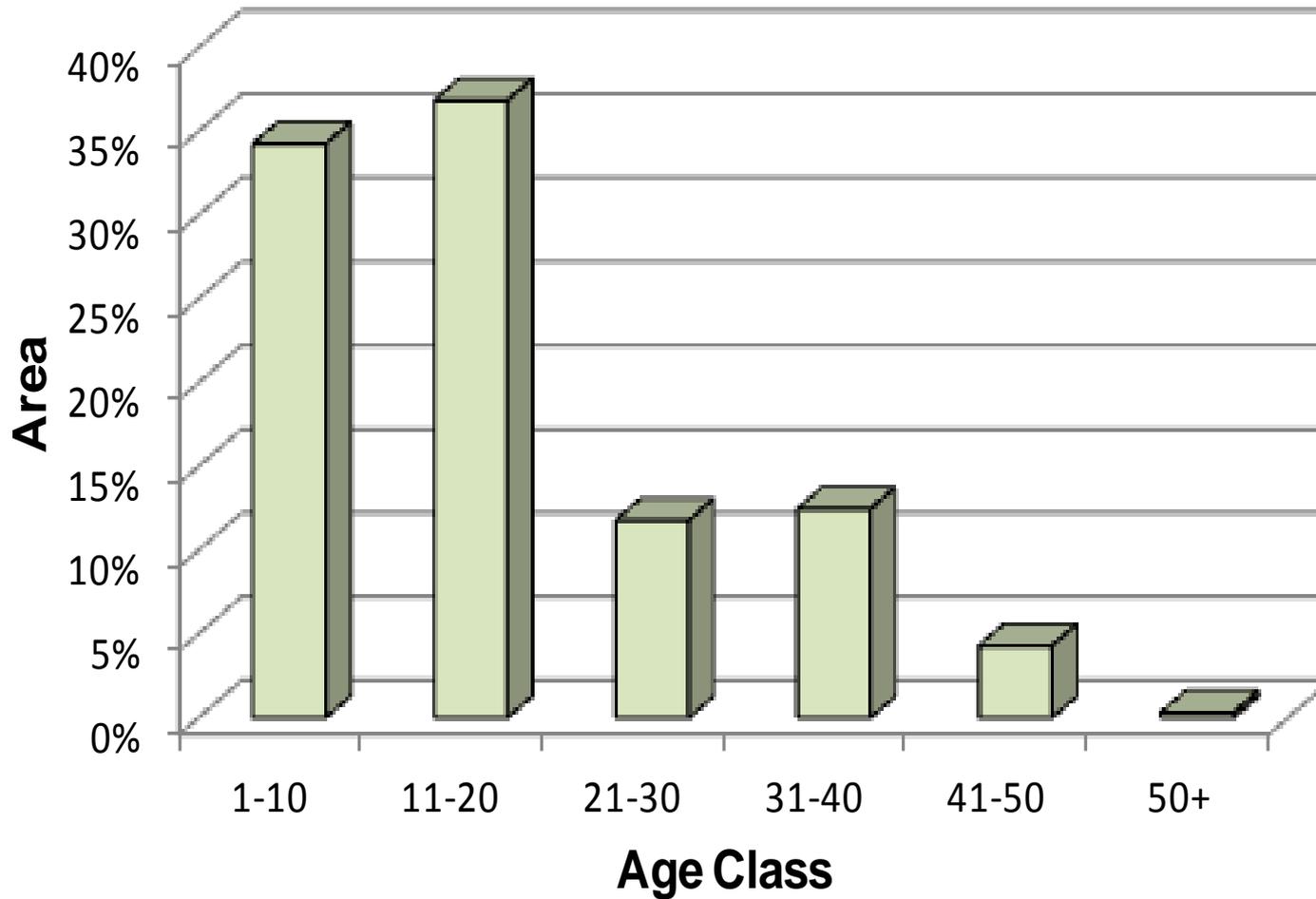
Sitka spruce Contribution to Afforestation

High Planting Levels of Sitka spruce Because

- a) Easy to establish plantation
- b) High volume producer
- c) High level of profitability
- d) Strong demand for spruce – Wood Panels and Sawmilling

Sitka spruce Contribution to Afforestation

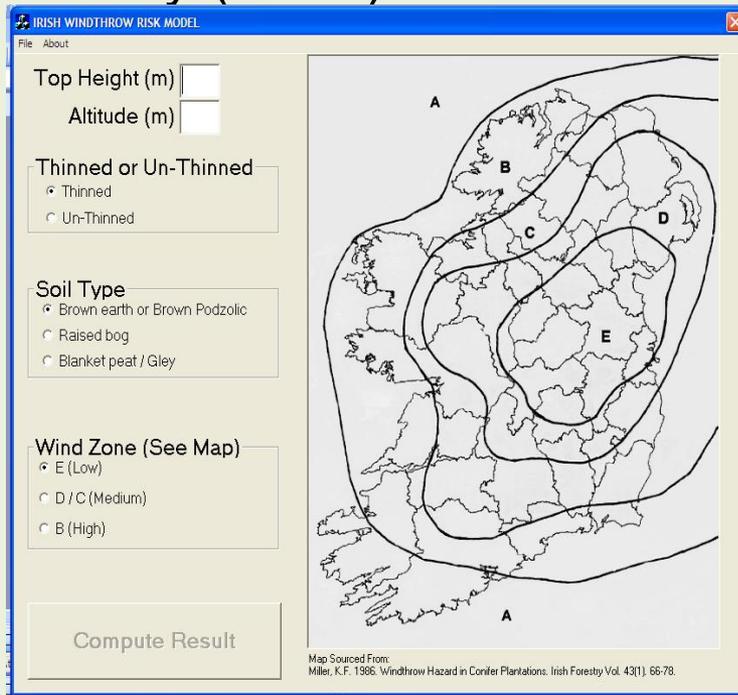
National Forest Inventory 2007



Sitka spruce Contribution to Afforestation

Relatively Few Older Stands Because:

- Change in rotation policy in 1977
- Site stability (Wind)



IRISH WINDTHROW RISK MODEL

File About

Top Height (m)

Altitude (m)

Thinned or Un-Thinned

Thinned

Un-Thinned

Soil Type

Brown earth or Brown Podzolic

Raised bog

Blanket peat / Gley

Wind Zone (See Map)

E (Low)

D / C (Medium)

B (High)

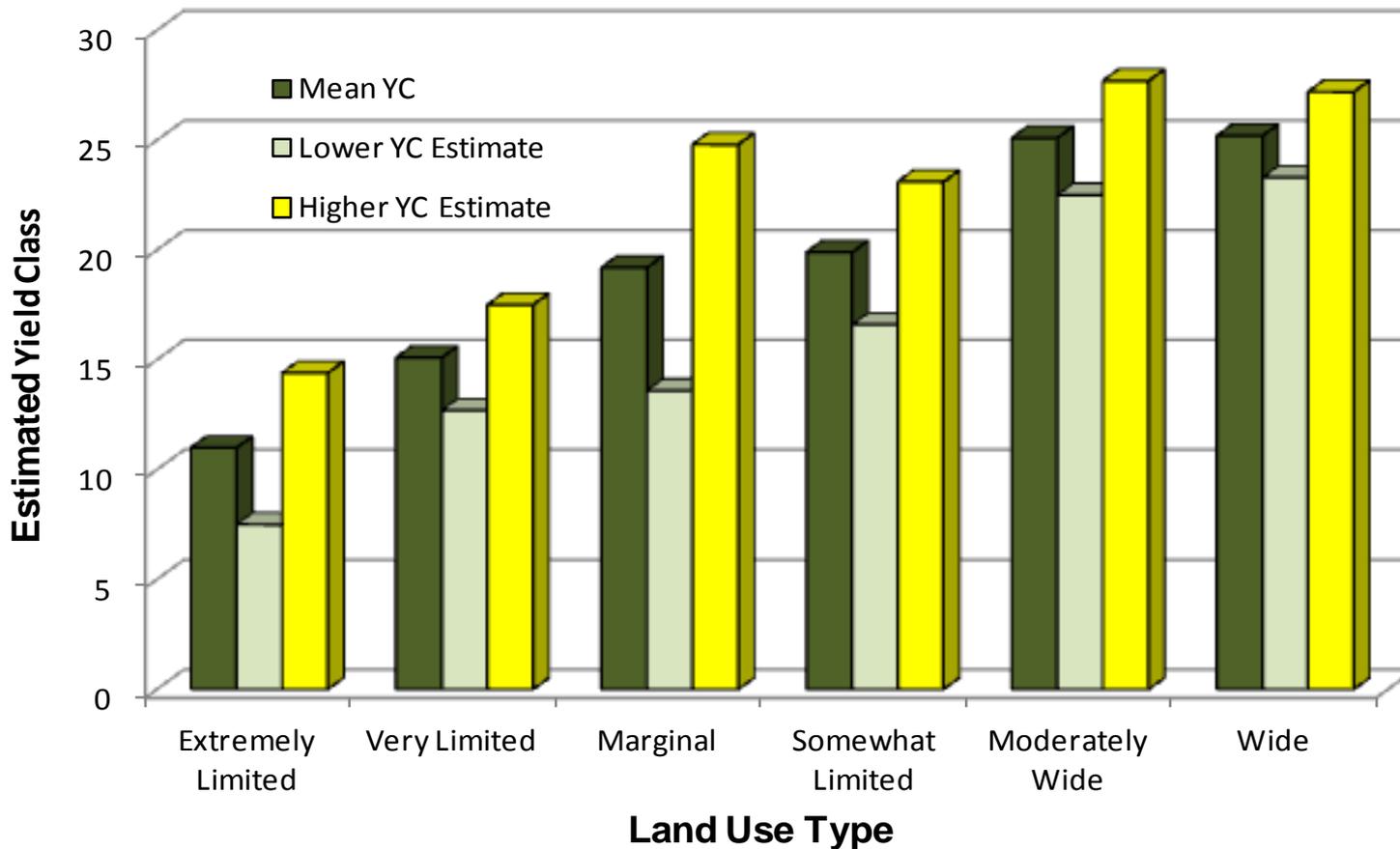
Compute Result

Map Sourced From:
Miller, K.F. 1986. Windthrow Hazard in Conifer Plantations. Irish Forestry Vol. 43(1): 66-78.

- Sawmills prefer tree size 0.6-0.8m³

Sitka spruce Growth and Yield

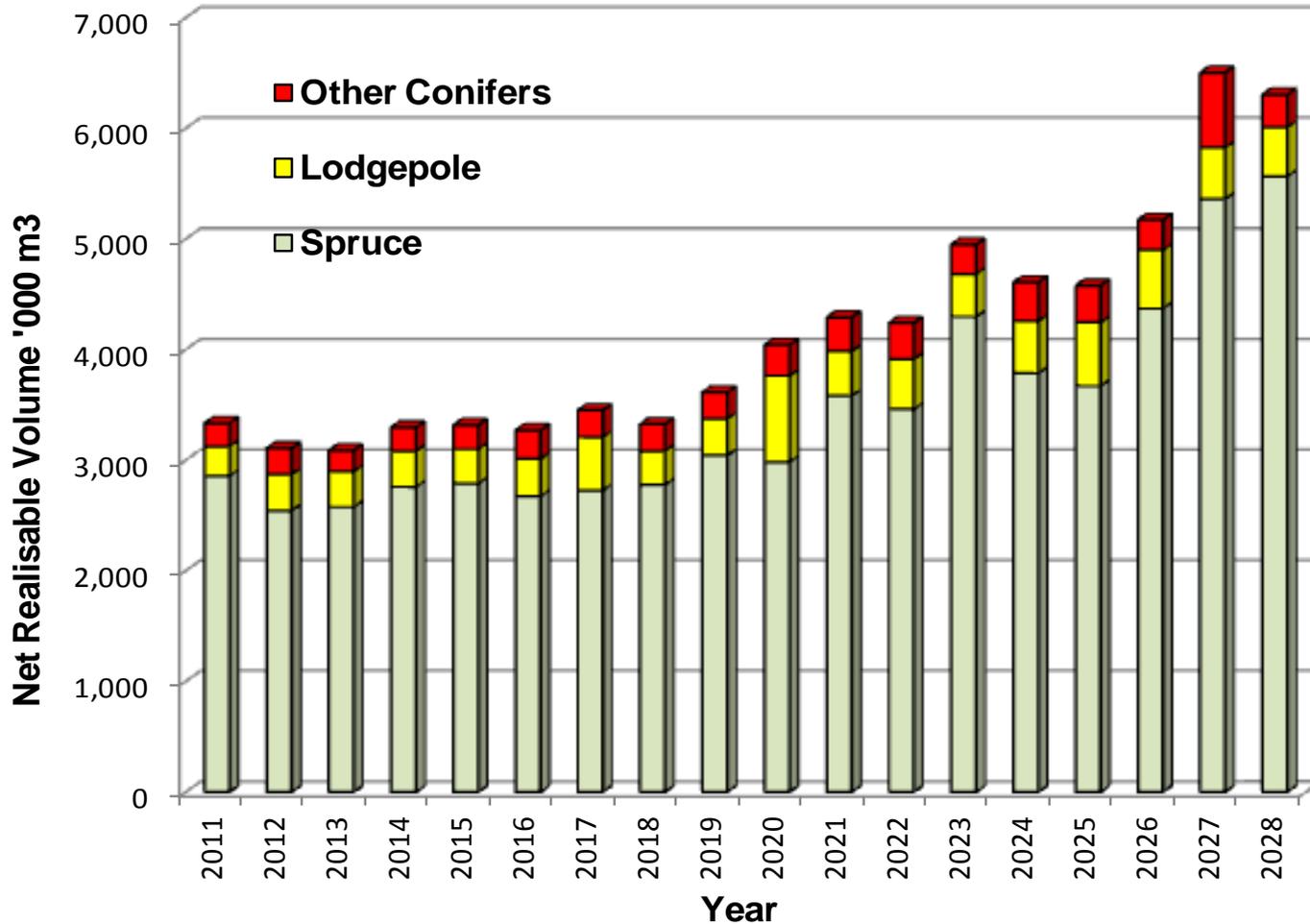
Predicted Yield Class by Land Use Type – Future Afforestation



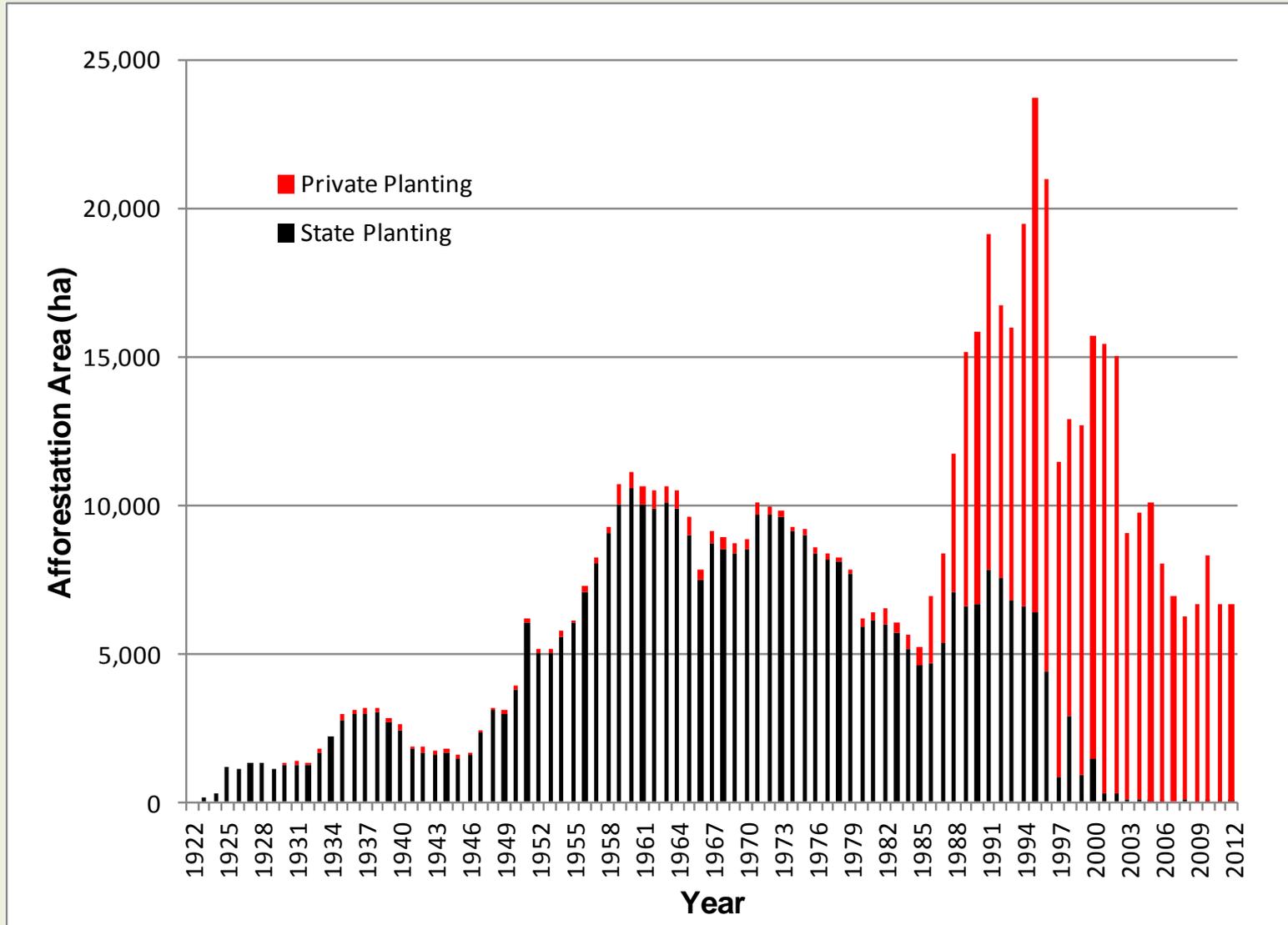
Farrelly, N. (2013) Potential level of land available for afforestation that is marginal to economic agriculture and the likely level of productivity that can be attained on it using Sitka spruce. Report prepared for COFORD Working Group on land availability for afforestation.

Sitka spruce Contribution to Volume Production

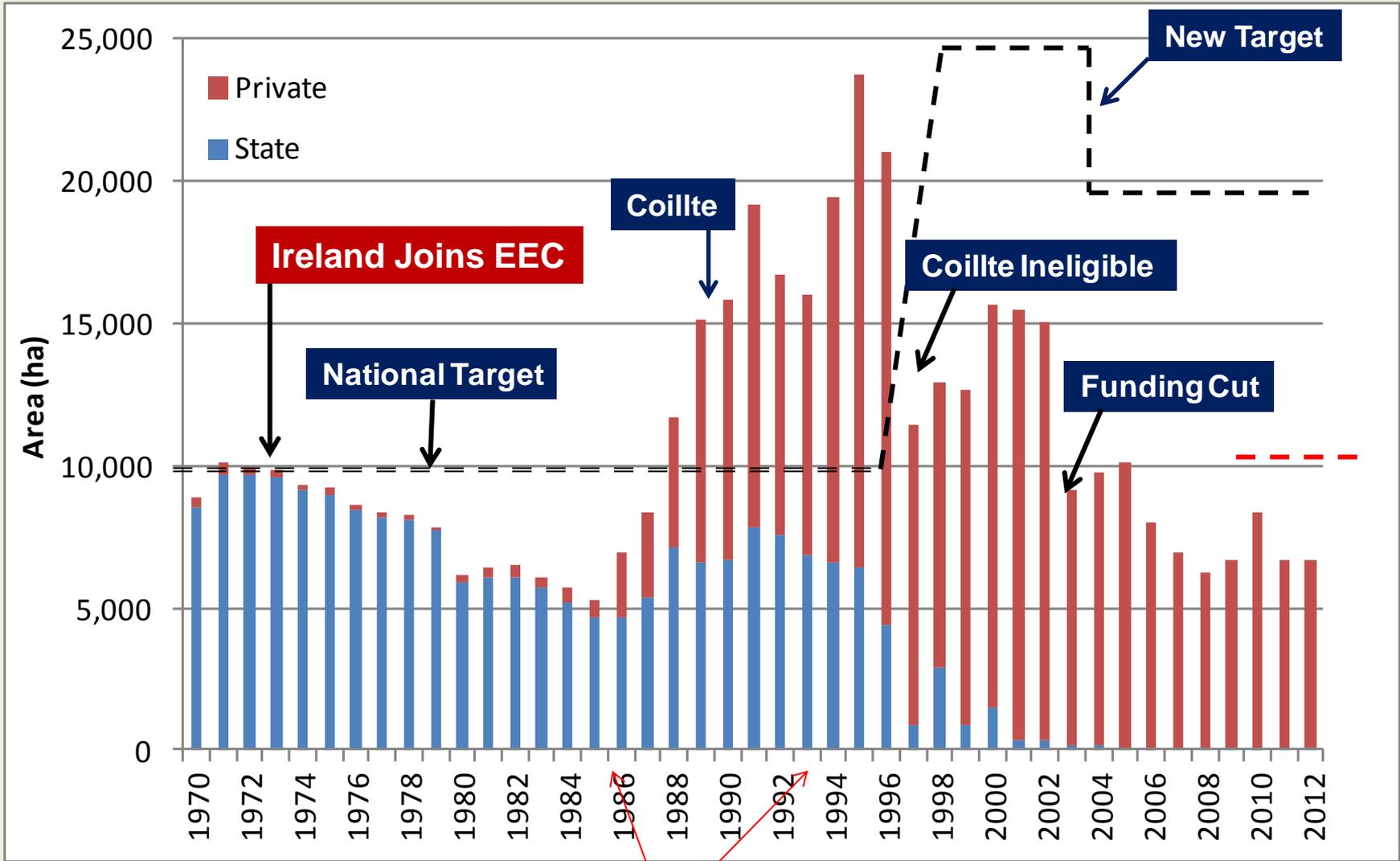
All Ireland Forecast 2011 - 2028 (ROI Data Only)



Ireland's Afforestation Programmes



Ireland's Afforestation Programmes



Grant Schemes

Ireland's Afforestation Programmes



Impact of Sitka spruce and Afforestation Programme

Forest Sector

Area = 750,000 ha (11%)

Private = 47%

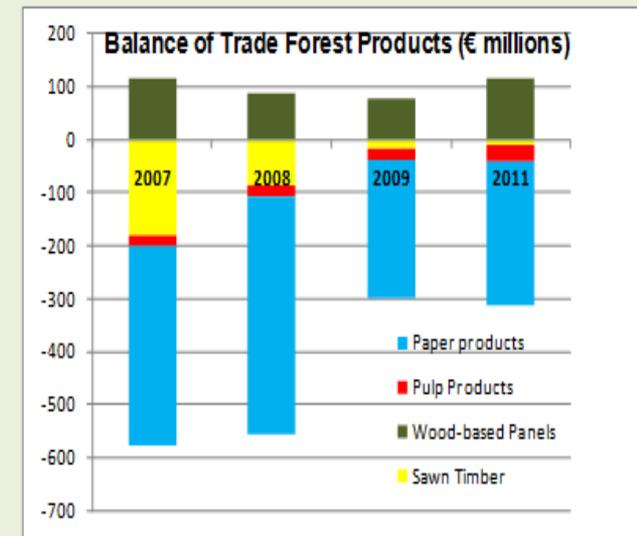
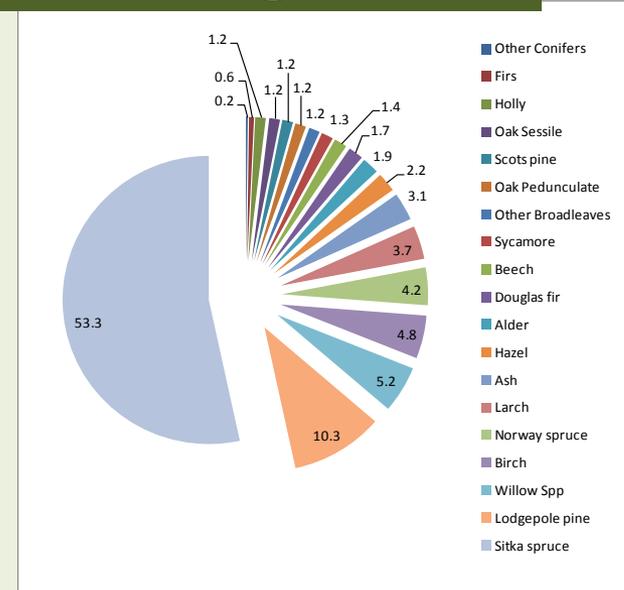
Employment = 12,000

Value to Economy = 2.2 billion

Modern Sawmilling Sector

Export Panels and Sawnwood

Provides Range of Environmental Services



Sitka spruce and Ireland's Afforestation Programme

Overall Conclusion

Despite the afforestation target of 17% being pushed further into the future

Ireland's afforestation programme has been a success

Now have a vibrant forest industry

Increasing volume production

More equal share between State and Private

Most of success is due to one species – Sitka spruce

Sitka spruce and Ireland's Afforestation Programme



Thank You