

Plantation Potential of Cleared Land in Tasmania,

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March 2011

Introduction

This report, which collates work undertaken by Private Forests Tasmania, has been prepared for the project, *Carbon Plantations – extending R & D to best management practices for carbon sequestration, wood production and new investment opportunities on private land in Tasmania*. This project is supported by funding from the Australian Government Department of Agriculture, Fisheries and Forestry under its Forest Industries Climate Change Research Fund Program. The executive summary is available at: http://www.privateforests.tas.gov.au/projects/current_projects

Executive Summary

Private Forests Tasmania has investigated the area of cleared private land potentially suitable for plantation development for broad strategic purposes. Two different and separate investigations include an internal technical report, *Estimating the area of private cleared land within Tasmania with potential plantation*, Peter Taylor, Private Forests Tasmania, 2009; and other work in 2005 to identify potentially suitable cleared private land for plantation development in lower rainfall areas under the National Action Plan for Salinity and Water Quality.

Interpretation of all results needs to be mindful that all analyses are based on various economic, geographic and operational assumptions. In addition, there are assumptions underlying the growth models. Each analysis sets different criteria for commercial viability. Generally, the first analysis could be said to apply to potential plantation sites with rainfall above about 1,000 mm/yr and the second to sites receiving less than about 1,000mm/yr.

Plantation potential on relatively higher productivity sites

The 2009 analysis, based on a one kilometre grid, included land below 700 metres in elevation and above 600mm mean annual rainfall. Areas where plantation forestry was uncompetitive with other land uses, prohibited by planning schemes or not able to be developed under the Forest Practices Code, were excluded. Areas preferred for plantation development, based on location to processing centres, were identified.

A plantation productivity measure, expressed as mean annual increment (MAI), of 20 cubic metres per year (m³/ha/yr) was regarded as the lower limit for commercial viability. Here, the Net Present Value (NPV) of a plantation enterprise is positive and has an acceptable rate of

return when the MAI exceeds 20m³/ha/yr and the price paid for standing timber exceeds \$17.50/m³. On this basis, it is estimated there are upwards of 73,000 net hectares of cleared private land suitable for commercial plantations of *Pinus radiata*, *Eucalyptus nitens* or *E. globulus*. Land suitable for plantations with an MAI of 19m³/ha/yr or less are estimated to be about 37,200 net hectares. This analysis focused on wood productions and did not include 'carbon only' plantings as different assumptions may apply.

Plantation potential on relatively lower productivity sites

The 2005 analysis examined the area on mainland Tasmania identified under the National Action Plan (NAP) for Salinity and Water Quality 2004-2005 project, *Productive Use and Rehabilitation of Salt Affected Land*, overseen by Private Forests Tasmania. The purpose of this study was to investigate the extent to which plantation forestry could be developed in lower rainfall areas to produce wood and perhaps ameliorate salinity impacts. Municipalities within the NAP study area include Brighton, City of Launceston, Dorset, George Town, Northern Midlands, Sorell, Southern Midlands and West Tamar. In this study, a commercial plantation was deemed to have a MAI of at least 15m³/ha/yr.

The study area included cleared land under 700 metres elevation with above 600mm mean annual rainfall, with slopes less than 27°. Wetlands were excluded. Within these parameters, a total pool of land of 495,000 hectares was identified as being potentially suitable for plantation. Areas were identified according to plantation productivity, 0-9, 10-14, 15-19, 20-24 and 25m³/ha/yr or more.

The analysis estimated land in the study area for commercial plantations is best suited for *Pinus radiata* with a potential 363,000 hectares (73%) of suitable land. Land suitable for *E. nitens* is estimated to be about 334,000 hectares (67%). Land suitable for *E. globulus* is estimated to be 115,000 hectares or 23% of the total study area.

Within the study area, a sub-pool of 201,400 hectares of land with known salinity indicators was identified. Of this, 62% is suited to *Pinus radiata*, 13% suited to *E. globulus* and 54% suited to *E. nitens*.

A large area in the Longford-Cressy region shows potential for both *P. radiata* and *E. nitens* to reach a peak MAI of 15-19m³/ha/yr. A small area in the Evandale-Nile area shows potential for *P. radiata* to reach a peak MAI of up to 20-24m³/ha/yr, with 15-19m³/ha/yr for *E. nitens*. There are also several smaller areas with similar potential for these species in the southern region from Triabunna, in the Coal River Valley, through to Richmond and Sorell. Based on this modelling process, the commercial plantation of *E. globulus* is confined to small areas in the West Tamar region and near Sorell.