

Forest Facts

South-East
Queensland

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This information is mainly derived from Comprehensive Regional Assessments carried out for the SEQ Regional Forest Agreement.

prepared by

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for

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Carbon Storage

The world's forests comprise a major store of global carbon, containing some 70-75 per cent of the 2,190 Gigatonnes¹ stored in terrestrial ecosystems. Roughly half of the carbon in a forest is found in the soil and half in the biomass. Of the carbon in the biomass, around 85-95 per cent is found in the trees.

In a native forest the amount of carbon will depend on three factors: logging history; species composition; and other ecosystem characteristics governing growth and decay rates. As trees age, all other things being equal, they increase in size and store more carbon. However, the relationship between age/size and the amount of carbon is non-linear. A 2.5-metre diameter tree contains about 80 tonnes of carbon, a 2-metre diameter tree about 50 tonnes and a 1-metre diameter tree only about 10 tonnes. This means that one large tree of 2 metres diameter has a great deal more carbon stored in it than 10 trees of 0.2m diameter.

The impact of logging on carbon storage is poorly studied and contentious. Two major impacts are that it removes larger trees and therefore most of the biomass and it can disturb the soil causing much of the carbon stored in the soil to be oxidised and released into the atmosphere. Most of the current estimates of forest carbon are from logged sites and therefore potentially underestimate the carbon stored in an undisturbed native forest.

The international community is currently debating whether emission trading should be extended to include the carbon stored in native forest ecosystems. Given the significance of forests to the global carbon cycle it seems likely that this will happen.

¹ A gigatonne is 1 billion (1 thousand million) tonnes

Expert opinion suggests that the carbon will be worth between \$10 and \$50 per tonne, with \$20 per tonne being a likely starting price.

If this eventuates then forests will have a new market value. Very conservative estimates indicate that there is a minimum of 693 million tonnes of carbon in the forests of SEQ with a predicted market value of \$14 billion. Of this at least \$2.2 billion is sequestered in the productive area of state forests. It is a very real possibility that the carbon value of SEQ's forests exceeds the wood value.

To date the RFA process has failed to analyse the impacts of logging on carbon storage. A scientific advisory committee to the Federal and State governments has recommended that :

“An adequate basis for predicting the carbon consequences of alternative forest management scenarios must be developed. This must include methods for considering carbon change at landscape scales and evaluating the economic implications of carbon in forests for the wood market; and

The RFA options must anticipate emerging Commonwealth and State global carbon policy responses.”

The National Forest Policy Statement 1992, which is signed by all States and the Commonwealth, includes the following reference to carbon: “In relation to climate change, the Governments acknowledge the need, identified in the National Greenhouse Response Strategy, to manage forests so as to maintain and increase their ‘carbon sink’ capacity or to minimise the emission of greenhouse gases from forest activities.