



Can we believe the Wilderness Society funded ANU Green Carbon Report?

Carbon capture and storage in our forests is a vital issue for any debate on an emission trading scheme but a new report including a new model funded by the Wilderness Society would have you believe harvesting just two timber harvesting coupes can produce 300,000 cubic metres of logs,

(Just to put this into some perspective Tasmania's total annual saw log harvest from state forests is 300,000 m³.)

TCA member and supporter, Alan Ashbarry reports on his investigation as to, why is this so, and can we believe this Wilderness Society funded report.

Recently the Australian National University released a report on "Green Carbon". The report's lead author is a Wilderness Society Volunteer from their Wild Country panel. The report is part of the funding partnership the Wilderness Society has with the Australian National University (ANU).

As the report was funded by the Wilderness Society it is hardly surprising that the report recommended the banning of all industrial logging in Australia's south eastern native forests.

Yet the report has been given all the credibility of an independent scientific report by the Media: <http://www.abc.net.au/am/content/2008/s2324272.htm>

But the report fails the common sense test.

If the Carbon volumes are converted to the actual volume of trees, it means that there would be trees growing on trees.

The report claims that an average carbon carrying potential of 360 t C ha⁻¹ of biomass carbon (living plus dead biomass above the ground).

It also claims the highest biomass carbon stocks, with an average of more than 1200 t C ha⁻¹ and **maximum of over 2,000 t C ha⁻¹** are in the mountain ash (*Eucalyptus regnans*) forest in the Central Highlands of Victoria and Tasmania.

**So let's see what this means when the sums are done
(and only using green published figures)**

The Greens Institute state that Carbon density of eucalypt wood 0.325 t C/ m^3 , this means at **2,000 t C ha⁻¹**, this is $6,150 \text{ m}^3$ per ha, and calculated from the report 65% -74% of the biomass is in the living tree, this represents a minimum of $4,000 \text{ m}^3$ per ha.

Therefore in an average **coupe of 50 ha this represents 200,000m³**, even if only three quarters of this is used by the forest industry (exclude branches, leaves, rotting wood, stumps), it means according to the model that **two average size coupes** will produce over $300,000 \text{ m}^3$ of log.

To compare just how big volume is, Forestry Tasmania has a legislated requirement to supply the whole of Tasmania's saw milling industry $300,000 \text{ m}^3$ of saw logs each year from the 1.5 million hectares it sustainably manages!

More evidence of an inaccurate TWS funded ANU model

Even the Wilderness Society used a completely different figure of only 160 m^3 timber per hectare, when calculating the impact of the approved pulp mill on native forests. Even allowing for harvesting residues this is a tiny fraction of the new model's figures.

The Wilderness Society also claimed that timber harvesting for the pulp mill will release 10 Mt CO_2 per annum. As the pulp wood log supply is 36% from native regrowth, the CO_2 from native forest is $10 \text{ Mt} * 36\% = 3.6$.

They also claim that $200,000 \text{ ha}$ of native forest will be harvested over the 25 year life of the pulp mill that is $8,000 \text{ ha}$ a year.

Thus according to the Wilderness Society only last year the CO_2 per ha of native forest is $3.6\text{MT} / 8,000 = 459 \text{ t CO}_2/\text{ha}$.

Convert this to C by atomic weight ratio $12/44 * 459 \text{ t} = 125\text{t C /ha}$

This figure is about the same as the Forestry Tasmania estimate of 106t C per hectare released early this year, which is also close to the National Carbon Accounting System and Department of Climate Change Models.

So how could the ANU get it so wrong?

The problem is of course in the maths and the model.

To put this problem simply lets tabulate these figures:

The report modeled and predicted an average of 360 t C ha^{-1} of biomass carbon.

The report claims the highest biomass carbon stocks, with an average of more than 1200 t C ha^{-1} and maximum of over 2000 t C ha^{-1} , are in the mountain ash (*Eucalyptus regnans*) forest in the Central Highlands of Victoria and Tasmania.

The Green Institute claims a Carbon density of eucalypt wood of 0.325 t C/m^3

Thus cubic metres of biomass per ha then are:

Mean	$360 \text{ t C} / 0.325$	$= 1100 \text{ m}^3$ per ha
Highest average	$1200\text{t C} / 0.325$	$= 3700 \text{ m}^3$ per ha
Highest	$2000\text{t C} / 0.325$	$= 6150 \text{ m}^3$ per ha

With 65%- 74% of the above ground carbon stored in the trunks of the trees, an average coupe of 50 ha then would produce

Mean	36,000m ³
Highest average	120,000m ³
Highest	200,000m ³

These figures can be discounted slightly for non useable parts of the trunk at a rate of 75%, giving a highest figure of 150,000 m³ in just one coupe.

In 2006-07, Forestry Tasmania harvested over 11,500 ha of native forest for a harvest of 301,526 m³ of sawlog, and 283,880 m³ veneer and peeler hardwood and 2,136,687 tonnes of pulpwood. By approximating a tonne of pulp to 1 to 1.5 cubic metres this would be about 236 m³ to 330 m³ per ha or **11,800 to 16,500 m³ per average coupe**. Which is just a **tad short of the TWS funded ANU model prediction**.

No wonder statisticians claim that "All models are wrong", this one fails the common sense test.

Journalists and the general public get confused with all this maths, but the short answer is that the Wilderness Society sponsored ANU report states up to 2,000 tonnes of carbon per hectare, **yet previous studies, as well as common sense, calculate the carbon in forest above the ground at between 100 to 150 tonnes**.

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