



HEALTHY FORESTS CREATE SUSTAINABLE WATER YIELDS, STORE MORE CARBON

The quality of Melbourne's drinking water is inextricably linked to the health of our forests. By protecting the forests fringing Melbourne we are protecting our water catchments and the water we drink and use to grow food. These forests are also among the most carbon dense in the world.

Protecting Victoria's Central Highlands forests within the national parks system would deliver a range of positive outcomes for the state, not the least of which would be healthier and higher yielding water catchments.

However, as long as we continue to log these forests Melbourne's drinking water and the rivers north of the Great Dividing Range that supply water for irrigation, human consumption and environmental water flows will continue to suffer.

LOGGING MELBOURNE'S WATER CATCHMENTS

In 2008 the Victorian Government released research into the impacts of logging forests in Melbourne's water catchments. The research showed such operations have a large impact on the volume and economic value of water coming out of these catchments.

It also showed that had we ended logging of our water catchments in 2009/10 we could have increased water yield over the next 40 years by 16 gigalitres, a volume equal to the annual water consumption of a city the size of Ballarat.

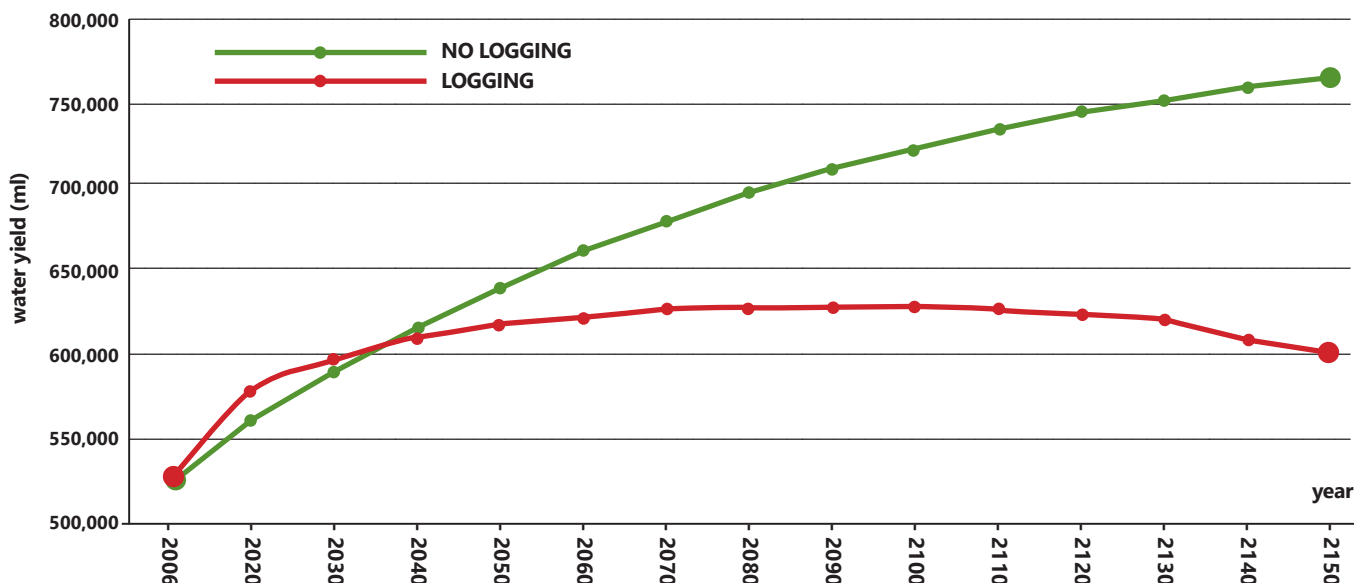
GOULBURN BROKEN CATCHMENT

Similar modelling of the Goulburn Broken catchment shows that an extra 3807 gigalitres of water would flow into the Goulburn River over the next 100 years if logging in that catchment was stopped¹.

That's more than six times Melbourne's annual average water use and around 165 times the amount of water the City of Bendigo uses in a single year.

The cumulative economic value of this water is hundreds of millions of dollars.

WATER YIELD OF ASH FOREST IN THE GOULBURN BROKEN REGION



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PROTECTING FORESTS STORES MORE CARBON

The ability of Victoria's mature wet forests to store carbon is immense. In 2009 a study by Professor Brendan Mackay revealed that the highest amount of carbon stored in a forest anywhere in the world was in an unlogged stand of 100-year-old Mountain Ash in Central Victoria².

This stand of trees held 1900 tonnes of carbon per hectare, making it far more carbon dense than the typical 200-500 tonnes of carbon per hectare stored in tropical forests.

With the world rapidly heading towards dangerous climate change, it is critical policy makers take into account Victoria's climate change footprint when considering logging Melbourne's water catchments.

Stopping logging in the catchments around Melbourne would also make good economic sense, delivering \$6.15 billion worth of stored carbon over the next 100 years. That's the equivalent of taking 47,001 cars off our roads.

FIRE RESILIENCE

It is also worth noting that ecologically mature forests have a much greater resilience to bushfire. It is the view of experienced forestry practitioners that negligibly disturbed ecologically mature forests exhibit a much greater resilience to bushfire than highly disturbed regrowth forests.

Ecologically mature wet forests have a greater ability to tolerate and survive severe bushfire events when compared with their re-growth form, which are more easily destroyed by a 'crowning fire'. The great height of mature wet forests, coupled with wet understorey and midstorey species and low level of fine fuels, have been shown to reduce and lessen bushfire intensity once it has entered their domain.

BUILDING A GREEN EDGE FOR MELBOURNE

To save the Leadbeater's Possum from extinction and protect Victoria's Mountain Ash forests from catastrophic collapse we need increased national parks protection in the Central Highlands and Yarra Ranges.

References

1. [Woodchipping Our Water - A case for reassessing the use of Victoria's Goulburn Catchment's wet montane forests, May 2009](#)
2. [Australian forests lock up most carbon, ABC Science, June 2009](#)

About 60 kilometres east of Melbourne grow some of the tallest trees on Earth. In their high canopies live gliders, owls and the tiny Leadbeater's Possum.

These forests have flourished along the Great Dividing Range under rich rainfall patterns and provide most of Melbourne's drinking water.

They have been scientifically shown to be the most carbon rich on Earth due to the cooler climate in which they grow and high growth rates.

