

## Regional Forest Agreements are driving climate change

The Regional Forest Agreements are 20-year deals between the state and federal governments that remove the federal government from day-to-day regulation of native forests by providing accreditation for logging under the *Environmental Protection and Biodiversity Conservation Act 1999*. There are three RFAs in NSW, North East, Eden and Southern, and they expire between 2019 and 2021.

Although climate change was occurring at the time the Regional Forest Agreements (RFAs) were signed in the late 1990s, it has since emerged as the largest global conservation issue which is a compounding threat to other human pressures such as land clearing and habitat fragmentation. It is identified as one of six key threatening processes for Australia<sup>1</sup>. A huge volume of research has been conducted since the RFAs were signed, meaning that it is imperative that the climate change implications of logging be considered when evaluating the impact of logging. The RFAs have several aims relevant to the environment, including:

1. [Providing] for the ecologically sustainable management and use of forested areas in the regions;
2. [Having] regard to studies and projects carried out in relation to environmental values, including old-growth, wilderness, endangered species, National Estate values and World Heritage values.
3. [Having] regard to studies and projects carried out in relation to Principles of Ecologically Sustainable Forest Management

### Forest carbon in context

Globally deforestation and land-use change accounted for approximately 10% of anthropogenic emissions in 2010<sup>2</sup>. There is increasing urgency to address the threat of climate change, and this increasing urgency is responsible for the first ever global agreement—the Paris Agreement—signed by 196 countries.

Given the major impacts (lower rainfall, more heatwaves, longer fire seasons) that climate change will have on Australia<sup>3</sup> there is a huge amount of work to be done to reduce carbon pollution. **As the most populous state in the country NSW bears a particular responsibility for Australia's emissions reductions.**

### Carbon abatement via the federal Emissions Reduction Fund

Despite being a relatively small proportion of Australia's total emissions, LULUCF is the major cornerstone of the Emissions Reduction Fund (ERF). Over the four auctions to November 2016, abatement from vegetation (avoided clearing and revegetation) accounted for 113.4 million tonnes, or 64% of total emissions purchased<sup>4</sup>. At the average price of \$11.83 per tonne, the total amount paid by Australian taxpayers for carbon from averted clearing and revegetation is \$1.34 billion. Landholders in NSW have been the largest benefactors from the ERF: 46% of all contracted projects are in NSW.

### Australian temperate eucalypt forests: huge carbon sinks

Temperate eucalypt forests are the most carbon-dense in the world<sup>5-7</sup> and in the Southern Forestry Region of NSW (which incorporates the Eden and Southern RFA regions), managing forests for conservation rather than timber production could result in 1.2-1.5 million tonnes of avoided emissions per year<sup>8</sup>. There are no data available for the North-East RFA region but a conservative estimate of a further 30% would result in 1.5-2 million tonnes of avoided emissions across NSW. Were public native forests eligible for funding under the ERF (they currently are not) at the average price of \$11.83 per tonne this would yield between \$14.2 million (for 1.2 million tonnes) and \$23.66 (for 2 million tonnes) per annum. **Given the urgent need to reduce emissions in light of Australia's recent commitments in Paris, ending logging can be viewed as low hanging fruit.**

### Logging reduces the carbon stored in forests

One of the definitions of Ecologically Sustainable Forest Management (ESFM), which is a key aim of the RFAs, is the maintenance of ecological processes in forests—including the carbon cycle. In south-eastern Australia, logged forests have carbon stores of between 40 and 60% of undisturbed forests<sup>7,9,10</sup>. Nation-wide, approximately 44% of carbon

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stocks have been lost from Australia's temperate forests due to deforestation<sup>11</sup>. Despite this knowledge, carbon transfer from native forests into wood products is increasing<sup>12,13</sup> and the majority of these products are derived from pulp (like office paper, toilet roll and paper cups) and end up in landfill quickly, with hardly any having a lifespan of >90 years<sup>10</sup>. In addition, logging generates a high proportion of woody waste material that is also short-lived<sup>8,14</sup>. This results in forest carbon quickly entering the atmosphere and contributing to climate change. In contrast, undisturbed forests are huge stores of carbon. This is why stopping logging would result in immediate emissions reductions<sup>14</sup>. **Logging disrupts the carbon cycle and violates the principles of ESFM.**

### Regrowth vs mature forests: which has more carbon?

Although regrowth absorbs more carbon in a given unit of time because it is growing quickly, a regrowth forest stores much less carbon than an ecologically mature forest. This is because mature forests contain many large, old trees (which are huge carbon stores) and have multiple vegetation layers. Although logging mature forests clears the way for carbon-sucking regrowth, it also removes the large old trees which store many times more carbon than a regrowth sapling. If the wood from the logged mature tree reaches landfill quickly—as it does in the case of native forest logging in NSW—then native forests become a source of atmospheric carbon and not a sink. **The older a forest is, the more carbon it stores.**

### Climate change and nature conservation

Climate change can be an additional pressure in the declines of native species in logged forests. In the case of koalas in SE NSW, research has shown that decreasing rainfall and increasing temperatures have compounded habitat loss from clearing and logging to dramatically reduce koala populations in this region<sup>15</sup>. Climate change also has significant implications for Australia's reserve network and the biodiversity it is designed to protect. A Comprehensive, Adequate and Representative (CAR) reserve network which incorporates the greatest habitat diversity possible is identified as conferring the greatest resilience in the face of climate change to conserve as many species as possible<sup>16,17</sup>. In turn, conserving as many species as possible is a good strategy to manage the risk associated with climate change on ecosystem services (like water supplies and carbon sequestration), and for retaining management options in an uncertain future<sup>18</sup>. **We need to stop logging to reduce the threats facing nature.**

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