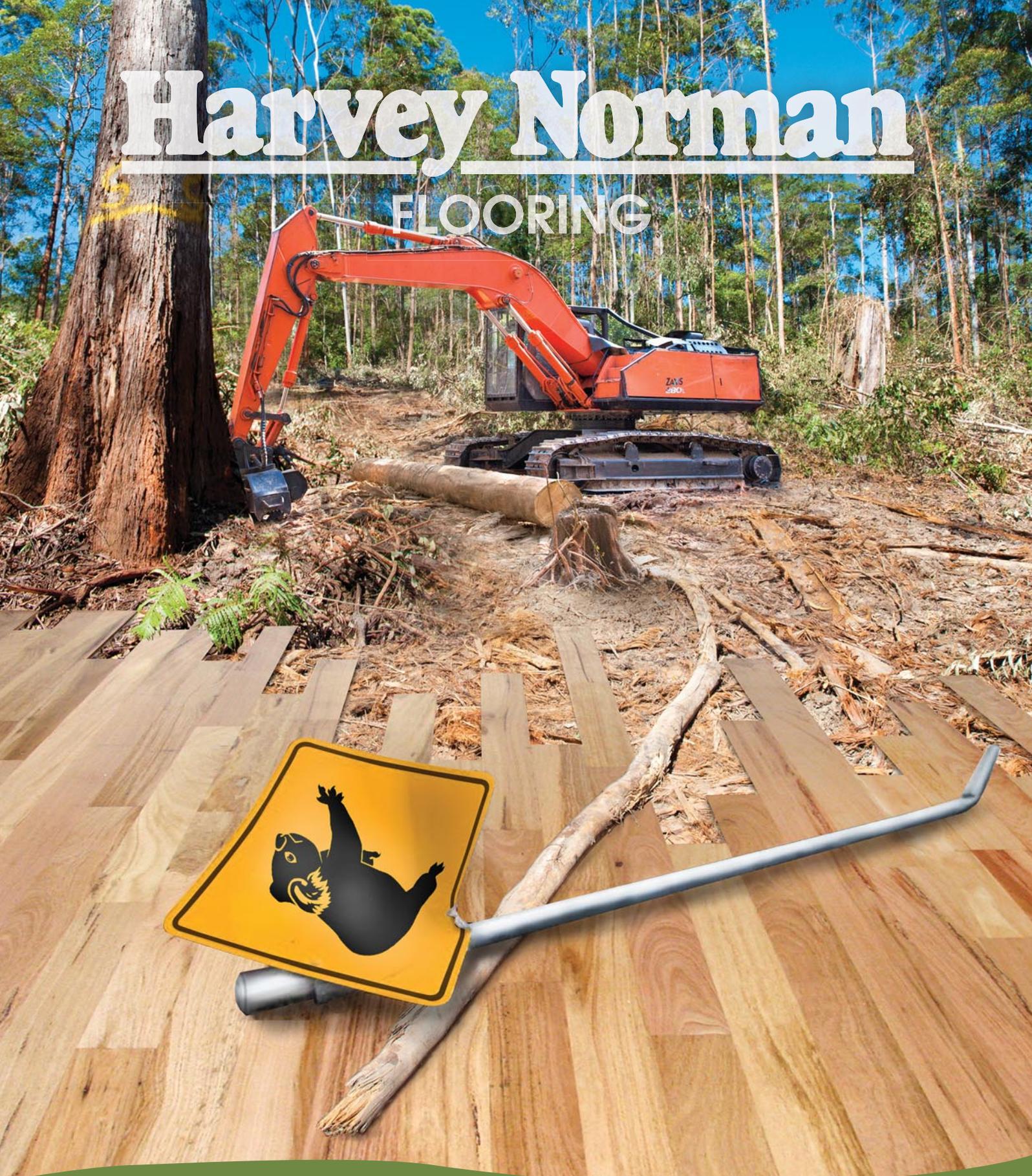


# Harvey Norman

FLOORING



*Naturally Australian*  
**Koala Habitat Destruction**

[www.marketsforchange.org](http://www.marketsforchange.org)



# Summary

As few as 1,000 koalas may be left in the wild in New South Wales (NSW); a key threat to their survival is the destruction caused to their habitat by large scale industrial logging. The Australian Senate has recently called for much stronger protection measures for the koala and the Australian Government has now listed koalas as a vulnerable species in Queensland (QLD), the Australian Capital Territory (ACT) and NSW, although not in the states of Victoria and South Australia where koalas are also found. The Federal listing in the three nominated states will offer substantial protection to the species however, where logging operations are conducted under Regional Forest Agreements (RFAs), the Federal listing will have no protective effect.

Markets for Change has recently tracked timber harvested by Forests NSW from Boambee State Forest, which is considered prime koala habitat, to a saw mill in Koolkhan owned by Boral Limited, Australia's largest building and construction materials company. Boral purchases large amounts of timber from Forests NSW, the state government authority responsible for the logging of forests in public ownership. The sawn timber from Boral's saw mill in Koolkhan is transported to a flooring manufacturing mill where Boral produces Harvey Norman's 'Naturally Australian' flooring range, which is available nationally at retail outlets and online.

Harvey Norman is able to source timber from Australia's native forests, including koala habitat, as it does not have a publicly available procurement policy that rules out the

purchase of timber products from such forests. In addition, there is also insufficient labelling on the wood products the company sells, with extremely limited information detailing the timber species that products are made of, where such products are made and whether or not they originate from plantations or native forests.

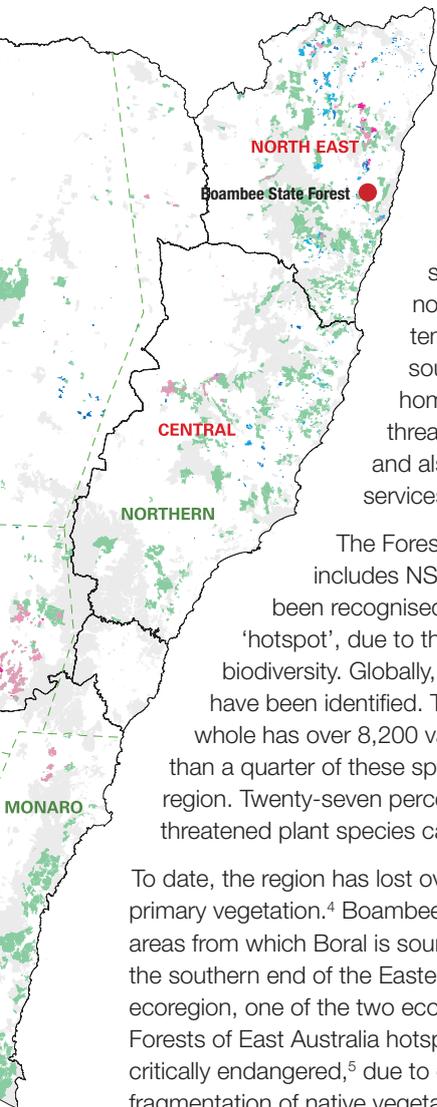
This report establishes clear links between this endangered koala habitat, the forest companies that are logging and processing it, and Australia's largest furniture and electronics retailer, Harvey Norman. In a previous report, Markets for Change's chain of custody research exposed how Harvey Norman sells furniture made from Australian native timber from the forests of Tasmania, Victoria and Western Australia through cheap manufacturing operations in China.

Harvey Norman claims its Naturally Australian flooring products are sourced from "sustainable and renewable natural resources" when instead they are contributing to the destruction of Australia's native forests and destroying vital koala habitat. Markets for Change calls on Harvey Norman to phase out selling products made from native forests. Harvey Norman also needs to give their customers clear and accurate information about the source of their wood products.

To ensure the sustainability of their products, Harvey Norman should rapidly transition to selling flooring and furniture that originates from responsibly managed plantations, especially those that are certified by the Forest Stewardship Council (FSC).

# The logging of forests in NSW

## The forests of New South Wales



Eighteen percent of Australia's native forests can be found in NSW,<sup>1</sup> where there are nine different types of rainforests alone. The native forests of NSW are highly diverse, ranging from the lush subtropical rainforests of the north-eastern seaboard to the temperate eucalypt forests of the south-east.<sup>2</sup> These forests are home to a large number of threatened and endangered species and also provide crucial ecosystem services.

The Forests of East Australia (which includes NSW and QLD) have very recently been recognised as a global biodiversity 'hotspot', due to their exceptionally high biodiversity. Globally, less than forty such hotspots have been identified. The East Australia hotspot as a whole has over 8,200 vascular plant species. More than a quarter of these species are endemic to the region. Twenty-seven percent of Australia's rare or threatened plant species can also be found here.<sup>3</sup>

To date, the region has lost over seventy percent of its primary vegetation.<sup>4</sup> Boambee State Forest – one of the areas from which Boral is sourcing its timber – is located in the southern end of the Eastern Australian temperate forests ecoregion, one of the two ecoregions that make up the Forests of East Australia hotspot. This ecoregion is now critically endangered,<sup>5</sup> due to ongoing clearing and fragmentation of native vegetation, a practice that constitutes a major threat to this increasingly fragile ecosystem.<sup>6</sup>

## Forests NSW: Government sanctioned unsustainable logging

The government authority in New South Wales that is responsible for the logging of forests in public ownership is Forests NSW. They manage 1.8 million hectares of native forests – seventy percent of which is available for logging.<sup>7</sup> In 2010/11, Forests NSW took 468,000 cubic metres of sawlogs from native forests and in 2011 harvested an area of nearly 28,000 hectares of native hardwood forest.<sup>8</sup>

Much of the logging occurs in the wet sclerophyll forests, which are characterised by tall, straight-trunked eucalypt trees. The NSW Department of Environment and Conservation has identified over 330 threatened plant and animal species in the two classes of wet sclerophyll forests present in the state.<sup>9</sup>

These forests provide habitat to large populations of possums and gliders, as well as lesser-known mammals such as the long-nosed potoroo (*Potorous tridactylus*) (listed as vulnerable in NSW), parma wallaby (*Macropus parma*) (vulnerable) and red-necked (*Thylogale thetis*) and red-legged (*Thylogale stigmatica*) pademelons (vulnerable).<sup>10</sup>

The logging of NSW native forests and the associated destruction of biodiversity has long been a major public issue. Numerous community groups have conducted independent audits of logging operations due to concerns that logging regulations were not being adhered to. In 2010, the North East Forest Alliance conducted on the ground audits of specific forestry operations taking place in the Upper North East NSW Forest Agreement region (where Boambee State Forest is located) for compliance with Forests NSW codes of practice. Numerous breaches were identified, including:

- National reserve criteria that have not been fully implemented and are being ignored;
- Logging prescriptions intended to protect threatened species, threatened ecosystems and waterways have been poorly implemented or ignored;
- Carelessly applied management practices, such as post-harvest burning, are prevalent, often destroying those attributes required to be retained and protected under logging prescriptions;
- Grossly unsustainable logging volumes previously committed in Wood Supply Agreements have subsequently been increased threefold and entrenched for a further five years; and,
- Breaches of the *National Parks and Wildlife Act 1974* (NSW), the *Rural Fires Regulation 2008* (NSW) and the *Plantations and Reafforestation Code 2001* (NSW).<sup>11</sup>



Logging in rainforest in Grange State Forest

Logging practices in this region are, in fact, so unsustainable that the NSW Auditor General has acknowledged that 'To meet wood supply commitments, the native forest managed by Forests NSW on the north coast is being cut faster than it is growing back.'<sup>12</sup>

# Suppliers and product chain

## Boral Timber & Forests NSW

The supply chain in this case study begins with one of Forests NSW's biggest buyers of sawn timber, Boral Limited. Boral is Australia's largest building and construction materials company and one of the largest manufacturers of native Australian hardwood products.<sup>13</sup> For the 2011 financial year, Boral posted revenues of \$ 4.7 billion, the largest share of which was the company's construction materials division.<sup>14</sup> Boral also has significant operations in the USA and in Asia.<sup>15</sup>

Boral Timber is part of Boral Limited, contributing an estimated five percent of the sales of the entire Boral corporation.<sup>16</sup> Boral operates hardwood and plywood businesses, situated on Australia's east coast. Products include flooring, structural timber, decking, plywood and cladding.<sup>17</sup>

During 2008/09, 48 per cent of all the hardwood timber logged in NSW native forests and plantations by Forests NSW was made into floorboards.<sup>18</sup> In 2004, Boral signed a 20-year timber supply agreement with Forests NSW, which legally obligates Forests NSW to log large amounts of forests in order to meet Boral's demand. However, declining yield in the forests has made it difficult for Forests NSW to deliver the required volume of trees. Because the timber supply agreement did not include a clause allowing for reductions in timber commitments for sawlogs, between 2003 and 2006, Forests NSW was forced to pay half a million dollars to Boral for the period's shortfall in sawlog supply.<sup>19</sup> The dispute between Forests NSW and Boral has continued in recent years, with Boral claiming it has not received the number of logs it is entitled to under the agreement.<sup>20</sup> Forests NSW and Boral are currently in arbitration to resolve the conflict.<sup>21</sup>

In 2010/11, the native forest operations of Forests NSW made a loss of \$14.6 million.<sup>22</sup>

## The mills

Approximately one quarter of all saw logs taken from forests managed by Forests NSW are sold to Boral.<sup>23</sup> Boral's hardwood business operates fourteen manufacturing facilities across NSW and distributes product to both domestic and export markets.<sup>24</sup> Four different mills are engaged in flooring

production. The types of wood used within these mills include those that Boral sources itself via Forests NSW and private land owners as well as those Boral purchases from other forest companies.

After being logged by Forests NSW contractors, trees are trucked to two 'green mills' (mills that receive timber that is not yet dried) owned by Boral, where the logs are cut and stored to dry. These mills are located at Herons Creek and Koolkhan (near Grafton). According to confidential sources, both green mills source timber from the region bounded by Newcastle to the south, Walcha to the west, and Grafton to the north.

Sawn timber (planks) are then trucked to other mills where the final flooring products are manufactured – at Kyogle and at the purpose-built, engineered flooring manufacturing facility at Murwillumbah.

## Boambee State Forest: Logging key koala habitat

The logging of Boambee State Forest – which is located west of Coffs Harbour – has been criticised by conservationists and the public in local and national media.<sup>25</sup> The *Coffs Harbour City Koala Management Plan* has identified Boambee State Forest as one of the most significant koala habitats in the region,<sup>26</sup> and Forests NSW itself clearly marks numerous koala sightings on its *2010 Boambee State Forest Harvest Plan Operational Map*.<sup>27</sup> Other species on the New South Wales threatened species list can be found on the operations map, include the glossy black cockatoo (*Calyptorhynchus lathami*) and the little bent-wing bat (*Miniopterus australis*).

According to the Australian Koala Foundation, there may be as few as 43,000 koalas left in the wild in all of Australia.<sup>28</sup> So little is known about the koala population within NSW, that population estimates range from 1,000 to 10,000 animals. Surveys carried out in NSW indicate that since 1949, populations of koalas have been lost from many localities, particularly on the southern and western edges of their distribution.<sup>29</sup>

## Supply chain at a glance



Timber supply agreement



Trees are logged by NSW Forest contractors



Boambee log dump



Trees are trucked to 'green mills' owned by Boral



Kholkaan mill

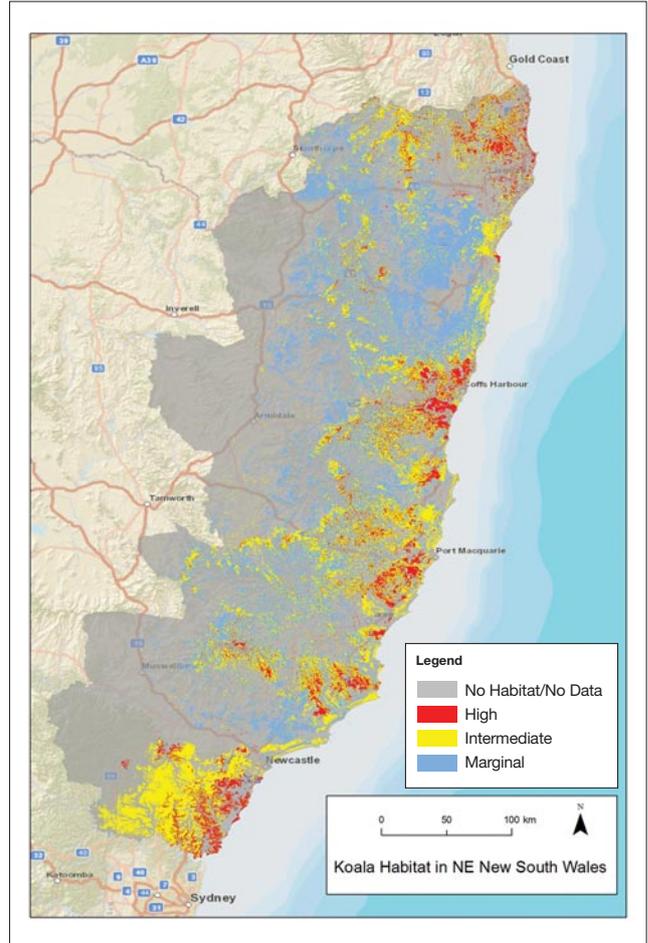
Images supplied by Australian Koala Foundation. Photographer anonymous. Taken 2007, Pine Creek state forest logging area, near Coffs Harbour.



**Koala remains found after logging.**

There have been a number of local extinctions recorded in NSW,<sup>30</sup> and in recognition of the ongoing decline of koalas and koala habitat within NSW, the state government introduced the *State Environment Planning Policy No 44 - Koala Habitat Protection (SEPP 44)* in 1995.<sup>31</sup> The Australian Koala Foundation identifies the logging of forests such as the Boambee State Forest as a leading threat to koalas and argues that pre-logging surveys are completely inadequate in their endeavours to find koalas.<sup>32</sup>

Despite the Australian Senate calling for better protection of koalas,<sup>33</sup> the Federal Government's April 30, 2012 listing of QLD, ACT and NSW koala populations as vulnerable will not protect koala populations in NSW, or other states, from threats to their habitat from logging.<sup>34</sup> This is because logging operations in areas covered by Regional Forest Agreements



Based on: National Parks and Wildlife Service NSW 1998

(RFAs), such as in the NSW North East, which includes Boambee State Forest, are specifically exempt from triggering provisions of Commonwealth threatened species legislation (the Environment Protection and Biodiversity Conservation Act).<sup>35</sup> RFAs are 20 year long regional agreements negotiated between federal and a state government concerning native forest management, logging operations and conservation<sup>36</sup> – which are felt by conservationists to be fundamentally flawed in their ability to ensure forest biodiversity is protected in the long term.<sup>37</sup>

The devastating impact that logging can have on koalas is illustrated by these disturbing images of the remains of a koala cut in half in 2007, taken in a government logging compartment close to Coffs harbour in NSW.

Sawn timber is trucked to mills where flooring products are made



Flooring manufacturing facility

This flooring is sold exclusively at numerous Harvey Norman outlets



Griffith outlet

## Harvey Norman, Boral and Boambee

Despite opposition from environmental groups, the logging of Boambee State Forest began in late 2011. Since the start of the logging operation, Markets for Change has been carrying out research into the chain of custody of this forest and found that logs from the Boambee State Forest enter the Boral supply chain. Because Boral is the exclusive manufacturer of the Harvey Norman-branded flooring products, there is a strong likelihood that timber harvested by Boral from Boambee State Forest – at the expense of Boambee’s dwindling koala habitat – is used for Harvey Norman flooring.

Confidential sources from within Boral have confirmed that both green mills at Herons Creek and Koolkhan provide dried timber to the flooring mills at Murwillumbah and Kyogle. While the mill in Murwillumbah produces Boral’s own branded flooring, it is also the manufacturer of Harvey Norman’s Naturally Australian flooring range. This flooring is then sold exclusively at numerous Harvey Norman outlets across Australia and online.

Markets for Change researchers were able to follow trucks loaded with timber from Boambee State Forest from the forest to the green mill in Koolkhan. Forests NSW attaches tags to trees after they have been logged in the forest, which allows Forests NSW to track and manage its timber. The codes on the tags are unique identifiers containing information about each tree, which is then stored in a database at Forests NSW. The image below was taken at Boral’s Koolkhan green mill. The tag ‘GLRCUC’ reveals that the wood was logged in the Boambee State Forest, a clear indicator that trees from Boambee have entered the Boral/Harvey Norman supply chain.

According to the Forests NSW database, this particular log originated from logging compartment 602 in the Boambee State Forest and the harvest maps shows koala sightings in this compartment. A number of other logs from this compartment were also found at Koolkhan.

Due to the vast number of logs harvested by Boral from Boambee State Forest and other state forests that provide important habitat for koalas, it is almost certain that trees originating from core koala habitat have been used to manufacture the Harvey Norman Naturally Australian range. There is currently no system in place that enables Harvey Norman to ensure that the flooring it buys from Boral does not come from forests that provide critical habitat for Australia’s iconic – and dwindling – koalas.

The use of Boral supplied timber from recognised key koala habitat is not limited to the Boambee state forest. Additional research by Markets For Change positively identifies another 28 forest areas linked to the Boral green mills at Herons Creek and Koolkhan (as detailed in Appendix 1). All of the 28 state forests listed that were linked to the Boral mills provide koala habitat to varying degrees. Over sixty per cent of the entire state forest area covered in this research provides either high quality or intermediate quality koala habitat. If marginal koala habitat is added to this, the figure rises to over eighty per cent. This research captures only a small part of the forests from which Boral sources its timber. Given the large number of logs Boral buys from Forests NSW, the actual number of state forests from which Boral obtains native forest timbers is likely to be much higher. Appendix 1 also documents other threatened plant and animal species present in these state forests, as well as specific conservation concerns.



Close-up of Boambee State Forest harvest plan: pink diamonds indicate koala sightings in or near compartment 602



Logging truck leaving Boambee State Forest



The same truck arriving at the Koolkhan mill two hours later



The “GLRCUC” tag from Boambee State Forest was found at Boral’s Koolkhan mill



Naturally Australian flooring for sale on the Harvey Norman online store

## Harvey Norman's responsibility

As of late January 2012, the products of Harvey Norman's Naturally Australian timber flooring were made from species found in the forests of NSW including blackbutt, stringybark, spotted gum, brushbox and Sydney bluegum. Yet Harvey Norman does not provide consumer information about whether Naturally Australian flooring products originate from native forests. There is nothing within the website or on the packaging of Harvey Norman's Naturally Australian flooring that would enable consumers to know if flooring products are made from plantation forests or native forest timbers. This makes it impossible for consumers to make informed purchasing decisions.

Harvey Norman and Boral Timber have published a product brochure about the flooring line, however the brochure fails to provide a clear statement on whether or not the top layer of the engineered Naturally Australian flooring comes from native forests. The brochure emphasises that Harvey Norman timber is certified under the Australian Forestry Standard (AFS) which is endorsed by the Programme for the Endorsement of Forestry Certification (PEFC). Unfortunately

there are many problems with PEFC and the scheme has been consistently criticised. A recent report by nine leading international environmental organisations criticises PEFC schemes for using misleading language and green-wash to claim environmental credentials while failing to protect forest biodiversity and ecological values.<sup>38</sup>

Harvey Norman has the opportunity to gain a significant market advantage by not selling products that are linked to the ongoing destruction of native forests and that, in this instance, are derived from internationally recognised global biodiversity hotspots.

The current investigation by Markets for Change shows that Harvey Norman is contributing to the ongoing serious decline of koalas in Australia by continuing to stock flooring products produced by Boral, who source timber from forests known to provide key habitat for koalas.

Over 50,000 consumers have recently called on Harvey Norman to implement procurement policies that exclude products made from Australia's native forests and to clearly label the source and origin of the wood products for sale.<sup>39</sup>

*'Harvey Norman continues to ignore the wishes of its customers by selling products that contribute to habitat destruction of threatened species including koalas.'*



© Oceanwide Images



The brochure fails to provide a clear statement whether or not the top layer of the engineered Naturally Australian flooring comes from native forests.

# Recommendations

Australian native forest markets are vulnerable to plantation competition, including within the small high appearance sawn timber and veneer market. Australia's two million hectare softwood and hardwood plantation estate can meet virtually all Australia's wood needs.<sup>40</sup>

Markets for Change recommends that Harvey Norman implements a number of key changes to its procurement policy and business practices that would enable customers to make informed and ethical choices when they purchase products such as Harvey Norman's Naturally Australian flooring.

Markets for Change urges Harvey Norman and other furniture retailers to:

- Publicly commit to bring an end to selling products that are made from Australian native forests or from primary forests overseas;
- Implement comprehensive wood and paper product procurement policies ensuring such products come from

plantations with preference given to plantation products with full Forest Stewardship Council (FSC) certification;

- Work proactively with all key stakeholders, including governments, non-government organisations, the forestry industry, consumers and other retailers to implement a rapid transition for Australia's forestry industry out of native forests and into responsibly managed plantations; and,
- Immediately implement a labelling policy that clearly identifies the species from which products are made, whether the trees have been harvested from certified plantations or native/primary forests, and the country in which the product was manufactured.

Harvey Norman has the opportunity to become a market leader by selling environmentally responsible conflict-free wood products; by making the transition to plantation-based FSC certified wood products; and by ceasing to stock wood products sourced from native forests at the expense of their endangered inhabitants such as the Australian koala.

## Endnotes

- 1 Bureau of Rural Sciences. 2008. Australian forest profiles.
- 2 Industry and Investment NSW and the Department of Environment, Climate Change and Water NSW. 2011. Draft New South Wales Biodiversity Strategy 2010-2015.
- 3 Zachos, FE & Habel, J.C. 2011. Biodiversity hotspots - Distribution and Protection of Conservation Priority Areas. Chapter 16. DOI 10.1007/978-3-642-20992-5. Springer Verlag.
- 4 Zachos, FE & Habel, J.C. 2011. Biodiversity hotspots - Distribution and Protection of Conservation Priority Areas. Chapter 16. DOI 10.1007/978-3-642-20992-5. Springer Verlag.
- 5 Olson, M., & Dinerstein, E. 2002. The Global 200: Priority ecoregions for global conservation. *Ann Mo Bot Gard* 89:199-224.
- 6 World Wide Fund for Nature. Undated. Eastern Australian temperate forests (AA0402). [http://www.worldwildlife.org/wildworld/profiles/terrestrial/aa/a0402\\_full.html#threats](http://www.worldwildlife.org/wildworld/profiles/terrestrial/aa/a0402_full.html#threats). (Accessed February 2012)
- 7 Forests NSW. 2011. Annual report 2010/2011.
- 8 Forests NSW. 2011. Annual report 2010/2011.
- 9 Office of Environment and Heritage (NSW). 2012. Threatened species List. <http://www.threatenedspecies.environment.nsw.gov.au>.
- 10 Industry and Investment NSW and the Department of Environment, Climate Change and Water NSW. 2011. Draft New South Wales Biodiversity Strategy 2010-2015.
- 11 Pugh, D. 2011. Audit Of Compliance of Forestry Operations in the Upper North East NSW Forest Agreement Region. North East Forest Alliance.
- 12 Achterstraat, P. 2009. New South Wales Auditor-General. Sustaining native forest operations: Forests NSW.
- 13 Forests NSW. 2011. Annual report 2010/2011 & Supreme Court of New South Wales. 2010. Case number 2010/291263.
- 14 Boral Limited. 2011. Annual Report 2011.
- 15 Boral Limited. 2011. Annual Report 2011.
- 16 Based on: Boral Limited. 2011. Annual Report 2011.
- 17 Boral Limited. 2011. Boral Timber. <http://www.boral.com.au/timber/timber.asp>. (Accessed February 2012)
- 18 Forests NSW. 2011. Annual report 2010/2011.
- 19 Supreme Court of New South Wales. 2010. Case number 2010/291263.
- 20 Supreme Court of New South Wales. 2010. Case number 2010/291263.
- 21 Government of NSW. 2011. Katrina Hodgkinson MP. General Purpose Standing Committee Number 5.
- 22 Government of NSW. 2011. Katrina Hodgkinson MP. General Purpose Standing Committee Number 5.
- 23 Boral Limited. 2012. About timber Flooring. <http://www.boral.com.au/timberflooring/aboutus.asp>. (Accessed January 5, 2012)
- 24 Boral Limited. 2011. Timber [http://www.boral.com.au/Boral\\_Companies/CI\\_Timber.asp](http://www.boral.com.au/Boral_Companies/CI_Timber.asp). (Accessed January 2012)
- 25 Almond, V. 2011. Community concerned over Boambee logging. Coffs Coast Independent. November 10, 2011. & ABC News. August 12, 2011. Koala safety pledge as logging looms.
- 26 Lunnay, D. et al. 1999. Coffs Harbour City Koala Plan of Management. A Joint National Parks and Wildlife Service and Coffs Harbour City Council Initiative.
- 27 Forests NSW. 2010. Boambee State Forest Harvest Plan Operational Map.
- 28 Koala Foundation. 2011. The Koala – endangered or not? <https://www.savethekoala.com/about-koalas/koala-endangered-or-not>. (Accessed January 2012).
- 29 Department of Environment and Climate Change NSW. 2008. Recovery plan for the koala (*Phascolarctos cinereus*).
- 30 Commonwealth of Australia. 2011. Environment and Communications. References Committee. The koala – saving our national icon. Senate Inquiry into the Status, health and sustainability of Australia's koala population. Final Report. Citing submission by Professor Frank Carrick.
- 31 Koala Foundation. 2011. The Koala – endangered or not? <https://www.savethekoala.com/about-koalas/koala-endangered-or-not>. (Accessed January 12, 2012)
- 33 Australian Koala Foundation. 2011. Submission to the Senate Inquiry into the Status, health and sustainability of Australia's koala population.
- 33 International Business Times. 2011. Australia's Senate wants more measures to protect endangered koalas. September 23, 2011.
- 34 ABC news. Koala listing offers no protection from logging. <http://www.abc.net.au/local/stories/2012/04/30/3492033.htm>. (Accessed 23 May 2012)
- 35 Australian Network of Environmental Defender's Offices. 2009. Submission to the 10 year review of the *Environment Protection and Biodiversity Conservation Act 1999*. <http://www.edo.org.au/policy/090219epbc.pdf>
- 36 Department of Agriculture, Fisheries and Forestry. Regional Forest Agreements Homepage. <http://www.daff.gov.au/rfa>. (Accessed 23 May 2012)
- 37 Blakers, Margaret. 2009. Environment Protection and Biodiversity Conservation (EPBC) Act Review. Green Institute. <http://www.environment.gov.au/epbc/review/submissions/pubs/162-green-institute.pdf>
- 38 Ford, Jim and Jenkins, Anna (eds). 2011. On the Ground-the controversies of PEFC and SFI.
- 39 GetUp!. 2012. No Harvey No petition. <http://www.getup.org.au/campaigns/save-our-forests/hn-petition/sign-the-petition>. (Accessed January 29, 2012)
- 40 Ajani, J. 2011. Australia's Wood and Wood Products Industry - Situation and Outlook - Working Paper, Fenner School of Environment and Society, Australian National University.

## Appendix 1

### Boral Timber, Harvey Norman and logging of koala habitat

The use of timber from key Koala habitat for Boral and Harvey Norman flooring products is not an isolated event but a common occurrence.

For the research described in the following Table, Markets for Change overlaid the boundaries of state forests in New South Wales with government data of koala habitat in the state. Investigative research carried out by Markets for Change in recent months was also included.

By comparing tags on trees in the green mills with the log database maintained by Forests NSW, logs from 28 State Forests were positively identified at the Boral green mills at Herons Creek and Koolkhan. These mills then supply the Boral flooring mills which amongst other products

manufacture the 'Naturally Australian' flooring range exclusively for sale at Harvey Norman outlets.

All state forests mentioned in the Table below have been linked to Boral sawmills and the information clearly shows that key habitat for koalas and other threatened species is being logged in order to manufacture products such as Harvey Norman's Naturally Australian flooring range.

All of the 28 forests that were linked to the Boral mills provide koala habitat to varying degrees. In total over 60% of the entire state forest area covered in this research provides either high or intermediate quality koala habitat. If marginal quality koala habitat is added to this, the figure raises to over 80%.

#### Summary of koala habitat in 28 state forests linked to the Boral and Harvey Norman supply chain

	Hectares	% of total
Total Forest Area	170,931.1	
High quality habitat	37,523.5	22.0%
Intermediate quality habitat	66,826.6	39.1%
Marginal quality habitat	34,880.7	20.4%
No habitat/no data	31,700.3	18.5%

**Table 1: Details of NSW state forests linked to Boral Timber and its supply chain including the Harvey Norman Naturally Australian range**

State Forest	Description
Bagawa	A large area of Bagawa State Forest consists of high (13%) or intermediate quality (62%) koala habitat. <sup>i</sup>
Bellangry	Calculations show over one third of the State Forest consists of high quality koala habitat. <sup>ii</sup>
Boambee	Logs from Boambee State Forest, from a compartment where koalas have been sighted, have been found in mills owned by Boral. A large area of Boambee State Forests consists of high quality koala habitat <sup>iii</sup> It is one of the most significant koala habitats in the region. <sup>iv</sup> There have been protests by environmental groups against the logging of Boambee State Forest.
Bookookoorara	In 2011 Forests NSW confirmed that there were a number of incidences of non compliance by the companies contracted to carry out logging in this forest. This included the logging of trees within a wildlife corridor. <sup>v</sup> Some of the State Forest has been found to provide intermediate quality koala habitat. <sup>vi</sup>
Broken Bago	Threatened species on the Harvest plan include koalas. Green thighed frogs ( <i>Litoria brevipalmata</i> ), the powerful owl ( <i>Ninox strenua</i> ), the sooty owl ( <i>Tyto tenebricosa</i> ) and grey-headed flying-fox ( <i>Pteropus poliocephalus</i> ) are all listed as vulnerable and can be found in the same compartment from which Boral has been sourcing (compartment 1038). <sup>vii,viii</sup> Nearly half of the land area of this forest is considered high quality koala habitat. <sup>ix</sup> This State Forest is part of a large wildlife corridor that provides for the east-west movement of native birds and mammals. <sup>x</sup>
Bulga	Threatened species from a compartment from which Boral's Heron's Creek mills has sourced include the endangered stuttering frog ( <i>Mixophyes balbus</i> ), the spotted-tailed quoll ( <i>Dasyurus maculates</i> ) glossy black cockatoo ( <i>Calyptorhynchus lathami</i> ) and parma wallaby ( <i>Macropus parma</i> ), as well as a number of other species listed as vulnerable. <sup>xi,xii</sup> A large percentage of this State Forest is known to provide at least intermediate quality koala habitat. <sup>xiii</sup> Already in 2007 local residents opposed logging in Bulga State Forest due to the forests providing koala habitat and breeding grounds. <sup>xiv</sup>

**Table 1: Details of NSW state forests linked to Boral Timber and its supply chain including the Harvey Norman Naturally Australian range**

State Forest	Description
Cairncross	More than two thirds of this forest consists of either intermediate or high quality koala habitat. <sup>xv</sup>
Grange	Nearly half of this forest consists of either intermediate or high quality koala habitat. <sup>xvi</sup> In 2011 local environmental groups such as the North East Forest Alliance filed complaints in relation to logging endangered ecological communities in Grange State Forest. <sup>xvii</sup> In 2010 representatives of the Clarence Environment Centre found logging of old-growth rainforest, inaccurate surveys and damage to endangered species habitat. <sup>xviii</sup>
Hyland	Two thirds of this State Forest provide at least marginal koala habitat. <sup>xix</sup>
Johns River	Well over one third of the forest consists of high quality koala habitat, with another 50 % being intermediate quality habitat. <sup>xx</sup> Johns River State Forest is part of a wildlife corridor called the South Brother Link which is used by numerous threatened species. <sup>xxi</sup>
Kerewong	At least 50% of this forest is known to provide high quality koala habitat. <sup>xxii</sup> Environmental Group 'Nativesrule' carried out a pre-logging survey and a post-logging survey of the State forest and found a number of breaches including the logging of habitat trees and the felling of trees into rainforests exclusion zones. The report also argued that there was imminent danger of destruction of endangered ecological communities and species as a result of edge effects caused by the removal of surrounding vegetation, including massive landscape scale weed invasion. <sup>xxiii</sup>
Kiwarrak	Well over half of this forest is made up of at least intermediate koala habitat. <sup>xxiv</sup> 'Koala Care' has been releasing koalas into this forest. <sup>xxv</sup>
Lansdowne	Square-tailed kites ( <i>Lophoictinia isura</i> ) have been identified on the harvest map of compartment 190 from which Boral's Heron's Creek mill has sourced timber. <sup>xxvi,xxvii</sup> Most of the Lansdowne forests consists of high quality koala habitat. <sup>xxviii</sup>
Lorne	The forest area is about evenly split between high quality and intermediate quality koala habitat. <sup>xxix</sup>
Mernot	The endangered stuttering frog has been found in the vicinity of the logging sites of this State Forest. <sup>xxx,xxxi</sup> This State Forest is known to provide at least some marginal koala habitat for one third of its area. <sup>xxxii</sup>
Middle Brother	According to the harvest map, one compartment from which Boral's mills is known to have sourced (compartment 246) has had several sightings of koalas. A den tree for the greater glider ( <i>Petauroides volans</i> ), Australia's largest gliding possum, is also located in this compartment. <sup>xxxiii,xxxiv</sup> About one third of the Middle Brother State Forest is made up of high quality koala habitat and another half of the forest consists of intermediate habitat. <sup>xxxv</sup> The State forests is also home to the North Brother wattle ( <i>Acacia courtii</i> ) which is listed as vulnerable has an extremely limited range. <sup>xxxvi,xxxvii</sup> The endangered giant barred-frog ( <i>Mixophyes iterates</i> ) has also been sighted historically in Middle Brother State Forest. <sup>xxxviii</sup> Local environmental groups have campaigned against the logging of this forest in the past. <sup>xxxix</sup>
Mount Mitchell	Half of the forest is known to consist of marginal koala habitat. <sup>xl</sup> The range of the peppered tree frog ( <i>Litoria pipperata</i> ) includes Mount Mitchell State forest. The International Union for Conservation of Nature and Natural Resources (IUCN) lists this species as critically endangered. <sup>xli</sup>
Nerong	Around three quarters of this forest provides high quality koala habitat and most of the rests consists of intermediate habitat for koalas. <sup>xlii</sup>
North Branch	The spotted-tailed quoll has been found in one of the compartments from which Boral's Herons Creek mill sourced its timber. Several sighting of glossy-black cockatoos have also been made in the compartment. There are also a number of records of the southern myotis ( <i>Myotis macropus</i> ) in the vicinity of the logging area. <sup>xliii,xliv</sup> This State Forest consists largely of high quality koala habitat (more than one third) and intermediate quality habitat (nearly two thirds). <sup>xliv</sup>
Nundle	More than half of the State Forest is known to consist of either intermediate or marginal koala habitat. <sup>xlvi</sup> The critically endangered herb <i>Euphrasia arguta</i> has a very limited range with six populations over only 25 kilometres and has mostly been identified in the Nundle State Forest. The herb's known area of occupancy in 2009 was approximately 0.03 km <sup>2</sup> . <sup>xlvii</sup>
Riamukka	Compartment 146 of the Riamukka State Forest has been linked to Boral's Herons Creek mill and is home to a number of threatened species including: sphagnum frog ( <i>Phyloria sphagnicolus</i> ), scarlet robin ( <i>Petroica boodang</i> ) and the masked owl ( <i>Tyto novaehollandiae</i> ). <sup>xlviii,xlix</sup> Nearly half the forests contain intermediate koala habitat. <sup>l</sup>
Tamban	Half of this State Forest consists of high quality koala habitat and the other half is made up of intermediate quality habitat. <sup>li</sup>
Tuckers Nob	More than three quarters of this forest consists of high quality koala habitat. <sup>lii</sup> It is part of an important wildlife corridor linking Dorrig National Park with Bongil Bongil National Park. <sup>liii</sup>
Tuggolo	Boral has spruced from a number of compartments in Tuggolo State Forest. Koalas, yellow-bellied gliders ( <i>Petaurus australis</i> ), scarlet robins, powerful owls and the extremely rare and endangered Dungowan starbush ( <i>Asterolasia sp.</i> ) have all been found in these compartments. The Dungowan starbush was only discovered in 1995, though when the plant was officially determined to be endangered in 2004 only two of the original seven individuals remained. <sup>liiii</sup> In addition, more than half of this State Forest has been identified to contain intermediate or marginal quality koala habitat. <sup>liv</sup>
Upsalls Creek	Koalas have been found in compartment 142. This compartment has been linked to Boral's mills via the Forests NSW log tags. Well over three quarters of Upsalls Creek State Forest is made up of high quality koala habitat. <sup>lv</sup>

**Table 1: Details of NSW state forests linked to Boral Timber and its supply chain including the Harvey Norman Naturally Australian range**

State Forest	Description
Wang Wauk	About one third of this forest is high quality koala habitat and half of the forests consist of intermediate quality habitat. <sup>lvii</sup>
Wedding Bells	In July 2011 the Clarence Environment Centre carried out an investigation into the Wedding Bells State Forest in which professional ecologists participated. The investigation argues that many kilometres of rainforest verges have been destroyed at Wedding Bells during the logging operation. <sup>lviii</sup> In addition, investigations by the North East Forest Alliance found systemic and deliberate breaches of NSW's environmental laws to protect Endangered Ecological Communities, Endangered and Vulnerable species, and water quality by Forests NSW. <sup>lix</sup> Around half of Wedding Bell's State Forest consists of high quality koala habitat. Another third is intermediate quality habitat. <sup>lx</sup>
Wild Cattle Creek	Nearly one third of Wild Cattle Creek forest has been identified as high quality habitat for koalas. Another 50% is considered to be intermediate quality habitat. <sup>lxi</sup> In 1994 this state forest was the scene of large protests against logging with dozens of people arrested.

## References

- <sup>i</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>ii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>iii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>iv</sup> Lunney, D. et al. 1999. Coffs Harbour City koala Plan of Management. A Joint National Parks and Wildlife Service and Coffs Harbour City Council Initiative.
- <sup>v</sup> Forests NSW. 2011. Letter to a person who raised complaints with Forests NSW.
- <sup>vi</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>vii</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing. <http://www.environment.nsw.gov.au/threatenedspecies/>
- <sup>viii</sup> Forests NSW. 2010. Harvest Plan Operational Map. Broken Bago.
- <sup>ix</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>x</sup> RTA Technology and Technical Services. 2006. Pacific Highway Upgrade Herons Creek to Stills Road. Concept Design Report.
- <sup>xi</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>xii</sup> Forests NSW. 2011. Harvest Plan Operational Map. Bulga State Forest.
- <sup>xiii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xiv</sup> Wingham Chronicle. 2007. Logging too risky. October 23, 2007.
- <sup>xv</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xvi</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xvii</sup> NEFA. 2011. NEFA Welcomes Prosecution of Forests NSW. Press Release October 17, 2011.
- <sup>xviii</sup> Cubby, B. 2010. Old-growth logging claims investigated. Sydney Morning Herald. July 9, 2010.
- <sup>xix</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xx</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxi</sup> Harrington R. et al. 2004. Pacific Highway Upgrade . Moorland To Herons Creek. Environmental Impact Statement. Terrestrial Flora And Fauna Report.
- <sup>xxii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxiii</sup> Jennings, B. 2003. Loggers start Featherstone work. Port Macquarie News. September 17, 2003
- <sup>xxiv</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxv</sup> Jean-Marc Hero, Harry Hines, Frank Lemckert 2004. *Litoria piperata*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2. Downloaded April 12, 2012.
- <sup>xxvi</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxvii</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>xxviii</sup> Forests NSW. 2011. Harvest Plan Operational Map. North Branch State Forest.
- <sup>xxix</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxx</sup> Nativesrule. 2011. A report on forestry operations in The Lower North East Forest Agreement Region of New South Wales.
- <sup>xxxi</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxxii</sup> Koalas in Care . 2007. Koalas in Care Newsletter. Volume 6, March 2007.
- <sup>xxxiii</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>xxxiv</sup> Forests NSW. 2011. Harvest Plan Operational Map. Lansdown State Forest.
- <sup>xxxv</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxxvi</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xxxvii</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>xxxviii</sup> Forests NSW. 2011. Harvest Plan Operational Map. Mernot State Forest.
- <sup>xxxix</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xl</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>xli</sup> Forests NSW. 2010. Harvest Plan Operational Map. Middle Brother State Forest.
- <sup>xlii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xliiii</sup> Harrington R. et al. 2004. Pacific Highway Upgrade . Moorland To Herons Creek. Environmental Impact Statement. Terrestrial Flora And Fauna Report
- <sup>xliiiii</sup> Department of Sustainability, Environment, Water, Population and Communities NSW. 2008. *Acacia courtii* Conservation Advice.
- <sup>xlv</sup> Department of Sustainability, Environment, Water, Population and Communities NSW. 2002. National recovery plan for Stream Frogs of South-east Queensland 2001-2005.
- <sup>xlv</sup> Jennings, B. 2003. Loggers start Featherstone work. Port Macquarie News. September 17, 2003
- <sup>xlvii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>xlviii</sup> Jean-Marc Hero, Harry Hines, Frank Lemckert 2004. *Litoria piperata*. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2. Downloaded April 12, 2012.
- <sup>xlvix</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>cl</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>cli</sup> Forests NSW. 2011. Harvest Plan Operational Map. North Branch State Forest.
- <sup>clii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>cliii</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>cliv</sup> Forests NSW. 2010. Harvest Plan Operational Map. Riamukka State Forest.
- <sup>clv</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>clvi</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>clvii</sup> Forests NSW. 2010. Harvest Plan Operational Map. Tuggolo State Forest.
- <sup>clviii</sup> Office of Environment and Heritage. 2004. Asterolasia sp. 'Dungowan Creek' (a shrub) - endangered species listing. Final Determination
- <sup>clvix</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>clxx</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>clxxi</sup> Forests NSW. 2010. Harvest Plan Operational Map. Upsalls Creek State Forest.
- <sup>clxxii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>clxxiii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>clxxiv</sup> Office of Environment and Heritage (NSW). 2012. Threatened Species Listing.
- <sup>clxxv</sup> Pugh, D. 2011. Wedding Bells State Forest Supporting Report. North East Forest Alliance.
- <sup>clxxvi</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>clxxvii</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>clxxviii</sup> Clarence Environment Centre. 2011. Wedding Bells State Forest - More illegal rainforest destruction.
- <sup>clxxix</sup> Pugh, D. 2011. Wedding Bells State Forest Supporting Report. North East Forest Alliance.
- <sup>clxxx</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.
- <sup>clxxxi</sup> New South Wales National Parks and Wildlife Service (NSW NPWS). 1998. Fauna habitat quality models for the Upper and Lower North-East Comprehensive Regional Assessment (CRA) Region. GIS data.

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