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Committee Secretary
State Development, Natural Resources
and Agricultural Industry Development Committee
Parliament House
George Street
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sdnraidc@parliament.qld.gov.au

22 March 2018

Dear Committee Secretary,

Thank you for the opportunity to make a submission on the *Vegetation Management and Other Legislation Amendment Bill 2018* (***VMOLA Bill***).

Ample scientific evidence that broadscale tree-clearing is a major contributor to the decline of Queensland's topsoil, freshwater, Great Barrier Reef and wildlife is contained in the Queensland[1] and Australian[2] *State of the Environment* reports and the *Scientific Review of the Impacts of Land Clearing on Threatened Species in Queensland.*[3]

It was to arrest this decline that the Beattie government, with the support of the Howard Federal government, introduced legislation to protect 'remnant' (ie. old growth) native vegetation in 2004. The legislation protected remnant/old growth native vegetation and allowed other native vegetation to be cleared without approval. These protections were introduced after extensive public consultation, a clearing ballot and significant structural adjustment financial assistance to landowners.[4]

The same approach was adopted when protections were extended to regrowth vegetation needed to conserve topsoil, freshwater and biodiversity ('high conservation value regrowth') by the Bligh government in 2009. Remnant/old growth and high conservation value regrowth native vegetation were protected, and other non-high conservation value regrowth allowed to be cleared without approval. These protections were also introduced after extensive public consultation, the provision of significant structural adjustment financial assistance to people affected and with the support of Agforce (**Attachment A**).[5]

In the lead up to the 2012 Queensland election, the Leader of the Opposition, Campbell Newman, on behalf of the LNP stated: *'The LNP will retain the current level of statutory vegetation protection'*, including in a letter to WWF (**Attachment B**). After the election the Newman LNP government broke the election commitment through a succession of initiatives culminating in the 2013 amendments to the *Vegetation Management Act*.

The amendments contained in the *Vegetation Management and Other Legislation Amendment Bill 2018* (***VMOLA Bill***) do much to reverse this legacy and WWF congratulates the government on doing so. Specifically, WWF strongly supports the Queensland government's decisions:

- To remove *'high value agriculture'* as an *'allowable purpose'* under the *Vegetation Management Act*;

[1] https://www.ehp.qld.gov.au/state-of-the-environment/pdf/soe-2015-in-brief.pdf cf. 1.1, 2.1.
[2] Cf. https://soe.environment.gov.au/assessment-summary-54-state-and-trends-vegetation
[3] https://www.ehp.qld.gov.au/wildlife/threatened-species/documents/land-clearing-impacts-threatened-species.pdf
[4] http://www.parliament.qld.gov.au/documents/explore/ResearchPublications/ResearchBriefs/2004/200406.pdf
[5] http://www.agforceqld.org.au/file.php?id=211&open=yes

- To recognise the environmental and financial importance of high conservation value regrowth vegetation by providing additional protections;
- To require development approval for '*thinning*'/'*managing thickening vegetation*';
- To introduce some limitations on Area Management Plans;
- To introduce some limitations on tree-clearing for fodder harvesting.

WWF believes that these positive and significant steps should be supported by further amendments:

- The thickening of native vegetation is part of the natural cycle in which old individual plants, which have died, are replaced by abundant new growth which then 'thins' naturally as more robust individuals out-grow their competitors. It is an ordinary part of the natural cycle and can be managed by appropriate management regimes including selectively thinning young individuals with a chainsaw to promote robust specimens. Bulldozing and/or chaining vegetation kills whole cohorts of young trees and is not an appropriate management strategy. Thinning/managing thickening vegetation has been used as a device to broadscale tree-clear (photograph **Attachment C**).

WWF recommends that the VMOLA Bill remove 'managing thickening vegetation' by bulldozing and/or chaining vegetation as an 'allowable clearing purpose' under the Vegetation Management Act.

- *Fodder harvesting*: the purpose of fodder harvesting is to "*feed … animals during drought*"[6]. Unfortunately, '*fodder harvesting*' has also been used to broadscale tree-clear (photograph **Attachment D**). While welcome, the newly issued replacement fodder code would still allow 40% of a remnant mulga forest to be bulldozed or chained, and half the forest within a 10-year period, in blocks of up to 500 hectares at a time. Further, the definition in the Act requires fodder clearing to be *necessary*, but the fodder code has no test of *necessity*, such as a drought declaration. WWF recommends that landholders be permitted to bulldoze or chain trees and shrubs for livestock feed in (a) times and locations of declared drought (b) over no more than 1% of a property up to a maximum of 10 hectares over a six-month period. If more than 1%/10 hectares are required for feed, 'lopping' of mulga, a much-lower environmental approach, is an exempt activity and can be used.

WWF recommends that the VMOLA Bill amend the Vegetation Management Act to allow landholders to bulldoze or chain trees and shrubs for livestock feed in (a) times and locations of declared drought (b) over no more than 1% of a property up to a maximum of 10 hectares in a six-month period.

- *Area Management Plans:* The *VMOLA Bill* proposes to revoke the provision for entities to request an Area Management Plan and would cancel one fodder harvesting Area Management Plan immediately, would allow other plans for thinning, encroachment and fodder harvest to phase out over 2 years or, if for minor purposes, to run to completion. The Bill retains a discretionary power vested in the Chief Executive to make new Area Management Plans including for thinning and fodder harvest. This is duplicative of the Accepted Development Code provisions of the Act and would circumvent parliamentary oversight. WWF recommends that Area Management Plans be removed from the legislation and existing plans not yet acted upon, revoked.

WWF recommends that the VMOLA Bill remove Area Management Plans from the Vegetation Management Act and revoke existing Plans which have not yet been acted upon.

- *Property Maps of Assessable Vegetation (PMAVs)*: Property Maps of Assessable Vegetation enable landowners to correct inaccuracies in regulatory vegetation maps.[7] Amendments to the *Act* by the Newman government led to PMAVs becoming a tool to facilitate broadscale tree-clearing. This should no longer be the case. Steps should continue to be taken to ensure a high degree of accuracy of both Regulatory and Property maps including by reviewing and updating them each year. This would also facilitate the prioritisation of land for purchase under the Land Restoration Fund.

[6] See, for example, https://www.ruralweekly.com.au/news/farmers-speak-up-on-land-clearing-laws/3360708/
[7] https://www.qld.gov.au/environment/land/vegetation/maps

WWF recommends that the VMOLA Bill amend the Vegetation Management Act: to ensure that Property Maps of Assessable Vegetation (PMAVs) are used only to correct genuine inaccuracies in Regulatory Maps and to require the annual review and amendment of vegetation maps to identify high conservation value vegetation.

- *Protection of native wildlife:* More than 1,000 koalas and 45 million other mammals, birds and reptiles were killed by tree-clearing in 2015-2016.[8] The RSPCA has identified tree-clearing as a major animal welfare issue[9] but neither the *Vegetation Management Act* nor the *VMOLA Bill* contain any provisions for preventing unnecessary suffering and death of native wildlife. Requirements of this nature are commonplace in forestry operations and urban and infrastructure clearing.

WWF recommends that the VMOLA Bill amend the Vegetation Management Act to require persons conducting tree-clearing, thinning or lopping to use wildlife surveys and/or animal spotters during clearing and relocation of wildlife at risk of harm to avoid or minimise the harm to native animals.

Between 2013 and 2016 at least 352,000 hectares of remnant and high conservation value vegetation was cleared.[10] WWF believes that the positive and significant steps taken in the *VMOLA Bill* should be enhanced by initiatives to ameliorate this loss:

- *'Protected areas' (ie. national parks):*

WWF recommends that the government establish at least 352,000 hectares of new protected areas in the localities most affected by clearing of remnant/high conservation value vegetation.

- *Protection of koalas:* The annual death rate of koalas from bulldozing of habitats in Queensland, more than doubled after native vegetation protections were weakened in 2012-2013, from an estimated 590 per year in 2010-2012 to about 1,300 per year in 2012-2016, or over 5,000 koalas in the four years following removal of protections. About 2,800 koalas almost certainly would not have died if protections had been retained. Koalas occur widely throughout the State, and most koala losses happen in remote areas far from the public gaze. While koala deaths in Southeast Queensland rightly provoke public concern, these are a fraction of state-wide deaths (**Attachment E**).

WWF recommends that the Queensland government ensure no net loss of koala habitat anywhere in the State including by amending the Planning Act, VMOLA Bill and any other relevant legislation to require koala habitat to be mapped and only cleared pursuant to a development application.

- *Compliance:* shortly after the formation of the Newman government in April 2012, Minister Cripps suspended penalties under the *Vegetation Management Act*, pending a review. The review report does not appear to have been tabled. The November 2015 report, *Vegetation Clearing Rates in Queensland Supplementary Report to the Statewide Landcover and Trees Study Report 2012–14*, found that:

> *Clearing trends were also likely to be driven by a shift in clearing culture and perceptions brought about by the change in government in 2012. The change in landholder perceptions was supported by a new compliance approach, introduced soon after the change in government in 2012. The Department of Natural Resources and Mines shifted the priority to assisting landholders to undertake clearing rather than the previous priority on assessment and compliance.'*[11]

[8] http://www.wwf.org.au/ArticleDocuments/353/pub-australian-animals-lost-to-bulldozers-in-queensland-2013-15-25aug17.pdf.aspx; http://www.wwf.org.au/ArticleDocuments/360/pub-koalas-lost-to-bulldozers-in-queensland-2010-16-22nov17.pdf.aspx

[9] http://www.wwf.org.au/ArticleDocuments/353/pub-tree-clearing-hidden-crisis-of-animal-welfare-queensland-7sep17.pdf.aspx?Embed=Y; https://theconversation.com/land-clearing-isnt-just-about-trees-its-an-animal-welfare-issue-too-80398

[10] *Statewide Landcover and Trees Study*: https://www.qld.gov.au/environment/land/vegetation/mapping/slats

[11] https://publications.qld.gov.au/dataset/supplementary-report-to-the-statewide-landcover-and-trees-study-report-2012-14

In 2015 the Queensland Auditor General observed that increased clearing in Great Barrier Reef catchments '*coincided with the policy change to reduce compliance activities.*'[12] Of 1,425 notifications of clearing irregularities in the period 2012-2014 only three prosecutions were commenced and only one concluded.[13]

WWF requests that Parliament ask the Auditor General to undertake an annual review of the Department's enforcement of the Vegetation Management Act.

Thank you for the opportunity to make submissions on the *Vegetation Management and Other Legislation Amendment Bill 2018.*

Please do not hesitate to contact me if you have any queries.

Yours sincerely,

Paul Toni
Conservation Director – Sustainable Futures

[12] https://www.qao.qld.gov.au/reports-parliament/managing-water-quality-great-barrier-reef-catchments
[13] Agriculture, Resources and Environment Committee, Estimates Pre-Hearing Non-Government Answer to Question on Notice No. 9 on 25 June 2014.

Attachment A

MEDIA RELEASE

6 October, 2009

Regrowth result recognises good land management

AgForce president John Cotter has declared that Queensland's new vegetation management law, which comes into effect on Thursday, recognises AgForce's policy input on behalf of broadacre producers who are sustainably managing their land.

Mr Cotter said the new legislation balances productive land management while maintaining biodiversity values.

"A key element is that land which has been managed since 31 December 1989 is exempt from the legislation, therefore producers who have sustainably managed woody weeds over the past two decades can continue doing so to maintain ground cover," Mr Cotter said.

"Pre-1989 vegetation can be managed with a self assessable code, and landholders with category X on an existing Property Maps of Assessable Vegetation (PMAV) are also exempt from this new legislation. Practices covered by permits – such as clearing for fence lines, fire-management or for fodder – can also continue.

"The government has recognised the good environmental practices of many landholders who are already doing the right thing by not clearing woody weeds on steep slopes or in riparian zones, and this legislation will not impact their productivity."

Mr Cotter said AgForce has worked hard since the April 2009 moratorium on clearing specific types of regrowth to ensure the state government understood its implications to sustainable agricultural production.

"AgForce has been ferocious in pursuing a sensible outcome and we ensured the Minister for Natural Resources had his 'boots on the ground' by taking him out to properties to see the beneficial results of appropriate sucker management," Mr Cotter said.

Mr Cotter said AgForce will monitor inaccuracies in the new mapping system and he recommended landholders check the status of their property on the new regrowth vegetation maps which are available from October 7 on the Department of Environment and Resource Management website, www.derm.qld.gov.au.

For comment, contact John Cotter on 0427 684 122
AgForce media: Rebecca Jennings 0418 733 102 and Jane Milburn 0408 787 964
AgForce office: 07 3236 3100

- AgForce is a farm group advocating on behalf of Queensland beef, sheep and grain producers. AgForce is celebrating the 10-year anniversary since the amalgamation of its predecessor organisations: the United Graziers' Association, the Cattlemen's Union and the Queensland Grain Growers Association in 1999.

LNP LIBERAL NATIONAL PARTY

14 March 2012

Mr Dermot O'Gorman
Chief Executive Officer
WWF-Australia
Ground Level, 126 Margaret Street
BRISBANE QLD 4000

Dear Mr O'Gorman

Thank you for your letter of 2 February 2012 in which you highlight WWF-Australia's key election issue of securing policy and funding commitments to advance the health and resilience of The Great Barrier Reef.

The Great Barrier Reef is an important part of Queensland's extraordinary natural heritage, and in the lead up to the State election the LNP made several announcements that underline the LNP's commitment to the protection Queensland's iconic natural areas and Queensland's precious wildlife.

The LNP is committed to getting Queensland back on track in economic performance, social development and responsible environmental management.

To do this we intend to grow the four pillars of the Queensland economy – construction, resources, agriculture and tourism – that will drive economic growth job creation and prosperity. We have released strategies on each of the four pillars which are part of our plan to get Queensland back on track. In each of the strategies there is a firm commitment to taking these industries forward in an environmentally sustainable way.

1. Cut Pollution with Farm Innovation

1.1 In the next term of government, will your government support the current goals, objectives and targets under the *Reef Water Quality Protection Plan 2009* to reduce polluted run-off?

The LNP commits to the Reef Water Quality Protection Plan objectives and targets.

1.2 In your first year of the next term of government, will you set targets for reductions in polluted run-off, based on the best available science, to achieve the Reef Plan 2020

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Goal for water quality to have no detrimental impact to the health and resilience of the Great Barrier Reef?

The LNP further commits to the Reef Plan goal "to halt and reverse the decline in water quality entering the Reef by 2013". Further targets for reduction will be set in full consultation with stakeholders, based on the review of the Plan and on reviews of progress achieved, and on available science.
The LNP commits to the long term goal of ensuring "that, by 2020, the quality of water entering the Reef from adjacent catchments has no detrimental impact on the health and resilience of The Great Barrier Reef".

The LNP will continue support for the Paddock to Reef modelling and monitoring systems.

1.3 In your first year of the next term of government, will you set objectives for the number of sugar and grazing properties that will achieve pre-determined on-farm management standards, and undertake modelling to show that these objectives will be sufficient to meet 2020 water quality targets?

The LNP will invest in research, development and extension to identify farm practices which improve production whilst decreasing pollution so investment can be targeted at 'win-win' reforms.

The LNP will supercharge and fast track industry extension with an initial commitment of $2m over 2 years to help wet and dry tropics producers adopt "A" and "B" class performance. Fund property scale soil mapping and GPS base stations in 'black spots' to revolutionise precision fertiliser application and boost soil health and fertility.

1.4 If progress towards water quality or management standard targets is not sufficient will you commit to further actions, including regulation?

The LNP will adopt the water quality targets established by the final report on the Reef Water Quality Protection Plan due in 2013. Again, any further action or setting of targets will be undertaken in full consultation with stakeholders, based on the review of the Plan and on reviews of progress achieved, and on available science.

In stark contrast to the John Howard initiated, $200 million incentive base Reef Rescue – the Bligh Labor Government, through complex Environmental Risk Management Plans (ERMPs) imposed red tape and paperwork on farmers and graziers in North Queensland in a botched attempt to address farm run-off issues.

The LNP's preference is to work with farmer groups to reduce run-off.

The LNP will work with Queensland's sugar and beef farmers and other stakeholders to ensure industry wide best management practice (BMP) is achieved resulting in improved production practices and better outcomes for the Reef. These BMP programs will follow the example set by cotton growers whose proven BMP program is that industry's commitment to the world's best practise in cotton production and environmental protection.

Queensland BMPs for the sugar and beef industries will be recognised against international standards, achieve improved outcomes, address public concerns and provide farmers with a brand to sell their product as sustainable grown.

By investing $8 million in partnership with industry, an LNP Government will make production in beef and sugar the most environmentally responsible in the world and improve farmers' profitability. We will also invest $2 million in supercharging extension services in the first two years.

The LNP will work with farmers and industry to ensure that minimum protection standards for the Reef are achieved. We will work consultatively with other stakeholders, including WWF, to ensure that Queensland continues to uphold high standards of protection for our outstanding Great Barrier Reef.

The LNP strongly believes that our outstanding natural environment can be protected and still have a strong agricultural sector in Queensland – we are determined to get the balance right.

1.5 Will your government maintain current budgetary allocations ($35 million per annum) until 2020 to continue the uptake of improved agricultural practices through: incentive, extension, and regulation, as well as the related research, monitoring and modelling?

The LNP will maintain the existing $35 million annual budget allocation for Reef initiatives.

2. Queensland Fisheries Leading the Way

2.1 In the next term of government, will your government improve the standard of fisheries management through increased investment in fisheries science and research? What new annual budget allocation for fisheries science and research will your government make?

The LNP is strongly committed to a science based fisheries management approach. indeed there have been several marine incidents over the past year where the LNP has been critical of the Labor Government's lack of science.

If elected, an LNP government will establish a stand-alone department for agriculture and fisheries. The LNP will identify any gaps in the capability, skills and existing effort in fisheries management prior to any budget considerations.

Unfortunately this tired, lazy Labor government has ruined the state's financial position and consequently budget allocations across government will be constrained initially.

2.2 In the next term of government, will your government increase the protection of dugongs, turtles, dolphins and other priority species by:

- Investing at least $8 million over the next three years to remove netting in independently identified high conservation value habitats
- Investing at least $1 million to restructure the net fishery by introducing regional management and moving to unit-based fishing rights.

The LNP is committed to delivering a strong, viable, healthy and sustainable commercial fishing industry. Under the Bligh Labor government the commercial fishing industry has struggled and many fishermen face an uncertain future.

The LNP has had a number of conversations with your staff about a reduction in the net fishing effort. We have had similar conversations with fishing groups who generally agree that a reduction is required in total effort in Queensland's fisheries as a key element of any future management strategy to produce a viable, profitable and sustainable fishery. A reduction in the number of licenses in a voluntary competitive tendering system will go some way to alleviating fishing pressure and to making commercial fishing more sustainable.

An LNP Government will invest $10 million to restore sustainability to Queensland's commercial and recreational fisheries. Fishing is one of the most popular pastimes in Queensland, with an estimated 750,000 recreational fishers, and we also have an important commercial fishing industry. Consequently it's vital we get the balance right and have a comprehensive plan to protect our marine environment and sustainably manage both recreational and commercial fishing.

The LNP will deliver a strong, viable and healthy commercial fishing industry by investing $10 million to restore sustainability in our commercial fisheries. This will include a voluntary buy-back of commercial fishing licences as well as improved monitoring of our fisheries, given the general acknowledgement that a reduction in the total take is needed. This reduction will alleviate pressure on stocks and to make commercial fishing more sustainable and increase the fish stock available for recreational fishers.

The LNP's positive plan will also deliver a real benefit for our dugongs, turtles and dolphins in Queensland waters.

2.3 In the next term of government, will your government invest at least $1.5 million over the next three years to improve satellite monitoring systems, and to assist industry to install satellite tracking devices in all commercial fishing boats operating in the Great Barrier Reef Marine Park?

As previously stated the LNP is strongly committed to a science-based fisheries management approach. If elected, the LNP will identify gaps in the capability, skills and existing effort in fisheries management prior to any budget considerations.

Our recent $10 million announcement on the commercial fishing sector includes a commitment to improved monitoring of our fisheries.

The LNP will work closely with all stakeholders to better monitor our fisheries. I note your interest in satellite monitoring and tracking systems and the LNP looks forward to obtaining a better understanding of your proposal.

2.4 In the next term, will your government commit at least $2 million to improve the management of the East Coast Trawl and Coral Reef Fin Fish Fisheries, through supporting the adoption of independent accreditation by the Marine Stewardship Council?

As previously stated the LNP is strongly committed to a science based fisheries management approach. If elected, the LNP will examine fisheries management practices across all Queensland controlled fisheries.

The LNP has also had a number of conversations with your staff about these fisheries and the long awaited results of the trawl fishery review. An LNP government will examine the status of this review prior to making management decisions on the fishery. We are aware of your support for accreditation by the Marine Stewardship Council and will look forward to further discussions with WWF and other stakeholders on how management practices can best be delivered.

3 Save Turtles and Dugong with Traditional Owner Partnerships

3.1 In the next term, will your government provide an additional $30 million, to manage and protect dugongs, turtles and dolphins, including a commitment to fund at least 30 new Traditional Owner Reef Ranger positions?

In recognition of the importance of Indigenous participation in the management of country - both land and sea - an LNP Government will employ 30 additional Indigenous Rangers in its first term, with 10 new Indigenous Rangers employed each year. These Rangers will have a

particular focus on the protection of our pristine waterways, protected species (specifically turtle and dugong conservation on the Great Barrier Reef) and National Park management

The LNP will also crack down on poachers and bring Queensland into line with other states and territories by getting rid of the current exemption for traditional hunters by making it illegal for anyone to wound, mutilate or torture an animal.

An independent legal expert and the Federal Attorney-General's Department have debunked Bligh Labor and Environment Minister Vicky Darling's claims that over-riding Federal laws prevent them from passing laws to banning cruelty in traditional hunting – particularly for turtles and dugongs.

4 Reef Bank: Development Contributing to Reef Resilience

4.1 In the next term, will your government identify 'no-go' areas and address the direct and cumulative impacts of development on the Reef through a comprehensive strategic assessment in partnership with the Federal Government?

The LNP commits to the Commonwealth led Strategic Assessment Process for the Great Barrier Reef, recognising that this does not bind either government to any pre-disposed outcome.

The LNP is committed to ensuring the Great Barrier Reef retains the values for which it was declared a World Heritage Area and that it continues to be one of the best managed marine protected areas in the world.

Through Statutory Regional Planning processes strategic environment assessment will be undertaken to better plan future development near the Reef, and minimise impact on the Reef.

4.2 In the next term, will your government work with scientists, the Federal Government, and stakeholders, to develop a Strategic Investment Plan for the Reef, as well as the establishment of a 'Reef Bank' to finance this plan?

The LNP believes in principle that any private sector investment in Reef Resilience needs to be targeted and effective, and must be informed by best available science, and include assistance and recognition of the good work being undertaken by farming, fishing and other reef related industries and communities.

5 Maintain existing policy, planning and legal safeguards

5.1 In the next term, will your government maintain the current level of statutory vegetation protection as well as the *Delbessie* Agreement for leasehold land?

The LNP will retain the current level of statutory vegetation protection. If elected, the LNP will examine ways to reduce the administrative burden upon leaseholders and at the same time enhance the environmental outcomes. We are exploring policy options to protect Queensland's outstanding biodiversity.

The Delbessie Agreement is a framework which supports the environmentally sustainable, productive use of rural leasehold land for agribusiness. The Agreement provides security of tenure through longer lease terms, clarifies duty of care and enables lease land condition to be assessed using scientifically based guidelines.

Importantly the agreement promotes voluntary conservation agreements and Indigenous access to State rural leasehold land for traditional purposes. The LNP supports the underlying principles of the Delbessie Agreement.

Both conservationsists and pastoralists agree that the administrative arrangements that give effect to the agreement can be improved upon. The LNP will examine how the outcomes can be delivered more effectively and efficiently and at the same time enhance the environmental outcomes.

5.2 In the next term, will your government maintain the current level of statutory protection of wetlands in Reef catchments?

The LNP will retain the current level of statutory protection of wetlands in Reef catchments. If elected, the LNP will examine ways to reduce the administrative burden upon landholders and leaseholders and at the same time enhance the environmental outcomes.

5.3 In the next term, will your government maintain the current national park growth target of 50% by area by 2020, and of all protected areas to 20 million hectares by 2020, as well as the land acquisition and nature refuge budgets needed to achieve these?

The LNP believes that expanding Queensland's protected area estate is a worthy objective and will look for additions to our protected estate – with emphasis on conserving what needs to be conserved, not to meet arbitrary targets. Importantly, the LNP will ensure that our National Parks are properly managed.

The Labor Government has simply locked the parks up and thrown away the keys, allowing them to be overgrown and overrun with a 2011 Auditor-General report finding only 17 per cent of Queensland's protected areas had management plans. The LNP's plan is simple, but

effective policy: fix the weeds, eradicate the pests, allow greater access to the public and be a good neighbour to surrounding properties.

5.4 In the next term, will your government maintain the current statutory and planning framework for environment protection including: Marine Park Zoning, development impact assessment, Coastal Plan and Act, and fisheries management plans? Please specify any proposed reforms to the current framework and how these will lead to improved environmental outcomes.

The current statutory and planning framework for environment protection will largely remain in place, with the exception of the following notable improvements:

The LNP will replace Labor's controversial Wild Rivers declarations on Cape York and will develop a Cape York Bioregion Management Plan in conjunction with Indigenous communities, Cape York organisations and other stakeholders.

The Bioregion Management Plan will incorporate protected estate management, pristine waterway management and real natural resource management targets to allow for an integrated approach to conservation of our natural heritage.

It is important to note that any major developments will continue to be required to submit an Environmental Impact Statement to be assessed against both State and Commonwealth legislation that has been designed to protect pristine rivers and other areas of high conservation value.

Labor has failed to properly manage our natural heritage. This has resulted in neglected National Parks and widespread pest and weed problems. Appallingly less than a third of Queensland's National Parks have management plans in place.

The LNP's Bioregion Management Plans will inform Statutory Regional Plans where they exist or they are developed. These plans will build on the LNP's existing commitment to improve National Park management.

An LNP Government will revisit the Queensland Coastal Plan and has committed to working in partnership with industry, local government and other stakeholders on a long term vision for the planning, management and sustainable use of land located in the State's coastal areas.

The LNP wants to strike the right balance between environmental protection and ensuring that suitable and sustainable development can occur in coastal areas.

6. Maintain existing agency funding

6.1 In the next term, will your government maintain or increase the current budget for the Department of Environment and Resource Management as well as funding for environment programs across the government? Please specify any proposed changed budget allocations and how these will lead to improved environmental outcomes.

In the lead up to the State Election I have announced that under an LNP Government the Department of Environment and Resource Management (DERM) will be split into two distinctive parts: a mining, energy and resources part, and an environmental regulator. Further to that, any announcements on the future of individual DERM offices or budget allocations would be premature. However, I am on the record saying that I want strong environmental protection rather than political outcomes.

The LNP understands the damage done by pollution and the importance of improving the Reef's resilience. Our outstanding natural heritage needs to be protected so it can be enjoyed now and by future generations.

However, the LNP believes reef protection goes hand in hand with a strong and innovative agricultural sector and we are determined to get the balance right.

The LNP is committed to protecting the reef but we believe in achieving it through incentive, through working with farmers not through over- regulation. The LNP believes a protected Great Barrier Reef will only come about through working with farmers to improve and modify farm practices and reduce farm run off.

The LNP's approach is about practical, direct green action – with local input and based on science not politics.

We need strong action for our environment now, we need to get Queensland back on track.

The LNP's 5 pledges to get Queensland back on track:

1. **Grow a Four Pillar Economy:** through focusing on tourism, agriculture, resources and construction and by cutting red tape and regulation.

2. **Lower the Cost of Living for Families by Cutting Waste:** we will freeze family car rego for the first term of an LNP Government, reduce water prices and reform electricity tariffs to save families up to $330 a year.

3. **Deliver Better infrastructure and Better Planning:** we will share the proceeds of the mining boom to build roads and provide critical local infrastructure, open up National Parks so all Queenslanders can enjoy them and protect prime agriculture land.

4. **Revitalise Front Line Services for Families:** we will get back to basics and deliver quality services such as health, transport, police and education.

5. **Restore Accountability in Government:** Ministers will be accountable for their Departments and our decisions will be open and transparent. Only an LNP Government will ensure direct action for the protection of Queensland's iconic natural areas and Queensland's precious wildlife.

Thank you again for the opportunity to share some of the LNP's policy directions with your members.

I encourage WWF-Australia members to check our website candoqld.com.au regularly as we continue to roll out our policies in the lead up to the State Election.

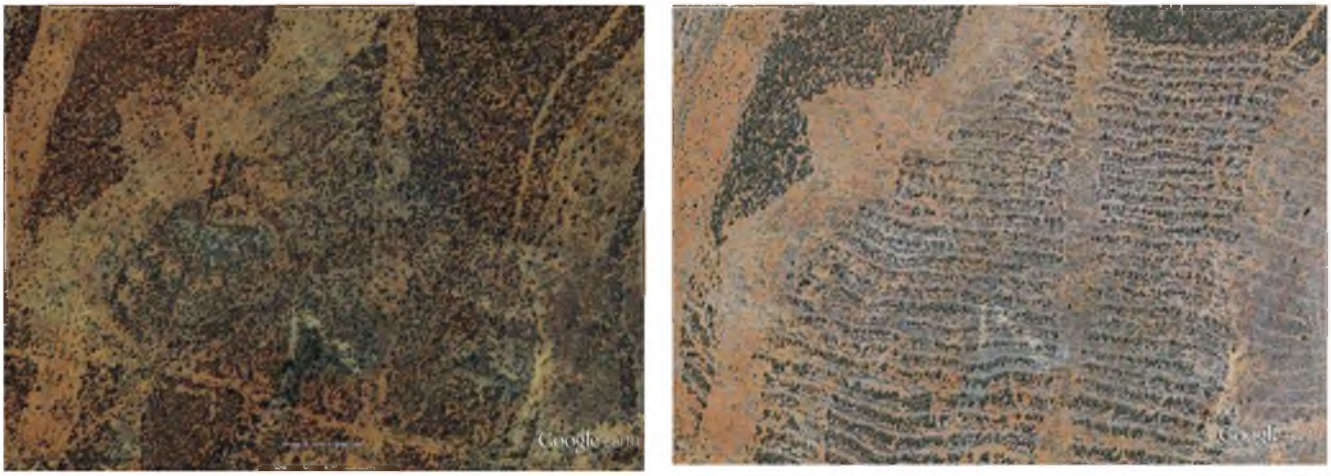
Yours sincerely

CAMPBELL NEWMAN
Leader of the LNP

Attachment C – thinning/thickened vegetation

ABOVE: Google satellite image of a property near Alpha in central Queensland during clearing of remnant ironbark forest under the former self-assessable code for thinning (now termed Accepted Development Code) in 2015. The top half shows intact forest, and the lower half "thinned" forest. The top half and indeed, the entire property has since been entirely cleared over an area more than 6,500 hectares. No permit was required to bulldoze this mature, remnant forest. Under previous codes only 30-250 immature stems per hectare needed to be retained.

Attachment D – fodder harvesting



ABOVE: Google satellite images of a property near Charleville in south west Queensland before and after clearing of remnant mulga forest under the "fodder harvest" self-assessed Accepted Development Code in 2015-16. Clearing is shown in progress. The intact patches at the top were later also bulldozed.

WWF BRIEFING

KOALAS LOST TO BULLDOZERS IN QUEENSLAND 2010-16

Key findings

- The annual death rate of koalas from bulldozing of habitats in Queensland, more than doubled after legal safeguards were weakened in 2012-13 by the former Newman LNP government - from an estimated minimum of about 590 p.a. in 2010-2012 to about 1,300 p.a. (estimated minimum) in 2012-2016.
- Over 5,000 koalas were lost due to bulldozing of habitats in the four years following removal of safeguards. Of these, about 2,800 almost certainly would not have died if safeguards had been retained.
- Koalas occur widely throughout the state, and most koala losses happen in remote rural areas far from the public gaze. While koala deaths in Southeast Queensland rightly provoke public concern, these are a fraction of state-wide deaths.
- These estimates are very conservative estimates, which do not include additional deaths from the legacy effects of past clearing in breaking up habitat, particularly in Southeast Queensland, where koalas face ongoing higher than natural death rates from vehicles, predators, disease and privation in the fragmented forests that remain. The cumulative impacts have resulted in the collapse of koala populations around Brisbane in the past two decades.

Loss of safeguards leads to accelerating bushland destruction

From 2004 to 2012, introduction of new controls over tree-clearing in Queensland resulting in dramatic declines in areas of bushland bulldozed, from over 500,000 ha in 2002-3 to 68,000 in 2009-10 (Fig. 1).[1]

In March 2012, the Newman LNP government swept to power and weakened enforcement of the Act[2], replacing requirements for permits with self-assessable codes through new Area Management Plans. Then in mid-2013, in

[1] https://www.qld.gov.au/environment/land/vegetation/mapping/slats-reports

[2] The Newman Government provided no tree-clearing data to the public. It was not until late in 2015 after the government changed, that the 2012-14 SLATS report was issued by the new Palaszczuk government. This report revealed that enforcement activity was purposely reduced under the Newman government, who instead gave priority to helping landholders who wanted to bulldoze habitats.

their own words, they "took the axe" to the law, breaking a pre-election promise that "The LNP will retain the current level of statutory vegetation protection".[3]

The chief changes of concern were:

- Ending the end-2006 ban on broadscale clearing of remnant bushland by:
    - Allowing "High Value Agriculture" broadscale clearing of remnant bushland under a development permit;
    - Allowing broadscale clearing of remnant bushland under self-assessable codes, which allow conversion of forests to paddocks with a few trees at unlimited scales, without need for a permit.
- Ending the 2009 protections for high value regrowth on freehold properties (which in highly cleared landscapes is often the only suitable habitat left for koalas).

Since then, tree-clearing has resurged dramatically, with the rise starting even before the laws were axed, likely due to the lapse in enforcement and introduction of Area Management Plans (AMPs) (Fig 1). The latest SLATS report for 2015-16, like previous reports, reveals that nearly all bulldozing of bushland in Queensland (consistently over 90%) is to make pasture for livestock, principally beef cattle.

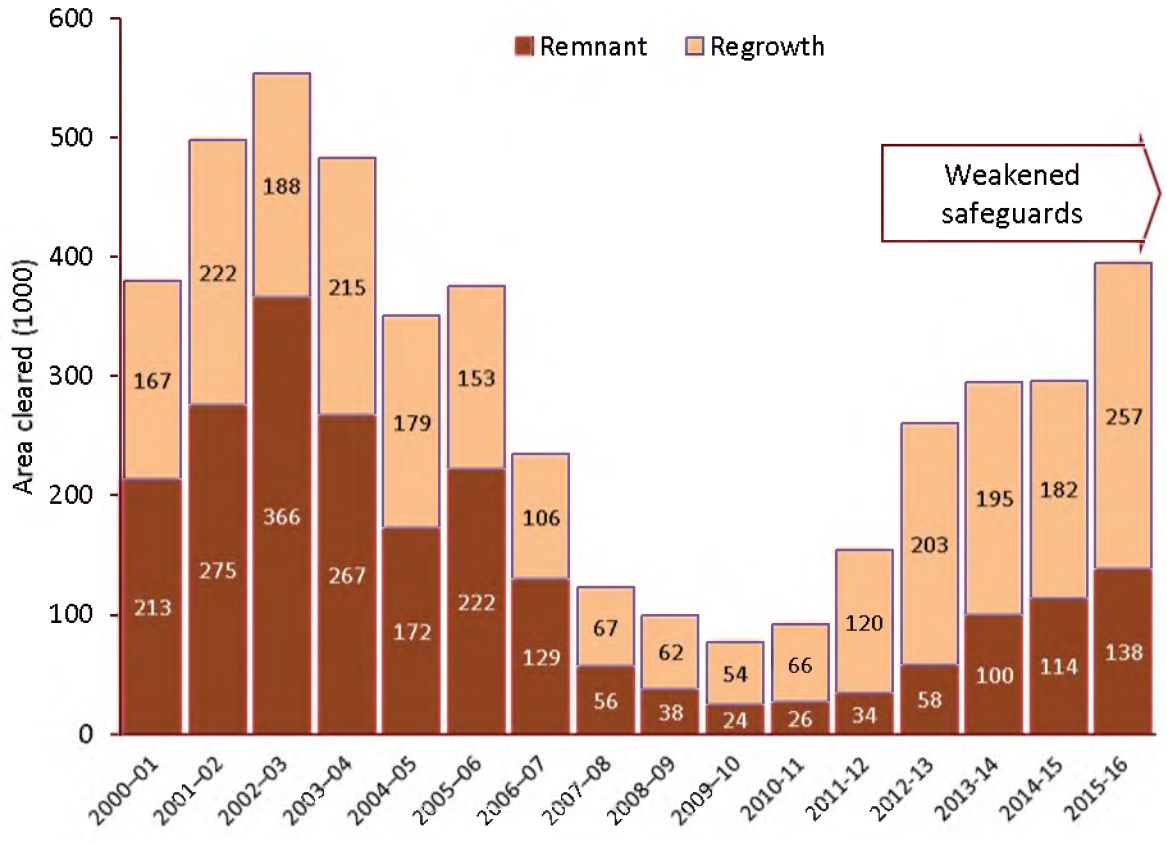


Figure 1. Areas of bushland bulldozed and cleared in Queensland 200-2016 according to Queensland Government SLATS reports for 2012-14, 2014-15 and 2015-16.

[3] *Bushland destruction rapidly increasing in Queensland* WWF briefing paper (2015) http://www.wwf.org.au/news/news/2015/queenslands-tree-clearing-map-of-shame#gs.dYqEK9I

Animal losses on the rise

Eminent zoologists in 2003 conservatively estimated about 100 million Australian mammals, birds and reptiles died annually in the late 1990s when bulldozing of bushland was at its peak, including 19,000 koalas.[4]

These authors recently updated this estimate of annual losses to 34 million p.a. for the period 2013-15, and 45 million for 2015-16.[5]

In this brief analysis, we attempt to update estimates for koalas, erring on the conservative side, and incorporating the latest information.

Koala losses on the rise

We previously reported at least 179 koalas lost to bulldozers in Southeast Queensland due to clearing in 2013-15 (top of bars 4 & 5 in Fig. 2)[6]. We now extend that estimate state-wide and to the six years 2010-2016.

New minimum estimates of koalas dying or killed due to bulldozing of their habitats rose from 503 in 2010-11 to 1,796 in 2015-16 (Fig. 2). There was a step change from 2010-12 to the later period 2012-2016, coinciding with weakening of controls (neglect of enforcement, AMPs and legal safeguards weakened), with average annual direct losses more than doubling from 592 p.a. to 1,296 p.a.

In the four years since safeguards were weakened, a minimum of 5,184 koalas is estimated to have died due to bulldozing of habitat. Of these, an estimated 2,818 died that would otherwise have survived under previous, stronger laws (Fig. 2).

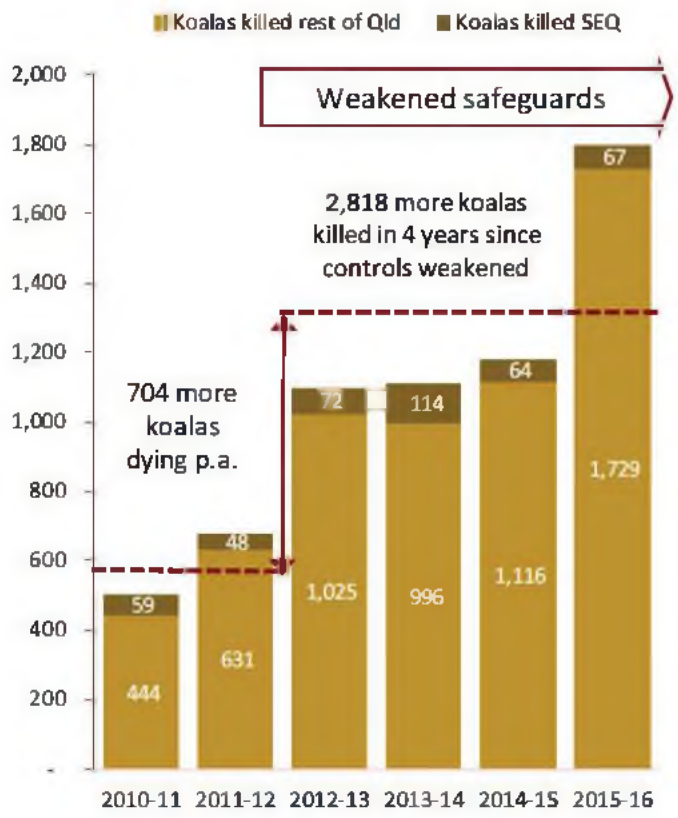


Figure 2. Estimates of koalas lost to bulldozing of their forest habitats from 2010 to 2016, for South East Queensland using the density modelling of Rhodes et al. (2017), and for the rest of the state using a uniform density of 2 koalas per km2. See Methods for details.

[4] http://www.wwf.org.au/ArticleDocuments/353/pub-impacts-landclearing-on-australian-wildlife-qld-1jan03.pdf.aspx?Embed=Y
[5] http://www.wwf.org.au/news/news/2017/tree-clearing-kills-68-million-animals-in-queensland-in-two-years
[6] http://www.wwf.org.au/news/news/2017/fears-179-koalas-lost-to-bulldozers minor difference in numbers is due to rounding error.

Important caveats

We assumed as in earlier studies, that when habitat is bulldozed, the animals living there mostly die, either from direct trauma, from starvation or from later misadventure having lost their homes, an assumption well-supported in ecological science.[7]

These figures are necessarily minimum estimates because:

- A restrictive map of habitat was used, based only on presence of a limited set of food trees. Significantly we ignored less preferred food species, shelter trees and other habitat requirements. By ignoring very sparse woodlands we excluded habitat for significant populations along the Great Dividing Range Southeast of Richmond in central Qld, and between Longreach and Charleville in southwest Qld (Fig 3). However, sparse habitats have both lower densities and lower susceptibility to clearing.
- A density estimate from the lower end of the range of reported estimates was used.
- These estimates do not include deaths due to ongoing higher death rates from vehicles, predator attacks, disease and privation experienced in fragmented, legacy-cleared habitats.[8]

This last point is of particular importance for Southeast Queensland. Despite seemingly small numbers losing habitat directly to bulldozing in Southeast Queensland over the period of concern (Fig. 2), the numbers lost due to legacy impacts of tree-clearing on death rates are sure to be much higher.

Most koala deaths in Southeast Queensland on the face of it may appear unrelated to tree-clearing, because deaths are mostly due to vehicle strikes, dog attacks and disease. However, these are all to varying extents consequences of past and ongoing habitat breakup.

As detailed in our recent report "Tree-clearing: the hidden crisis of animal welfare in Queensland" [9], over the six years from 2009 to 2014, more than 10,000 koalas (over 1,600 annually) were admitted to the four wildlife hospitals in Southeast Queensland out of an estimated population of only 15,000. As a result of the high ongoing rates of injury and death, Southeast Queensland populations have collapsed over the 18 years from 1996 to 2014 with an 80% decline in the Koala Coast (Brisbane, Logan and Redlands) population, and a 54% decline in the Pine Rivers population.[10]

Despite a bipartisan commitment in 2008 that there would be net gain of koala habitat in Southeast Queensland, there has in fact been ongoing loss, [11] and losses outside the region in the rest of the state are growing rapidly (Fig. 2).

[7] Cogger et al. 2003 and 2017 cited above.
[8] http://www.wwf.org.au/news/news/2017/tree-clearing-causing-queenslands-greatest-animal-welfare-crisis
[9] Ibid.
[10] Rhodes JH, Beyer H, Preece H and McAlpine C (2015) *South East Queensland Koala Population Modelling Study* Brisbane, Australia: UniQuest https://www.ehp.qld.gov.au/wildlife/koalas/pdf/seq-koala-population-modelling-study.pdf
[11] https://www.ehp.qld.gov.au/wildlife/koalas/pdf/koala-expert-panel-interim-report.pdf

Methods

Combined clearing layer

We obtained SLATS shapefiles for each of the years as shown in Fig 2 from http://qldspatial.information.qld.gov.au/.

We excluded polygons described as natural tree death, storm damage or timber plantations (harvest of), and masked out any polygons that were not woodland or forest at the commencement of the study period in 2010. That is, only if the Queensland Government's 2010 foliage projective cover was 11% or greater was a given mapped clearing area retained. Using the ArcGIS Union tool, we combined all these selected and masked shapefiles and assigned only the first year cleared to any polygon which was cleared more than once over the period. In this way, only active clearing of actual native forest or woodlands was counted. For ease of calculation we converted this shapefile to a 6 level raster at 30m pixel resolution in GDA94 Albers projection, snapped to the FPC source raster.

Southeast Queensland estimation method

Queensland was divided into two domains with different density and habitat mapping approaches.

The first domain was the Southeast Queensland (SE Qld) study area of the recent density modelling study by Rhodes et al. (2017).[12] In this domain we used the density map produced and kindly provided by the authors which they had also masked by a suitable habitat layer based on Broad Vegetation Groups (see Appendix B in that study). We converted densities to rounded integer values of density expressed as numbers of koalas per km^2 and converted to a raster snapped to FPC as described above. Combining these two layers we obtained a raster combining density with epoch cleared. By counting pixels in density and year categories we estimated the area of habitat cleared in SEQ and numbers of koalas that would have been living there in respective years cleared based on modelled densities (See Fig 2 for results).

Rest of state estimation method

The second domain comprised the rest of the state within which koalas are known to occur: including the bioregions of Brigalow Belt, Central Queensland Coast, Desert Uplands, Einasleigh Uplands, Mulga Lands, New England Tableland, Southeast Queensland, Wet Tropics, and the three eastern subregions of the Mitchell Grass Downs.[13]

In this domain, to estimate areas of habitat cleared, we did not use the habitat mask of Rhodes et al, which was based on Broad Vegetation Groups (v 10, BVGs). BVGs provide only a coarse indication of habitat. Also, the Rhodes et al. study provides no guidance on suitabilities of BVGs outside of SE Qld.

[12] Rhodes JH, Beyer H, Preece H and McAlpine C (2015) *South East Queensland Koala Population Modelling Study* Brisbane, Australia: UniQuest https://www.ehp.qld.gov.au/wildlife/koalas/pdf/seq-koala-population-modelling-study.pdf

[13] As mapped by McAlpine et al. 2015. *Conserving koalas in the 21st Century*. ACEAS workshop report. http://aceas.org.au/index.php?option=com_content&view=article&id=86&Itemid=88

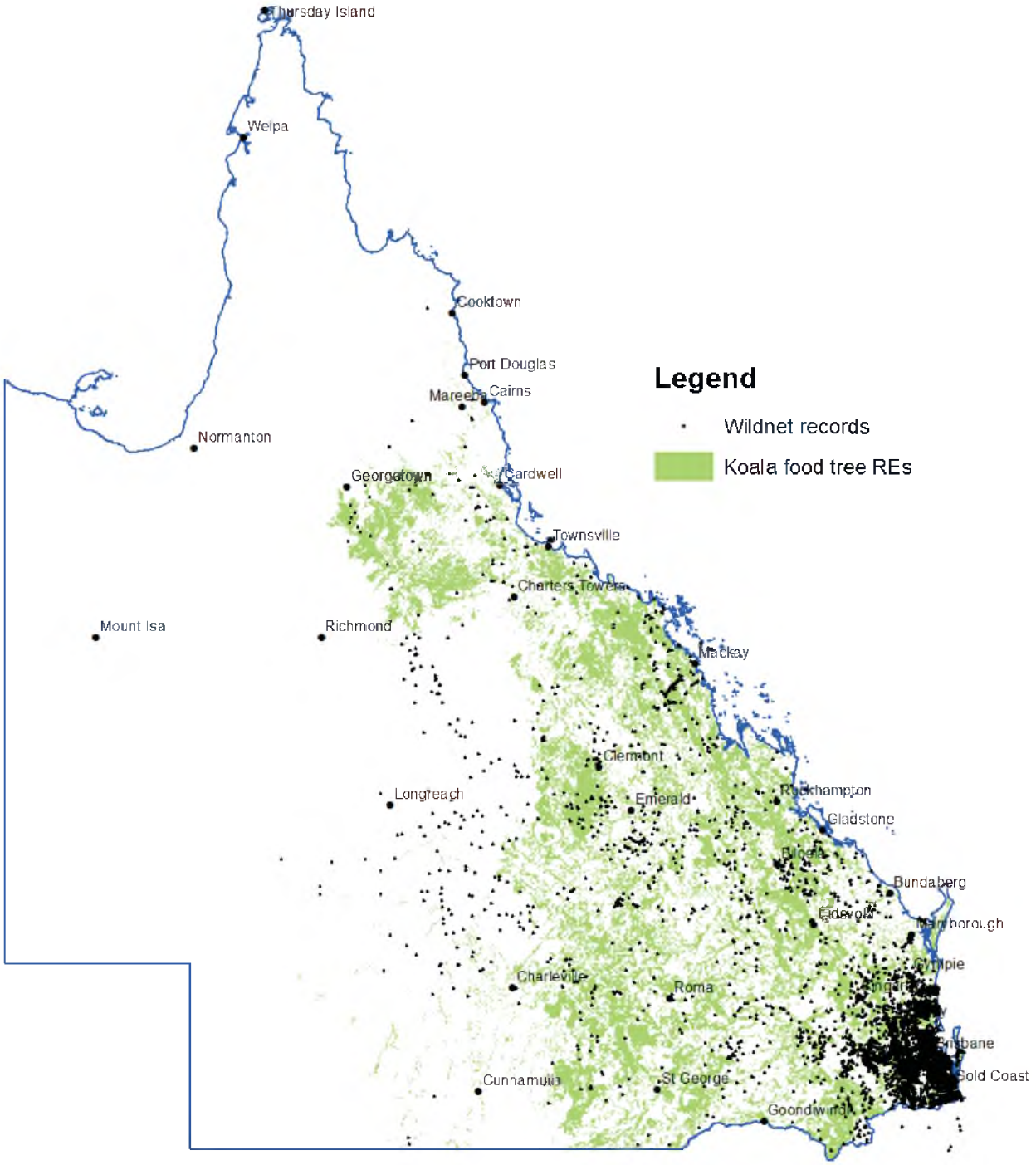


Figure 3. Map of regional ecosystems with a known koala food tree dominating the canopy, used as a proxy for koala habitat in this analysis, overlaid with point locations of koala sightings in the Queensland Government's Wildnet database.

Regional ecosystems provide a much finer scaled basis for mapping of habitat. To determine which regional ecosystems to include in the habitat layer we first compiled a list of favoured food trees based on predominant species identified in koala scats. Only species represented at 10% of more in scats were considered significant food trees as reported in two key studies of Melzer et al. (2014) and Sullivan et al. (2003).[14] These were all *Eucalyptus*:- *E. camaldulensis, E. coolabah, E. melanophloia, E. orgadophylla, E. tereticornis, E. crebra, E. populnea, E. drepanophylla, E. platyphylla, E. robusta, E. racemosa, E. pilularis,* and *E. thozetiana*.

We then selected from *Regional Ecosystems version 9* (Queensland Herbarium), those regional ecosystems with one of these species listed as dominant or co-dominant in the canopy. Very sparse regional ecosystems were excluded regardless if the right food tree species occurred. Also, regional ecosystems even if not flagged as very sparse were excluded if tree cover was described as very sparse in the description. The final selection of regional ecosystems is shown in Table 1 below. The map of these regional ecosystems is shown in Fig. 3 below. This map of habitat is both finer scaled but also more conservative than the approach in Rhodes et al. and leaves out many other REs in which koalas have been recorded (Fig. 3). In Southeast Queensland, the Rhodes et al. BVG based habitat mask covered over 600,000 ha, while the RE based layer derived here covered only 200,000ha.

Next we had to determine appropriate densities for the habitat outside of SE Qld. In the absence of density modelling as done for SE Qld by Rhodes et al, we used a uniform density of 2 koalas per km^2 as it is the median density of the Rhodes study for SE Qld and the lower end of the range of estimates for central Qld from Melzer et al. (1995)[15] and the second lowest non-zero value for the Mulga Lands as reported by Sullivan et al. (2003)[16]. It is much lower than other minimum density estimates such as 20/km^2 in central Queensland reported by Ellis et al. (2014).[17] But our intent was deliberately to be conservative and prefer to under-estimate rather than over-estimate numbers.

We converted the habitat layer based on REs to a raster snapped to FPC and using raster arithmetic, intersected with the combined clearing raster described above. Pixel counts were used to estimate areas of forest and woodland habitat cleared in each respective year and koala number derived by multiplying areas by the nominal uniform density of 2 koalas/km^2. Results are shown in Fig. 2.

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[14] Table 3 in Melzer A, Cristescu R, Ellis W, FitzGibbon S, and Manno G, 2014. The habitat and diet of koalas (*Phascolarctos cinereus*) in Queensland. *Australian mammalogy*, 36(2), pp.189-199, and adding *E. thozetiana* from Table 6 in Sullivan, B.J., Norris, W.M. and Baxter, G.S., 2003. Low-density koala (*Phascolarctos cinereus*) populations in the mulgalands of south-west Queensland. ii. Distribution and diet. *Wildlife Research*, 30(4), pp.331-338.

[15] Melzer, A. (1995). Aspects of the ecology of the koala, *Phascolarctos cinereus* (Goldfuss, 1817), in the sub-humid woodlands of Central Queensland. PhD thesis, University of Queensland, St Lucia, Brisbane.

[16] Sullivan, B.J., Baxter, G.S. and Lisle, A.T., 2003. Low-density koala (*Phascolarctos cinereus*) populations in the mulgalands of south-west Queensland. iii. Broad-scale patterns of habitat use. *Wildlife Research*, 30(6), pp.583-591.

[17] Ellis, W., FitzGibbon, S., Melzer, A., Wilson, R., Johnston, S., Bercovitch, F., Dique, D. and Carrick, F., 2013. Koala habitat use and population density: using field data to test the assumptions of ecological models. *Australian Mammalogy*, 35(2), pp.160-165.

Table 1. Regional Ecosystems v9 with favoured koala food trees dominant or co-dominant.

RE	Description	Structure
11.10.11	Eucalyptus populnea, E. melanophloia +/- Callitris glaucophylla woodland on coarse-grained sedimentary rocks	Mid-dense
11.10.12	Eucalyptus populnea woodland on medium to coarse-grained sedimentary rocks	Sparse
11.10.7	Eucalyptus crebra woodland on coarse-grained sedimentary rocks	Sparse
11.11.1	Eucalyptus crebra +/- Acacia rhodoxylon woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Mid-dense
11.11.10	Eucalyptus melanophloia woodland on deformed and metamorphosed sediments and interbedded volcanics	Sparse
11.11.15	Eucalyptus crebra woodland on deformed and metamorphosed sediments and interbedded volcanics	Sparse
11.11.19	Eucalyptus lhozetiana, Acacia harpophylla woodland on old sedimentary rocks with varying degrees of metamorphism and folding	Sparse
11.11.20	Eucalyptus platyphylla woodland on old sedimentary rocks with varying degrees of metamorphism and folding. Lowlands	Sparse
11.11.3	Corymbia citriodora, Eucalyptus crebra, E. acmenoides open forest on old sedimentary rocks with varying degrees of metamorphism and folding. Coastal ranges	Mid-dense
11.11.4	Eucalyptus crebra woodland on old sedimentary rocks with varying degrees of metamorphism and folding. Coastal ranges	Sparse
11.11.9	Eucalyptus populnea or E. brownii woodland on deformed and metamorphosed sediments and interbedded volcanics	Sparse
11.12.1	Eucalyptus crebra woodland on igneous rocks	Sparse
11.12.13	Eucalyptus crebra, Corymbia spp., E. acmenoides woodland on igneous rocks. Coastal hills	Mid-dense
11.12.17	Eucalyptus populnea woodland on igneous rocks. Colluvial lower slopes	Sparse
11.12.2	Eucalyptus melanophloia woodland on igneous rocks	Sparse
11.12.3	Eucalyptus crebra, E. tereticornis, Angophora leiocarpa woodland on igneous rocks especially granite	Sparse
11.12.6	Corymbia citriodora open forest on igneous rocks (granile)	Mid-dense
11.12.7	Eucalyptus crebra woodland with patches of semi-evergreen vine thicket on igneous rocks (boulder-strewn hillsides)	Sparse
11.12.9	Eucalyptus platyphylla woodland on igneous rocks	Sparse
11.3.17	Eucalyptus populnea woodland with Acacia harpophylla and/or Casuarina cristata on alluvial plains	Sparse
11.3.18	Eucalyptus populnea, Callitris glaucophylla, Allocasuarina luehmannii shrubby woodland on alluvium	Mid-dense
11.3.2	Eucalyptus populnea woodland on alluvial plains	Sparse
11.3.23	Eucalyptus conica, E. nobilis, E. tereticornis, Angophora floribunda woodland on alluvial plains. Basalt derived soils	Sparse
11.3.25	Eucalyptus tereticornis or E. camaldulensis woodland fringing drainage lines	Mid-dense
11.3.29	Eucalyptus crebra, E. exserta, Melaleuca spp. woodland on alluvial plains	Sparse
11.3.3	Eucalyptus coolabah woodland on alluvial plains	Sparse
11.3.30	Eucalyptus crebra, Corymbia dallachiana woodland on alluvial plains	Sparse
11.3.35	Eucalyptus platyphylla, Corymbia clarksoniana woodland on alluvial plains	Sparse
11.3.36	Eucalyptus crebra and/or E. populnea and/or E. melanophloia on alluvial plains. Higher terraces	Sparse
11.3.37	Eucalyptus coolabah fringing woodland on alluvial plains	Sparse
11.3.38	Eucalyptus tereticornis, Melaleuca viridiflora, Corymbia tessellaris and Eucalyptus fibrosa subsp. fibrosa tall woodland with a grassy ground layer on alluvial plains and broad drainage lines derived from serpentinite	Mid-dense
11.3.39	Eucalyptus melanophloia +/- E. chlorocłada open woodland on undulating plains and valleys with sandy soils	Sparse
11.3.4	Eucalyptus tereticornis and/or Eucalyptus spp. woodland on alluvial plains	Sparse
11.3.6	Eucalyptus melanophloia woodland on alluvial plains	Sparse
11.3.9	Eucalyptus platyphylla, Corymbia spp. woodland on alluvial plains	Sparse
11.4.10	Eucalyptus populnea or E. woollsiana, Acacia harpophylla, Casuarina cristata open forest to woodland on margins of Cainozoic clay plains	Sparse
11.4.12	Eucalyptus populnea woodland on Cainozoic clay plains	Mid-dense
11.4.2	Eucalyptus spp. and/or Corymbia spp. grassy or shrubby woodland on Cainozoic clay plains	Sparse
11.4.7	Eucalyptus populnea with Acacia harpophylla and/or Casuarina cristata open forest to woodland on Cainozoic clay plains	Mid-dense
11.5.1	Eucalyptus crebra and/or E. populnea, Callitris glaucophylla, Angophora leiocarpa, Allocasuarina luehmannii woodland on Cainozoic sand plains and/or remnant surfaces	Mid-dense
11.5.13	Eucalyptus populnea +/- Acacia aneura +/- E. melanophloia woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.17	Eucalyptus tereticornis woodland in depressions on Cainozoic sand plains and remnant surfaces	Sparse
11.5.2	Eucalyptus crebra, Corymbia spp., with E. moluccana woodland on lower slopes of Cainozoic sand plains and/or remnant surfaces	Sparse

RE	Description	Structure
11.5.3	Eucalyplus populnea +/- E. melanophloia +/- Corymbia clarksoniana woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.5.5	Eucalyplus melanophloia, Callitris glaucophylla woodland on Cainozoic sand plains and/or remnant surfaces. Deep red sands	Sparse
11.5.9	Eucalyplus crebra and other Eucalyptus spp. and Corymbia spp. woodland on Cainozoic sand plains and/or remnant surfaces	Sparse
11.7.1	Acacia harpophylla and/or Casuarina cristala and Eucalyptus thozetiana or E. microcarpa woodland on lower scarp slopes on Cainozoic lateritic duricrust	Mid-dense
11.7.6	Corymbia citriodora or Eucalyplus crebra woodland on Cainozoic lateritic duricrust	Mid-dense
11.8.14	Eucalyplus crebra, Corymbia dallachiana woodland on Cainozoic igneous rocks	Sparse
11.8.2	Eucalyplus tereticornis, E. melliodora woodland on Cainozoic igneous rocks	Sparse
11.8.4	Eucalyplus melanophloia open woodland on Cainozoic igneous rocks.	Sparse
11.9.10	Eucalyplus populnea open forest with a secondary tree layer of Acacia harpophylla and sometimes Casuarina cristala on fine-grained sedimentary rocks	Mid-dense
11.9.2	Eucalyplus melanophloia +/- E. orgadophila woodland on fine-grained sedimentary rocks	Sparse
11.9.7	Eucalyplus populnea, Eremophila mitchellii shrubby woodland on fine-grained sedimentary rocks	Sparse
11.9.9	Eucalyplus crebra woodland on fine-grained sedimentary rocks	Sparse
12.11.14	Eucalyplus crebra, E. tereticornis, Corymbia intermedia woodland on metamorphics +/- interbedded volcanics	Sparse
12.11.22	Angophora leiocarpa, Eucalyptus crebra woodland on metamorphics +/- interbedded volcanics	Sparse
12.11.23	Eucalyplus pilularis open forest on coastal metamorphics and interbedded volcanics	Mid-dense
12.11.27	Eucalyplus racemosa subsp. racemosa and/or E. seeana and Corymbia intermedia woodland on metamorphics +/- interbedded volcanics	Sparse
12.11.7	Eucalyplus crebra woodland on metamorphics +/- interbedded volcanics	Sparse
12.11.8	Eucalyplus melanophloia, E. crebra woodland on metamorphics +/- interbedded volcanics	Sparse
12.11.9	Eucalyplus tereticornis subsp. tereticornis or E. tereticornis subsp. basaltica open forest on metamorphics +/- interbedded volcanics. Usually higher altitudes	Mid-dense
12.12.12	Eucalyplus tereticornis, Corymbia intermedia, E. crebra +/- Lophostemon suaveolens woodland on Mesozoic to Proterozoic igneous rocks	Sparse
12.12.14	Eucalyplus racemosa subsp. racemosa +/- Lophostemon confertus, Syncarpia glomulifera, Eucalyptus acmenoides woodland usually on rocky near coastal areas on Mesozoic to Proterozoic igneous rocks	Sparse
12.12.2	Eucalyplus pilularis tall open forest on Mesozoic to Proterozoic igneous rocks especially granite	Mid-dense
12.12.23	Eucalyplus tereticornis subsp. tereticornis or E. tereticornis subsp. basaltica +/- E. eugenioides woodland on crests, upper slopes and elevated valleys and plains on Mesozoic to Proterozoic igneous rocks	Mid-dense
12.12.24	Angophora leiocarpa, Eucalyptus crebra woodland on Mesozoic to Proterozoic igneous rocks	Sparse
12.12.27	Corymbia trachyphloia, Eucalyplus crebra and Callitris endlicheri woodland on Mesozoic to Proterozoic igneous rocks	Mid-dense
12.12.7	Eucalyplus crebra woodland on Mesozoic to Proterozoic igneous rocks	Sparse
12.12.8	Eucalyplus melanophloia woodland on Mesozoic to Proterozoic igneous rocks	Sparse
12.2.6	Eucalyplus racemosa subsp. racemosa open forest on dunes and sand plains. Usually deeply leached soils	Mid-dense
12.2.8	Eucalyplus pilularis open forest on parabolic high dunes	Mid-dense
12.3.10	Eucalyplus populnea woodland on alluvial plains	Sparse
12.3.11	Eucalyplus tereticornis +/- Eucalyptus siderophloia, Corymbia intermedia open forest on alluvial plains usually near coast	Mid-dense
12.3.19	Eucalyplus moluccana and/or Eucalyplus tereticornis and E. crebra open forest to woodland, with a sparse to mid-dense understorey of Melaleuca irbyana on alluvial plains	Mid-dense
12.3.3	Eucalyplus tereticornis woodland on Qualernary alluvium	Sparse
12.3.4	Melaleuca quinquenervia, Eucalyplus robusta woodland on coastal alluvium	Mid-dense
12.3.7	Eucalyplus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca spp. fringing woodland	Sparse
12.5.12	Eucalyplus racemosa subsp. racemosa, E. latisinensis +/- Corymbia gummifera, C. intermedia, E. bancroftii woodland with healthy understorey on remnant Tertiary surfaces	Sparse
12.5.2	Corymbia intermedia, Eucalyptus tereticornis open forest on remnant Tertiary surfaces, usually near coast. Usually deep red soils	Mid-dense
12.5.3	Eucalyplus racemosa subsp. racemosa woodland on remnant Tertiary surfaces	Mid-dense
12.8.16	Eucalyplus crebra +/- E. melliodora, E. tereticornis woodland on Cainozoic igneous rocks	Sparse
12.8.17	Eucalyplus melanophloia +/- E. crebra, E. tereticornis, Corymbia tessellaris woodland on Cainozoic igneous rocks	Sparse
12.8.24	Corymbia citriodora subsp. variegata open forest on Cainozoic igneous rocks especially trachyte	Mid-dense
12.9-10.14	Eucalyplus pilularis tall open forest on sedimentary rocks	Mid-dense
12.9-10.4	Eucalyplus racemosa subsp. racemosa woodland on sedimentary rocks	Sparse

RE	Description	Structure
12.9-10.7	Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora spp., E. melanophloia woodland on sedimentary rocks	Sparse
12.9-10.8	Eucalyptus melanophloia, E. crebra woodland on sedimentary rocks	Sparse
13.11.3	Eucalyptus crebra woodland on metamorphics	Sparse
13.11.4	Eucalyptus melanophloia woodland on metamorphics	Sparse
13.11.6	Corymbia citriodora subsp. variegata open forest on metamorphics	Mid-dense
13.12.10	Eucalyptus crebra, E. tereticornis, Angophora leiocarpa woodland on igneous rocks	Sparse
13.12.4	Eucalyptus caliginosa, E. tereticornis open forest on igneous rocks	Mid-dense
13.3.5	Eucalyptus camaldulensis fringing open forest	Mid-dense
13.3.7	Eucalyptus tereticornis, Angophora floribunda open forest on alluvial plains	Sparse
4.3.1	Eucalyptus camaldulensis +/- Melaleuca spp. woodland on drainage lines	Sparse
4.3.11	Eucalyptus coolabah +/- E. camaldulensis open woodland on alluvium, billabongs and permanent waterholes	Sparse
4.3.2	Eucalyptus camaldulensis +/- E. coolabah woodland on drainage lines	Sparse
4.3.6	Atalaya hemiglauca +/- Acacia georginae +/- Acacia cyperophylla var. cyperophylla woodland on alluvium	Sparse
6.3.1	Eucalyptus camaldulensis woodland on alluvium within Acacia aneura associations	Sparse
6.3.18	Eucalyptus populnea +/- Eremophila mitchellii +/- Acacia aneura +/- E. melanophloia woodland on flat alluvial plains	Sparse
6.3.2	Eucalyptus camaldulensis +/- E. coolabah +/- Acacia cambagei woodland on major drainage lines or rivers	Sparse
6.3.3	Eucalyptus camaldulensis +/- E. coolabah +/- E. populnea, Acacia stenophylla woodland on alluvium	Sparse
6.4.3	Eucalyptus populnea, Casuarina cristata or Acacia harpophylla +/- Geijera parviflora woodland on clay plains	Sparse
6.5.17	Eucalyptus populnea +/- E. melanophloia +/- Callitris glaucophylla +/- Acacia aneura woodland on sand plains	Sparse
6.5.2	Eucalyptus populnea, Acacia aneura and/or E. melanophloia woodland on Quaternary sediments	Sparse
6.5.3	Eucalyptus populnea, Acacia aneura +/- Eremophila mitchellii woodland within A. aneura communities	Sparse
6.7.5	Eucalyptus thozeliana or E. cambageana, Acacia harpophylla woodland on scarps	Sparse
7.11.37	Eucalyptus drepanophylla and Corymbia clarksoniana or C. erythrophloia woodland to open forest on dry uplands on metamorphics between Tolga and Mount Molloy	Sparse
7.11.42	Eucalyptus tereticornis, Pandanus sp., Lophostemon suaveolens, Melaleuca dealbata and E. pellita woodland to open forest of perched drainage areas on metamorphics	Sparse
7.11.44	Eucalyptus tereticornis open forest to woodland on coastal metamorphic foothills	Mid-dense
7.11.50	Eucalyptus platyphylla +/- E. drepanophylla +/- Corymbia spp. open woodland to open forest on metamorphics	Sparse
7.12.23	Corymbia intermedia and/or C. tessellaris +/- Eucalyptus tereticornis, open forest to tall open forest to woodland (or vine forest with these species as emergents) on coastal granite and rhyolite headlands and near-coastal foothills	Mid-dense
7.12.24	Eucalyptus portuensis and Corymbia intermedia open forest to woodland (or vine forest with E. portuensis and C. intermedia emergents) on foothills and uplands on granite and rhyolite	Mid-dense
7.12.28	Eucalyptus platyphylla +/- E. drepanophylla +/- Corymbia spp. open woodland to open forest on granite and rhyolite	Sparse
7.12.61	Eucalyptus tereticornis +/- E. granitica woodland to open forest of foothills and uplands on granite and rhyolite	Sparse
7.12.69	Eucalyptus drepanophylla and/or E. granitica +/- Corymbia clarksoniana +/- C. erythrophloia woodland on uplands on granite and rhyolite	Sparse
7.3.12	Mixed eucalypt open forest to woodland, dominated by Eucalyptus tereticornis and Corymbia tessellaris +/- Melaleuca dealbata, (or vine forest with these species as emergents). Lowland alluvial plains	Mid-dense
7.3.16	Eucalyptus platyphylla woodland to open forest on alluvial plains	Mid-dense
7.3.39	Eucalyptus tereticornis +/- E. platyphylla +/- Corymbia intermedia +/- Lophostemon suaveolens open woodland to open forest, and associated sedgelands and grasslands on broad drainage depressions of uplands	Mid-dense
7.3.40	Eucalyptus tereticornis open forest on well-drained alluvial plains of lowlands	Mid-dense
7.3.43	Eucalyptus tereticornis open forest to woodland on uplands on well-drained alluvium	Mid-dense
7.5.1	Eucalyptus tereticornis, Corymbia intermedia and E. reducta woodland to open forest of uplands on weathered soils of a remnant surface	Sparse
7.8.10	Eucalyptus tereticornis, E. drepanophylla (or E. granitica), E. portuensis, Corymbia intermedia woodland to open forest, or E. moluccana woodland to open forest, of uplands and highlands on basalt	Sparse
7.8.7	Eucalyptus tereticornis open forest to tall open forest and associated grasslands, predominantly on basalt uplands	Mid-dense
7.8.8	Eucalyptus tereticornis, E. reducta +/- Angophora floribunda open forest to woodland on basalt	Sparse
8.11.1	Eucalyptus drepanophylla +/- E. platyphylla woodland on hills formed from metamorphosed sediments	Sparse
8.11.12	Eucalyptus crebra and/or E. drepanophylla and/or E. exserta and/or Corymbia clarksoniana and/or C. xanthope and/or Lophostemon confertus low woodland on metamorphics on islands and headlands	Sparse

8.11.4	Eucalyptus platyphylla and/or Corymbia clarksoniana and/or C. intermedia and/or C. tessellaris woodland on low undulating areas on metamorphosed sediments	Sparse
8.12.12	Eucalyptus tereticornis and/or Corymbia spp. and/or E. platyphylla and/or Lophostemon suaveolens woodland to open forest on hill slopes on Mesozoic to Proterozoic igneous rocks	Mid-dense
8.12.14	Eucalyptus drepanophylla and/or E. crebra and/or E. exserta and/or Acacia spirorbis subsp. solandri and/or Lophostemon confertus low woodland on islands and headlands, on Mesozoic to Proterozoic igneous rocks, and Tertiary acid to intermediate volcanics	Mid-dense
8.12.20	Eucalyptus drepanophylla and/or E. platyphylla +/- Corymbia spp. +/- E. crebra woodland on low gently undulating landscapes on Mesozoic to Proterozoic igneous rocks	Sparse
8.12.22	Eucalyptus drepanophylla and/or Corymbia clarksoniana +/- C. erythrophloia +/- E. platyphylla +/- E. exserta +/- C. trachyphloia woodland on hills and ranges at low to moderate altitudes, in drier areas	Sparse
8.12.25	Eucalyptus tereticornis +/- E. tereticornis x E. platyphylla woodland on hill slopes of islands on Mesozoic to Proterozoic igneous rocks	Sparse
8.12.6	Eucalyptus drepanophylla +/- E. platyphylla +/- Corymbia clarksoniana woodland on low to medium hills, on Mesozoic to Proterozoic igneous rocks	Sparse
8.12.9	Eucalyptus tereticornis +/- Corymbia intermedia +/- Lophostemon suaveolens woodland on undulating uplands, on Mesozoic to Proterozoic igneous rocks	Mid-dense
8.3.5	Eucalyptus platyphylla and/or Lophostemon suaveolens and/or Corymbia clarksoniana woodland on alluvial plains	Sparse
8.3.6	Eucalyptus tereticornis and/or Corymbia intermedia (or C. clarksoniana) and/or C. tessellaris +/- Lophostemon suaveolens open forest on alluvial levees and lower terraces	Mid-dense
8.5.3	Eucalyptus drepanophylla +/- Corymbia clarksoniana, +/- E. platyphylla +/- C. dallachiana +/- Melaleuca viridiflora woodland on broad low rises and gently sloping Tertiary sand plains	Sparse
9.11.14	Eucalyptus crebra and Corymbia citriodora subsp. citriodora +/- Corymbia spp. woodland on metamorphic hills and mountains in far south-west of bioregion	Sparse
9.11.15	Eucalyptus crebra and/or E. cullenii and/or E. whitei +/- Corymbia pocillum or C. erythrophloia woodland on metamorphic hills	Sparse
9.11.16	Eucalyptus crebra +/- Corymbia erythrophloia or C. pocillum woodland on steep to rolling hills	Sparse
9.11.2	Eucalyptus crebra (or several other ironbark species) +/- Corymbia spp. woodland on shallow texture contrast soils on low metamorphic hills and lowlands	Sparse
9.11.22	Eucalyptus melanophloia +/- Corymbia erythrophloia +/- Terminalia platyptera low woodland on metamorphic hills	Sparse
9.11.29	Eucalyptus crebra, Corymbia leichhardtii and C. lamprophylla woodland on steep to rugged metamorphic hills	Mid-dense
9.11.4	Eucalyptus crebra, Corymbia clarksoniana, C. citriodora subsp. citriodora +/- E. portuensis open forest on shallow soils on metamorphic hills and ranges	Mid-dense
9.12.11	Eucalyptus crebra and/or E. whitei +/- Corymbia erythrophloia open woodland on steep to rolling hills on igneous rocks	Sparse
9.12.12	Eucalyptus crebra and Corymbia erythrophloia +/- E. microneura open woodland on igneous rocks	Sparse
9.12.16	Eucalyptus crebra and Corymbia dallachiana +/- C. erythrophloia open woodland on pre-Cainozoic basalt loams and flats to undulating plains	Sparse
9.12.18	Eucalyptus crebra or E. exilipes +/- Corymbia citriodora subsp. citriodora +/- C. peltata open woodland on granites with thin sand sheet	Sparse
9.12.19	Eucalyptus crebra or E. granitica +/- Corymbia citriodora subsp. citriodora +/- E. portuensis mixed woodland on igneous hills	Sparse
9.12.21	Eucalyptus crebra or E. drepanophylla and Corymbia spp. open woodland on flat to undulating country on igneous rocks	Sparse
9.12.23	Eucalyptus drepanophylla or E. crebra, Corymbia leichhardtii and C. lamprophylla low open woodland on igneous rocks	Sparse
9.12.28	Eucalyptus melanophloia low open woodland, often with E. crebra, on low hills on igneous rocks	Sparse
9.3.1	Eucalyptus camaldulensis and/or E. tereticornis +/- Melaleuca spp. +/- Casuarina cunninghamiana fringing woodland on channels and levees	Sparse
9.3.11	Wetlands (sometimes ephemeral) with aquatic species and fringed with Eucalyptus spp. communities within basalt plains and flows	Sparse
9.3.16	Eucalyptus tereticornis and/or E. platyphylla and/or Corymbia clarksoniana woodland on alluvial flats, levees and plains	Sparse
9.3.19	Eucalyptus coolabah and/or E. leptophleba woodland on alluvial plains	Sparse
9.3.6	Eucalyptus platyphylla +/- Eucalyptus spp. +/- Corymbia spp. woodland on alluvial plains	Sparse
9.5.3	Eucalyptus crebra or E. drepanophylla and Corymbia clarksoniana woodland on sand plains	Sparse
9.5.7	Eucalyptus crebra and Corymbia erythrophloia +/- C. polycarpa woodland on kandosols	Sparse
9.7.3	Eucalyptus crebra or E. portuensis +/- Corymbia clarksoniana woodland on lateritised surfaces and edges of Tertiary surfaces	Sparse
9.8.1	Eucalyptus crebra +/- Corymbia dallachiana +/- E. leptophleba open woodland on plains and rocky rises of basalt geologies	Sparse
9.8.10	Eucalyptus tereticornis and Lophostemon suaveolens woodland +/- a shrubby understorey on rocky basalt flows	Sparse
9.8.4	Eucalyptus crebra and/or E. tereticornis open woodland on basalt plains	Sparse