Submission No 27

INQUIRY INTO LOCAL LAND SERVICES AMENDMENT (MISCELLANEOUS) BILL 2020

Organisation: North East Forest Alliance Inc.

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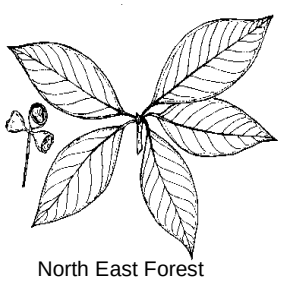

North East Forest Alliance Inc.

NORTH EAST FOREST ALLIANCE

North East Forest Alliance submission to:

Inquiry into the Local Land Services Amendment (Miscellaneous) Bill 2020

In the foreword to the report of Portfolio Committee No. 7 - Planning and Environment on their inquiry into Koala populations and habitat in New South Wales (Koala Inquiry), Ms Faehrmann commented:

> *The ongoing destruction of koala habitat through the clearing of land for agriculture, development, mining and forestry has severely impacted most koala populations in the state over many decades. The committee found that this fragmentation and loss of habitat poses the most serious threat to koala populations and made a number of key recommendations that stronger action must be taken by government to protect and restore koala habitat on both public and private land. …*
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> *Many koala populations were suffering terribly through drought conditions that had plagued NSW for years, exacerbated by climate change. The committee heard stories from wildlife carers about high numbers of koalas being brought into their care that were malnourished and dehydrated. Similarly the committee received images of koalas, no longer able to get adequate hydration from the leaves they eat, descending from trees to drink from garden hoses and water bowls.*
>
> *The committee found that climate change is having a severe impact on koalas, not only by affecting the quality of their food and habitat, but also by compounding the severity and threats of other impacts, such as drought and bushfires*
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> *A few months after the inquiry commenced the devastating bushfires hit. Huge swathes of koala habitat were significantly impacted. While the fires were still burning the koala emerged as an international icon for the wildlife lost – feared to be over 1 billion animals. …*
>
> *Following the disastrous 2019-2020 bushfire season, it is undoubtable that the game has changed dramatically for koalas. The evidence could not be more stark. The only way our children's grandchildren will see a koala in the wild in NSW will be if the government acts upon the committee's recommendations.*

Given this sentiment and the 42 recommendations of the Koala Inquiry it was both astounding and shocking that the National Party launched their campaign to gut already inadequate protections for Koalas soon after. At the very time when Koalas were most imperiled, community concern was at its highest, and their plight had been recognized, the National Party declared war on Koalas.

The National Party ran a disreputable campaign of lies and deceit to attack the 2019 Koala SEPP, including a hollow threat to move to the cross-benches if the Liberals did not acquiesce to their demands. Despite a pretense that the Berejiklian Government was standing up for Koalas against bullying from the National Party, the reality was that the Liberals comprehensively caved in under the pressure of the National's misinformation campaign over the Koala SEPP.

While Rob Stokes weakened the Koala SEPP, the Nationals were given carte-blanche to write their own Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill). As well as proposing

removing all future protection for "core Koala habitat" from the Local Land Services Act 2013, they took it as an opportunity to stop all NSW Council's ability to regulate logging under the Environment Planning and Assessment Act 1979 (including in environmental zones), stop the inclusion of "core Koala habitat" in environmental zones, allow logging in all State Environment Planning Policy lands (notably littoral rainforest and wetlands, and their buffers), allow self-assessed clearing in environmental zones, and extend "legacy" approvals covering most of the few areas of core Koala habitat retained for another 15 years (along with all logging approvals).

Disgracefully the Liberal Party voted to not only remove most protections on private lands for Koalas, but also to disenfranchise regional communities by removing the rights of duly elected local councils to regulate forestry, and even to allow logging to override State Environmental Planning Policies. This outrageous attack on Koalas and our planning system was stopped by the heroic casting vote of Liberal Catherine Cusack to refer the LLS Bill to this committee for review. In retribution the Liberals abandoned the 2019 Koala SEPP and reinstated SEPP 44 with another name.

So here we are, in Koala's darkest hour we are back to discussing how disgracefully the Government intended to treat them, while they explore other avenues to remove protections and hasten their extinction.

For the future of Koalas, NEFA hopes that you can make a difference in this life and death struggle. We hope this submission will help.

NEFA considers that the intent of SEPP 44 to identify and protect "core Koala habitat" was the right way to go. We have already wasted 25 years and thousands of Koalas' lives as the Government has dithered and actively frustrated this intent. It is more urgent than ever that we identify and protect "core Koala habitat", and prepare Comprehensive Koala Plans of Management (CKPoMs), though Koalas will be extinct in the wild before we achieve this if we continue in this way.

We urgently need to change tack if we want to save Koalas. Most importantly the NSW Government needs to take on the task of undertaking a systematic scientific process to map Koala habitat within each Area of Regional Koala Significance (ARKS), with the output being the identification of feed trees, key Koala colonies, grades of Koala habitat, habitat links, drought refuges and long-term climate change refugia across all tenures within each ARKS. This then can be used to prepare KPoMs and feed into other processes to protect Koalas.

As identified by the Environmental Defenders Office:

> *Frankly, we can't wait another decade to debate the wording of a new koala policy or guideline. We need to address the fact that our laws currently allow clearing of important koala habitat.*
>
> *This Bill was the exact opposite of the law reform that is needed to save NSW koalas from extinction. And the decision to revert back to the former SEPP 44 is also a significant backwards step.*

Yours Sincerely

Dailan Pugh,
President, North East Forest Alliance Inc.

5 February 2021

Summary:

1. The objectives and impact of the Local Land Services Amendment (Miscellaneous) Bill 2020

The Nationals have long regarded threatened species (including Koalas) and environmental zoning as impediments to their laissez-faire approach to native forests. Despite a pretense that the Berejiklian Government was standing up for Koalas against bullying from the National Party, the reality was that the Liberals comprehensively caved in under the pressure of the National's misinformation campaign over the Koala SEPP. While Rob Stokes weakened the Koala SEPP, the Nationals were given carte-blanche to write their own Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill). As well as proposing removing all future protection for "core Koala habitat" from the Local Land Services Act 2013, they took it as an opportunity to stop all NSW Council's ability to regulate logging under the Environment Planning and Assessment Act 1979 (including in environmental zones), stop the inclusion of "core Koala habitat" in environmental zones, allow logging in all State Environment Planning Policy lands (notably littoral rainforest and wetlands, and their buffers), allow self-assessed clearing in environmental zones, and extend "legacy" approvals covering most of the few areas of core Koala habitat retained for another 15 years (along with all logging approvals).

1.1(a). The principal thrust of the Local Land Services Bill (LLS Bill) was to remove all future protection for "core Koala habitat". While Rob Stokes initially said that alternative protection for Koalas would first need to be applied, none was intended. While it was claimed that the LLS Bill would retain recognition of core Koala habitat in 5 existing KPoMs, it intentionally excluded Bellingen's approved KPoM, presumably for political reasons, and Cambelltown's KPoM, presumably because its not really approved. Due to inconsistent data it is still uncertain what the bill was actually intending to retain. It is also obvious that most of the retained "core Koala habitat" has already been approved for logging, with this approval to be extended for a further 15 years.

1.1(b). Current protections for "core Koala habitat" need to be retained, with the exemption for pre-approved Property Vegetation Plans (PVPs) removed. To stop agencies different interpretations of what constitutes "core Koala habitat", and provide transparency and accountability, there needs to be a public register and digital maps of core Koala habitat made available online.

1.2(a) Across the 5000 ha of "core Koala habitat" accepted by LLS, the LLS claim that 200 properties (which is likely the vast majority) have legacy logging approvals that over-ride the SEPP prohibition on logging. There are sufficient discrepancies in relation to the extent of "core Koala habitat", the date it was identified and the number of operations covered to warrant independent review. Contrary to the Koala Inquiry recommendation 31, the intent of the LLS Bill was to extend logging approvals to 30 years to allow 'legacy' logging operations in core Koala habitat to be extended for a further 15 years – this should not be allowed.

1.2(b) Since 2007 the PNF Code of Practice theoretically excluded logging from identified "core Koala habitat", though the agencies interpret this to mean that it only applies to "core Koala habitat" identified at the time a logging plan is approved. In contravention of the most basic principle of Ecologically Sustainable Forest Management for "adaptive management" (being changing management in light of new information), logging on private land is only required to comply with the PNF Code and "core Koala habitat" current at the time approval was given. This is a perversion that needs to be rectified so that new information and contemporary rules are automatically applied to logging operations.

1.3(a). The attempt by the LLS Bill to allow logging to override all requirements of Local Environment Plans, including all environment zones, all prohibitions, all consent requirements, Tree Preservation Orders and any other provision was brazen. This was clearly aimed at removing all rights of local Governments and local communities to have any say over logging operations. Though its extension to override not just the Koala SEPP, but all current and future State Environmental Planning Policies, including the Coastal Management SEPP's protections for littoral rainforests, wetlands and their buffers, was outrageous. The Liberals who voted for this should be ashamed of themselves.

1.3(b). The LLS Bill sought to create the new poorly defined category of "*allowable activity land"* which pertains to land that was once zoned rural and was subsequently rezoned to environmental protection, with the aim being to permit clearing for infrastructure (fences, roads, pipelines, sheds, dams, stockyards), farm timber, grazing, gravel pits, airstrips, firebreaks etc, in environmental zones without any need for environmental assessment or requiring consent from Councils. This was clearly intended to undermine the integrity and purpose of environmental zones. Once again Liberals who voted to allow this should be ashamed of themselves.

1.3(c). It is obvious that the National's LLS Bill went far beyond removing protections for Koalas, and was an attempt to stop Councils and local communities anywhere in NSW from being able to exercise their long-held democratic rights to prohibit or regulate logging on private lands. This was taken further to permit a broad range of land clearing activities in environmental zones without any need for assessment or Council consent. While this was portrayed as a city vs country battle by the Nationals, it was primarily an attempt to stop increasingly environmentally aware rural communities from being able to affect land use activities in their shires. It was primarily an attack on rural communities' democratic rights.

2. The operation and effectiveness of the 1994, 2019 and any potential new draft Koala SEPPs in protecting koalas and their habitat

It is more urgent than ever that we identify and protect "core Koala habitat", and prepare Comprehensive Koala Plans of Management (CKPoMs), though Koalas will be extinct in the wild before we achieve this if we continue to treat these requirements with such contempt. We urgently need to change tack if we want to save Koalas. The NSW Government needs to undertake a systematic scientific process to map Koala habitat within each Area of Regional Koala Significance (AR, with the output being the identification of feed trees, key Koala colonies, grades of Koala habitat, habitat links, drought refuges and long-term climate change refugia across all tenures within each ARKS.

We have already wasted 25 years and thousands of Koalas lives, its time to treat their plight seriously and take meaningful action to give them a future.

2.1(a). The lack of any agreement between NSW Government agencies as to which KPoMs identify "core Koala habitat", and even the area mapped, is astounding. Areas identified as core Koala habitat vary from 4,960 ha for PNF, to 6922 for Sensitive Regulated Land, to a total area of 15,809 ha (including Urban and E zones). Such widely different interpretations illustrate the appalling mismanagement of "core Koala habitat" by NSW agencies.

2.1(b). Something is fundamentally rotten with a system when a government department can prepare the CKPoM for Coffs Harbour (with assistance from DoP) that they claim identifies core koala habitat in accordance with SEPP 44, and then 7 years later the same department starts issuing PVPs and logging approvals over that same core Koala habitat in contravention of SEPP 44

and their own PNF Code of Practice, while claiming the CKPoM they had prepared and approved was invalid. Then years later they change their minds to accept the CKPoM and mapped core Koala habitat as being valid, though allow all the logging approvals they had issued in contravention of SEPP 44 to over-ride it.

2.1(c). If the intent of a Koala SEPP is to be achieved it is essential that when development is proposed that affects potential or known "core Koala habitat" or movement corridors that the impact on Koalas is considered and mitigated at the very first step in the planning process (i.e. masterplan and rezoning stage). Rather than limiting the application of Koala SEPPs to just Councils, their requirements should apply to all agencies and Ministers approving developments on land that is likely to comprise "core Koala habitat". As intended by the 2019 Koala SEPP, Individual Koala Plans of Management should not be allowed to over-ride Comprehensive Koala Plans of Management as SEPP 44 allows.

2.3. Now that the Government has reverted to SEPP 44, the inquiry is requested to strongly restate their request that the NSW Government urgently approve CKPoMs prepared in accordance with SEPP 44 and previously submitted to the Department of Planning, Industry and Environment. DPIE should fully justify their reasons for refusing any such plans, and explain why outstanding issues were not dealt with in their development given the participation of NSW agencies.

2.4. Given that the Koala development application maps had been dropped, and that they were only ever intended to represent where Koalas had to be considered when submitting DAs, the National's focusing their attack on Koalas based on redundant maps, which they knowingly misrepresented as current and as depicting core Koala habitat, was deceitful. This was only one of the lies told to the public in order create a scare campaign to get their Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill) up. The Inquiry needs to expose the lies underpinning the National's scare campaign for what they were.

2.5(a). The key to Koala's survival is the urgent identification, protection and rehabilitation of core Koala habitat, comprising:

- All remaining source Koala habitat, where reproduction exceeds mortality
- Degraded and marginal habitat, where mortality exceeds reproduction
- Strategic patches of currently unoccupied habitat
- Drought and climate heating refuges
- Key habitat linkages to allow dispersal between habitat patches, at both local and regional scales.

2.5(b). Given the failures of the 1995 SEPP 44 and the 2008 Recovery Plan for Koalas to deliver on their promises of preparing Koala Plans of Management that identify "core Koala habitat" and include it in environment zones for protection, there is an urgent need for the NSW Government to take on the role of identifying "core Koala habitat" across the landscape. The mapping needs to include the identification of classes of Koala habitat, drought and climate refuges, and habitat linkages. This mapping should be overseen by a panel of Koala habitat experts, be undertaken across all tenures within each of the 48 Areas of Regional Koala Significance (ARKS), with the delineation of regionally appropriate Koala feed trees and habitat classes determined from survey results in each ARKS.

2.5.1. If there is any real intent to save Koalas from extinction in the wild then the highest priority is to accurately identify core Koala habitat across the landscape. As well as being needed to enable the preparation of KPoMs in accordance with a Koala SEPP, it is needed to prioritise lands for the most efficient and effective provision of assistance to landowners through the biodiversity trust, prioritise lands for creation of Koala reserves, target areas for revegetation and identify Council/RMS works needed to facilitate Koala dispersal.

2.6. Rather than an overly prescriptive approach designed to be undertaken by a variety of people over time in a piecemeal manner, what Koalas urgently need is a single prioritised mapping process across all tenures at the ARKS level. What is required is a process undertaken on behalf of the NSW Government with a clear budget and specified timetable, overseen by Koala experts, informed by Koala surveys, and adaptable in response to findings. The output needs to include the identification of feed trees, key Koala colonies, grades of Koala habitat, habitat links, drought refuges and long-term climate change refugia across all tenures within each ARKS.

2.6.1. While tree species are a key determinant of Koala habitat it is clear that there are many other factors influencing the use of trees by Koalas (including tree size, tree variety, soil type, and leaf moisture/toxins/nutrients) making it obvious that an arbitrary threshold requiring 15% Feed Trees in a Plant Community Type as the sole arbiter of "core Koala habitat" is a nonsense. Many areas of high quality Koala habitat will not make this threshold irrespective of what species are identified. The other problem is that even high quality Plant Community Type mapping has been found to be inadequate for determining percentage occurrence of feed trees and thus koala habitat quality.

2.6.2. It is evident from numerous studies that Koalas have a preference for larger trees and that the size of preferred feed species is thus a key factor in determining habitat suitability. Tree size is a factor that needs to be accounted for in identifying core Koala habitat, as 15 small feed trees out of 100 is not equivalent to 15 large - Koalas will require less big trees than small ones. It is also important to recognize that as forests mature their habitat value will increase over time, so a young regrowth stand may not be core Koala habitat now, but may become so in the future.

2.6.3. The identification of core Koala habitat needs to recognize that some patches of habitat may not have had Koalas recorded within them in the past 18 years (because no one's looked) and may be currently unoccupied (i.e. due to bushfires), and that other areas may be essential for population viability (i.e. buffers, refuges, habitat linkages).

2.6.4(a). It is apparent that water availability is a key resource limitation for Koalas during dry periods and droughts. While this is most apparent in the drier parts of the Koala's range it is likely to be a key factor during prolonged dry periods even in higher rainfall areas. Soil and foliar moisture are thus key determinants of core Koala habitat and climatic refuges that will become increasingly important as climate change progresses and periods of low rainfall become more frequent.

2.6.4(b). Climate change is having significant impacts on Koala habitat and these impacts will be amplified into the future. It is essential that the impacts of climate change be taken into account in identifying the Koala habitat of the future. Key refuge areas need to be identified and provided with the highest level of protection, even if they are currently not occupied.

2.6.5. The identification of Koala habitat from records rather than surrogates has a lot in its favor. While the detailed Koala surveys required by the 2020 SEPP Guidelines would be great to have, their required density of one per 6.25 ha across all potential habitat (including where Koalas have been recorded) establishes a major and unnecessary impediment to the urgent identification and protection of "core" Koala habitat. Identification of core Koala habitat only requires "*evidence of their presence",* not density data, which can also be identified through existing records and more rapid survey methods where appropriate. Landowners can also frustrate Council's ability to satisfy the survey requirements by simply refusing permission, which is increasingly likely given the National's scare campaign.

3. Current and potential incentives and challenges facing rural landholders who seek to protect koalas and their habitat on their land

It is clear that the majority of rural residents value koalas and the bush, and are opposed to clearing and logging it, though contrary to community preferences the NSW Government is reducing constraints on land clearing and logging, increasing allowable logging intensities, and reducing protections for Koalas. The NSW Government is pandering to vested interests, loggers and developers, to over-ride community preferences and rights. If we want to reverse the extinction trajectory of Koalas then we need to increase legal protection for their habitat, and reward landholders for protecting it by adapting current carbon credits and biodiversity trust funding, and help them manage it.

3. Regular payments are needed for landholders who guarantee long-term protection (by zoning or covenant) and management of native forests for carbon sequestration and biodiversity conservation, some elements of which could comprise:

a. Extending the Australian Government's Climate Solutions Fund (or creating a specific fund) to pay landholders who protect their forests for long-term carbon capture and storage. Rather than an auction process there needs to be standardized payments based on stored carbon, carbon sequestration and biodiversity value.
b. Extending eligibility for carbon credits to all forests, including those protected, rather than perversely just those that have first been approved for clearing or logging.
c. Paying landholders regularly for a portion of the current measured standing volume of carbon in living biomass.
d. Paying landholders regularly for additional carbon sequestration and storage in vegetation and soils.
e. Expanding NSW's Biodiversity Trust to make regular payments, in combination with carbon credits, to landowners for permanently protecting core koala habitat, and other areas of exceptional biodiversity value.

3.1. It is evident that the vast majority of rural residents value the environment, particularly Koalas, and find logging and clearing of native forests unacceptable. The Government needs to stop overriding community rights and wishes to pander to vested interests,

3.2. Loss of carbon from deforestation and degradation has contributed 35% of the accumulated anthropogenic carbon dioxide concentration in the atmosphere, and annually is around 10% of global anthropogenic emissions. To address the growing threat of climate heating we need to both reduce emissions and increase sequestration of atmospheric carbon. Retaining forests and allowing degraded forests to regain their lost carbon are urgent actions we need to take to begin to redress climate heating on the scale required. Carbon credits offer a mechanism to reward landholders for protecting forests for carbon sequestration, though they need to include payments for standing carbon and annual sequestration when forests are protected.

4. The mechanisms by which biodiversity values are assessed on private land when land use changes

Under the Local Land Services Act, land clearing can be self-assessed and most is unexplained while logging only requires a desktop assessment of impacts, and neither require any notification of neighbours or give the public a right to object, critique claims or raise issues. Unlike with Development Applications, neither clearing or logging require any surveys to assess, identify and

map the distribution of threatened species and ecosystems as part of an approval process. This includes Koalas. Intentional ignorance allows them to kill and maim threatened species with impunity.

4(a). Unless Councils have prepared Koala Plans of Management (KPoMs) that identify “core Koala habitat” (and that this is accepted by the LLS), there is no protection for Koalas. There are no requirements to look for them ahead of logging or clearing, and the EPA/LLS refuse to do so, or require landholders to, even when Koalas are known to be present. It is only if development consent is required by Councils that site specific KPoMs are required, and often the landowner just relies upon the EPA/LLS approval without obtaining the required development consent (see Section 6). Because of their refusal to look before they approve, the EPA/LLS regularly and systematically approve Property Vegetation Plans (PVPs) over forest later found to be “core Koala habitat”, effectively exempting landholders from having to comply with Council KPoMs, PNF Codes and other protections for “core Koala habitat”.

4(b). The secrecy surrounding Property Vegetation Plans is intended to hide what is going on from public view. Without public exhibition and accountability, the checks and balances required of Development Applications are removed and the process is open to corruption. It has enabled the EPA and LLS to become captured agencies and encouraged bad practices. With no public accountability it is no wonder that land clearing and logging is opposed by the majority of rural communities and has no public license (Section 3.1.). Property Vegetation Plans should be subject to the same accountability as Development Applications, with a mandatory 14 day exhibition period.

4.1. As intended by the National Party, and allowed by the Liberal Party, land clearing has developed into a free-for-all since the rules were changed in 2016, with a doubling of clearing of woody vegetation, 60-72% of clearing of Rural Regulated Land “unexplained”, and approved clearing increasing by 1,400%. The Government is still refusing to release the regulatory maps their reforms rely upon, and the ill-defined clearing categories of “thinning” and “invasive native species” are major threats to biodiversity. The clearing of native vegetation on rural land is not effectively regulated, managed or enforced. Aside from the requirement to include “core Koala habitat” in rural regulated land, Koalas are ignored.

4.2(a). While the PNF Code has a variety of prescriptions of unknown veracity for threatened species, including the Koala, they are meaningless as there is no requirement to find the species to apply the prescriptions. This is pure tokenism, and a real threat to the survival of our threatened species. The NSW Government should be requested to identify how many threatened species listed in the PNF Codes as requiring species specific prescriptions, and Koalas in particular, have been identified within PNF PVPs since they were approved. This only requires a simple desk-top reporting of Wildlife Atlas records against PVPs. This is the litmus test of the effectiveness of the PNF Codes. Undertaking pre-logging surveys for all threatened species requiring prescriptions and likely to occur in an area is the most basic requirement if there is any genuine intent to mitigate impacts.

4.2(b). Like all the PNF prescriptions for threatened species, they are theoretical constructs that have never been monitored to assess their effectiveness. It is not known how effective they are, or whether they help mitigate logging impacts at all. They have never bothered to assess what effect retention of 15 feed trees over 30cm dbh will have on Koala carrying capacity and social structure, or what the impact will be if this is not applied. After relying on this prescription for 13 years they have no quantifiable data to assess its effectiveness or to identify improvements. Before and after studies should be a basic requirement.

4.3. Despite the overwhelming evidence of significant impacts on species, ecosystems, soils and streams from the Black Summer bushfires, and the expert advices to take additional measures to

mitigate impacts (such as protecting unburnt refugia), the Local Land Services did nothing to mitigate impacts. It was business as usual. The failure of LLS to increase prescriptions for burnt forests to mitigate the greatly increased impacts of Private Native Forestry on soils, streams, ecosystems and species (including Koalas) exemplifies the parlous state of regulation of private lands in NSW.

5. The impacts of current regulatory regimes on private landholders.

It is evident that the laws governing private lands are inadequate and poorly implemented, as demonstrated by the Government's refusal to publish the maps underpinning the Local Land Services Act, the fact that landclearing is skyrocketing with 60-72% unexplained, and the political unwillingness to enforcing the rules (Section 4.1). As discussed in Section 4.2 it is considered that the logging rules for PNF are inadequate, particularly as they don't require surveys, and thus protection for threatened species. Section 6.1 and the discussion below highlight concerns that that EPA/LLS are encouraging logging in contravention of the EPA Act. Of particular concern is the reported ignorance of, and antagonism towards, the PNF rules by landholders.

5.1(a). The NSW North Coast has around 2.8 million hectares of private native forests. Of this 25.6% is classed as excluded from logging, primarily because of riparian exclusions, LEP zones, oldgrowth forest, rainforest and steep slopes. Proportionally these exclusions are likely to be predominately poor, steep and unloggable areas, meaning logging areas will have a lower portion excluded from logging and thus available as refuges. This is a low level of exclusions when compared to State Forests.

5.1(b). It is apparent that over 2 million hectares of private forests is potentially available for logging outside exclusions. Only some 440,000 ha has PNF approval (which will include logging exclusions), which is less than 16% of the total forest area. While there are likely to be a variety of reasons why private forests are not being logged (or at least don't have approvals), on face value exclusions are not a constraint on logging.

5.1(c). It is of particular concern that 4% (14,182 ha) of the approved PNF Plan area falls into council "forestry prohibited" LEP zones and 30% of the PNF plan area (110,578ha) is in zoning where "forestry requires development consent", as from council responses to DPI (2018) it appears consent is rarely applied for, partly because EPA/LLS approve PVP operations without requiring or encouraging Development Applications and without informing Council (discussed in section 6.1.).

5.2. It is concerning that according to logging contractors most private landowners undertaking PNF are only interested in maximising their income and don't understand or care about the logging rules or sustainably managing their forests, with a high level of antagonism against the EPA. Such attitudes highlight the need for strong rules and effective enforcement.

6. The impact on local government's ability to manage koala populations in their Local Government Area and koala plans of management:

Councils make their Local Environment Plans (LEPs) in accordance with the Environment Planning and Assessment Act 1979 and state planning guidelines, with the power to regulate logging and clearing on private lands not limited or otherwise constrained by the Forestry Act, Local Land Services Act, or any other Act. Through LEP zoning and Tree Preservation Orders, local councils can prohibit logging or require proponents to hold a development consent for logging in addition to a PNF Plan approval, and in environmental zones require consent for clearing for 'allowable

activities'. It is these long-held rights that the Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill) sought to remove.

One of Council's responsibilities is to comply with Koala SEPPs. Their ability to implement SEPP 44 and protect Koala habitat has long been frustrated by Government inaction, obstruction and interference. Despite the obstacles, and significant expenditure, seven Councils have managed to have KPoMs adopted for parts of their areas, though at least 5 others have had theirs blocked. The changes made to the Koala SEPP attempted to make the identification of "core Koala habitat" even less effective and costly, while the LLS Bill tried to remove most of their protection.

6(a). The Local Land Services Amendment (Miscellaneous) Bill 2020 is an anti-democracy bill intended to over-ride democratically elected Local Government's ability to regulate forestry and land-clearing within their areas. The Koala is collateral damage in the National Party's intent to create a free-for-all for logging and land clearing. It is pandering to vested interests against the will of communities.

6.1(a). The EPA/LLS refusal to consider, or require compliance with, Council LEPs and zones when issuing PNF approvals is extraordinary. By 2018 the EPA had issued current PNF logging approvals for 14,182 ha where Council LEPs explicitly prohibited logging. Another 30% (110,578ha) of the current approved PNF areas required development consent from Councils, though apparently this is not identified in PNF plans, the plans do not require landholders to obtain Council consent, the plans are not available to Councils, EPA/LLS do not notify Council when logging is underway, and EPA/LLS do not care if consent has not been obtained. It appears that unapproved logging in LEP zones where consent is required is likely to be widespread because *landowners are not aware that they need council consent in addition to their PNF Plan approval.*

6.1(b). The EPA and LLS should not be allowed to continue to treat PNF as if it is already exempt from the EPA Act, and must ensure that PNF plans and operations comply with Council LEPs and SEPP 44. Areas where forestry is a prohibited use must be excluded from PVP approvals. Where Development Consent is required PNF plans must identify this and the plans be provided to Councils, and for potential koala habitat where Comprehensive KPoMs have not been prepared LLS should ensure that Koala SEPP requirements are fully complied with before they approve "core Koala habitat" for logging.

6.2. The National Party has an unhealthy obsession with stopping "core Koala habitat" being included in environmental zones, for reasons other than forestry. The ability for far north coast Councils to protect identified "core Koala habitat" in Environmental Zones 2 and 3 (without having to prove the land is already managed for conservation) needs to be urgently reinstated. The explicit intent for all Councils to include "core Koala habitat" in environmental zones needs to be reinstated into the Koala SEPP, and not left to Ministerial discretion and political deals.

CONTENTS

1. The objectives and impact of the Local Land Services Amendment (Miscellaneous) Bill 2020

The Nationals have long regarded threatened species (including Koalas) and environmental zoning as impediments to their laissez-faire approach to native forests. Despite a pretense that the Berejiklian Government was standing up for Koalas against bullying from the National Party, the reality was that the Liberals comprehensively caved in under the pressure of the National's misinformation campaign over the Koala SEPP.

The Liberal's capitulation was seized as an opportunity to remove a suite of constraints on the ability to clear and log wherever landowners choose. While Rob Stokes weakened the Koala SEPP, the Nationals were given carte-blanche to write their own Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill). As well as proposing removing all future protection for "core Koala habitat" from the Local Land Services Act 2013, they took it as an opportunity to stop all NSW Council's ability to regulate logging under the Environment Planning and Assessment Act 1979 (including in environmental zones), stop the inclusion of "core Koala habitat" in environmental zones, allow logging in all State Environment Planning Policy lands (notably littoral rainforest and wetlands, and their buffers), allow self-assessed clearing in environmental zones, and extend "legacy" approvals covering most of the few areas of core Koala habitat retained for another 15 years (along with all logging approvals).

There was not a thing in the proposed changes that was beneficial for Koalas in any way, and there were no compensatory measures to offset impacts as originally requested by Rob Stokes. While the Nationals promoted their stance as the bush standing up to the cities, their LLS Bill was all about removing the rights of local Councils and rural communities to regulate land uses in their shires, at the behest of vested interests.

If passed the Local Land Services Amendment (Miscellaneous) Bill 2020, and associated decisions, would have:

- Allowed up to 6,000 ha (depending on which agency identifies it) of "core Koala habitat" currently classed as Sensitive Regulated Land in the Ballina, Coffs Harbour, Kempsey, Lismore and Port Stephens LGAs to remain, though removing 900 ha of "core Koala habitat" identified as Sensitive Regulated Land in the Bellingen, and excluding Campbelltown's "core Koala habitat".
- Stopped "core Koala habitat" identified in draft and future council Koala Plans of Management (KPoMs) from being required to have logging prohibited under the Private Native Forestry (PNF) Code, with "legacy" logging approvals covering most of the small area of existing "core Koala habitat" extended for 15 years.
- Stopped "core Koala habitat" identified in draft and future council KPoMs from being included as Sensitive Regulated Land under the LLS Act, thereby allowing self-assessable clearing while removing the requirement for approval by the Native Vegetation Panel for broadscale land clearing.
- Stopped Councils from being able to include "core Koala habitat" in environmental zones.
- Exempted logging from having to comply with Council's Local Environment Plans, thereby removing Council's ability to regulate forestry through zoning and Tree Preservation Orders, thereby opening up all environmental zones for logging and nullifying Tree Preservation Orders.

- Exempted logging from having to comply with all past and future State Environmental Planning Policies, thereby allowing logging in littoral rainforests and wetlands, and their buffers, as protected by the Coastal SEPP.
- Created 'allowable activity land' (which is land that at some time has been changed from rural to environmental zoning), where clearing for 'allowable activities' (including for farm timber, gravel pits, grazing, powerlines, water and gas pipelines, fire breaks, and 15m around fences, roads, tracks, sheds, tanks, dams, stockyards and water infrastructure) can be undertaken without approval (self assessment) regardless of environmental significance.
- Doubled the duration of PNF logging plans from 15 years to 30 years.

1.1. Stopping the protection of core Koala habitat under the LLS Act

Land that is identified as 'core koala habitat' in a Koala Plan of Management (KPoM) is required to be:

- identified as category-2 sensitive regulated land on the Native Vegetation Regulatory Map under the *Local Land Services Act 2013* (LLS Act)
- included on the Biodiversity Values Map under the Biodiversity Conservation Regulation 2017.
- excluded from logging under the 2007 Private Native Forestry (PNF) Code of Practice.

Under pressure from the Nationals, Rob Stokes agreed to work towards removing "core Koala habitat" from the ambit of the Local Land Services Act 2013 (LLS Act), though initially he said he wanted details of an alternative means of protecting Koalas. As the Nationals ramped up their public misinformation campaign it didn't take long for Rob Stokes to capitulate and allow them free reign to do whatever they wanted.

In a letter sent to the Nationals leader Barilaro on 21 August Rob Stokes informed the Nationals that "*Planning officials would welcome the opportunity to work with Regional NSW on a proposal to decouple PNF and the LLS Act from the Koala Habitat Protection SEPP on the basis that robust protections for koala habitat are included in the LLS Act",* further elaborating:

> *The aim of the SEPP is to reverse the decline of koala population in NSW. Excluding RU zoned land from the SEPP would exclude more than 80% of the land in each LGA, on average, that the SEPP currently applies to. The SEPP would be ineffective if it only applied to a small portion of land in each LGA.*
>
> *The development of koala plans of management and identification of core koala habitat has been the pathway for identifying koala habitat that is sensitive regulated lands since the LLS Act amendments and Code commenced. This was agreed by Cabinet in 2015/16 as part of the land management reforms.*
>
> *The Department of Planning have provided comment on the proposals to decouple the Koala SEPP from PNF Codes of Practice/LLS Act. Before activities such as PNF and agriculture are decoupled from the Koala SEPP, LLS need to provide details about how koalas will receive robust protection under the LLS Act.*

Stokes capitulation was total as the Nationals were allowed free reign to emasculate the Local Land Services Act to remove protection for "core Koala habitat", without any alternative protection for Koalas being provided.

The Local Land Services Bill (LLS Bill) allowed up to 6,000 ha (depending on which agency identifies it) of "core Koala habitat" currently classed as Sensitive Regulated Land in the Ballina,

Coffs Harbour, Kempsey, Lismore and Port Stephens LGAs to remain, though removed 900 ha of "core Koala habitat" identified as Sensitive Regulated Land in the Bellingen LGA, and prohibited the inclusion of additional "core Koala habitat" into the future.

Where core Koala habitat is classed as category-2 sensitive regulated land this does not prevent clearing, it simply requires that approval be obtained from the Native Vegetation Panel. This may mean that if approved the impacts of clearing on biodiversity values must be identified and offset under the Biodiversity Offset Scheme under the *Biodiversity Conservation Act* 2016.

It does limit self-assessable code-based clearing, though Part 4 of Schedule 5 of the LLS Act applies to category 2-vulnerable regulated land and category 2-sensitive regulated land, allowing self-assessable clearing for:

- electricity transmission infrastructure (allows up to 70m)
- construction or maintenance of boundary, internal or temporary fencing (up to 6m)
- construction or maintenance of farm tracks (up to 6m)
- clearing for "sustainable grazing"
- obtaining domestic firewood
- water supply, gas supply and telecommunications infrastructure

In response to a request, DPIE (19 Apr 2020) provided details of what they consider "core Koala habitat" for the purposes of the LLS Act (see Section 2), identifying 15,809 ha across 6 LGAs, of which 6,922 ha is captured as Sensitive Regulated Land on NVR Map (with the balance omitted because it is included in urban or environmental zones). Conversely, in its evidence to the Koala Inquiry, Local Land Services excluded Bellingen LGA (which the Government says is approved) and claimed there is only 4,960ha of "core Koala habitat" for the purposes of PNF (see Section 2). This is a gross discrepancy of 10,849 ha, this is not minor. There is also no consistency in the extent of core Koala habitat the agencies identify within LGAs (see Section 2).

The LLS claim that there are 200 pre-existing PVP approvals within mapped "core Koala habitat" for just 3 of these LGAs, so most is likely to have been approved for logging (Section 1.2) and so their retention in the LLS Bill would achieve little. Strangely Coffs Harbour's KPoM was claimed to be unapproved for many years after Council thought it was approved (see Section 2), which enabled logging to be approved in "core Koala habitat".

Campbelltown's Comprehensive Koala Plan of Management was identified as approved on 21 August 2020. It also identifies core Koala habitat. Though the Government's response to the Koala Inquiry states "*DPIE has also endorsed the Campbelltown KPoM, which provides further strategic direction and planning mechanisms at the local level to protect this important koala population and habitat*", presumably meaning it is not actually approved and its core Koala habitat is not recognised.

On 19 November 2020 The Hon. Sarah Mitchell (Minister for Education and Early Childhood Learning) said in the second reading speech in the Legislative Council:

> *The second amendment this bill proposes is to ensure existing approved areas of core koala habitat under the previous State Environmental Planning Policy No. 44 – Koala Habitat Protection continue to be protected. This means that no current protections for established koala populations—the focus of the old SEPP—will be revoked. This will be achieved by amending section 60I of the Local Land Services Act to ensure that the existing koala plans of management in the Ballina, Coffs Harbour, Kempsey, Lismore and Port Stephens local government areas are recognised under the Land Management Framework.*

1.1(a). The principal thrust of the Local Land Services Bill (LLS Bill) was to remove all future protection for "core Koala habitat". While Rob Stokes initially said that alternative protection

for Koalas would first need to be applied, none was intended. While it was claimed that the LLS Bill would retain recognition of core Koala habitat in 5 existing KPoMs, it intentionally excluded Bellingen's approved KPoM, presumably for political reasons, and Cambelltown's KPoM, presumably because its not really approved. Due to inconsistent data it is still uncertain what the bill was actually intending to retain. It is also obvious that most of the retained "core Koala habitat" has already been approved for logging, with this approval to be extended for a further 15 years.

1.1(b). Current protections for "core Koala habitat" need to be retained, with the exemption for pre-approved Property Vegetation Plans (PVPs) removed. To stop agencies different interpretations of what constitutes "core Koala habitat", and provide transparency and accountability, there needs to be a public register and digital maps of core Koala habitat made available online.

1.2. Extending "Legacy" Approvals

It wasn't until 2007 that PNF Codes of Practice that made mention of Koalas were introduced and applied to all PNF logging operations. Under the Code, broadscale clearing for the purpose of private native forestry is taken to be "sustainable" and "improve or maintain" environmental outcomes (even when it causes extensive environmental degradation) if:

- it complies with the requirements of the PNF Code, and
- any area cleared in accordance with the Code is allowed to regenerate and is not subsequently cleared.

The PNF Code of Practice specifies:

> *(a) Forest operations are not permitted within any area identified as 'core koala habitat' within the meaning of State Environmental Planning Policy No. 44 – Koala Habitat Protection*

Though this is interpreted to only apply to "core Koala habitat" identified prior to a PVP being approved.

The Local Land Services Amendment (Miscellaneous) Bill 2020 sought to double the duration allowed for PNF plans from 15 years to 30 years, which was specifically aimed at extending the duration of "legacy" approvals so that "core Koala habitat" would not require protection at the 15 year expiry date.

All PVPs approved before the identification of core Koala habitat in a KPoM are exempt from having to protect that habitat. As identified in Section 2, the LLS identifies that there are 200 pre-existing approvals for logging within 5,000 ha of identified core Koala habitat in the Coffs Harbour, Ballina and Kempsey LGAs. It appears likely that these cover the majority of the core Koala habitat in those LGAs. It is revealing that in its attempts to exempt forestry from LEPs and SEPPs, the LLS Bill specified that the exemption *"extends to an environmental planning instrument made before or after the commencement of this section".* What is good for the goose is not good for the gander.

The Koala inquiry (30 June 2020) notes:

> *Coffs Harbour City Council, along with the North Coast Environment Council Inc also gave evidence on the effect of historic PNF approvals, also referred to by government witnesses as 'legacy PNF plans'.*[568] *For these stakeholders, these plans were concerning because their long validity – up to 15 years – allowed PNF to be carried out on land, regardless of the land being subsequently remapped as core koala habitat in updated koala plans of management.*

It appears that LLS do not consider mapped Koala habitat in any other LGA requires protection as they do not accept that mapping is valid. While the Government delays the adoption of KPoMs they

go on approving logging plans within "core Koala habitat", creating more legacy approvals. For example Daniel Bennett, Senior Strategic Planner, Bellingen Shire Council, informed the Koala Inquiry (3 February 2020) *"Over a quarter of our mapped koala habitat has pre-existing private native forestry [PNF] approvals over it, which is a potential threat, according to our strategy".*

The Koala inquiry (30 June 2020) concluded

> *The committee also believes that 'legacy PNF plans' are having a negative effect on koala habitat conservation, notwithstanding the best efforts of local councils to complete comprehensive koala habitat mapping. The committee therefore recommends that the NSW Government assess the interaction between legacy PNF plans and koala plans of management to ensure core koala habitat is protected. "*

The NSW Government's response to Recommendation 31 was to do-nothing:

> *As part of the Private Native Forestry (PNF) review, the Government will consider how to balance koala habitat protection and the sustainable development of private native forestry in NSW.*

1.2(a) Across the 5000 ha of "core Koala habitat" accepted by LLS, the LLS claim that 200 properties (which is likely the vast majority) have legacy logging approvals that over-ride the SEPP prohibition on logging. There are sufficient discrepancies in relation to the extent of "core Koala habitat", the date it was identified and the number of operations covered to warrant independent review. Contrary to the Koala Inquiry recommendation 31, the intent of the LLS Bill was to extend logging approvals to 30 years to allow 'legacy' logging operations in core Koala habitat to be extended for a further 15 years – this should not be allowed.

1.2(b) Since 2007 the PNF Code of Practice theoretically excluded logging from identified "core Koala habitat", though the agencies interpret this to mean that it only applies to "core Koala habitat" identified at the time a logging plan is approved. In contravention of the most basic principle of Ecologically Sustainable Forest Management for "adaptive management" (being changing management in light of new information), logging on private land is only required to comply with the PNF Code and "core Koala habitat" current at the time approval was given. This is a perversion that needs to be rectified so that new information and contemporary rules are automatically applied to logging operations.

1.3. Over-riding local Council's rights to regulate activities in their areas.

While the Nationals try to paint disagreements over protections for Koalas as a city versus country divide, it is primarily a divide between increasingly environmentally aware rural residents (particularly in coastal communities) and vested interests who profit from land clearing and logging.

For 40 years local councils have made their LEPs in accordance with state-based planning guidelines, with the power to regulate logging on private lands not limited or otherwise constrained by the Forestry Act or any other Act. Through mechanisms such as Tree Preservation Orders and LEP zoning, local councils can prohibit logging or require loggers to obtain development consent. For the north coast DPI (2018) identify that Local Councils allow logging of 1,832,560 ha of private native forests, while prohibiting logging of 167,217 ha (6%) and requiring development consent for 602,597 ha (25%) (see Section 5.1).

Vested interests have become increasingly concerned by the growing environmental awareness of rural communities, and attempts by some Councils to do the right thing and satisfy the requirements of the plethora of the Government's regional strategies and plans, of which SEPP 44 is but one, to protect high conservation value native vegetation. Politicians have succumbed to the pressure and

in recent years been trying to disenfranchise local communities by handing responsibility for management of native vegetation to Government agencies more amenable to control by State politicians. The LLS Bill was the final thrust to remove Local Government's controls over land clearing and logging.

Government agencies have been given free-reign to treat local Governments, along with the Koala SEPP, with contempt. The DPI (2018) identify that 4% of the area then approved for logging in Property Vegetation Plans (PVPs) falls within Council zones that prohibit logging and 30% falls within Council zones that require development consent, though most PVP landowners seem oblivious to the need to get Council approval. Which is hardly surprising as the EPA don't identify environmental zones in the PVPs or provide the PVP approvals to Councils (see Section 6).

DPI (2018) observe *"The effect of SEPP 44 on PNF is currently limited. Koalas are found in all north coast council areas, however, most north coast councils do not have approved koala plans of management and have not mapped the location of 'core koala habitat'"*. And while it is not apparent that any Council has required a site specific Koala Plan of Management for PNF, and most may not have required consent (even when legally required), the DPI (2018) express alarm that in the absence of a Comprehensive KPoM that this may be required:

> *Mapping of 'core koala habitat' is an onerous and difficult task that may be imposed on a landholder as a condition of a PNF development consent application. Under the proposed changes to the definition of koala habitat and koala browse trees the impact on PNF may become significant.*

This begs the question, how many PVPs have the EPA/LLS approved over lands that required development consent from Councils, and that comprise potential Koala habitat? How many of these have since been logged without Council consent or an individual KPoM having been obtained?

The Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill) sought to stop regional Councils from being able to regulate logging activities, as has been their prerogative since the inception of the EPA Act in 1979, because some are becoming too progressive and want increased environmental protection as land clearing and logging intensify. The Nationals saw it as a chance to comprehensively disenfranchise rural communities.

The LLS Bill sought to insert a new clause into the LLS Act that was intended to provide that logging does "*not need development consent under Part 4 of the Environmental Planning and Assessment Act 1979 and are not subject to Part 5 of that Act*", and that *"forestry operations cannot be prohibited or restricted, or development consent be required"* by any 'Environmental planning instruments', which means Local Environment Plans (LEPs) and State Environmental Planning Policies (SEPPs):

> ***60ZSA Application of Environmental Planning and Assessment Act 1979***
> *(1) This section applies to forestry operations authorised under this Part to be carried out on land to which this Part applies.*
> *(2) Development consent under Part 4 of the Environmental Planning and Assessment Act 1979 is not required for the carrying out of forestry operations.*
> *(3) Part 5 of the Environmental Planning and Assessment Act 1979 does not apply to the carrying out, or the authorisation under this Part, of forestry operations.*
> *(4) An environmental planning instrument made under the Environmental Planning and Assessment Act 1979 cannot prohibit, require development consent for or otherwise restrict forestry operations.*
> *(5) Subsection (4) extends to an environmental planning instrument made before or after the commencement of this section.*

This clause not only allows unfettered logging to occur in all Council areas irrespective of LEP requirements, it also allows forestry to occur in areas protected by current and future State Environmental Planning Policies, including Koala SEPPs but also State Environmental Planning

Policy (Coastal Management) 2018, which requires development consent from a 'consent authority' for clearing of coastal wetlands or littoral rainforest and their "proximity areas", as well as development in a "coastal vulnerability area" and a coastal environment area.

1.3(a). The attempt by the LLS Bill to allow logging to override all requirements of Local Environment Plans, including all environment zones, all prohibitions, all consent requirements, Tree Preservation Orders and any other provision was brazen. This was clearly aimed at removing all rights of local Governments and local communities to have any say over logging operations. Though its extension to override not just the Koala SEPP, but all current and future State Environmental Planning Policies, including the Coastal Management SEPP's protections for littoral rainforests, wetlands and their buffers, was outrageous. The Liberals who voted for this should be ashamed of themselves.

Not content with having over-ridden LEPs and SEPPs to allow logging everywhere, the LLS Bill sought to create the new poorly defined category of "*allowable activity land"* which pertains to land that was once zoned rural and was subsequently rezoned to environmental protection, with the aim being to permit a huge range of "allowable" land clearing activities in the environmental zones without requiring consent. The LLS Bill sought to insert a definition into the LLS Act

> ***allowable activity land means a landholding—***
> *(a) that is in an area of the State to which this Part applies, and*
> *(b) that is or was wholly or partly in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU5 Village or Zone RU6 Transition, and*
> *(c) the whole or a part of which has been rezoned as Zone E2 Environmental Conservation, Zone E3 Environmental Management or Zone E4 Environmental Living, and*
> *(d) that is used for primary production.*

It then sought to insert a new clause under "***60N Unauthorised clearing of native vegetation in regulated rural areas—offence***":

> *(5) However, a person does not commit an offence under the Environmental Planning and Assessment Act 1979 in relation to the clearing of native vegetation if the clearing is—*
> *(a) carried out on allowable activity land, and*
> *(b) for an allowable activity authorised under Division 4 and Schedule 5A.*

Schedule 5A allowable activities include clearing of native vegetation:

- to obtain farm timber
- for the purpose of obtaining firewood
- for the construction, operation or maintenance of infrastructure by a public or local authority
- for the construction, operation or maintenance of gravel pits.
- for the construction, operation or maintenance of telecommunications infrastructure.
- for powerlines
- during the course of sustainable grazing
- for the purpose of obtaining fodder for stock
- for the construction, operation or maintenance of an airstrip
- for a firebreak in the Western Zone to a maximum distance of 100 metres
- for the maintenance of public utilities associated with water supply infrastructure and gas supply infrastructure.
- for infrastructure, in the Coastal Zone for a distance of 15m around:
    (a) permanent boundary fences, permanent internal fences, roads, tracks or pipelines,

(b) shearing or machinery sheds, tanks, dams, stockyards, bores, pumps, water points or windmills.

1.3(b). The LLS Bill sought to create the new poorly defined category of "*allowable activity land"* which pertains to land that was once zoned rural and was subsequently rezoned to environmental protection, with the aim being to permit clearing for infrastructure (fences, roads, pipelines, sheds, dams, stockyards), farm timber, grazing, gravel pits, airstrips, firebreaks etc, in environmental zones without any need for environmental assessment or requiring consent from Councils. This was clearly intended to undermine the integrity and purpose of environmental zones. Once again Liberals who voted to allow this should be ashamed of themselves.

On 19 November 2020 The Hon. Sarah Mitchell (Minister for Education and Early Childhood Learning) said in the second reading speech in the Legislative Council:

> *But it does not stop there. It also stops local councils from having the ability to block a landholder's right to conduct legal and authorised private and native forestry on their property. The bill also resolves a longstanding issue whereby farmers in environmental zones found themselves faced with abundant uncertainty over how they could continue farming once the environmental zone was in place. It does this by removing them from the planning system and putting them back in the Local Land Services Act tent.*
>
> *Thirdly, the bill removes the dual consent requirements for private native forestry plans to ensure that Local Land Services is truly a one-stop shop for all landholders. This reform will remove the requirement for a landholder to obtain both a private native forestry plan and separate—and often duplicative—approval from their local council.*
>
> *Finally, the bill will ensure that routine agricultural activities on existing agricultural land will not be impacted by the advent or introduction of planning instruments such as environmental zones.*
>
> *With the endorsement of the Minister for Planning and Public Spaces, I make this statement now in this second reading speech: There will be no ministerial direction requiring any local council to zone core koala habitat as an environmental zone —period.*

This is all about disenfranchising local communities from having a say on management of lands within the boundaries of their Local Government Areas, because of the increasing environmental awareness of coastal populations wanting better regulation of land clearing and forestry. In his speech Liberal Matthew Mason-Cox on 19 November 2020 elaborated:

> *Councils may encompass rural areas as well as areas on the coast with highly environmentally aware populations who only have one focus and do not understand the balance that exists across those rural communities. That balance is needed to ensure that people in more rural areas are able to legally make use of their property without being encumbered or disempowered by people who only know one side of the equation and do not understand their traditions, history or the way people in their own community think.*

Ben Franklin (23 September 2020) was also frank about the intent to disenfranchise local communities in response to the Shooters. Fishers and Farmers' Local Land Services Amendment (Land Management and Forestry) Bill 2020, after detailing the Government's intent to remove Councils veto or approval powers over private native forestry, over-ride Council's rules for E-zones by allowing LLS Act allowable activities, and removing Council's ability to include core Koala in environment zones, he quoted Mark Banasiak:

> *... environmentalism has redefined the fundamental concept of being a stakeholder. Despite having nothing invested and with no risk to themselves, environmental Non-government*

> *organisations (NGOs) have managed to claim the status of stakeholders in remote matters and be accorded an equal voice to those whose entire lives, livelihoods and assets are being affected.*

While Banasiak's comment was aimed at environmentalists, Franklin was using the same rationale to over-ride democratically elected local Councils' ability to affect land use in Local Government Areas.

1.3(c). It is obvious that the National's LLS Bill went far beyond removing protections for Koalas, and was an attempt to stop Councils and local communities anywhere in NSW from being able to exercise their long-held democratic rights to prohibit or regulate logging on private lands. This was taken further to permit a broad range of land clearing activities in environmental zones without any need for assessment or Council consent. While this was portrayed as a city vs country battle by the Nationals, it was primarily an attempt to stop increasingly environmentally aware rural communities from being able to affect land use activities in their shires. It was primarily an attack on rural communities' democratic rights.

2. The operation and effectiveness of the 1994, 2019 and any potential new draft Koala SEPPs in protecting koalas and their habitat

It needs to be recognised that Koalas are in decline, and likely to become extinct by 2050 if we do not act urgently to protect their habitat. On the north coast they generally prefer the lowland coastal forests that have been extensively cleared, not the rugged escarpment forests where most of our parks are. DPIE's Koala Habitat Suitability Model for the 'north coast' identifies that of potential likely high quality habitat, 61% occurs on private land, 20% on State Forest and 19% on National Parks. So if we want to save Koalas we also need to protect them on private lands, as well as State Forests.

There is no doubt that the principal threats to Koalas are clearing and degradation of habitat, along with fragmentation of corridors that allow movement between remnant colonies. Clearing obviously directly impacts any Koalas present by removing their homes and habitat links. Where not clearfelling, logging is more selectively in its removal of individual feed and roosting trees, though impacts can be severe as loggers and Koalas both prefer larger trees (see 2.6.2). As Koalas food trees and roosts are cut down populations are diminished until Koalas can no longer maintain stable home ranges and colonies, having to wander further is search of food and mates makes them more vulnerable to dog attacks and car strikes, while the increased stress makes them more vulnerable to disease.

For over 25 years the policy has been for Councils to map “core Koala habitat” and protect it in environmental zones. While the intent of the policy was right, its implementation has been a shambolic failure because of lack of political will to implement it. Very little core Koala habitat has been identified and even less has been allowed to be included in environment zones. Over this time Koalas have almost disappeared from the south coast and populations more than halved on the north coast.

It is more urgent than ever that we identify and protect “core Koala habitat”, and prepare Comprehensive Koala Plans of Management, though Koalas will be extinct in the wild before we achieve this if we continue to treat these requirements with such contempt. We urgently need to change tack if we want to save Koalas. The NSW Government needs to undertake a systematic scientific process to map Koala habitat within each Area of Regional Koala Significance, with the output being the identification of feed trees, key Koala colonies, grades of Koala habitat, habitat links, drought refuges and long-term climate change refugia across all tenures within each ARKS.

We have already wasted 25 years and thousands of Koalas lives, its time to treat their plight seriously and take meaningful action to give them a future.

2.1. SEPP 44

It has long been recognized that the most important action we can take is to protect where Koalas live. State Environmental Planning Policy (SEPP) No. 44 (Koala Habitat Protection) came into effect in 1995 with the aim to “*encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:*

a) *by requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat, and*

b) *by encouraging the identification of areas of core koala habitat, and*
c) *by encouraging the inclusion of areas of core koala habitat in environment protection zones*".

The principal aim of SEPP 44 was for Councils to identify core Koala habitat in Koala Plans of Management. The SEPP 44 definition of core Koala habitat has caused numerous definitional problems in application, though councils had managed to use this to identify what the Government accepts as core Koala habitat in 7 approved Koala plans of Management. SEPP 44 identifies two classes of habitat:

> ***"core koala habitat"*** *means an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population.*
>
> ***"potential koala habitat"*** *means areas of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.*

Schedule 2 listed just 10 Koala Feed Trees for the whole of NSW.
In the intervening 25 years, it seems likely that Koala Plans of Management (KPoMs) have been approved by the Department of Planning for parts of 7 Local Government Areas: Ballina, Bellingen, Coffs Harbour, Kempsey, Port Stephens, Lismore and Campbelltown. Another 5 KPoMs have apparently been adopted by Councils, though the Department of Planning have refused to approve them: Greater Taree (2003?), Tweed (coast 2015), Clarence Valley (Ashby, Woombah & Iluka , 2015), Byron (coast, 2016), and Port Macquarie-Hastings (2018?). It is confusing as to what the status of plans are, and even the NSW agencies disagree as to whether they have identified "core Koala habitat", and if they did, how much.

The SEPP 44 process has often descended into farce, and at its best it is a shambles as successive State Governments seem to be trying their best to frustrate its implementation.

KPoM	KPOM categories classed as Core Koala Habitat	Area of Core Koala Habitat (Ha)	Area of Core Koala Habitat captured as Sensitive Regulated Land on NVR Map (Ha)
Ballina SC CKPoM	Core	2159	2023.5
Bellingen SC CKPoM	Core	1133	899.6
Coffs Harbour CC CKPoM	Primary	2794	278.8
Kempsey SC CKPoM	Primary and Core	1310	745.6
Port Stephens C CKPoM	Preferred	7553	2304.1
SE Lismore CC CKPoM	Primary	860	670.5
Total		**15809**	**6922.1**

Table showing mapped areas of koala habitat in the approved Koala Plans of Management (KPOM) that are considered core koala habitat for the purpose of designating as Category 2 - sensitive regulated land under the land management framework (DPIE 19 Apr 2020 pers. comm.). Note that core Koala habitat included in Urban and Environmental Zones is not classed as Sensitive Regulated Land.

In response to a request, DPIE (19 Apr 2020) provided details of what they consider core Koala habitat for the purposes of the LLS Act (above). In response to requests for clarification they stated it:

> *… identifies the area of koala habitat in the 6 approved KPOMs that is considered by the Environmental Agency Head as core koala habitat for the purpose of:*

- *designating as Category 2 - sensitive regulated land under the land management framework*
- *including on the Biodiversity Values Map made under the Biodiversity Conservation Act.*

This includes the areas mapped as primary in the Lismore, Coffs Harbour and Kempsey KPOMs and the area mapped as preferred in the Port Stephens KPOM as set out in the table.

It is confusing as to what is core Koala habitat for the purposes of Private Native Forestry

The Kempsey KPoM has some 214 ha mapped as core Koala habitat, which brings the total area specifically mapped as ”core Koala habitat” in the above table to 3,506 ha, though DPIE are claiming that 15,809 ha qualifies as ”core Koala habitat” for the purpose of the LLS Act. From their evidence to the inquiry, Local Land Services have a different interpretation, adopting a narrower definition of core Koala habitat, limiting it to just that specifically labelled as “core Koala habitat” in KPoMs, and even then they identify 4,960ha by excluding Bellingen and including Coffs Harbour (they also have 11 ha more in Ballina and 218ha less in Coffs Harbour).

Table 7 PNF Plan areas identified as overlapping with Core Koala Habitat identified in a KPOM

LGA	Core Koala Habitat identified in a KPOM (ha)	Legacy PNF Plans that overlap with Core Koala Habitat identified in a KPOM
Ballina	2,170	97
Coffs Harbour	2,576	91
Kempsey	214	12

Table 7 from the Koala Inquiry, taken from Local Land Services submission, which notes “Lismore and Port Stephens LGAs have approved KPOMs however these do not identify Core Koala Habitat as defined by *State Environmental Planning Policy No. 44 – Koala Habitat Protection”*.

Contrary to the LLS’s identification of just 5 KPoM’s, the Government’s response to the Koala Inquiry also includes Bellingen as “approved” by the Secretary of DPIE, and their KPoM does definitely identify “core Koala habitat”. Apparently the department is intent on ignoring it, just as the National’s LLS Bill does.

2.1(a). The lack of any agreement between NSW Government agencies as to which KPoMs identify “core Koala habitat”, and even the area mapped, is astounding. Areas identified as core Koala habitat vary from 4,960 ha for PNF, to 6922 for Sensitive Regulated Land, to a total area of 15,809 ha (including Urban and E zones). Such widely different interpretations illustrate the appalling mismanagement of “core Koala habitat” by NSW agencies.

This agency confusion is profound as it wasn’t long ago that DUAP was claiming that the Coffs KPoM was invalid, and therefore none of the mapped Koala habitat in it qualified as core Koala habitat and could be logged. Now they are claiming the plan is valid, but they have since issued numerous logging approvals that over-ride it.

In 1999 the NPWS assisted Coffs Harbour City Council to prepare the first Comprehensive Koala Plan of Management in NSW, which identified core Koala habitat across the Local Government Area in accordance with SEPP 44, noting “*The Koala Habitat Planning Map forms the basis for the identification of areas of core koala habitat*”. The Department of Urban Affairs and Planning assisted with its preparation and apparently approved it in 2000, and Council incorporated it into their LEP. With the adoption of the PNF Code of Practice in 2007, which expressly prohibited logging in core

Koala habitat, DECCW began systematically approving logging of core Koala habitat in the Coffs Harbour LGA, with 2,000 of the 19,000 ha of identified core Koala habitat approved by 2010. When DECCW was publicly challenged in 2011 the Sydney Morning Herald (4 January 2011) reported:

> *The department does not dispute the council's figures, but said the Coffs Harbour koala plan of management, which identifies the vulnerable species' local habitats, is not officially gazetted.*
>
> *Because of this, the prohibition on logging that normally applies to important koala habitats under state environmental planning policies could not be enforced in that council area, the department's director of landscapes and ecosystems conservation, Tom Grosskopf, said.*

The Coffs Harbour Advocate (29 January 2011) reported Coffs Harbour City Council's acting director of land use, health and development, Robert Percival, as stating:

> *"There have been significant differences of opinion between DECCW and ourselves regarding the application of our koala plan of management and where it sits in the overall legal framework," Mr Percival said.*
>
> *"We thought our koala POM applied, but DECCW has been saying it doesn't….*
>
> *"We complied with all statutory processes required in the preparation of the document, which is part of our Coffs Harbour Local Environment Plan."*

The Koala Inquiry (30 June 2020) reports:

> *Ms Sally Whitelaw at Coffs Harbour City Council … explained that recent remapping of core koala habitat in the Coffs Harbour area showed that of the 190 PNF plans approved since the council approved its koala plan of management in 1999, 124 were for properties found to contain core koala habitat.*

This again adds to the confusion, as Coffs Council says approvals were for 124 properties containing "core Koala habitat", whereas LLS claim it is only 91. Though the key questions are when did the NSW Government change its mind to accept that "core Koala habitat" mapped in Coffs Harbour LGA is actually core Koala habitat, and why logging approvals issued since it was identified are now considered to override the mapped "core Koala habitat"?

2.1(b). Something is fundamentally rotten with a system when a government department can prepare the CKPoM for Coffs Harbour (with assistance from DoP) that they claim identifies core koala habitat in accordance with SEPP 44, and then 7 years later the same department starts issuing PVPs and logging approvals over that same core Koala habitat in contravention of SEPP 44 and their own PNF Code of Practice, while claiming the CKPoM they had prepared and approved was invalid. Then years later they change their minds to accept the CKPoM and mapped core Koala habitat as being valid, though allow all the logging approvals they had issued in contravention of SEPP 44 to over-ride it.

Campbelltown's Comprehensive Koala Plan of Management was identified as approved on 21 August 2020. It also identifies core Koala habitat. Though the Government's response to the Koala Inquiry states "*DPIE has also endorsed the Campbelltown KPoM, which provides further strategic direction and planning mechanisms at the local level to protect this important koala population and habitat*", presumably meaning it is not actually approved and its core Koala habitat is not recognised.

There are at least 5 CKPoMs that have been adopted by Councils but remain blocked by the Department of Planning:

- Byron Coast Comprehensive Koala Plan of Management (approved by Council Aug. 2016)

- Comprehensive Koala Plan of Management for the Ashby, Woombah & Iluka localities in the Clarence Valley LGA (approved by Council 2015)
- Greater Taree City Council Draft Comprehensive Koala Plan of Management (prepard by AKF in 2003 – not sure if it was approved/adopted by Council)
- Port Macquarie-Hastings Council Koala Recovery Strategy 2018 (adopted by Council Sept. 2018)
- Tweed Coast Comprehensive Koala Plan of Management (adopted by Council Feb.2015)

There are at least 2 additional Koala studies that have not progressed to KPoMs:

- Koala habitat study for the Nambucca Shire Coastal Area prepared by the Office of Environment & Heritage for Nambucca Shire Council (endorsed by Council 24 Sept.2015)
- Koala habitat & population assessment Richmond Valley Council LGA: final report to Richmond Valley Council, Biolink, June 2015.

While this displays the limited progress in identifying core Koala habitat over 25 years, in aggregate this list represents a heavy investment by some Councils, with NSW government funding assistance, in preparing koala plans under SEPP 44. At current rates it will take over 300 years to map core Koala habitat across the State and prepare the required KPoMs, and even longer to approve them. Koalas can't wait any longer.

The bipartisan inquiry **Koala populations and habitat in New South Wales** found:

> *Upon its introduction, the 1994 SEPP was a key piece in the government's suite of actions to protect koalas. However, the overwhelming evidence presented to the Committee is that whilst the intentions and principles of the 1994 SEPP were admirable, its implementation has fallen well short. Nowhere is more apparent than in the low approval rate of CKPOMs by the department.*
>
> *To hear that in the 25 years of the 1994 SEPP's operation, only 6 CKPOMs were approved by the department shocked and angered the committee. The committee empathises with the frustration felt by both local councils who prepared these plans, and residents of these local council areas who sought better protection for koalas. The committee was displeased by the department's failure to provide a clear reason for its low approval rate and inexplicable delays of CKPOMs.*

(Note that the SEPP was apparently 1995 not 1994 as the Inquiry claims)

Individual Koala Plans of Management (IKPoM) have had limited effectiveness. The principal problems are that they are only required to be prepared at the end of the planning process after land is rezoned and developments have been approved, they are only required for Council decisions, they are prepared by developer's consultants and thus biased, and they can over-ride Council's Comprehensive KPoMs. The excuse of leaving consideration of Koalas up to a future process, such as a site specific KPoM, has been proven to fail as it allows for significant destruction of core Koala habitat and degradation of Koala corridors to occur before the impacts and mitigation measures are considered. It is shutting the door after the horse has bolted. (ie see NEFA's previous submission 2.3.1. Council Case Study 1: West Byron urban development).

Similarly approving a development subject to monitoring of impacts is a furphy as DoPE have proven they ignore the outcomes, though most significantly they are unwilling to limit activities once they are approved irrespective of the results of monitoring. It is also apparent that once a development is approved then often 'development creep' occurs where variations are used to increase the scale and impact of the development. It is the death of a thousand cuts (ie see NEFA's previous submission2.3.2. Council Case Study 2: Bluesfest).

2.1(c). If the intent of a Koala SEPP is to be achieved it is essential that when development is proposed that affects potential or known "core Koala habitat" or movement corridors that the impact on Koalas is considered and mitigated at the very first step in the planning process (i.e. masterplan and rezoning stage). Rather than limiting the application of Koala SEPPs to just Councils, their requirements should apply to all agencies and Ministers approving developments on land that is likely to comprise "core Koala habitat". As intended by the 2019 Koala SEPP, Individual Koala Plans of Management should not be allowed to over-ride Comprehensive Koala Plans of Management as SEPP 44 allows.

2.2. 2019 Koala SEPP

While there were a number of changes to reduce the effectiveness of SEPP 44 over the years, it took 24 years to finally rectify some of its most glaring deficiencies that were frustrating Council's ability to identify "core Koala habitat". State Environmental Planning Policy (Koala Habitat Protection) 2019 had as its aim *"This Policy aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline".*

> *core koala habitat means—*
> *(a) an area of land where koalas are present, or*
> *(b) an area of land—*
> *(i) which has been assessed by a suitably qualified and experienced person in accordance with the Guideline as being highly suitable koala habitat, and*
> *(ii) where koalas have been recorded as being present in the previous 18 years.*
> *koala habitat means koala habitat however described in a plan of management under this Policy or State Environmental Planning Policy No 44—Koala Habitat Protection, and includes core koala habitat.*

To be defined as "highly suitable koala habitat" under the 2019 Koala SEPP a Plant Community Type is required to be comprised of 15% or more of the feed trees listed in Schedule 2. The Guidelines specifying:

> *Where 15% or greater of the total number of trees within any PCT are the regionally relevant species of those listed in Schedule 2 (see Appendix A), the site meets the definition of highly suitable koala habitat.*

The genesis of the current Koala crisis was that the revised December 2019 Koala SEPP clarified the definition of "core Koala habitat" to remove anomalies in the previous definition, increased Koala feed trees from 10 to 123 species, and therefore make it easier for Councils to identify.

A key focus of the National Party's attack on the 2019 Koala SEPP was the list of 123 feed trees, coupled with the lie (ie Chris Galuptis) that noxious weeds were included. Though, for example, the North Coast koala management area has **just** 42 Feed Tree species identified. The National Party wanted the total number of feed trees reduced to 39 across the state and the imposition of a threshold that these 39 species had to comprise 30% of canopy species for it to qualify as core Koala habitat (again lying when claiming "*The old SEPP required a 30 per cent threshold of tree species*").

While Stokes initially refused the National's demands to reduce the number of feed trees, as a result of the outcry the **Koala SEPP** was amended in October 2020:

- The Koala Development Application Map was removed. This is the pink map the Nationals focused on and misrepresented, despite the Government deciding to remove it months before-hand –as the Nationals knew.

- The definition of Core Koala Habitat was altered to only apply to "*highly suitable koala habitat*" where Koalas have been recorded within the past 18 years, removing the broader criteria "*an area of land where koalas are present*".
- Councils were required to consult with the Chief Executive Officer of Local Land Services when developing a Koala PoM

Core Koala habitat was redefined as:

> ***core koala habitat*** *means—*
>
> *a) an area of land which has been assessed by a suitably qualified and experienced person in accordance with the Guideline as being highly suitable koala habitat and where koalas are recorded as being present at the time of assessment of the land as highly suitable koala habitat, or*
>
> *b) an area of land which has been assessed by a suitably qualified and experienced person in accordance with the Guideline as being highly suitable koala habitat and where koalas have been recorded as being present in the previous 18 years.*

The **Koala Habitat Protection Guideline** was also changed:

- landholders can 'stop the clock' to request an additional 60 days to object to proposed core koala habitat on their land, which has to be reassessed at Council's expense.

The deletion of "an area of land where koalas are present" from the definition of "core Koala habitat" meant that it **must** meet the criteria for "highly suitable habitat" to be able to qualify, meaning "core Koala habitat" could only be identified over Plant Community Types with >15% listed Feed Trees. The safety net to allow inclusion of Koala habitat with <15% listed Feed Trees was removed, meaning many areas where Koalas live, parts of their home ranges, and many refuges during droughts or bushfires could no longer be identified as "core Koala habitat". This was a political fix aimed at limiting the areas that could be identified as core Koala habitat to satisfy developers and the Nationals, while denying protection for some areas where koalas actually live.

While the 123 feed trees were retained, which is a significant improvement from just 10, arguably removal of the criteria "*an area of land where koalas are present*", limiting core Koala habitat to "*highly suitable koala habitat*" (with >15% feed trees), and the onerous survey requirements, meant the revised SEPP may have made it harder for Councils to identify core Koala habitat than SEPP 44. The new surveys would have made it more expensive and difficult to map "core Koala habitat", while excluding areas where Koalas actually live (that don't qualify as "highly suitable koala habitat") would have left out many areas actually inhabited by Koalas.

2.3. 2020 Koala SEPP

As well as once again reducing the effectiveness of the Koala SEPP, the Government gave the Nationals free reign to remove and reduce protections for Koalas (ecosystems and species) across private lands through their Local Land Services Amendment (Miscellaneous) Bill 2020, which sought to:

- remove existing protections for "core Koala habitat" on private lands (a prohibition on logging and a requirement to obtain consent before undertaking broadscale clearing)
- stop Councils being able to require consent for logging in environmental (or other) zones or by Tree Preservation Orders
- permit clearing for 'allowable activities' without approval in environmental zones (including SEPP littoral rainforest and wetlands).

- extend logging approvals for private lands (and core Koala habitat) from 15 to 30 years, with no reviews.

In addition the Government intends to stop Councils being able to protect “core Koala habitat” in environmental zones.

There was not a thing in the LLS Bill that was good for Koalas, in fact it was all about removing existing protections for identified “core Koala habitat”, and stopping Councils being able to regulate logging and clearing through their Local Environment Plans. Its clear intention was to disenfranchise local communities from having a say on land management in their Shires. It went so far as to allow clearing for a broad range of "allowable activities" in environmental zones, including the gamut of high conservation value vegetation.

When the LLS Bill was referred to the NSW Legislative Council's Portfolio Committee No. 7 for review, the NSW Government’s reaction was to dump the amended 2019 Koala SEPP and reinstate the flawed 1995 Koala SEPP, calling it State Environmental Planning Policy (Koala Habitat Protection) 2020, again with just 10 Feed Trees listed for the whole of NSW. The decision by Gladys Berejiklian to revert to SEPP 44 was a political move aimed at stopping the identification of core Koala habitat in new Koala Plans of Management.

The SEPP 44 definition of core Koala habitat creates problems as it only includes a fraction of the tree species known to be utilized by Koalas, and is not flexible enough to account for additional areas of high quality Koala habitat that do not satisfy the restrictive species and criteria. In the past SEPP 44 was frequently criticized for omitting key feed species (i.e. Phillips *et. al.* 2000, Sluiter *et. al.* 2001, Gow-Carey 2012), so reversion to its handful of feed species is a major backward step that is intended to stop occupied high quality Koala habitat from being identified as core Koala habitat.

For example in its preparation of a draft CKPoM Byron Shire Council identified potential Koala habitat that was verified in local studies. Following complaints from a councillor that this did not comply with SEPP 44 definitions, the delineation of "potential Koala habitat" was changed to comply with SEPP 44, resulting in 206 ha of native vegetation that were identified as Class A or B Koala habitat in Council's mapping being removed, and areas not identified as Koala habitat being elevated to "potential habitat", the draft KPoM notes:

> *Additionally some areas of important koala habitat, such as scattered individual koala food trees, or areas containing koala food trees but not meeting the SEPP 44 definition will not be included in the koala habitat maps.*

We are back to the political process that has seen the Government refusing to approve numerous Koala Plans of Management prepared under SEPP 44. It is expected the Minister for Planning, at the behest of the Nationals, will block any of the 5 or so outstanding plans prepared under SEPP 44 from being approved and stop any new ones, as in relation to removing core Koala habitat from the LLS Act Ben Franklin assured the Shooters, Fishers and Farmers in parliament (23 September 2020) “*until that decoupling process has been delivered, no new council koala plans of management will be approved*”.

This of course is contrary to the Koala Inquiry (which included Ben Franklin):

> ***Recommendation 25***
> *That the NSW Government urgently approve comprehensive koala plans of management previously submitted to the Department of Planning, Industry and Environment in a timely and transparent manner.*

In this heavily politicized process, the Government allowed the Ballina KPoM to be adopted in 2017, but has delayed adopting the Tweed Coast KPoM since 2015, and the Byron Coast KPoM since

2016, on the spurious grounds that they were going to review SEPP 44. The development of both these KPoMs were undertaken over many years in accordance with SEPP 44, involving great expense, detailed Koala habitat studies and oversight by advisory groups - including Government representatives. In good faith Tweed and Byron Councils have followed due process in preparing their coastal KPoMs, but the NSW Government has political motives for stopping their adoption.

Ironically, in its response to the Koala Inquiry recommendation 25 the NSW Government states it "*supported*" the recommendation when it really doesn't, going on to state *"Several draft KPoMs could not previously be approved by the Secretary of DPIE because they were inconsistent with SEPP 44. NSW will consider these legal barriers to approval when developing a policy to protect koalas and the interests of farmers in 2021.*

2.3. Now that the Government has reverted to SEPP 44, the inquiry is requested to strongly restate their request that the NSW Government urgently approve comprehensive koala plans of management prepared in accordance with SEPP 44 and previously submitted to the Department of Planning, Industry and Environment. DPIE should fully justify their reasons for refusing any such plans, and explain why outstanding issues were not dealt with in their development given the participation of NSW agencies.

2.4. Lying about, and misrepresenting, the Koala Development Application Map and core Koala habitat.

The National Party led a disgraceful scare campaign against the Koala SEPP, lying to the public in a successful attempt to wedge the Liberal Party into abandoning protections for Koalas and constraints on logging and clearing that have existed for decades. One of the most obvious lies told by the National Party, which was central to their scare campaign, was that the Koala Development Application Map identified "core Koala habitat" that was going to be locked up. As well as misrepresenting the maps, they omitted the fact that they had been informed that the maps had already been dropped.

The new Koala SEPP that came into effect on 1 March 2020 relied on a **Koala Development Application Map** that **'**identifies areas that have highly suitable koala habitat and that are likely to be occupied by koalas'.

The **Koala Development Application Map (**Koala DA map) is based upon the highest habitat classes identified in the DPIE Koala Habitat Suitability Mapping (HSM), which is available online. Basically the highest mapped habitat classes 4 and 5, with some modification, were applied to derive the Koala DA map. Given the primary intent of this mapping was to identify where Koalas are unlikely to occur and thus would not need to be considered in a DA, the mapping used needs to be precautionary to reduce the likelihood of missing core Koala habitat.

The accuracy of the Koala HSM has not been tested to assess how well habitat classes 4 and 5 sample Koala populations, and in particular high quality habitat. Though such models can be expected to exclude some core Koala habitat and include some unsuitable habitat. The accuracy of the model in encompassing core Koala habitat is a key issue.

This mapped likely Koala habitat reversed the onus of proof, so developers would no longer be allowed to get away with pretending its not core Koala habitat when submitting Development Applications, and would be required to satisfy a variety of criteria, including excluding Koala habitat from the development footprint and maintaining corridor values.

What followed was an extraordinary misinformation campaign fostered by the timber industry's and developer's concerns that the revised rules for the identification of core Koala habitat by Councils would result in the identification of core Koala habitat that may limit their activities. This was taken up by the National Party who misrepresented the SEPP in order to remove Koala protections from the LLS Act.

Early in 2020 the timber industry launched their public attack on the 2019 Koala SEPP on the basis that it made it easier to identify core Koala habitat from which logging is required to be excluded. For example the Port Macquarie News 5 March 2020 reported:

> *The vice president of Timber NSW says the just-implemented Koala State Environmental Planning Policy (SEPP) will cripple agriculture, private native forestry and development across the state.*
>
> *Mr Dobbyns painted a dire picture for the future of land use adding that it will "basically close down the private native forestry industry".*
>
> *"PNF is not allowed to be undertaken in core koala habitat. The new SEPP changes the definition and they are making it easier to tag core koala habitat areas.*

Steve Dobbyns of Jamax Forest Solutions sent around an email on 28 February 2020 claiming:

> *Councils are encouraged to use the maps to create KPoMs rather than undertake expensive surveys, as mapping CKH can be a desktop job. The onus is no longer about proving an area is core koala habitat, it's about proving it's not.*
>
> • *The definition of core koala habitat has been updated to make it easier for areas to be identified as core koala habitat. It removes the need for koalas to be actually present and expands the number of koala feed tree species from just 10 species to 123.*
>
> • *The Koala SEPP is supported by predictive maps, not field verified and with no mechanism for a landowner to contest them. Both maps are inaccurate and include some plantations, non-native species, individual paddock trees, non-tree vegetation, avocado farms, macadamia plantations, etc.*
>
> • *Private Native Forestry operations are not permitted in core koala habitat*
>
> • *Ministerial direction that all core koala habitat must be rezoned as E2: Environmental Conservation will prevent farmers, landowners and developers from undertaking land use such as agriculture, mining, forestry, residential or business development, etc.*
>
> • *If an agricultural area is identified as core koala habitat, it becomes Sensitive Regulated Land and no longer covered by the Local Land Services Act. Routine agricultural activities, such as fence line clearing, building dams, roads etc are either not permitted or require development consent.*

The Richmond River Beef Producer's Association 18 March 2020 misused this information to run a blatant scare campaign claiming:

> *The Koala SEPP 2020 will affect you if*
>
> - *you own or lease more than 1 hectare of land.*
> - *your land is zoned R2 – R5. It will be ministerially rezoned E zone, irrespective of your council's "Koala Plan of Management" [KPoM]*
> - *you have E zone land. It will be automatically "core koala habitat"*
> - *you have a Private Native Forest [PNF]. It may automatically become a "core koala habitat" and you will be governed by the needs of a single animal – the koala and no logging will be allowed.*

- *your agricultural land is identified as "core koala habitat," it will be rezoned as E zone and become "sensitive regulated land"*

These falsehoods were used as the basis of their letter to Barilaro.

When it was released a focus of the angst was the Koala Development Application Map. This was intended to fill the gap until core Koala habitat is mapped by a Council in a Koala Plan of Management. This map of likely Koala habitat was intended to simplify the DA process by making it clearer when Koalas were required to be considered in a DA process (in mapped areas) and when they weren't (unmapped areas), It was then up to the developer to assess whether core Koala habitat was present.

When core Koala Habitat is mapped in a KPoM it is included as Sensitive Protected Land under the Local Land Services Act 2013, which means that approval is required for extensive clearing. There are a whole raft of routine agricultural activities that are still allowed without approval, such as clearing within 6m of tracks and fences, and clearing for 'sustainable grazing'. And since 2007 mapped core Koala Habitat has been protected from logging under the Private Native Forestry Code.

The outcry over the Koala DA map didn't take long to have effect as Minutes of the EES Koala Strategy Board Meeting 28 May 2020 illustrates:

> *Ministers are considering changes to the Koala SEPP – remove the use of koala development application map. This will mean everyone will have to go through field survey process as it will apply to all council areas.*

The decision to remove the Koala DA map was subsequently confirmed, in a letter sent to the Nationals leader Barilaro on 21 August Rob Stokes informed him that "*we will make further significant changes to the SEPP and the Guideline following your representations, including … Removal of the Pink 'DA map' to reduce confusion and revert to a survey process which existed under SEPP 44*".

Stokes also assured Barilaro that "*In addition to the surveys councils will undertake as part of developing a KPOM, landholders will be able to request council survey their land, at council expense, if they disagree with the proposed designation of their land as core koala habitat*".

Stokes did not give in to the Nationals on the issue of the Statewide identification of 123 Koala use trees, though did agree in principle to removing the application of core Koala habitat in identifying Environmentally Significant lands and prohibiting PNF, but that first "*LLS need to provide details about how koalas will receive robust protection under the LLS Act".*

Despite the assurances that the 'pink' Koala development application map would be dropped, these maps became the focus of the National's campaign to discredit the SEPP in order to justify the LLS amendments. In justification of his threat to move to the cross-benches Chris Gulaptis 3 September 2020 announced:

> *The new SEPP is ill-founded and essentially determines every part of NSW is koala habitat. It essentially sterilises all private land in regional NSW as koala habitat with the onus put on the landowner to undertake an ecological study to prove otherwise.*

This is reinforced as Barilaro used the maps as a core justification for confronting the Liberals and threatening to withdraw from the coalition. Nine News 11 September 2020 reported:

> *The NSW Nationals leader also said it was "wrong" for Planning Minister Rob Stokes to release maps that reclassify certain regional locations, such as individual farmers' property sheds, town roundabouts and historic farms, as koala habitats — therefore making it more difficult to develop or construct on that land.*

Echonet 14 September 2020 reported:

> *Mr Gulaptis said he welcomed the decision of the NSW Nationals Parliamentary party to reject the State Environmental Planning Policy (SEPP) Koala Habitat Protection in its current form, in a statement entitled 'Standing Our Ground' on Thursday on his Facebook page.*
>
> *'NSW Nationals state MPs resolved they will no longer attend joint party room or parliamentary leadership meetings, and will abstain from voting on government bills, but reserves the right to support bills and motions that are important to regional NSW until agreement can be reached with the NSW Liberals.*
>
> *'This action effectively puts the entire NSW Nationals parliamentary team on the crossbench.'*

The Sydney Morning Herald 14 September 2020 noted:

> *Despite the assurances, Mr Barilaro decided to press his cause publicly, culminating in last Thursday's threat to move the Nationals to the crossbench because the policy was "a nail into the coffin of regional Australia". He then backed down a day later after Premier Gladys Berejiklian issued an ultimatum to retract the threat.*
>
> *Even so, Mr Stokes offered to make seven "further significant changes", including offering pathways for farmers to avoid having to conduct koala surveys if the proposed developments had low or no impact on habitat, and extending the time landowners had to challenge any core koala habitat designation placed on their land.*
>
> *To address "recent representations" – believed to relate to a letter from Mr Barilaro sent on August 12 – Mr Stokes also explained 11 issues. These included why the government would lift the number of tree species deemed koala-favoured to 123 from 10. No single region of NSW would have more than about half that number.*

The revelation that the only representation that John Barilaro has raised with planning Minister Rob Stokes is from a Newcastle property developer with multiple residential developments on the edges of towns including Maitland, Lismore and Armidale says a lot about the National's true motivations for their belated attack on Koalas.

The National Farmers Federation had also bought into the fight, also focusing on the redundant maps. The Land 3 September 2020 reports:

> *The National Farmers Federation disagrees, with president James Jackson saying the while new SEPP was designed to protect koalas from urban expansion, many farmers were finding they were bound by new laws based on inaccurate mapping.*

Given the National Party's lies, the NFF (The Farmer 7 September 2020) may not have been aware the maps had been dropped, though they did recognize the mapping's limitation to the DA process, stating:

> *Koala Development Application Map–If a landholder has any part of their property included in this 'pink' mapping layer, they will be required to consider the SEPP's development application criteria before undertaking any activities that require development consent on any part of their property. This will involve expensive ecological surveys at the cost of the landholder. This may be acceptable if the mapping accurately identified known or likely koala habitat, however we have received overwhelming feedback demonstrating the inaccuracy of the mapping. Tanks, sheds, exotic tree species, crops and even macadamia plantations have all been mapped as pink. NSW Farmers maintains that it is unacceptable that such inaccurate mapping could be operationalised. The Government has been unwilling to provide any information to us about what data was used to inform the creation of this mapping layer.*

Even though the broad Koala DA maps were only intended to identify areas requiring further assessment before submitting DAs, the mapping of likely Koala habitat was taken as an existential threat by some loggers, farmers and developers. The National Farmers Federation called for *"A halt on the operationalization of the new SEPP until landholders are provided with the opportunity to review and ground-truth the mapping"*.

For their political purposes the National Party embarked on a public misinformation campaign, notably focusing on the defunct Koala development application map, not only claiming it was still current, but also misrepresenting it as being mapping of core Koala habitat, and thus required to be protected, for example Chris Gulaptis claimed on the Ray Hadley Show 14 September 2020:

> *Look, I heard you talk about the maps that aren't available, the SEPP is flawed , and the evidence of how flawed it was was in the spatial mapping which was released in March …the spatial mapping came out, showed … all of regional NSW, and anywhere you had pink on your property that was core Koala habitat, now it just happened that there was pink over one of the main roundabouts in the city of Grafton, you know it's a very highly trafficked area and that was core Koala habitat, it just so happened that the maps showed core koala habitat over blueberry farms, over dams, over greenhouses …*
>
> *… That's the problem is that core Koala habitat is right across the state … its seems to be the premise that we have to protect every tree on the basis that a Koala, even if its never been there for the last 200 years may have at some time actually used that tree on your property … if one of those trees happens to be one of those 123 listed trees then its deemed to be core Koala habitat …*

Member for Coffs Harbour, Gurmesh Singh was reported in 'News of the Area' 18 September 2020:

> *His perspective is that detailed investigation of biodiversity maps appears to show areas in Coffs Harbour CBD that are labelled core koala habitat.*
>
> *Mr. Singh said that the SEPP maps showgrounds, stadiums, roundabouts and urban areas as core koala habitat.*
>
> *Therefore, he maintains, there appears to be mistakes in the maps used to classify land as core koala habitat.*
>
> *Mr. Singh said that the National Party is not opposed to actual core koala habitat being identified and mapped but the identification must be accurate.*
>
> *"It is important to protect koalas and we stand right behind that."*

While the Liberals pretended to have stood up to National Party bullying, in fact it was almost a total capitulation. Initially Stokes kept his tree species list in the 2019 SEPP, though the definition of "core Koala habitat" was significantly narrowed by removing the criteria that where a Koala is present it qualifies, as well as an apparent assurance that core Koala habitat would not be included in environmental zones.

The Nationals were given carte-blanche to rewrite the Local Land Services Act to remove the requirements to include "core Koala habitat" as Environmentally Sensitive Lands and protect it from logging, stop Council's ability to prohibit or require consent for logging, permit 'allowable activities' in environment zones without consent, and extend logging approvals to 30 years. When the Local Land Services Amendment (Miscellaneous) Bill 2020 was referred to committee, the Government then repealed the 2019 Koala SEPP.

2.4. Given that the Koala development application maps had been dropped, and that they were only ever intended to represent where Koalas had to be considered when submitting DAs, the National's focusing their attack on Koalas based on redundant maps, which they

knowingly misrepresented as current and as depicting core Koala habitat, was deceitful. This was only one of the lies told to the public in order create a scare campaign to get their Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill) up. The Inquiry needs to expose the lies underpinning the National's scare campaign for what they were.

2.5. Identifying and Protecting Core Koala Habitat

Since 1995 State Environmental Planning Policy (SEPP) 44 has recognized that the key for the protection of Koalas is the identification and protection of core Koala habitat. Though as detailed in 2.1. it has been an abject failure.

Like SEPP 44, it is clear that the 2008 NSW *Recovery plan for the koala* (Phascolarctos cinereus) *Objective 1: Conserve koalas in their existing habitat* has been an abject failure. It identified the need to improve the definition of Koala habitat, expand the lists of Koala feed trees, assist Councils to prepare KPoMs, and to improve the protection of Koala habitat in environment zones. Though in its 5 years of operation it achieved very little.

The problem has chiefly been one of political commitment. The legislative framework has been in place for 25 years, what has been missing is a will to comply with it. If the Government was serious about saving the Koala from extinction they would have protected core Koala habitat decades ago

The priority has to be to protect and restore breeding colonies of Koalas. Stable colonies of Koalas have overlapping home ranges, with a dominant male's range encompassing a number of females. Depending on the habitat quality Koalas have can have widely varying home ranges, from less than a hectare to over 100ha (Moore *et. al.* 2004). More typical of high quality forest areas, for his study area in the Brisbane Ranges National Park (west of Melbourne) Hindell (1984) identified home ranges for males with an average size of 3.14ha and for females 2.08ha.

Habitat quality, and the density of Koalas it can support, primarily depends on the availability of high quality food resources (Moore and Foley 2000). Koalas have localised preferences for certain tree species, preferences for larger trees and preferences for individual trees (picking just one of a number of similar sized trees of the same species). Palatability varies with tree size, soil type, and leaf moisture, nutrient and toxin content. A variety of tree species is preferred, and tree use can change with season and in droughts. Wildfires, droughts, predation, road kills, disease and the constraints of social interactions between individuals and groups all affect occupancy (Norton 1987, Moore *et. al.* 2004, Seabrook *et. al.* 2011, EPA 2016).

Preferred feed trees can be naturally patchy, though due to clearing and logging habitat is becoming increasingly degraded and fragmented. As the number of preferred feed and roost trees diminish so too do Koala populations. Meaning that Koalas have to move increasing distances through unsuitable habitat to find food and maintain social interactions.

With logging drying the landscape and increasing flammability, these diminished populations are more vulnerable to elimination in droughts and fires, and recolonization is getting harder. Koalas are required to move increasing distances in search of food or mates through increasingly hostile lands, increasing their vulnerability to predation by dingoes or dogs, and in more built-up areas vehicle strikes. This also makes them more susceptible to stress and disease (i.e. Davies *et. al.* 2014).

Due to climate heating Koalas are becoming increasingly vulnerable to elimination from patches of suitable habitat due to droughts and bushfires. As droughts increase in frequency and intensity Koalas are becoming increasingly reliant on moister riparian habitat, and sometimes free water, making drought refugia of increasing importance. As climate heating progresses it will change the

distribution of key feed species and climatically suitable habitat, necessitating the identification of future climate refugia.

When times are good, Koalas can prosper in high quality habitats, raising many young that disperse across the landscape to replenish populations elsewhere. This “source” habitat is vital to maintenance of viable Koala populations. Moore *and Foley* (2000) identify that "*areas containing very high quality foliage might be vital as sources of dispersing animals to maintain populations in surrounding areas*". Protecting remaining source areas is vital for Koalas persistence.

In habitats with limited high quality food resources animals require larger areas to forage in, spend more time looking for food, and have lower reproductive success, meaning that population persistence depends on immigrants from elsewhere (Norton 1987). Where local reproduction is not sufficient to balance mortality it is termed sink habitat. Logging has degraded many areas of once high quality Koala habitat into sink habitat (EPA 2016), rehabilitating such areas is necessary to stabilize and grow populations.

As fragmentation increases, Koalas ability to disperse to access seasonal resources, find mates and recolonize empty habitat declines. Identifying, rehabilitating and restoring habitat linkages is a key requirement for maintaining of restoring population viability.

2.5(a). The key to Koala’s survival is the urgent identification, protection and rehabilitation of core Koala habitat, comprising:

- **All remaining source Koala habitat, where reproduction exceeds mortality**
- **Degraded and marginal habitat, where mortality exceeds reproduction**
- **Strategic patches of currently unoccupied habitat**
- **Drought and climate heating refuges**
- **Key habitat linkages to allow dispersal between habitat patches, at both local and regional scales.**

To enhance or restore the viability of Koala populations it is vital to consider the whole population, not just fragments of it. OEH has applied the available data to identify and map 48 Areas of Regional Koala Significance (ARKS) throughout NSW, and the distribution of habitat and threats within each of them. ARKS are regarded as Regional Koala Populations with known moderate to high densities of koala occupancy. The 48 ARKS cover 4,195,549 hectares, giving around 5% of NSW mapped as being of significance for koalas. Rennison and Fisher (2018) note:

> *The intent of these spatially defined areas is primarily to delineate focus areas for the analysis of resilience and security characteristics including habitat values and risks to the persistence of koalas in these areas. These areas will then act as focus areas for more detailed analysis of threats and values which in turn will drive priorities for koala management strategies, conservation action and funding*

There are fundamental problems with applying LGA boundaries across populations and ignoring public lands if the aim is “*to support a permanent free-living population over their present range and reverse the current trend of koala population decline”.* These goals cannot be achieved when only part of a population is being assessed. It is ludicrous to consider only the fragments of habitats on private lands from part of a population (within a single LGA) when identifying the distribution of core Koala habitat and essential dispersal corridors.

The inclusion of Crown lands (National Parks and State Forests) in the assessment would provide far more opportunities for systematic ground surveys and thereby greatly increase the reliability of extrapolations of habitat across private lands where there may be access issues. It is also important to recognize that there are a variety of variables aside from floristics that influence the distribution of Koalas, such as soil types, soil moisture, and forest structure that can be applied from remotely captured data to more accurately map Koala habitat across unsampled lands.

2.5(b). Given the failures of 1995 SEPP 44 and the 2008 Recovery Plan for Koalas to deliver on their promises of preparing Koala Plans of Management that identify "core Koala habitat" and include it in environment zones for protection, there is an urgent need for the NSW Government to take on the role of identifying "core Koala habitat" across the landscape. The mapping needs to include the identification of classes of Koala habitat, drought and climate refuges, and habitat linkages. This mapping should be overseen by a panel of Koala habitat experts, be undertaken across all tenures within each of the 48 Areas of Regional Koala Significance (ARKS), with the delineation of regionally appropriate Koala feed trees and habitat classes determined from survey results in each ARKS.

2.5.1. The need for good mapping.

Many of NSW's species are rapidly declining, in part because of the tyranny of a multitude of small decisions. Approval to log Koala here, construction of a road through a corridor there, clearing for a quarry here, a housing development on Koala habitat there, a music festival here, widening of a road there … and on it goes. Before you know it the population has been so depleted and fragmented that its heading for extinction.

We need to consider the whole of the population to identify the areas that are important to it, and indeed those that are vital to its survival. As well as identifying key habitat for protection, we need to identify key areas for rehabilitation, areas for replanting and places where we need to facilitate movement between habitat patches. The more accurately and comprehensively we can map "core Koala habitat, the more efficiently and effectively we can target management responses, including financial assistance to landholders.

The NSW Government's strategy for private lands is to focus on using a portion of the $350 million biodiversity trust to pay regional landowners for protecting koala habitat as an alternative to regulation, though this is being done in ignorance of where core Koala habitat is. Government money is limited and must be directed to priority areas of core Koala habitat and missing dispersal links, payments need to maximise the benefits to Koalas and not squandered on marginal areas of low or no conservation benefit. We need a proactive process targeting the most important habitat, not a reactive process picking up the dregs.

This is clearly demonstrated by the choice of new Koala reserves touted as the centerpiece of the NSW Governments 2018 Koala Strategy. The Forestry Corporation were allowed to pick areas they didn't want as new reserves, so they chose areas that were already protected, or in one case (Mount Lindesay) an area they had abandoned for timber production because it was badly affected by Bell Miner Associated Dieback (Pugh 2018). The trouble was that most of the areas don't include high quality Koala habitat. The Forestry Corporation had been allowed to choose areas without any consideration of their habitat value.

When announcing the new Koala Strategy on 7th May, 2018, the Government's press release stated:

> *The centerpiece of the NSW Koala Strategy is setting aside large swathes of land where koalas can thrive and new habitats can be created.*
>
> *"It is absolutely vital that we protect land where koalas currently live - and secure land where new koala colonies may exist in the future," said Environment Minister Gabrielle Upton.*
>
> *"Initially, 24,538 hectares of State forest will be set aside for koalas – with more to come.*

The Premier, *Gladys Berejiklian* stated on Bay FM on 24 August 2018:

> *In relation to Koala habitat, we're the first government in our State's history to actually have a Koala strategy, We are pouring tens of millions of dollars into the strategy, we actually*

> *converted forest land, State forestry land, to Koala preservation areas, no other Government has done that, ...we are making sure we stop what is a very big concern that our Koala population have declined by 25% in the last few decades, I do not want to be a Premier who did nothing about that. We have a statewide Koala Strategy ... I want to stress that no other Government before has stepped up and said lets save the Koala and I, hand on heart, am proud to be the premier who stepped up, announced the Koala strategy where we are investing tens of millions of dollars over next 5 years and beyond to make sure we not only stabilise the Koala population but increase it into the future ... we have actually converted state forest land to Koala conservation areas, again a first ...*

Unfortunately her Koala reserves are a sham and will do little to protect Koala habitat or stabilise Koala populations. A review of the Koala Reserves undertaken by Pugh (2018) found that:

> *Ten of the 12 Koala Reserves are already protected as part of the informal reserve system (as FMZs 2 and 3). Four have no records of Koalas, and only 2 have "contemporary" records. Only 3 of the north-east reserves have high quality Koala habitat identified within them, and 2 of these have no "contemporary" records to substantiate the models.*

A further review by Pugh (2018b), applying more recent data, found:

- *Four are totally outside the OEH's Areas of Regional Koala Significance (ARKS) and two are mostly outside ARKS.*
- *Only 3 contain Koala Hubs, totalling just 181 ha (0.9%) of the Koala Hubs on State Forests.*
- *Only 3 can in part be justified to contain high quality Koala habitat, and these exclude adjacent areas of high quality habitat.*

Pugh (2018b) commented:

> *It is somewhat ironic that OEH has identified 19,755 ha of high priority patches of occupied Koala habitat across State Forests for protection as Koala Hubs, and the NSW Government has instead opted to protect 24,538 ha of State Forests mostly of no or little value to Koalas as Koala Reserves.*

In the absence of the identification of core Koala habitat, or a prioritisation process, the NSW Government is picking private land to protect. In December the Government announced $11.8 million for 1,094 hectares of land in the Southern Highlands to be protected koala habitat in perpetuity – yet there is no assessment of how much of this constitutes core Koala habitat or its significance for Koala dispersal.

Similarly in December Minister Kean also announced additions of 912 hectares to Cataract National Park and 93 hectares combined to Maria National Park in Crescent Head near Kempsey and Bongil Bongil National Park south of Coffs Harbour, stating "*You can't save koalas without first protecting their habitat and the best way to do that is by fortifying and expanding our national parks.*" While the sentiments are correct, there was similarly no assessment of how much of these additions constitute core Koala habitat or what its significance for Koala dispersal is. While there are a multitude of reasons for creating new National Parks, if it is claimed to be for Koalas, its benefits must be transparently documented. Once again, high quality mapping of Koala habitat is an essential pre-requisite.

The problem for Koalas extends onto public forestry lands. Whereas in the past the Forestry Corporation had to do surveys to identify Koala High Use Areas for protection, this was found to be ineffective and expensive with only around 200 hectares identified over 20 years. There were all sorts of problems with its implementation, most particularly that the foresters found the thorough surveys needed to identify Koala High Use Areas too onerous. So instead, in 2018 the Government

resorted to using a model that had been dismissed in a peer review process (EPA 2016) to identify areas to apply tree retention prescriptions. While the original intent had effectively been to identify a subset of “core Koala habitat” for exclusion from logging, now none is, and an unreliable model is being used to determine minimal tree retention instead.

Around key urban areas (i.e. Potsville - Bogangar; Lismore; Brunswick Heads - Byron Bay; Iluka; Coffs Harbour - Repton; Port Macquarie; Nelson Bay - Raymond Terrace; Campbelltown - Wollondilly - Southern Highlands; Bermagui) there is a need to build on existing work and SEPP 44 by getting a panel of independent experts to identify: remnant koala habitat for protection; corridors; key road crossings; key urban areas for encouragement of koala friendly measures (e.g. speed limits, koala friendly swimming pools, koala friendly fencing, control of roaming dogs); areas for replanting and funding requirements.

2.5.1. If there is any real intent to save Koalas from extinction in the wild then the highest priority is to accurately identify core Koala habitat across the landscape. As well as being needed to enable the preparation of KPoMs in accordance with a Koala SEPP, it is needed to prioritise lands for the most efficient and effective provision of assistance to landowners through the biodiversity trust, prioritise lands for creation of Koala reserves, target areas for revegetation and identify Council/RMS works needed to facilitate Koala dispersal.

2.6. Mapping Koala Habitat

The mapping of Koala habitat has been fraught with problems for years. Previous attempts at regional mapping have largely relied on poor quality vegetation mapping and a variety of other variables to model their distribution across the landscape. The most recent iteration was DPIE’s Koala Habitat Suitability Mapping (HSM), from which the Koala Development Application Map was derived. And it certainly generated lots of criticism (primarily because it over-mapped native vegetation).

While the distribution of Koalas is known to be primarily related to the distribution and variety of feed trees, it has been found that even detailed Plant Community Type mapping is not sufficiently accurate to identify the occurrence of feed trees at the stand level (EPA 2016). There are also numerous other variables that influence Koala use, including stand structure, soil types/nutrients/moisture, and the availability of water.

Though the principal problem is that historical and stochastic events, such as droughts and bushfires, have eliminated Koalas from many areas of potential habitat. Koala’s tree use can vary seasonally, and during droughts Koalas can become restricted to riparian areas with high leaf moisture, or even require access to free water.

There is merit in further development of models, using refined Plant Community Type and structural mapping, to identify potential habitat. Though at this point in time it seems the best most reliable means of identifying “core Koala habitat” is through Koala surveys.

The mapping required for the various iterations of the Koala SEPPs all require Councils to undertake detailed Koala habitat mapping. Because the SEPPs seek to identify mapping criteria for application by Councils they have had to be prescriptive.

SEPP 44’s poor formulation of the description of “core Koala habitat” and small number (10) of listed feed trees have led to numerous definitional debates and frustrated Council’s ability to map Koala habitat for the past 25 years. Along with the onerous survey requirements necessary to map Koala habitat, these have been the principal reasons for the failure of the SEPP to deliver results. The 2008 Recovery Plan did identify the need for a revised definition and proposed a new expanded list of feed trees, though SEPP 44 was never altered to include them.

The 2019 SEPP did attempt to fix the definition problem and greatly expanded the list of feed trees (to 123), though introduced far stricter survey requirements making mapping of "core Koala habitat" more expensive and more unattainable. To appease the Nationals, in October the ability to include an area where a Koala was recorded was removed, limiting "core Koala habitat" just to Plant Community Types with >15% Feed Trees AND a record of a Koala.

Plant Community Type mapping is an onerous task in itself, though it has been done by a number of Councils. The State Government is meant to be doing this, though it may not be up to the standard required by the SEPP. Of greater concern is the requirement to survey for Koalas at a density of one site per 6.25ha of potential Koala habitat using the Scat Assessment Technique or detection dogs. To put this into perspective, the North Coast Koala Habitat Suitability Model identifies 672,400 ha of "likely" (classes 4 and 5) koala habitat on private lands on the north coast, which would necessitate a minimum of 107,000 Koala scat sites to be surveyed. This is a massive task.

Then after the failure of the LLS Bill the 2019 SEPP was dumped, and a rebranded SEPP 44 was adopted with all its inherent problems.

Phillips *et. al.* (2000) consider that:

> *... recurring debate over exactly what constitutes koala habitat and which are the most preferred tree species in a given area tends to both overshadow and undermine the more pressing need to effectively conserve it, an issue which is exacerbated by the absence of a scientifically credible approach to habitat assessments in the first instance.*
>
> *...*
>
> *We conclude by reiterating that the resolution of issues associated with the identification of significant food trees for koalas has long acted as an impediment to effective conservation and management of the species.*

Too much time has been wasted in dealing with overly restrictive definitions, delay and political interference. There needs to be a scientific process with allowance for flexibility to vary the identification of potential and core Koala habitat where this is justified in local Koala habitat studies.

Given the abject failure of the prescriptive and politicised ad hoc SEPP process to identify core Koala habitat over the past 25 years, what is needed is an adaptable process overseen by a panel of independent Koala experts undertaken at the ARKS level. The results of surveys need to feed back into the process to identify regionally significant feed trees, refine Plant Community Type mapping, and improve the mapping of koala habitat. The NSW Government needs to take on the responsibility of funding and managing the process with clear timeframes.

There needs to be a prioritisation of ARKS, though the aim needs to be to complete the mapping as soon as possible. Its detail needs to consistent with the SEPP process so it can be used by local councils to prepare their Koala Plans of Management in accordance with the Koala SEPP. As the process proceeds it would become more efficient and effective.

2.6. Rather than an overly prescriptive approach designed to be undertaken by a variety of people over time in a piecemeal manner, what Koalas urgently need is a single prioritised mapping process across all tenures at the ARKS level. What is required is a process undertaken on behalf of the NSW Government with a clear budget and specified timetable, overseen by Koala experts, informed by Koala surveys, and adaptable in response to findings. The output needs to include the identification of feed trees, key Koala colonies, grades of Koala habitat, habitat links, drought refuges and long-term climate change refugia across all tenures within each ARKS.

The NSW Government has already undertaken a process to identify some of the most significant patches of Koala habitat in NSW. OEH (2017) has analyzed Koala records to *"to delineate highly significant local scale areas of koala occupancy currently known for protection",* noting:

> *These areas are not designed to be an exhaustive account of all koala presence across NSW, but rather define areas of currently known significant koala occupancy that indicate clusters of resident populations known as Koala Hubs.*
>
> *A total of 567 Hubs were identified. Altogether, 101768 hectares, or around 0.13% of NSW is mapped as Koala Hubs.*

Of the total 101,821 ha of Koala Hubs identified in NSW, 65% occur on private lands, 19% on State Forests and 16% on National Parks. On the basis of available data, these are known to be the most important areas for Koala protection and should be immediately placed under a moratorium until they are more fully investigated.

OEH has already applied Koala records *"to delineate highly significant local scale areas of koala occupancy currently known for protection"* of which 66,162 ha occurs on private lands. Given that these are the most important areas known for Koalas they should be immediately placed under a moratorium from clearing and logging until they are more fully investigated.

2.6.1. Tree Species

Tree species are one of the primary determinants of Koala habitat. It is apparent that Koalas have localised preferences for particular species of eucalypts and that use of a species varies across the landscape and over time. Past attempts to create definitive lists of feed trees for planning and regulation have invariably excluded regionally significant feed trees. Which means that key food resources often remain unrecognised and unprotected. While it is necessary to highlight known feed species it is essential to always allow for additional species found to be significant feed trees in a region to be added.

It is also important to recognise that Koalas often have requirements for other species, including small understorey trees, for resting and shelter, particularly in extreme weather events. These also need to be identified and protected on a regional basis.

It is well known that Koalas have local preferences for certain species of eucalypts (Hindell and Lee 1987, Phillips 1990, Lunney et. al. 1999, Moore and Foley 2000, Phillips *et. al.* 2000, Smith 2004, Moore *et. al.* 2004b, DeGabriel *et. al.* 2010, Gow-Carey 2012, Davies *et. al.* 2014,). Across their range, koalas have been observed eating or sitting in 120 different eucalypt species (Phillips 1990). Though they have also been recorded feeding extensively on other species (i.e. Brush Box, Forest Oak) at some sites (Lunney *et. al.* 1992, Moore and Foley 2000, Smith 2004).

SEPP 44 set as a criteria that in *"potential koala habitat"* Koala Feed Trees *constitute at least 15% of the total number of trees.* Though absurdly it only recognised 10 Koala Feed Trees for the whole of NSW. In the past SEPP 44 was frequently criticized for omitting key feed species (i.e. Phillips *et. al.* 2000, Sluiter *et. al.* 2001, Gow-Carey 2012), which was clearly the case, though the Government refused to update the list until the 2019 revision.

The 2008 NSW *Recovery plan for the koala* (Phascolarctos cinereus) identified as an action (1.13) rectifying the definition of Koala habitat and expanding the list of koala food trees, noting:

> *A large number of submissions to the draft recovery plan's exhibition were of this nature, saying that while they did not object to the food tree species list, the local feed trees that were important were often much more specific. They might include some species on the regional list but not others and often included some tree species not on the list. Using such specific information will often remove the need to consider many species which are not*

> *locally relevant, while at the same time requiring consideration of other trees which are locally important but not important enough regionally to warrant listing on a regional list.*

Appendix 2 of the Recovery Plan has a greatly expanded list of feed trees, broken down into 7 regions and primary, secondary and supplementary feed trees. Though it wasn't until 11 years later that the list of 10 species was revised.

The 2019 Koala SEPP finally increased the numbers of Koala Feed Trees, with a total of 123 species identified on a regional basis. To be defined as "highly suitable koala habitat" under the 2019 Koala SEPP a Plant Community Type was required to be comprised of 15% or more of the feed trees listed in Schedule 2. The Guidelines specifying:

> *Where 15% or greater of the total number of trees within any PCT are the regionally relevant species of those listed in Schedule 2 (see Appendix A), the site meets the definition of highly suitable koala habitat.*

Rather than just 10 species statewide the new Schedule 2 listed 123 feed tree species across the state, with species identified on a regional basis. While the new 2019 SEPP list was a significant improvement it is still based on limited information, and doesn't accommodate the regional variations in species use that are likely to be revealed in the future. Already regional omissions of key species have been identified, for example, the Sydney Morning Herald 13 September 2020 reported:

> *But a written submission from the Clarence Valley Council to the Department of Planning in March, seen by* The Sun-Herald*, not only supports the koala policy, but calls for more tree species to be added to protect the threatened marsupial.*
>
> *But councils like Clarence Valley say a broader definition is needed and "many other tree species should be added," as they are known food sources for koalas in the area.*
>
> *"A major concern is that… areas of habitat will fall outside the Koala Development Application Map. [Council] is happy to provide a list of species that should be added," the submission said.*

The 2019 SEPP initially defined "core Koala habitat" to include "*(a) an area of land where koalas are present",* meaning that having 15% of the listed feed tree species wasn't mandatory, though the SEPP was altered in October 2020 to remove this clause and make it mandatory that to be identified "core Koala habitat" a plant community type had to be "highly suitable habitat", meaning it must have >15% of the listed Feed Trees.

Following the defeat of the LLS (Amendment) the NSW Government reverted to SEPP 44, calling it State Environmental Planning Policy (Koala Habitat Protection) 2020 [NSW]. It reverts to the previous definition of core Koala habitat and has just 10 Feed Trees listed for the whole of NSW.

This farcical politicised listing of Koala feed trees has gone from a ridiculous list that for 24 years stymied attempts to identify and map "core Koala habitat", to an extensive list that included species only occasionally use for feeding, and now returned to the farcical list.

This once again means extensive areas of high quality Koala habitat no longer qualifies as *"potential koala habitat".* For example, in the proposed Sandy Creek Koala Park NEFA scat surveys have identified extensive areas of occupied Koala habitat, NEFA's vegetation plots identified the forest to be dominated by Large-leaved Spotted Gum (*Corymbia henryi)* (46% of trees over 30cm diameter - dbh) and Coastal Grey Box (*Eucalyptus moluccana*) (27% of trees over 30cm dbh), in places the red gums Forest Red Gum (*E. tereticornis)* and Slaty Red Gum (*E. glaucina)* (together 11% of trees over 30cm dbh), and the preferred Koala feed tree Small-fruited Grey Gum (*E. propinqua*) (4% of trees over 30cm dbh). By comparison Large-leaved Spotted Gum comprised 9%

of the trees with Koalas scats beneath them, Coastal Grey Box 34%, the red gums 22% and Small-fruited Grey Gum 35%.

Under SEPP 44 (and its 2020 reincarnation) only Forest Red Gum (*E. tereticornis*) qualifies as a Schedule 2 Feed Species, so only a few small patches would satisfy the 15% threshold. Conversely under the 2019 Koala SEPP all the above species are classed as Schedule 2 Feed Species, meaning Feed Species form 88% of the canopy.

NEFA's results for the proposed Sandy Creek Koala Park also highlight the fact that not all identified feed trees in the 2019 SEPP are equal, for example Small-fruited Grey Gum only represents 4% of the trees though 35% of those with Koala scats, while Spotted Gum represents 46% of trees but just 9% of trees with scats. On their own it is unlikely that Spotted Gums would support a resident Koala colony, so not all species are equal.

Its also important to recognize that Koala's use of a species is influenced by soil types and soil moisture. Many feed species occur over a broad range of soil types but may only be preferentially utilised on one soil type. Moore *et. al.* (2004) use the example of populations of koalas residing in habitats derived from either shale or sandstone near Campbelltown, southwest of Sydney, where:

> *Not only were there more koalas in habitats derived from shale, but koalas preferred E. punctata and E. agglomerata when they grew on soils derived from shale but not when they grew on substrates derived from sandstone.*

As noted by Seabrook *et. al.* (2011):

> *Within the koalas' broad range, their area of occupation and densities are patchy and depend on the presence of favoured tree species and fertile soils with higher levels of soil nutrients and soil moisture*

Food tree diversity in an area has also been identified as an important influence on Koala presence (Lunney *et. al.* 1992, Lunney *et. al*. 1999, Smith 2004, EPA 2016). Smith (2004) found "*koala scat abundance peaked in sites with three or more preferred food trees*", and found that "*koala scats and an average of more than four tree species per scat*", commenting:

> *Food tree diversity may be an important factor in forest habitats because it enables koalas to satisfy their nutritional requirements by selecting different tree species for different essential nutrients (water, protein, energy) and to avoid exceeding toxicity thresholds associated with individual tree species. Koalas are known to avoid tree species, individual trees and tree parts (mature leaves) which are high in toxins and to favour tree species, individual trees and tree parts (new leaf, flower) with high available protein and moisture levels*

In their review of variables affecting Koala distribution, the EPA (2016) found:

> *Limited areas of higher koala activity corresponded with; a higher abundance and diversity of local koala feed trees.*

The other problem is that Plant Community Type mapping is not accurate enough on its own to identify the distribution of feed trees. In their attempts to identify core Koala habitat the EPA reviewed a number of methodologies based on vegetation and modelling. The EPA (2016) assessed floristic (Plant Community Type) mapping (3Ai-PCT), Forestry Corporation Research Note 17 forest type mapping (RN 17) and predictive modelling, finding that none were sufficiently reliable for predicting Koala presence, primarily because "*the variability of canopy species present within vegetation types is too great for determining percentage occurrence of feed trees and therefore habitat class at the level of detail required (1:5000 metres) for management in state forests*", noting:

> *Of the three different koala habitat mapping methods trialed, the project found:*

- ***3Ai-PCT mapping*** *was the most reliable indicator of potential habitat quality at the local management scale. However, it is variable, costly and inadequate at accurately identifying habitat to the degree required for management purposes.*
- ***Reassigned RN 17 types*** *illustrated the least habitat discrimination at the local scale, and may have potential use in determining suitable and unsuitable habitat only.*
- ***Predictive modelled habitat (POC)*** *layer cannot currently identify probability of occurrence with any certainty at the local management scale.*

The EPA's (2016) pilot project was subject to peer review by Andrew Smith, Steve Phillips and Rod Kavanagh, leading the EPA to identify:

> *In reviewing the findings of this project, the expert panel concluded that future work should be directed at determining the known, existing koala distribution and resident population. They recommended that a koala habitat map using the methods assessed can only be used to distinguish suitable habitat from unsuitable habitat. Any landscape scale protection provision attached to such a map would need to be both highly protective and follow precautionary conservation measures to protect both resident koala populations and manage unoccupied habitat to sustain the population into the future.*

2.6.1. While tree species are a key determinant of Koala habitat it is clear that there are many other factors influencing the use of trees by Koalas (including tree size, tree variety, soil type, and leaf moisture/toxins/nutients) making it obvious that an arbitrary threshold requiring 15% Feed Trees in a Plant Community Type as the sole arbiter of "core Koala habitat" is a nonsense. Many areas of high quality Koala habitat will not make this threshold irrespective of what species are identified. The other problem is that even high quality Plant Community Type mapping has been found to be inadequate for determining percentage occurrence of feed trees and thus koala habitat quality.

The 2020 SEPP Guidelines identify that detailed surveys using quadrants and transects are required to identify the tree species composition of each PCT. The number of quadrats or transects required to sample the PCTs to the Department of Planning's satisfaction is not specified. As identified in the EPA's (2016) trial the detail of assessment required to be able to accurately define a 15% species threshold is unrealistic. These criteria seem to be unnecessarily onerous when the NSW Government is engaged in the drawn-out process of mapping PCTs across NSW. While not without its problems, surely the KPoM process should be about ground-truthing and rectifying errors in the NSW Government's PCT mapping – not reinventing the wheel. Aerial Photographic Interpretation with representative ground truthing is often used for PCT mapping, and should be considered adequate for verifying and fixing the State mapping. Though its limitations need to be recognized.

2.6.2. The need to consider tree size and forest structure when identifying Koala habitat.

Many studies have identified Koalas preference for larger trees (Hindell and Lee 1987, Lunney *et. al.* 1991, Sullivan *et. al.* 2002, Moore *et. al.* 2004b, Smith 2004, Moore and Foley 2005, EPA 2016). Tree size has been found to be the most significant variable after tree species in a number of studies, though this seems to be often ignored or downplayed for resource and political reasons.

The relationship between tree trunk diameter and foliage weight is logarithmic (Hindell and Lee 1987). From their 10 year study on Phillip Island, Moore and Foley (2005) found that koalas used trees that were on average significantly larger than expected, which they considered "*represent larger food patches and account for a greater proportion of the foliar biomass available to koalas*".

From their study near Melbourne, aside from tree species Hindell and Lee (1987) only found a significant correlation with the relative proportion of large trees in each species, stating *"Our data also showed that koalas favoured large trees and forest in which large trees were most abundant, and also showed that large trees occurred where the tree density was lowest. This preference for large trees did not change with season and appeared to be independent of species",* and consider:

> *There was a significant correlation between density of koalas and three of the structural components, the most significant of which was the negative relationship with tree density and small trees (7-19 m high). Thus the blocks with the highest densities of Koalas were those characterised by low tree densities and large trees.*

Size class	Males	Females	Non-breeding females	Breeding females	TOTALS
0-50	8.0	0.5	0.6	0.0	0.6
51-100	2.2	0.9	1.0	0.5	1.5
101-150	5.2	5.5	5.8	3.8	5.5
151-200	10.8	11.5	10.7	16.0	11.1
201-250	17.7	17.0	17.7	13.4	16.7
251-300	21.2	26.3	25.2	32.1	24.1
301-1100	41.9	38.0	34.2	39.0	40.4

Table 8(b) from Hindell and Lee (1987): Preference indices of Koalas for each size class of tree (expressed in estimated dry weight of foliage, in kilograms) - by sex and female breeding state.

Hindell and Lee (1987) consider:

> *While the leaves of large trees may have different nutritional properties to the leaves of small trees, it seems more likely that large trees are chosen for some other reason. Large trees have more foliage and consequently may reduce the frequency with which koalas need to move between trees. However, koalas generally move two or three times a night, regardless of the size of the trees they are using (M.Hindell, personal observation). Alternatively, large trees may provide more shelter and greater security from predators. Koalas have few means of escaping adverse weather but sometimes seek out dense foliage such as clumps of mistletoe, and these are most frequent in large trees.*

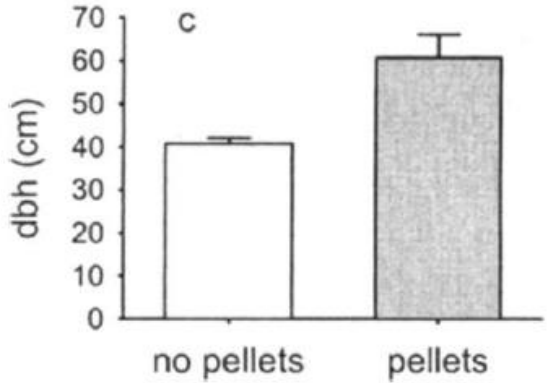
Handasyde and Martin (1991) comment:

> *There is no scientific evidence that Koalas favour disturbed habitat or prefer to feed in eucalypt regrowth forest. The contrary is true. In all of the wild populations we have studied in the past 15 years, the animals have preferred to feed in large mature trees. In our experience koalas rarely feed in saplings or regrowth. When they do, it is usually when mature trees are scarce and the animals are nutritionally stressed.*

In 1999 the Comprehensive Regional Assessment, undertaken jointly between the Commonwealth and NSW Governments in north-east NSW (Environment Australia 1999), expert workshops unanimously identified a significant threat to Koalas as *"Logging that fails to retain stems in the 30-80 DBH size class".*

Sullivan *et. al.* (2002) note "*Our data suggest that about 100 m^2 (Table 4) is a threshold above which tree use by koalas changes in comparison to trees with smaller canopy areas. On average, the length of tree visitation increases with an increase in tree girth, and this might be an attempt to reduce the energetic cost of moving between trees*"

From their study of Tallowwood in north-east NSW, Moore *et. al.* (2004b) found that tree diameter at breast height (dbh) was one of the best explanatory variables for the presence of koala pellets at a site, finding "*koala pellets were more common under larger, less chemically defended trees*" and noting "*It is well known that free-ranging koalas prefer larger trees*".



Extract from Fig. 12 in Moore *et. al.* (2004b) mean dbh for trees with and without koala pellets.

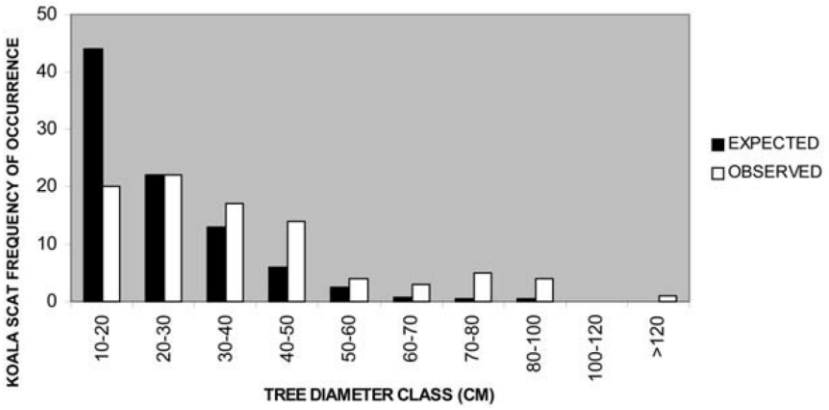


Figure 3. from Smith (2004): Observed frequency of occurrence of koala scats under trees of different sizes compared with expected frequency assuming that trees are selected in direct proportion to numbers present in the forest. It is worth noting that while Smith found no significant relationship with the largest trees because of their low numbers, there is an apparent increasing usage with size.

In his investigations of Koalas in Pine Creek State Forest near Coffs Harbour, Smith (2004) "*identified forest structure to be a key predictor of koala scat density after food tree species and diversity*", noting:

> *Scat abundance differed most significantly (t test p= 0.003) between the structurally uniform regrowth groups (1-3) with a mean of 0.3 trees with scats/site and uneven-aged structurally diverse groups (4-6) with a mean of 1.3 trees with scats/site.,,*
>
> *... The number of trees with scats was significantly correlated with the number of stems in the medium to large size classes (50-60 cm, 60-70 cm and 70-80 cm, Table 2).*
>
> *There were no significant correlations with the number of stems in tree size classes less than 40 cm dbh or greater than 80 cm dbh.*
>
> *Scats occurred more than expected at the base of trees over 30 cm dbh. Significant discrepancies (Chi-square test P< 0.05) were apparent in the 40-50 cm and 10-20 cm dbh classes with the larger stems favoured and the smaller stems avoided. Stems of 60-70, 70-80 and 80-100 were also associated with scats more than expected but these differences could not be statistically validated because of small samples sizes.*
>
> *... There was, however, a highly significant difference between the mean number of trees with scats in non plantation sites (average=1.23 trees per plot) and sites in plantations (average = 0.15 trees per plot*

Smith (2004) conjectured that this preference for larger trees "*may be at least partially related to the energetics of climbing ...koalas can be expected to select individual trees which are either easy to*

climb or closely spaced within jumping reach. Koalas may also prefer larger trees because they provide larger branches or forks for day and night time sleeping". He concludes:

> *I suggest that dense uneven-aged forest structure enhances foraging efficiency by providing greater access to eucalypt foliage. Koalas are unable to support themselves on the fine outer branches of trees because of their large body mass and they must reach out and pull small, outer branches toward them while seated on a nearby larger branch or trunk. This mode of feeding should be favoured in uneven aged forests with a complex structure and multiple foliage layers between the ground and canopy levels. Plantations with small diameter trunks, fine outer branches and a single exterior foliage canopy layer, and recently logged forests with a low basal area offer the least efficient foraging structure.*

In her study of Koalas on St. Bees Island (near Mackay) Ellis (2009) found:

> *E. tereticornis tree girth was significantly correlated with the number of times that koalas were observed in a tree (r=0.121, n=1,754, p<0.001). ... Eucalyptus used only one time have a significantly smaller girth than those used on more than one occasion (133.5±3.0 vs. 114.6±1.6 cm; t=5.577, p<0.001).*
>
> *...*
>
> *Our findings provide some indication that frequency of feeding tree use by koalas is related to tree girth, but a threshold tree size might be responsible for guiding koala foraging patterns.*

The NSW Recovery Plan for the Koala (DECCW 2008) identifies that Koalas have been found to have a preference for larger mature trees of specific species, stating:

> *Smith and Andrews (1997) found that koala activity was greater in structurally diverse forest with the majority of trees 50–80 cm diameter at breast height (dbh). White (1999) found that koalas preferentially utilise trees between 25.5–80 cm dbh, with under-utilisation of trees less than 25.5 cm dbh. Lunney et al. (2000a) found that the koalas in the Coffs Harbour area favoured trees of 50–60 cm dbh and greater than 120 cm dbh".*

As part of a project to map Koala habitat, the EPA (2016) assessed the relationship between Koalas and key variables in 4 State Forests in north-east NSW known to have significant Koala populations. The found usage of preferred species increasing linearly with tree size, noting "*the data demonstrates a strong positive relationship between size class and activity, with highest activity in the largest size class*", concluding that for Koalas:

> *Limited areas of higher koala activity corresponded with; a higher abundance and diversity of local koala feed trees, trees and forest structure of a more mature size class (>30 centimetres and mature forest structure), and areas of least disturbance.*

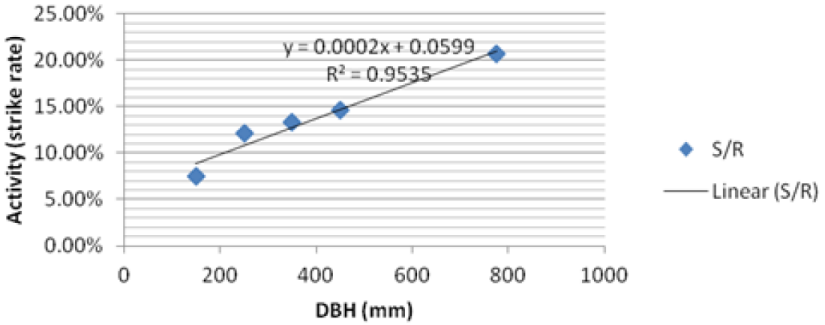


Figure 5 from EPA 2016: Size class of grey box versus scat strike rate

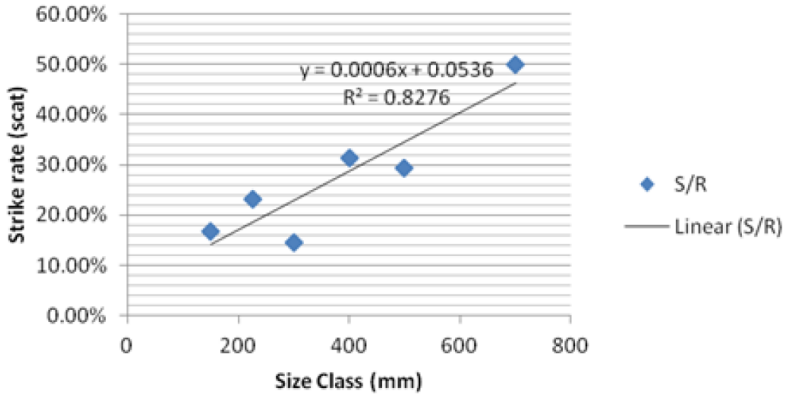


Figure 4 from EPA 2016: Size class of small-fruited grey gum versus scat strike rate

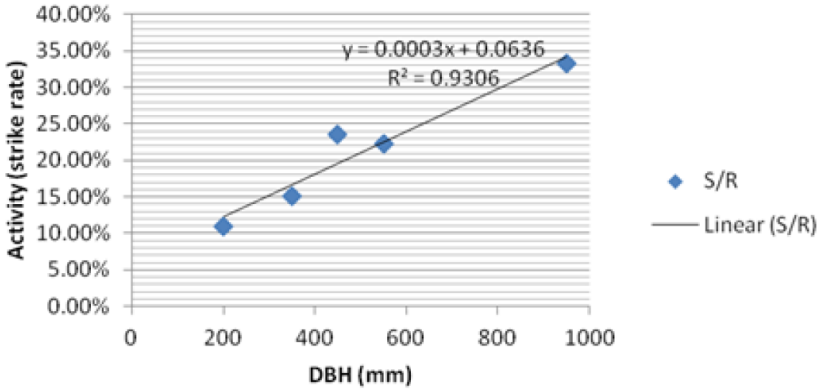


Figure 65 from EPA 2016: Size class of tallowwood versus scat strike rate

The fact that Koalas preferentially select larger trees despite their having increased leaf toxins emphasises that size does matter. Moore and Foley (2005) predicted that trees with high concentrations of the plant secondary metabolite 'formylated phloroglucinol compounds' (FPC) would receive low rates of koala visitation. They found that both Koalas and FPC concentration was positively correlated with tree size, stating "*so by biasing their visits towards larger-than-average trees, koalas were limiting their dietary choices to a subset of trees with higher-than-average FPC concentrations*".

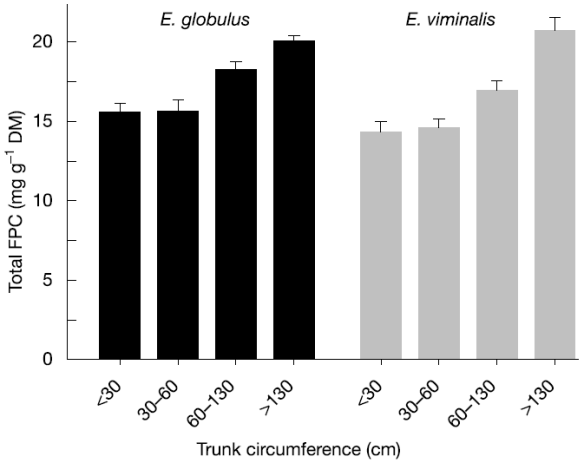


Figure 1 from Moore and Foley (2005): 'formylated phloroglucinol compounds' (FPC) concentrations in four tree size classes. Mean FPC concentrations (with one standard error) in each of four size classes of tree, for E. globulus (black bars) and E. viminalis (grey). DM, dry matter basis.

Briscoe et. al. (2014) found that in hot weather Koalas use tree trunks to cool down, an effect that will be enhanced by tree size, particularly as the effect is related to the extent that the body is in contact with the tree surface, stating "*During hot weather, animals adopted postures with higher surface area exposed ... were more frequently observed with all limbs outstretched and oriented themselves so that they appeared to be hugging the trunks or large lower branches of trees*". They note:

> *During hot weather, koalas enhanced conductive heat loss by seeking out and resting against tree trunks that were substantially cooler than ambient air temperature. Using a biophysical model of heat exchange, we show that this behaviour greatly reduces the amount of heat that must be lost via evaporative cooling, potentially increasing koala survival during extreme heat events. ... Our results highlight the important role of tree trunks as aboveground 'heat sinks', providing cool local microenvironments not only for koalas, but also for all tree-dwelling species.*

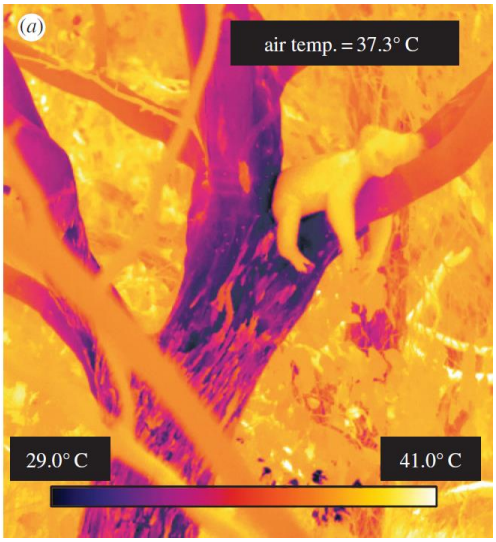


Figure 2(a) from Briscoe et. al. (2014): Thermal image of a koala hugging the cool lower limb of a tree, illustrating a posture typically observed during hot weather

The EPA (2016) also found Koalas had a clear preference for areas with >50% mature and over mature trees in vicinity (p.62) "*Seventy-four per cent (74%) of all activity resides in the high class of structural maturity*". This reinforces Koalas need for larger trees.

Table 30: Koala activity by structure

Row labels	Mature and over mature (>50% of polygon)	Mixed (50:50)	Regeneration (>50% of polygon)	Unassigned	Total
High activity	9	1		1	11
Normal activity	17	5	4	1	27
Low activity	17	2	1		20
Total	43	8	5	2	58
As a percentage	74%	14%	9%		

The EPA (2016) note (p85):

> *The structural component of a forest comprises trees of different size classes, and both size and structural diversity of forests correlates with higher koala occupancy (Lunney et al. 1996; Phillips' 2013; Smith 2004). This study found koala activity correlated with larger tree size classes and mapped mature forest components of the pilot areas. Smith (2004) found forest structure to be a key predictor of koala scat density after food tree species diversity and abundance, where scat abundance was greatest under trees with a diameter at breast*

height (dbh) of 40–80 centimetres. Phillips' (2013) reports similar preferencing for trees >30 centimetres in low fertility areas.

2.6.2. It is evident from numerous studies that Koalas have a preference for larger trees and that the size of preferred feed species is thus a key factor in determining habitat suitability. Tree size is a factor that needs to be accounted for in identifying core Koala habitat, as 15 small feed trees out of 100 is not equivalent to 15 large - Koalas will require less big trees than small ones. It is also important to recognize as forests mature their habitat value will increase over time, so a young regrowth stand may not be core Koala habitat now, but may become so in the future.

2.6.3. Accounting for variable occupancy over time.

It is evident that Koalas are present on many sites where they have never been recorded before because nobody has looked for them, or possibly because they have recolonized a site since someone looked. There are a multitude of reasons why apparently suitable Koala habitat may be unoccupied at a particular time, though the most obvious one is wildfire.

In his review of the EPA's (2016) Pilot Mapping Project, Smith (2015) stated:

> *It supports the hypothesis that koala population are limited by unmapped social and or historical disturbance factors (eg fire, disease, hunting, logging and predation) which are not incorporated into predictive landscape and environmental models because they cannot be, or have not been adequately mapped.*
>
> *...*
>
> *The poor performance of predictive models is consistent with the widely held hypothesis that koalas are frequently absent from areas of good quality "potential" habitat because of past disturbance from disease, hunting, urbanization, drought, fire, predation or other unknown causes. When koala populations are below carrying capacity for these reasons their distribution is likely to reflect aggregation for social or mating purposes as much or more than availability of food trees. This hypothesis is supported by the results of the Pilot Study which found a large number of zero scores in areas of predicted moderate and high potential habitat suitability.*

Phillips (2020) assessment of burnt forests for WWF found an average 71% decline in Koalas in burnt forests, reporting that across his 123 sites on 6 firegrounds:

> *At these sites, pre-fire naïve occupancy levels by koalas ranged from 24% – 71% of the sampled habitat, while post-fire naïve occupancy levels at the resampled subset of these same sites ranged from 0% – 47%.*

In 2019 NEFA began systematic surveys of its proposed Sandy Creek Koala Park, in the process finding areas of Koalas high use where Koalas had never been identified beforehand. There are many sites across the Banyabba ARKS where NEFA identified Koala colonies where none had been recorded before.

Then the proposal was devastated by the Black Summer bushfires in October that year. NEFA found that most Koalas were lost from heavily burnt forests, with an initial loss of around half the Koalas in partially burnt forests increasing to a 60-90% loss over the next 3 months due to the continuing drought, giving an overall loss of 84-96% of Koalas from burnt forests.

NEFA identified heavily burnt areas that had exceptionally high densities of Koala scats before the fires, that had no evidence of any Koalas after the fires. While Koalas survived at low densities at the landscape scale, and feed trees are generally recovering across their habitat, it is expected to

take many years for Koalas to recover sufficiently to recolonize many sites. Where habitat is more fragmented within the Banyabba ARKS recolonization may take many generations.

The 2008 NSW *Recovery plan for the koala* (Phascolarctos cinereus) identifies:

> *Areas which support koala habitat but do not currently support koalas are important for the future recovery of the species by providing habitat into which recovering populations can disperse. Furthermore, native vegetation which does not necessarily support koala food trees but which forms a buffer between primary or secondary habitat and urban and/or rural development (to reduce edge effects), a corridor or link between areas of primary or secondary habitat (see Scotts and Drielsma 2003), or a refuge from fire, should be categorised as tertiary koala habitat. Such habitat may not provide important foraging resources and therefore may not necessarily support resident koala populations, but may still provide resources important to the survival of koala populations.*

2.6.3. The identification of core Koala habitat needs to recognize that some patches of habitat may not have had Koalas recorded within them in the past 18 years (because no one's looked) and may be currently unoccupied (i.e. due to bushfires), and that other areas may be essential for population viability (i.e. buffers, refuges, habitat linkages).

2.6.4. Accounting for climate heating.

Koalas are primarily reliant on moisture they obtain from leaves, which means that they often retreat to areas with higher soil moisture during dry periods and droughts, and in extreme conditions require access to water to drink (see the discussion in Seabrook *et. al.* (2011) for a summary of various studies that have found this). This makes them particularly vulnerable to climate change and the increasing frequency and severity of droughts and fires. Irrespective of direct human impacts, Koalas are becoming increasingly vulnerable to indirect impacts.

It is evident that foliar moisture availability is important to Koalas in drier areas, and is likely to be a significant influence on Koala's habitat preferences during drought periods in better watered areas.

In drier environments the distribution, density, habitat preferences, home range sizes and physiological stress of koalas are affected either by water availability (including leaf moisture) and/or rainfall with populations declining and contracting to riparian habitats during droughts and heatwaves (Ellis et. al. 1995, Seabrook *et. al.* 2011, Wu *et. al.* 2012, Davies et. al. 2014). Davies *et. al.* (2014) found that Koala's diet "*changed between drought and post-flood conditions, with diets during drought being mainly composed of species with high leaf-moisture content*".

In southwestern Queensland Davies *et. al.* (2014) identify riparian habitats as the primary resource used by koalas "*with evidence of populations declining and contracting to riparian habitats during droughts and heatwaves*", with "*protection and enhancement of riparian and drainage line habitats are vital to the ongoing stability of the population*". Davies *et. al.* (2014) state:

> *Foliar moisture supplies most of the koala's water requirements and it has been proposed that in dry environments, or during drought, water rather than leaf nutrients influences tree selection by koalas ... during drought the dietary composition of the koalas of southwestern Queensland consists of tree species that grow mainly in riparian or drainage line habitats that are known to have high leaf moisture (river red gum and coolabah). During post-flood conditions, when the moisture content of tree species in secondary habitat increases, koalas start expanding into secondary habitat and their diet changes to include species that now have higher nutritional value (lower total pheonlics and higher total nitrogen content) (poplar box and possibly ironbark). ... These results support the findings of Smith et al. (2013) that, within a landscape, conservation of both primary and secondary habitat is important for koala populations.*

From their study in south-west Queensland Wu *et. al.* (2012) found:

> *Only leaf moisture was significantly correlated with koala food tree species preference. The presence of surface water appears to be a crucial characteristic of suitable koala habitat while riparian habitats dominant by* E. camaldulensis *are critical for conserving the koala populations in southwest Queensland.*

From their study in central Queensland, Ellis *et. al.* (1995) found "*seasonal changes in diet selection by male koalas reflect increased energy requirements in winter and increased water requirements in summer*", commenting:

> *Leaf-moisture analysis for the selected trees in the present study indicates that koalas do select different tree species between seasons, and that this corresponds with seasonal changes in water flux. ... The leaf moisture analysis undertaken in this study indicates that the characteristics of an individual tree at a particular time of year may be of greater importance to its selection by a koala than its species.*

Seabrook *et. al.* (2011) compared the distribution of Koalas in south east Queensland over the period 1995–1997 until 2009 after 8 years of drought, finding an 80%decline in koala numbers which was partly due to land clearing, but significantly to Koalas becoming increasing restricted to moister riparian habitats:

> *Changes in the area of occupancy and numbers of koalas allowed us to conclude that drought significantly reduced koala populations and that they contracted to critical riparian habitats. Land clearing in the eastern part of the region may reduce the ability of koalas to move between habitats.*
>
> *In 2009, koalas were found almost exclusively along creek lines where river red gum and coolabah were present ...This demonstrates that riverine habitats are critical refugia in the region and their role as core habitat will become more important as climate change leads to a greater incidence of hot, dry conditions…. in southwest Queensland the maintenance of core habitat along creek lines with permanent waterholes will become increasingly critical in the coming decades.*

Moore *et. al.* (2004) consider:

> *The association between dense koala populations and eucalypts growing on fertile soils and gentle topography, especially drainage lines, may be driven as much by water availability as it is by nutrients... In many environments, it may be the case that forests cannot support permanent koala populations without adequate water availability.*

Rennison and Fisher (2018) considered riparian refugia a key factor in identifying Koala habitat, with "*access to permanent water in times of drought and heat stress considered important landscape features for koala populations during these high stress events*". Rennison and Fisher (2018) identify:

> *Where droughts are severe there is well documented evidence of the devastating effects on koala populations with Gordon et al. (1990) reporting a 63% reduction in the population numbers during a drought in southern Queensland in the early 1980's. In this case the only animals that survived the severe conditions were those in habitat close to permanent water holes. The defoliation of drought stressed trees resulted in the malnutrition and dehydration of koalas away from the better-quality habitat. In years to follow with good seasons the population did recover and recolonise the area.*

It is apparent that climate change due to increasing greenhouse gasses, land clearing and degradation of vegetation is already having a significant effect on the distribution of Koalas and that these changes will be amplified in the future. As well as short-term changes in Koala distribution in response to increasing droughts, heatwaves and wildfires, there will be longer-term changes as

climate heating increasingly affects leaf nutrients and toxins, reducing their palatability, and the distribution of eucalypts themselves.

Davies *et. al.* (2014) consider:

> *Species, particularly folivores, at the trailing edge of their geographical range are likely to be most vulnerable to climate change, through physiological stress and the decline in the nutrient richness of their food sources ...Individuals within such environments probably survive at the limit of their physiological capacity to endure drought and heat. The frequency, intensity and duration of extreme temperatures, drought and humidity may determine survivorship of a species directly, or change habitat quality and resource availability*

DeGabriel *et. al.* (2010) identify that climate change can have significant effects on leaf nutrients and toxins, identifying that "*the body of evidence suggests that foliar N will decline as atmospheric CO2 rises*", commenting:

> *... given the effects of the interaction of foliar nitrogen and tannin concentrations on marsupial reproductive success, predicted climate change could have cascading impacts on the population ecology of marsupial folivores and may ultimately limit their persistence in particular habitats.*

Moore *et. al.* (2004) consider:

> *In the long term, the more pertinent issue of climate change is not so much how it influences leaf chemistry but how it affects the distribution of eucalypt species ... the effect of climate change, especially increasing temperature, fluctuating rainfall and fire, on local habitats may determine the future distribution of eucalypt species and the animals that rely on them.*

The climatic envelope suitable for Koalas has been modelled as changing in response to past major climate changes (Adams-Hosking *et. al.* 2011), and will continue to change into the future in response to climate heating (Adams-Hosking *et. al.* 2012). Adams-Hosking et. al. (2012) identify the "*likely impacts of climate change will compound the existing threats to koalas of habitat loss and fragmentation that are causing population declines*". From their modelling of the impacts of climate change on Koalas, Adams-Hosking et. al. (2012) "*found that mean maximum summer temperature, mean annual rainfall, and distance to water were the most important variables for all the models, with distance to water important in four of the five models*", concluding:

> *Our study demonstrated that investing in conservation planning for a specialist species under climate change, without considering the effects of climate change on its food and habitat resources may be inadequate for its long-term conservation. Individual tree species will contract differently under climate change from fauna species such as the koalas and are likely to overlap to differing and increasingly fragmented extents.*

2.6.4(a). It is apparent that water availability is a key resource limitation for Koalas during dry periods and droughts. While this is most apparent in the drier parts of the Koala's range it is likely to be a key factor during prolonged dry periods even in higher rainfall areas. Soil and foliar moisture are thus key determinants of core Koala habitat and climatic refuges that will become increasingly important as climate change progresses and periods of low rainfall become more frequent.

2.6.4(b). Climate change is having significant impacts on Koala habitat and that these impacts will be amplified into the future. It is essential that the impacts of climate change be taken into account in identifying the Koala habitat of the future. Key refuge areas need to be identified and provided with the highest level of protection, even if they are currently not occupied.

2.6.5. Koala presence

While the distribution of Koalas is known to be related to the distribution and variety of feed trees, it has been found that vegetation mapping is not sufficiently accurate to identify the occurrence of feed trees at the stand level. There are also numerous other variables that influence Koala use, including stand structure, soil types/nutrients/moisture, and the availability of water. There is merit in further development of models, using refined Plant Community Type and structural mapping, to identify potential habitat. Though the principal problem is that historical and stochastic events, such as droughts and bushfires, have eliminated Koalas from many areas of potential habitat.

This means that the most effective means of identifying Koala habitat is through Koala surveys.

For example, as identified by Rennison and Fisher (2018):

> *The fickle nature of koala distribution patterns in NSW highlights the importance of investing significant effort to identify lands currently occupied by koalas, and to focus on the protection of koalas where they reside, rather than protecting habitat as a surrogate for koala occupancy.*

In his review of the EPA's (2016) Pilot Mapping Project, Smith (2015) stated:

> *The models and mapping can only be reliably used to predict areas of non or unsuitable habitat. All tested models were too inaccurate to predict relative koala abundance within areas of "potential Habitat". Consequently, the determination of primary, secondary, core and refuge habitat will only be possible by undertaking ground surveys of koalas and or scats over repeated time intervals. The best fit model (Baseline Map) was based on the results of actual past koala surveys rather than predictive modelling.*

In his review of the EPA's (2016) Pilot Mapping Project, Phillips (2015) stated:

> *I suspect there may have been an underlying assumption/ expectation that koala activity would be associated with higher quality habitat areas such that high habitat quality = high probability of occupancy. However, this is rarely the case because other factors such as fire history/intensity and logging history/intensity, as well as koala sociobiology will need to be considered.*
>
> *...*
>
> *note that the question of what is being protected has also been raised. I would have thought that this was a question that should not have required an answer when surely the most important thing to protect are remaining areas of habitat that are currently supporting resident koala populations. This consideration remains independent of the issue of habitat quality and so should be the primary objective of management.*

In his review of the EPA's (2016) Pilot Mapping Project, Kavanagh (2015) stated:

> *In conclusion, the mapped products developed in this study, including the snapshot (once only) surveys conducted in this pilot project, are unlikely to identify core/refuge habitat for Koalas. This requires multiple surveys (or, potentially, stratification of BioNet results by time period) across a range of environmental conditions (e.g. rainfall/drought years). The accurate identification and mapping of important refuges for the Koala is an important goal of this study.*

The 2019 Koala SEPP did allow for "core Koala habitat" to be identified over "*an area of land where koalas are present",* as well as land where Koalas had been recorded within the past 18 years in "*highly suitable koala habitat"* (Plant Community Type (PCT) with >15% Koala feed trees). Though the October 2020 changes removed the ability to identify a site with Koalas as "core Koala habitat", except where it was within "*highly suitable koala habitat".* This will mean that some areas occupied

by Koalas would have been excluded, with the extent off losses dependent on the final list of Koala Feed trees.

Under the revised 2019 SEPP, once a Plant Community Type (PCT) has been identified as *highly suitable koala habitat* the only other requirement to identify it as "core Koala habitat" is whether a Koala has been recorded within it in the past 18 years. The 2020 SEPP Guidelines note:

> *Where koalas or evidence of their presence (for example a koala scat) are recorded through surveys and the site contains highly suitable koala habitat, the habitat is considered core koala habitat.*

The Guidelines identify that detailed surveys using quadrants and transects are required to identify the tree species composition of each PCT. The number of quadrats or transects required to sample the PCTs to the Department of Planning's satisfaction is not specified. Of itself this is a major undertaking. These criteria seem to be unnecessarily onerous when the NSW Government is engaged in the drawn-out process of mapping PCTs across NSW. While not without its problems, surely the KPoM process should be about ground-truthing and rectifying errors in the NSW Government's PCT mapping – not reinventing the wheel. Aerial Photographic Interpretation with representative ground truthing is often used for PCT mapping, and should be considered adequate for verifying and fixing the State mapping.

The SEPP seems intent on making the identification of core Koala habitat as difficult and expensive as possible, as there are also onerous Koala survey requirements (even where there are existing records):

> ***For all sites, surveys must include:***
>
> 1. *Searches for scats following (Phillips and Callaghan 2011) the Scat Assessment Technique (SAT) at a maximum grid spacing of 250 m. …*
>
> *OR*
>
> 2. *Use of detection dogs …*

Given that the altered SEPP only requires a single record over the past 18 years of a Koala being present in *highly suitable koala habitat* to qualify as "core Koala habitat", with no assessment of density required, surely for the purpose of the SEPP there should be no need to survey in relevant PCTs where there are records of Koalas. Similarly if the criteria only require establishing the presence of Koalas, rather than their density, this can be ascertained by far more rapid survey methods, including methods capable of being undertaken from a distance (i.e. rapid scat surveys, call recordings, call playback or drone surveys). Once presence has been established there is no need for further surveys to satisfy the requirements of the Koala SEPP (there are of course other purposes for good Koala survey data). To be sure that Koalas are absent from apparently suitable habitat requires more rigorous surveys.

The concern is that the SEPP's survey requirements are too onerous and will therefore act as an impediment for Councils being able to identify core Koala habitat with the urgency required. The 2020 SEPP Guideline requirement is to assess one scat site per 6.25ha of potential Koala habitat. To put this into perspective, the North Coast Koala Habitat Suitability Model identifies 672,400 ha of "likely" (classes 4 and 5) koala habitat on private lands on the north coast, which would necessitate a minimum of 107,000 Koala scat sites to be surveyed in accordance with the minimum SEPP requirements.

The area of "likely" Koala Habitat (KHSM 4&5) on private lands for 11 North Coast LGAs was derived, showing that to reasonably cover their LGAs to meet the minimum requirements of the Guidelines would require 1,400-24,000 Koala sites for each LGA (average 7,310 per LGA). For

example, with some 150,000 ha of mapped 'likely' Koala habitat, Clarence Valley Council would require at least 24,000 Koala sites to meet minimum requirements.

	Area Likely Koala Habitat (ha)	No of Koala sites required
BALLINA SHIRE COUNCIL	8618	1379
BELLINGEN SHIRE COUNCIL	31598	5056
BYRON SHIRE COUNCIL	12883	2061
CLARENCE VALLEY COUNCIL	149560	23930
COFFS HARBOUR CITY COUNCIL	28231	4517
KEMPSEY SHIRE COUNCIL	69747	11160
KYOGLE COUNCIL	40605	6497
LISMORE CITY COUNCIL	15458	2473
NAMBUCCA SHIRE COUNCIL	29425	4708
RICHMOND VALLEY COUNCIL	77295	12367
TWEED SHIRE COUNCIL	39095	6255

The area of "likely" Koala Habitat (KHSM 4&5) on private lands for 11 North Coast LGAs was derived, showing that to reasonably cover their LGAs to meet the minimum requirements of the Guidelines would require 1,400-24,000 Koala sites for each LGA.

To increase the difficulty of undertaking such onerous surveys, the Guidelines specify *"Councils also **must** seek and gain the written consent of landholders to undertake surveys on the land".* Given the National's and Farmer's Federation's misinformation campaigns against the SEPP it is evident that many landowners will not be willing to give written consent for either vegetation or Koala surveys over large areas of contiguous properties. This will stymie Council's ability to map core Koala habitat across extensive areas in compliance with the requirement of the 2020 SEPP Guidelines.

2.6.5. The identification of Koala habitat from records rather than surrogates has a lot in its favor. While the detailed Koala surveys required by the 2020 SEPP Guidelines would be great to have, their required density of one per 6.25 ha across all potential habitat (including where Koalas have been recorded) establishes a major and unnecessary impediment to the urgent identification and protection of "core" Koala habitat. Identification of core Koala habitat only requires "*evidence of their presence",* not density data, which can be identified through existing records and more rapid survey methods. Landowners can also frustrate Council's ability to satisfy the survey requirements by simply refusing permission, which is increasingly likely given the National's scare campaign.

3. Current and potential incentives and challenges facing rural landholders who seek to protect koalas and their habitat on their land

Koalas are not the only native species rapidly declining, and not the only one already being dramatically impacted by droughts, heatwaves and bushfires worsened by climate heating. The bigger trees grow the more carbon they store and sequester, and they are preferred by Koalas. We are in climate and extinction crisises that are being worsened by the degradation of habitat, release of carbon dioxide and loss of carbon sequestration potential caused by land clearing and logging.

It is clear that the majority of rural residents value koalas and the bush, and are opposed to clearing and logging it, though contrary to community preferences the NSW Government is reducing constraints on land clearing and logging, increasing allowable logging intensities, and reducing protections for Koalas. The NSW Government is pandering to vested interests, loggers and developers, to over-ride community preferences and rights. If we want to reverse the extinction trajectory of Koalas then we need to increase legal protection for their habitat, and reward landholders for protecting it by adapting adapting current carbon credits and biodiversity trust funding, and help them manage it.

To improve regulation of PNF in NSW, Prest (2003) makes a number of recommendations, including:

> *offering financial incentives and other inducements for biodiversity conservation and for positive land-management actions to private landholders, in order to overcome existing countervailing incentives to destroy biodiversity.*

To stop rampant landclearing in eastern Australia, WWF (Pacheco *et. al.* 2021) recommend:

> ● *Enhance funding to support farmers and graziers to regenerate forests, with incentives for those who demonstrate improved forest condition.*
>
> ● *Develop policies and structures to support a transition from native forest logging to plantations and independently certified forest management.*

Further noting:

> *The Australian, Queensland and NSW governments have a range of markets to support carbon offsets and land restoration, particularly to financially reward graziers and farmers who allow natural forest regeneration. Additional financing and long-term funding security is required to expand and improve these schemes, secured with covenants on land titles or carbon farming contracts to provide permanent protection. These would assist conservation of Australia's globally significant forest carbon stocks, enabling them to be actively managed as a carbon sink to deliver increased carbon abatement and sequestration to support a safe climate.*

Proforestation (allowing existing forests to grow old) has the potential to take-up and store a significant proportion of NSW's annual carbon emissions, with north-east NSW's forests alone capable of sequestering over 30% of NSW's annual carbon emissions. Forests thus provide the only realistic means of reducing atmospheric carbon, while at the same time addressing our species extinction crisis.

The Australian Government's Climate Solutions Fund currently grossly underprices 'Australian carbon credit units' (ACCUs) at $17. NEFA's assessment is that a logged medium site quality

Spotted Gum forest (comprising core Koala habitat) has a carbon pool of 95 tC/ha of living biomass (equivalent to 349 tonnes of CO_2/ha if it was clearfelled) and the ability to sequester and store 6.42 tonnes of CO_2 per annum. Applying the ACCU value to these makes the current living biomass worth $5,933 per hectare and the annual increment worth $109 per ha per annum. With more productive ecosystems (ie Blue Gum-Tallowwood stands) and more realistic carbon prices these values rapidly escalate.

The NSW Government's strategy for private lands is to focus on using the $350 million biodiversity trust to pay regional landowners for protecting koala habitat as an alternative to regulation, though this is being done in ignorance of where core Koala habitat is. In December the Government announced $11.8 million for 1,094 hectares of land in the Southern Highlands to be protected koala habitat in perpetuity. There is no information provided on how much constitutes "core Koala habitat", though the price per hectare is $10,786. If this were averaged over 100 years the cost is $108 per annum, which is less than the carbon value.

NRC (2018) identify: *As of March 2019, BCT has invested $55.72 million and secured new conservation agreements totalling 19,091 hectares for conservation since the start of the reform. Investment by region was:*

1. *Central West ($17.5 million/3,984 hectares)*
2. *Murray-Riverina ($13.14 million/5,138 hectares)*
3. *South-East ($12.87 million/3,783 hectares)*
4. *Northern Inland ($5.91 million/4,700 hectares)*
5. *North Coast ($6.3 million/684 hectares).*

While there is no indication of the level of protection provided, the price per hectare for the north coast is $9,211.

What is needed is for the Australian Government to extend it's Climate Solutions Fund (or use another mechanism) to pay landholders for storing and sequestering carbon in forests on land protected in perpetuity, and for this to be complemented by funding from NSW's Biodiversity Trust for lands of exceptional biodiversity value. There are advantages to providing regular payments to the landowners at the time, rather than one-off windfalls payments to a single landowner.

3. Regular payments are needed for landholders who guarantee long-term protection (by zoning or covenant) and management of native forests for carbon sequestration and biodiversity conservation, some elements of which could comprise:

- **f. Extending the Australian Government's Climate Solutions Fund (or creating a specific fund) to pay landholders who protect their forests for long-term carbon capture and storage. Rather than an auction process there needs to be standardized payments based on stored carbon, carbon sequestration and biodiversity value.**
- **g. Extending eligibility for carbon credits to all forests, including those protected, rather than perversely just those that have first been approved for clearing or logging.**
- **h. Paying landholders regularly for a portion of the current measured standing volume of carbon in living biomass.**
- **i. Paying landholders regularly for additional carbon sequestration and storage in vegetation and soils.**
- **j. Expanding NSW's Biodiversity Trust to make regular payments, in combination with carbon credits, to landowners for permanently protecting core koala habitat, and other areas of exceptional biodiversity value.**

3.1. What do rural communities want?

Recently an industry survey found 65-70% of Australians consider logging of native forests unacceptable across all tenures (compared to 10-17% who consider it acceptable), and a ReachTEL survey found 71% of Lismore and Ballina residents *support the creation of national parks to protect koalas from logging* (compared to 16% opposed).

On behalf of the National Parks Association, in the lead up to the 2018 State Election ReachTEL conducted a survey of 700 residents across the New South Wales state electorate of Lismore and 729 across Ballina during the night of 6th December 2017.

In response to the question '*Would you support the creation of national parks to protect koalas from logging and land clearing?'*, in Lismore 68.3% responded 'Yes', 16.8% 'No', and 14.8% ' Unsure/Don't know', in Ballina 74.2% responded 'Yes', 15.1% 'No', and 13.0% ' Unsure/Don't know'.

Of those with an opinion, 82% supported creating Koala parks to protect Koalas from logging and clearing.

In response to the question about relative values of native forests: *'There are two million hectares of publicly owned state forests in NSW. What do you think is the best use of these forests?*'

	Lismore (%)	Ballina (%)
The protection of forest wildlife, nature and trees	47.9	48.6
The protection of water supplies	23.4	23.4
Safely storing carbon in trees	10.9	7.9
Recreation activities	8.5	8.6
Logging for timber and woodchips	7.3	9.2
Logging and burning for biomass power	2.1	2.2

These results are consistent across both electorates and show that the community clearly prioritorise wildlife, water and carbon storage values of forests above timber production, and roughly put recreation values on a par with timber values.

It is clear that the logging of native forests on both public and private lands has no social licence, as even the industry has found. The unpublished Forestry and Wood Products report "Community perceptions of Australia's forest, wood and paper industries: implications for social license to operate" (Schirmer *et. al.* 2018) surveyed 12,000 people from throughout Australia in 2016 and found.

- Native forest logging was considered unacceptable by 65% of rural/regional and 70% of urban residents across Australia, and acceptable by 17% of rural and 10% of urban residents. Eleven per cent of rural/regional and 9% of urban residents found this neither acceptable or unacceptable, and 8% and 11% respectively were unsure whether it was acceptable.
- 45% felt the forest industry had negative impacts on attractiveness of the local landscape and only 22% that it had positive impacts; agriculture and tourism were viewed as having more positive impacts, and mining somewhat more negative impacts
- 53% felt the industry impacted negatively on local traffic (and 16% positively); similar proportions reported negative impacts on traffic from tourism and mining activities, and 30% from agriculture
- 58% felt the industry had negative impacts on local road quality while 16% felt it had positive impacts; mining was also viewed as having negative impacts, while agriculture and tourism were viewed as having slightly more positive impacts.

The report concludes:

> *Views were very strong about unacceptability of native forest harvesting, with most of those who indicated it was unacceptable choosing the response of 'very unacceptable' rather than moderately or slightly unacceptable.*
>
> *...*
>
> *The activity of harvesting timber from native forests has very low levels of social license in Australia, both in regions where this activity occurs and in those where it doesn't. Even amongst the groups who have the highest levels of acceptance of this activity (farmers), and in the regions with highest acceptance (mostly those in which there is higher economic dependence on native forest logging), more people find this activity unacceptable than acceptable. The similarity of views about logging of native forest with views about mining activities suggests that it is viewed as an activity that is non-renewable or unsustainable, rather than as having some of the positive environmental attributes of actions such as establishing solar or wind farms. The strength of views of many people about native forest harvesting suggests potential that this activity is considered incompatible with values held by many people.*
>
> *...*
>
> *Native forest harvesting has very low social license, with very few people being at the 'acceptance' level. Many of those who do not find this activity acceptable are likely to be at the blocking or withheld level of social license, rather than the tolerance level, based on the strength of their negative response when asked about acceptability. Even amongst the groups and in the regions with the highest acceptance of this activity, less than 30% find it acceptable and the majority find it unacceptable. Planting trees on good agricultural land for wood and paper production, however, has higher levels of social license: 43% find timber plantations acceptable, and of the 29% who find it unacceptable most do not find it highly unacceptable (instead reporting slight or moderate unacceptability), indicating many are at the 'tolerance' level rather than withholding or blocking social license.*

This perception exists because it is a rapacious industry overseen by blind bureaucracies who just perpetuate and compound concerns by lack of meaningful constraints and poor regulation. The NSW Government agencies refuse to recognise and accept deeply and long held community concerns and preferences, instead labelling them as "*negative views", "misguided hyperbole" and "fake news", as* demonstrated by the NSW Department of Primary Industries (2018):

> *The suggestion of government 'promotion of private native forestry' is a call to counter the negative views, 'fake news' and around sustainable native forestry, and promote the industry and timber products as a sustainable, ecologically beneficial and a carbon neutral material the public should use above all others.*

Social licence is something that needs to be earned, it can't be manufactured by a public relations campaign and blatant propaganda by Government agencies while the root causes are ignored, and often exasperated by further weakening of rules and regulations. The very public removal and weakening of already inadequate protections for Koalas will have further eroded public acceptance of this industry.

3.1. It is evident that the vast majority of rural residents value the environment, particularly Koalas, and find logging and clearing of native forests unacceptable. The Government needs to stop overriding community rights and wishes to pander to vested interests,

3.2. Using Carbon Credits for Conservation

Loss of carbon from deforestation and degradation has contributed 35% of the accumulated anthropogenic carbon dioxide concentration in the atmosphere, and annually is around 10% of

global anthropogenic emissions (Keith et. al. 2015). In Australia, an estimated 44% of the carbon stock in temperate forests has been released due to deforestation (Wardell-Johnson *et. al.* 2011), with stocks further reduced by around 50% in logged forests (Mackey *et. al.* 2008, Moomaw *et. al.* 2019).

The Intergovernmental Panel on Climate Change (IPCC 2018), identifies that to achieve this the world needs to slow global emissions immediately and reach net zero carbon dioxide (CO_2) emissions by around 2050. Even then we need to remove copious quantities of carbon from the atmosphere. The IPCC (2018) identify:

> *All pathways that limit global warming to 1.5°C with limited or no overshoot project the use of carbon dioxide removal (CDR) on the order of 100–1000 $GtCO_2$ over the 21st century. CDR would be used to compensate for residual emissions and, in most cases, achieve net negative emissions to return global warming to 1.5°C following a peak (high confidence).*
> *...*
> *Model pathways that limit global warming to 1.5°C with no or limited overshoot project the conversion of 0.5–8 million km^2 of pasture and 0–5 million km^2 of non-pasture agricultural land for food and feed crops into 1–7 million km^2 for energy crops and a 1 million km^2 reduction to 10 million km^2 increase in forests by 2050 relative to 2010 (medium confidence). Land use transitions of similar magnitude can be observed in modelled 2°C pathways (medium confidence).*

Goldestein *et. al.* (2020) warn:

> *Given that emissions have not slowed since 2017, as of 2020, this carbon budget will be spent in approximately eight years at current emissions rates. Staying within this carbon budget will require a rapid phase-out of fossil fuels in all sectors as well as maintenance and enhancement of carbon stocks in natural ecosystems, all pursued urgently and in parallel.*

With the urgent need to sequester carbon from the atmosphere we should be managing our forests as carbon sinks. As Mackey *et. al.* (2008) conclude;

> *The remaining intact natural forests constitute a significant standing stock of carbon that should be protected from carbon-emitting land-use activities. There is substantial potential for carbon sequestration in forest areas that have been logged commercially, if allowed to regrow undisturbed by further intensive human landuse activities*

Vast areas of remnant native forests have had their carbon storage in trees, logs, litter and soils dramatically reduced by logging and ringbarking, with their carbon released into the atmosphere to add to the growing problem of global heating. The degraded carbon stores in logged forests now represent an opportunity to remove significant volumes of carbon from the atmosphere and store it back in the recovering forest. Significant emissions can also be avoided by ceasing logging and the continuing running down of forest carbon stores.

Allowing forests to recover and regain their lost carbon is termed proforestation. It is a significant and essential part of the measures needed to limit global warming to 1.5 ^{o} or 2^{o} C. There are vast areas of forest in various states of degradation and regrowth that have the potential to rapidly increase their carbon sequestration and storage just by stopping cutting them down. Moomaw *et. al.* (2019) note:

In sum, proforestation provides the most effective solution to dual global crises – climate change and biodiversity loss. It is the only practical, rapid, economical and effective means for atmospheric carbon dioxide removal among the multiple options that have been proposed because it removes more atmospheric carbon dioxide in the immediate future and continues to sequester it into the long-term future. Proforestation will increase biodiversity of species that are dependent on older and larger trees and intact forests and provide numerous additional and important ecosystem services

(Lutz et al., 2018). Proforestation is a very low-cost option for increasing carbon sequestration that does not require additional land beyond what is already forested and provides new forest related jobs and opportunities along with a wide array of quantifiable ecosystem services, including human health.

The big advantage of proforestation is that there is no waiting, the forests are already growing and absorbing more carbon as they age, we just need to let them do their thing and we can start the process of reducing atmospheric carbon. But we need to start now. As identified by Keith *et. al.* (2014b):

> *Avoiding emissions from forest degradation and allowing logged forests to regrow naturally are important activities for climate change mitigation. The former prevents further increases, and the latter helps reduce atmospheric concentrations of carbon dioxide. This kind of rapid response over the next few decades is important to allow time for technological advances in renewable energy sources that will hopefully eliminate the need for fossil fuel use (Houghton 2012).*

Houghton and Nassikas (2018) assessed the potential to take up the equivalent of 47% of global CO_2 emissions just by stopping clearing and degrading native vegetation, identifying "*the current gross carbon sink in forests recovering from harvests and abandoned agriculture to be -4.4 PgC/year, globally. The sink represents the potential for negative emissions if positive emissions from deforestation and wood harvest were eliminated*".

Houghton and Nassikas (2018) conclude that:

> *... negative emissions are possible because ecosystems are below their natural carbon densities as a result of past land use. That is, potential negative emissions are directly coupled to past positive emissions. There is nothing magical about these negative emissions. They simply restore carbon lost previously. The corollaries of this conclusion are (i) that negative emissions will diminish as forests recover to their undisturbed state (negative emissions will only work for a few decades) and (ii) that much of that recovery will have occurred before 2100, according to these simulations.*

Roxburgh *et.al.* (2006) and Mackey *et. al.* (2008) advocate an approach to assessing the carbon stocks of native forests based on the Carbon Carrying Capacity of oldgrowth forest. Mackey *et. al.* (2008) consider that for reliable carbon accounts two kinds of baseline are needed;

> *1) the current stock of carbon stored in forests; and*
> *2) the natural carbon carrying capacity of a forest (the amount of carbon that can be stored in a forest in the absence of human land-use activity). The difference between the two is called the carbon sequestration potential—*
>
> > *the maximum amount of carbon that can be stored if a forest is allowed to grow given prevailing climatic conditions and natural disturbance regimes*

Oldgrowth forests thus provide the baseline of how much carbon remnant forests used to contain before the European invasion and the past 230 years of accelerating degradation. The difference between original carbon volumes and current volumes, is the volume that degraded remnant forests are capable of recovering from the atmosphere if allowed to grow old in peace. Mackey *et. al.* (2008) consider:

> *Once estimates of the carbon carrying capacity for a landscape have been derived, it is possible to calculate a forest's future carbon sequestration potential. This is the difference between a landscape's current carbon stock (under current land management) and the carbon carrying capacity (the maximum carbon stock when undisturbed by humans).*

Average Carbon Carrying Capacity of the Eucalypt Forests of South-eastern Australia. (from Mackey *et. al.* 2008)

Carbon component	Soil	Living biomass	Total biomass	Total carbon
Total carbon stock for the region (Mt C)	4,060	4,191	5,220	9,280
Carbon stock ha^{-1} (t C ha^{-1})	280 (161)	289 (226)	360 (277)	640 (383)

Carbon stock per hectare is represented as a mean and standard deviation (in parentheses), which represents the variation in modelled estimates across the region. The study region covers an area of 14.5 million ha.

Proforestation has the potential to take-up and store a significant proportion of NSW's annual carbon emissions. The Commonwealth of Australia (2019) give NSW emissions for 2016/17 as 131.5 million tonnes $CO_{2\text{-}e}$ (carbon dioxide equivalent) with stationary energy (which generates heat and electricity) the largest contributing sector. NSW's emissions represent 25% of Australia's total emissions.

Application of the Mackey *et. al.* (2008) methodology indicates that if logging of north-east NSW's State Forests were stopped tomorrow they would immediately begin sequestering in the order of 6.5% of NSW annual emissions, and by stopping logging there would be additional benefits in avoided emissions (Pugh 2020). Previously logged and otherwise disturbed forests incorporated into north-east NSW's existing formal and informal reserves decades ago are likely currently taking up the equivalent of 3.6% of NSW's annual CO_2 emissions. The biggest gains in sequestration, up to some19.5% of NSW's annual emissions, would come from assisting private landholders in north-east NSW to protect their forests.

For NEFA's proposed Sandy Creek Koala Park (south of Casino in the Richmond Valley) we assessed current biomass and carbon stocks by measuring 75 plots in logged forests on 10 transects, and the proforestation carbon carrying potential from 12 plots on two transects in similar unlogged forests'. For these medium site quality Spotted Gum forests we identified that past logging had reduced live biomass (above and below ground) from 454 tonnes/ha down to 190 tonnes/ha, a reduction of 265 tonnes/ha. This represents 132 tonnes of carbon per hectare and is the volumes recoverable over time if the forest was left to mature.

	Aboveground biomass		Belowground biomass		Total biomass	
	Biomass (t/ha)	Carbon (tC/ha)	Biomass (t/ha)	Carbon (tC/ha)	Biomass (t/ha)	Carbon (tC/ha)
Unlogged	363	182	91	45	454	227
Logged	152	76	38	19	190	95
Reduction	211	106	53	26	265	132

Estimates of biomass and carbon volumes per hectare within the logged forests of the proposed Sandy Creek Koala Park, compared to an unlogged control site in Banyabba State Forest. Note that this excludes dead standing trees and logs, so is an under-estimation.

NEFA also applied annual growth rates derived from south-east Queensland to NEFA's plot data to identify indicative carbon sequestration volumes per hectare if the forests were allowed to grow for 30 years. This gave a carbon sequestration rate of 1.75 tonnes per hectare per annum over 30 years, totalling 52.6 tonnes of carbon per hectare by 2050.

	Aboveground biomass		Belowground biomass		Total biomass	
	Biomass (t/ha)	Carbon (tC/ha)	Biomass (t/ha)	Carbon (tC/ha)	Biomass (t/ha)	Carbon (tC/ha)
Current	151.6	75.8	37.9	19.0	189.5	94.8
Increase by 2050	84.3	42.2	21.1	10.5	105.4	52.6
Average annual increase	2.81	1.41	0.70	0.35	3.51	1.75

Estimates of Carbon sequestration potential from application of growth rates derived from Ngugi *et. al.* (2015) to plot data for the proposed Sandy Creek Koala Park (dead standing trees and logs omitted)

This provides an indication of the carbon sequestration potential of medium site quality Spotted Gum forest that has been subject to repeated logging operations in the past, if protected from further logging. Sequestering 1.75 tC/ha a year is equivalent to 6.42 tonnes of CO_2/ha per annum, or 193 tonnes of CO_2/ha by 2050. The total recoverable over 100 years is 484 tonnes of CO2/ha.

The starting point of the degraded forest is 95 tC/ha of living biomass, which is equivalent to 349 tonnes of CO_2/ha. If a landholder agrees to permanently protect this (in an environmental zone or by covenant), or if it is already protected, it should also be recognized as part of a protected carbon bank and a proportion of its carbon value paid to the landholder on a regular basis.

Atmospheric carbon does have a high cost and thus value. Given that Governments have decided to use market mechanisms to regulate the carbon cycle it is essential that values represent the true costs if perverse consequences are to be avoided.

Though as noted by Keith *et. al.* (2017b):

> *There is no exchange value for carbon sequestration in native forests because forest protection is not an approved abatement activity under the Australian Government regulations (Clean Energy Regulator 2016). However, carbon is sequestered by forests and this benefits the public and state and national emissions reduction targets. Hence, the value of carbon sequestration could be exchanged if market access was permitted under the Emissions Reduction Fund (DotEE 2017). Based on SNA approaches to valuation when market prices are not observable, the SEEA (SEEA 2014b, p113) uses a market price equivalent. This is usually based on the market price of similar goods or services. In the case of carbon sequestration, the price of carbon abatement is set by government auction irrespective of the activity or methodology for abatement (Clean Energy Regulator 2015).*

In Australia the Gilliard Government introduced the Clean Energy Futures Plan which briefly established a carbon price up to $24.15 per tonne before being abolished by the Abbot Government in 2014.

In 2014 the Government invested $2.55 billion in the Emissions Reduction Fund with the aim *'of reducing emissions at lowest cost and purchasing genuine and additional emissions reductions*'. A number of activities are eligible under the scheme and participants can earn Australian carbon credit units (ACCUs) for emissions reductions. One ACCU is earned for each tonne of carbon dioxide equivalent (tCO2-e) stored or avoided by a project for 100 years. The baseline is the estimation of abatement that would occur in the absence of a project. So the key measure under the current system is additionality.

Australian carbon credit units (ACCUs) have been issued for a range of projects, including "*reducing emissions on the land by protecting native forest that would otherwise have been cleared*", with the example cited being a payment of $9,554,383 for protection of 7,000ha of semi-arid scrub which was estimated to sequester 60,000 tonnes of carbon annually.:

> *Peter was scheduled to clear 7,000 hectares of forest on marginal land on his property. Peter committed to keeping these forests standing for 100 years as an Emissions Reduction Fund project. In exchange he receives carbon credits which he can sell back to the Government*

Payment of carbon credits for avoided deforestation is not far removed from payment to avoid logging, which is a partial and staged form of land clearing. Though this example also demonstrates the absurdity of a system that only recognises the value of carbon stored in native vegetation if approval is first obtained to clear it.

On 25 February 2019 the Australian Government established a Climate Solutions Fund to provide an additional $2 billion to continue purchasing low-cost abatement.

Reputex Energy (March 26th, 2020) identify:

> *International carbon prices have tumbled amid fears that a COVID-19 induced economic downturn will curb industry demand for carbon allowances, causing a heavy sell-off by investors. In Europe, EUA prices fell over 11 per cent last week, referred to as Black Monday, reaching a low of €15.24/t (A$28), down from €29.94/t (A$54) in mid-July 2019.*
>
> *Locally, the Australian Carbon Credit Unit (ACCU) spot price has continued to trade between $16.50-17/t since late-February, at low volumes, down from a four-year high of $17.50 in December-19.*

The Clean Energy Regulator's Quarterly Carbon Market Report for the first quarter of 2020 identifies 'The tenth Emissions Reduction Fund auction secured 1.7 million tonnes of carbon abatement from 12 contracts and 11 projects at an average price of $16.14 per tonne, for a total commitment of $27.6 million'. In relation to this auction Reputex Energy (April 3rd, 2020) state:

> *The Clean Energy Regulator remains unwilling to contract at higher prices, not accepting a number of higher priced bids at Auction 10.*
>
> *As noted in our earlier update, the unwillingness of the Regulator to contract at higher prices has effectively collapsed the ERF market, with the low price ceiling failing to unlock higher cost abatement projects, while eroding market sentiment as bidders sit on the sidelines or wait for more favourable prices in the secondary market or via direct offtake agreements.*
>
> *At these contracting volumes, the ERF is unlikely to make a large contribution to Australia's national emissions reduction abatement task, with a re-working of the scheme needed to better incentive industry participation.*

It is considered that carbon prices, particularly in Australia, grossly undervalue the true cost of carbon, and what the likely future value of carbon will be. A recent study by Boston Consulting Group 'The Staggering Value of Forests—and How to Save Them' considered

> *The estimated total value of the world's forests is as much as $150 trillion—nearly double the value of global stock markets. The ability of forests to regulate the climate through carbon storage is by far the largest component of that total value, accounting for as much as 90%.*
>
> *We quantified the first component by determining the amount of carbon currently stored in tree biomass. On the basis of that figure, we calculated the CO_2 emissions that existing forests have prevented from being released into the atmosphere. Those prevented emissions, roughly 1,000 Gt of CO_2 in total, are priced at $27 to $135 per Gt CO2 to arrive at the climate-regulatory value from carbon capture and storage. The lower figure represents the current 50-day moving average of the carbon price in the EU, while the higher figure is*

> *the price necessary to keep global warming below 1.5°C by 2030 according to the Intergovernmental Panel on Climate Change (IPCC).*

Keith *et. al.* (2017b) similarly note:

> *The price of carbon sequestration in the market does not equate to the social cost of carbon, that is, the marginal damage costs caused by carbon dioxide emissions if they were not avoided. An average value of the social cost of carbon was estimated to be \$58 tC^{-1} (\$212 tCO_2^{-1}) based on a literature survey (Tol 2005). This social cost represents the trade-off between avoided impacts of climate change and the costs of emission reduction.*

For Victorian Central Highlands forests Keith *et. al.* (2017a) applied the then ACCU carbon price to calculate:

> *The carbon sequestration potential of ceasing native forest timber harvesting and allowing continued forest growth was estimated to be 3 tC ha^{-1} yr^{-1} (averaged between 1990 and 2015), which is equivalent to AUD\$134 ha^{-1} yr^{-1}. Over the area of forest that had been logged, this potential increase in carbon stock was 0.344 MtC yr^{-1}, equivalent AUD\$15.5 million yr^{-1} (Table 1).*

While \$17 a tonne can be considered the current market cost of carbon dioxide in Australia's shambolic carbon market, there can be no doubt that as climate chaos gains momentum, and the Federal Government can no longer deny the urgency of the problem, that the carbon value will rapidly escalate to reflect the true cost of emissions and the cost of removing atmospheric carbon.

If the minimal value of \$17 a tonne is applied to the Spotted Gum forests assessed by NEFA, then the carbon pool of 95 tC/ha of living biomass, which is equivalent to 349 tonnes of CO_2/ha, would be worth \$5,933 per hectare, and the annual increment of 6.42 tonnes of CO_2/ha per annum would be worth \$109 ha per annum. It is proposed that if the existing carbon bank is protected from clearing or logging in perpetuity (such as through E2 zoning or covenant) then regular payments could be made to the landowner for a portion of its current carbon value, and for its carbon increment. For example, if the value of the carbon bank is spread over 50 years, then every 5 years this would be equivalent to payments of \$1,138 per hectare. This should be topped up by regular payments for more biodiverse forests, including core Koala habitat.

As carbon increases to a more realistic value so too would the payments to landholders.

3.2. Loss of carbon from deforestation and degradation has contributed 35% of the accumulated anthropogenic carbon dioxide concentration in the atmosphere, and annually is around 10% of global anthropogenic emissions. To address the growing threat of climate heating we need to both reduce emissions and increase sequestration of atmospheric carbon. Retaining forests and allowing degraded forests to regain their lost carbon are urgent actions we need to take to begin to redress climate heating on the scale required. Carbon credits offer a mechanism to reward landholders for protecting forests for carbon sequestration, though they need to include payments for standing carbon and annual sequestration when forests are protected.

4. The mechanisms by which biodiversity values are assessed on private land when land use changes

Logging and clearing operations occur over tens to hundreds of hectares of native forests inhabited by a variety of threatened species, many of which are threatened by extinction. They involve removal of trees and shrubs used by a variety of species for food, nesting and denning, extensive soil disturbance resulting in erosion and stream pollution, reductions in carbon sequestration and storage, and changes in evapotranspiration affecting microclimates, air moisture, temperature and stream flows.

Eucalypt trees are long lived organisms, taking decades to begin to flower and seed, over a century to begin to develop the hollows required by a plethora of native species for denning and nesting, and have lifespans measured in centuries. They can grow to massive sizes and are not quickly replaced. Logging impacts are long-lasting, so they are compounded by repeat events, and combined with clearing have landscape scale impacts.

Logging and clearing are high impact activities with significant environmental impacts that deserve due consideration. Numerous activities with far smaller footprints and impacts require Development Applications (DAs) be submitted to Councils, including mapping of tree removal and ecosystems, site-specific flora and fauna surveys, and species impact statements. Most importantly they require public exhibition of proposals and reports, giving neighbors and the broader community a right to raise concerns and objections.

Under the Local Land Services Act, land clearing can be self-assessed and most is unexplained while logging only requires a desktop assessment of impacts, and neither require any notification of neighbours or give the public a right to object, critique claims or raise issues. Unlike with Development Applications, neither clearing or logging require any surveys to assess, identify and map the distribution of threatened species and ecosystems as part of an approval process. This includes Koalas. Intentional ignorance allows them to kill and maim threatened species with impunity.

With most land-clearing “unexplained” it is obviously up to landowners to self-assess, with no environmental assessment requirements. Even when Local Land Services are involved, the Auditor General found clearing is “*not effectively regulated and managed*”, being fraught with problems of weak processes, poor assessments, inadequate protection, limited monitoring and poor enforcement. With no pre-clearing survey requirements, the identification of “core Koala habitat” as category-2 sensitive regulated land appears to be the only constraint requiring Koalas to be considered, though, given the small areas mapped and the lax enforcement by LLS, this provides no substantial protection for Koala habitat. It is mostly a clearing free-for-all, including for Koala habitat.

The Property Vegetation Plans seen have been simplistic desk-top assessments that rely on remotely mapped attributes (oldgrowth, rainforest, stream orders), with no ground surveys or assessments what-so-ever (unless a landowner challenges the oldgrowth or rainforest mapping). There is no on-ground assessment of biodiversity values. The EPA do not see it as their responsibility to identify localities of threatened species or ecosystems, and even when notified of their presence will not require landowners to look for them. Despite logging affecting large areas, the assessments are nowhere near the standard required for a Development Application.

While the PNF Code of Practice has numerous prescriptions for threatened species, there are no requirements to look before they log. With most landowners primarily interested in maximizing profits and contractors chasing dwindling sawlogs (Jamax Forest Solutions 2017), there is no incentive to look for threatened species that will require increased tree retentions, even if they had the expertise. As noted by Jamax Forest Solutions (2017) *"Whilst many PNF landowners are aware of PNF requirements, many still don't know or don't want to know"*, and the logging contractors *"generally only undertake a visual assessment of each property to determine if it is viable to harvest"*.

The extremely poor level of assessment is clearly illustrated by the treatment of Threatened/Endangered Ecological Communities (TECs, EECs). The Auditor General (2019) observed:

> *LLS has produced guidelines to assist regional service officers to determine the viability of TECs in the long term however they lack specific criteria and training to adequately guide such decisions.*
>
> *LLS staff in most regions have received some specific training in plant ecology, including the identification of plant community types, but limited training in identifying threatened ecological communities. Records provided indicate that staff in two of the larger regions have received little or no such formal training since the reforms were implemented in 2017.*

In relation to EEC's, Jamax Forest Solutions (2017) cite the following responses from contractors:

- *EPA not prepared to make a call and identify boundary in the field, leaving the decision to less qualified people (contractor/landowner). If you do get EPA out in the field, they have 3 different opinions/boundaries*
- *moving goalpost, previously an EEC would cut out if other species present, now can have a "sprinkle" of other species. Have to identify yourself but EPA won't commit to a decision on in/out, won't draw a line in the sand. But they will prosecute you if they think you got in a different location that where they would have put it.*
- *difficult to identify in the field and left solely with the landowner*
- *EEC goalposts keep changing - gone from limited number of species to anything is possible*
- *what's mapped isn't EEC in field;*

See Section 4.2 for an example where the Office of Environment and Heritage remapped obvious Critically Endangered Lowland Rainforest of Subtropical Australia (listed and mapped under the *Environment Protection and Biodiversity Conservation Act 1999)* as either cleared land or part of the logging area in a PVP, thereby removing all protection for it (see Pugh 2014 for a full discussion).

On 19 November 2020 The Hon. Sarah Mitchell (Minister for Education and Early Childhood Learning) said in the second reading speech in the Legislative Council:

> *It is worth noting here in some detail that the land management and private native forestry frameworks—the strong protections for threatened species and their habitat on agricultural land—are ground truthed on farm and are not simply an exercise in desktop guesswork. These protections include inspections for land management authorisations and to identify and preserve biodiversity; pre-planning and assessment, including consideration of threatened species records before approving private native forestry plans; permanent conservation of areas of high biodiversity value with the establishment of set asides in perpetuity for key components of the land management code, which includes consideration of landscape connectivity for threatened species; exclusion zones around threatened species records and riparian areas, and prohibitions in rainforest or old growth forest areas when conducting private native forestry; and provisions to ensure activities that are likely to harm threatened species cannot occur,*

This is misguided hyperbole, descending into farce with the claim that harm to threatened species cannot occur. The reality is that land clearing and logging is undertaken without any surveys for threatened species. If you don't look you don't find, and if you don't find you don't protect. And no matter how many threatened species are killed, the culprits get away scot free because they can plead ignorance.

The bipartisan inquiry **Koala populations and habitat in New South Wales** found:

> **Committee comment**
>
> **7.91 Based on the evidence received, the committee believes that the regulatory framework for private native forestry does not protect koala habitat on private land.** In fact, the 'number of quite stringent protections for koalas' that government witnesses asserted the PNF Code contains are weakened substantially, or indeed non-existent, when practically applied. **The committee finds it unacceptable that land identified as core koala habitat can be cleared because of departmental delays.**
>
> **7.92** The committee concludes that many of the issues with the Private Native Forestry Codes of Practice stem from their reliance on protections under SEPP 44. **Once again, the committee reiterates its disappointment at the systemic failure to approve koala plans of management under SEPP 44. Because of this failure, it is clear that protection of 'core koala habitat' under the Private Native Forestry Codes of Practice is not occurring as the NSW Government claims it is in its submission.**

4(a). Unless Councils have prepared Koala Plans of Management (KPoMs) that identify "core Koala habitat" (and that this is accepted by the LLS), there is no protection for Koalas. There are no requirements to look for them ahead of logging or clearing, and the EPA/LLS refuse to do so, or require landholders to, even when Koalas are known to be present. It is only if development consent is required by Councils that site specific KPoMs are required, and often the landowner just relies upon the EPA/LLS approval without obtaining the required development consent (see Section 6). Because of their refusal to look before they approve, the EPA/LLS regularly and systematically approve Property Vegetation Plans (PVPs) over forest later found to be "core Koala habitat", effectively exempting landholders from having to comply with Council KPoMs, PNF Codes and other protections for "core Koala habitat".

4(b). The secrecy surrounding Property Vegetation Plans is intended to hide what is going on from public view. Without public exhibition and accountability, the checks and balances required of Development Applications are removed and the process is open to corruption. It has enabled the EPA and LLS to become captured agencies and encouraged bad practices. With no public accountability it is no wonder that land clearing and logging is opposed by the majority of rural communities and has no public license (Section 3.1.). Property Vegetation Plans should be subject to the same accountability as Development Applications, with a mandatory 14 day exhibition period.

From his review of forestry self-regulation in Tasmania, Prest (2003) considered that it contained insufficient safeguards and "*insufficient measures to counteract the strong incentives to under-report threatened species matters*", noting that when combined with secrecy provisions:

> *the system of self-regulation can create an environment in which external review, evaluation and critique are unwelcome. In such a context, conditions are created in which it is possible, or even expected, for participants to turn a blind eye to breaches of the Act and Code.*

While we supposedly have an independent regulator in NSW, this seems to sum up the situation in NSW. Prest (2003) identifies that there is a danger when the regulator identifies those they are meant to regulate as their "customer" or "client". Our experience at Whian Whian was that the EPA

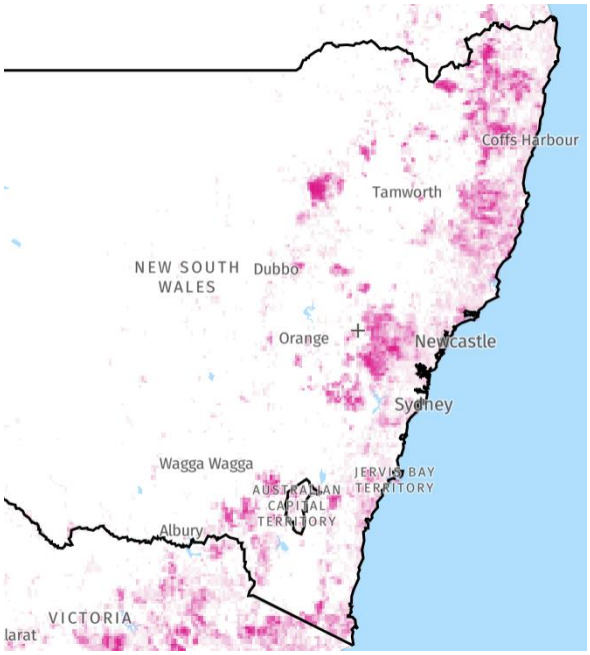
perceived their role being to facilitate the Forestry Corporation's activities (regardless of the consequences) while regarding the locals who were complaining as the problem. Prest (2003) suggests that "*the institutional solution is to separate roles and responsibilities between the regulator and the service provider, by creating an Office of the Forest Regulator separate to extension services*".

Prest (2003) also identifies that that "*'soft' techniques for behaviour change, although vital, must take place within a context of the threat of coercive action to ensure compliance. Threats and inducements must be perceived as real, not a mere bluff*". The EPA appear unwilling to regulate private forestry, they are a captured agency.

4.1. Land clearing free-for-all.

The WWF report *Deforestation Fronts: Drivers and Responses in a Changing World* (Pacheco *et. al.* 2021) identifies 24 “active deforestation fronts” worldwide, identifying eastern Australia as number 14 of the major deforestation fronts due to cattle ranching and large scale logging, and as the only developed country on the list.

WWF (2021) Deforestation Front.



Global Forest Watch (2021), forest loss

In the forward Marco Lambertini, Director General of WWF International states:

> *Yet forests today are in crisis, devastated by fires, converted and degraded for agriculture, for fuel and for timber. The mismanagement of the world’s forests is ramping up carbon emissions, ravaging biodiversity, destroying vital ecosystems, and affecting the livelihoods and wellbeing of local communities as well as societies globally. And the situation is getting worse. The world’s current unsustainable food systems mean that instead of repurposing degraded land for sustainable agricultural use, forests, savannahs and grasslands continue to be destroyed.*
>
> *…*
>
> *We know what has to be done: protect critical biodiversity areas and sustainably manage forests, halt deforestation and restore forest landscapes, recognize and protect the tenure rights of indigenous peoples and local communities, support local people to build sustainable livelihoods, enhance landscape governance, and transform our economies, food and financial systems to better account for the value of nature. …*

> *Let's use this crisis as a wake-up call to halt nature loss, and safeguard forests, one of our world's most precious resources.*

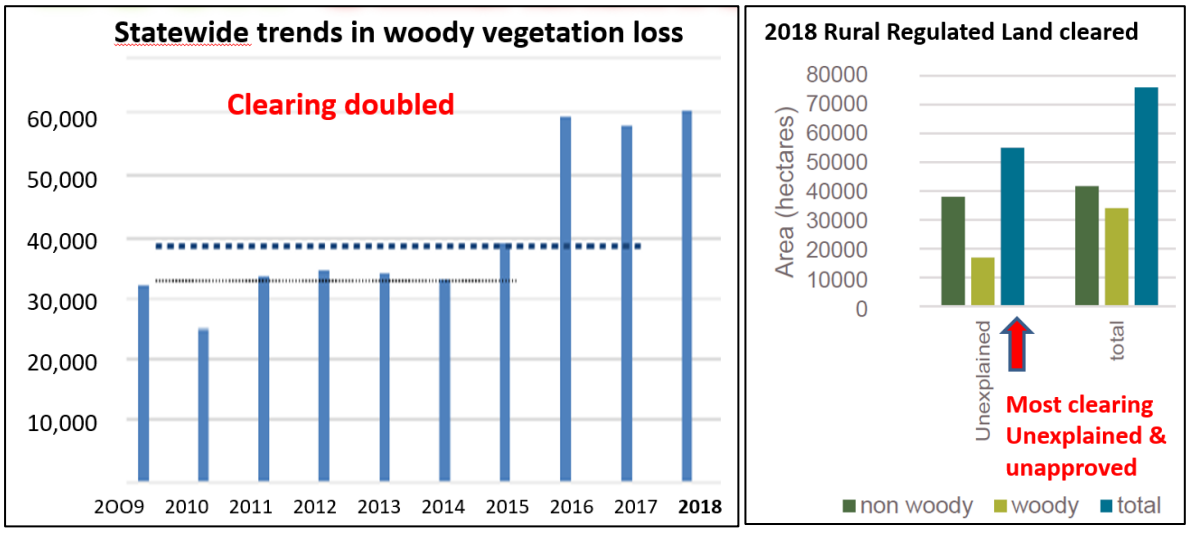
WWF (Pacheco *et. al.* 2021) note in relation to eastern Australia *"Vegetation laws are governments' preferred approach to reduce deforestation but have had a chequered history and are now universally weaker than they were in the mid-2000s"*.

The recently released Global Forest Watch identifies:

> *In 2010, **New South Wales** had **11.8Mha** of natural forest, extending over **15%** of its land area. In **2019**, it lost **910kha** of natural forest, equivalent to **247Mt** of CO_2 of emissions.*
>
> *From **2001** to **2019**, **New South Wales** lost **1.66Mha** of tree cover, equivalent to a **13%** decrease in tree cover since **2000**, and **441Mt** of CO_2 emissions.*

The June 2019 Auditor General report on Managing Native Vegetation found that "*The clearing of native vegetation on rural land is not effectively regulated and managed*", being fraught with problems of weak processes, poor assessments, inadequate protection, limited monitoring and poor enforcement. Leading her to conclude (in part):

> ***The clearing of native vegetation on rural land is not effectively regulated and managed because the processes in place to support the regulatory framework are weak. There is no evidence-based assurance that clearing of native vegetation is being carried out in accordance with approvals. Responses to incidents of unlawful clearing are slow, with few tangible outcomes. Enforcement action is rarely taken against landholders who unlawfully clear native vegetation.***
>
> ***The rules around land clearing may not be responding adequately to environmental risks.***
>
> *The Code, which contains conditions under which the thinning or clearing of native vegetation can be approved on regulated land, is intended to allow landholders to improve productivity while responding to environmental risks. That said, it may not be achieving this balance. For example, the Code allows some native species to be treated as 'invasive' when they may not be invading an area, provides little protection for groundcover and limited management requirements for set asides. There is also limited ability under the Code to reject applications for higher risk clearing proposals.*



Graphs adapted from DPIE **Woody vegetation change, Statewide Landcover and Tree Study (SLATS) for 2018**

Land clearing in NSW has developed into a free-for-all since the rules were changed in 2016. In 2018 clearing of woody vegetation doubled to 60,800 ha and 72% of the 75,000 ha of Rural Regulated Land cleared was described as “unexplained”.

The Natural Resources Commission's belatedly released July 2019 report on land clearing gives another damning assessment of NSW's land clearing free-for-all, revealing that the ”*average annual area approved pre-reform”* was 2,703 ha/annum, with this increasing by 14 times to 37,745 ha from June 2018 to May 2019. This is excluding unapproved clearing and "invasive native species", with over 140,000 ha approved for clearing in 2018/19 under the guise of 'invasive native species'. The NRC note “*Widespread use of Part 3 of the Code – which relates to thinning – poses a risk to biodiversity state-wide*”, and the Auditor General (2019) concludes *“the Code allows some native species to be treated as ‘invasive’ when they may not be invading an area””.*

The refusal by the NSW Government to punish illegal clearing, and the allowance of “self-assessable” clearing has led to most land clearing being “unexplained”. The NSW Government has no idea of what is going on, and the lack of enforcement has resulted in a free-for-all mentality. The Natural Resources Commission (2019) considered “*Compliance frameworks are inadequate and high rates of unexplained clearing pose a major risk*”, noting:

> *However, the available data indicate that there is a major risk from unexplained clearing. Based on total area, the area of unexplained clearing identified in the first five months of the reform alone (7,100 hectares) exceeded the annual pre-reform average (6,350 hectares). Extrapolating this to an annual figure indicates that the trigger would be exceeded significantly. Further, when the proportion of unexplained to approved clearing is considered, nearly 60 percent of the total area cleared under the reforms is unexplained, which is of concern. The Commission notes that not all unexplained clearing is necessarily unlawful clearing but data were not available to indicate the proportion of unexplained clearing that is found to be unlawful.*
>
> *Maintaining biodiversity values under the reforms relies on landholders complying with the Code and a key measure of the reforms’ success is a reduction in the amount of unlawful clearing. The available data indicate that there is a major risk from unexplained clearing or that systems for monitoring unexplained clearing are inadequate.*

The Auditor General (2019) commented:

> ***There are significant delays in identifying unlawful clearing and few penalties imposed.***
>
> *Unexplained land clearing can take over two years to identify and analyse, making it difficult to minimise environmental harm or gather evidence to prosecute unlawful clearing. Despite around 1,000 instances of unexplained clearing identified by OEH and over 500 reports to the environmental hotline each year, with around 300 investigations in progress at any one time, there are only two to three prosecutions, three to five remediation orders and around ten penalty notices issued each year for unlawful clearing. Further, OEH is yet to commence any prosecutions under the current legislation which commenced in August 2017.*

The principal measure relied upon to mitigate clearing impacts are requirements to permanently protect part of the land in set asides, NRC (2019) identified that “*when all certifications and notifications for approval are considered*” (aside from “invasive species”) “*less than 54 percent of the state-wide area approved to be cleared (45,553 hectares) was set aside*”, noting:

> *The two LLS regions where the set aside areas were lowest relative to the area approved to be cleared were Central Tablelands (which had 1,404 hectares approved to be cleared and 35 hectares or 2.5 percent set aside) and Northern Tablelands (which had 6,915 hectares approved to be cleared and 453 hectares or 6.5 percent set aside). Additionally, North*

> *Coast, North West and South East had set aside areas that were less than 20 percent of the area approved to be cleared.*

The Auditor General (2019) further concluding:

> ***There are processes in place for approving land clearing but there is limited follow-up to ensure approvals are complied with.***
>
> *…*
>
> *There is limited follow-up or capacity to gauge whether landholders are complying with the conditions of approvals and effectively managing areas of their land that have been set aside for conservation (i.e. 'set asides'). …*

Allowing significant areas to be cleared while setting aside parts of the area is not redressing biodiversity and habitat loss, it is just facilitating it. There is still a net loss no matter how much is set aside.

A publicly available Native Vegetation Regulatory Map was a key component of the Government's vegetation reforms intended to provide landholders and regulators with clarity and certainty about what management activities they can undertake on land. The NRC (2019) noted "*the lack of a public map is likely to impact on outcomes related to landholder clarity and certainty, reduces opportunities to improve the map and increases the risk of unlawful clearing*". The Auditor General (2019) commenting:

> ***The release of the Native Vegetation Regulatory (NVR) map has been delayed, limiting landholders' ability to determine if their plans for clearing are lawful.***
>
> *… However, in November 2016 the then Minister for Primary Industries advised Parliament that the two largest land categories of the NVR map will not come into effect until the relevant Ministers are satisfied stakeholders have sufficient confidence in the maps' accuracy. Not releasing the map has made it harder for landholders to identify the portions of their land that are regulated and ensure they comply with land clearing rules. …*

While the mapping has been available for years the NSW Government still refuses to release it. The LLS website accessed on 1 February 2021 still relies on a "transitional" regulatory map, stating:

> ***Transitional Native Vegetation Regulatory Map currently in force***
>
> *On commencement of Part 5A of the Local Land Services Act 2013 (LLS Act) in August 2017, a transitional Native Vegetation Regulatory Map (NVR Map) was published for use during the transitional period. The transitional NVR Map does not include all categories defined in the legislation. …*
>
> *During the 'transitional period', landholders are responsible for determining the categorisation of their land in accordance with section 60F of the* Local Land Services Act 2013 *(LLS Act).*

The Land Management (Native Vegetation) Code 2018 specifies "*Clearing is not authorised by this Code if the person who carries out the clearing harms an animal that is a threatened species and that person knew that the clearing was likely to harm the animal*". With no requirements to look for threatened species before clearing, this clause is testimony to the scam "What you don't know won't hurt you", allowing people to blindly bulldoze the home of threatened species.

4.1. As intended by the National Party, and allowed by the Liberal Party, land clearing has developed into a free-for-all since the rules were changed in 2016, with a doubling of clearing of woody vegetation, 60-72% of clearing of Rural Regulated Land "unexplained", and approved clearing increasing by 1,400%. The Government is still refusing to release the regulatory maps their reforms rely upon, and the ill-defined clearing categories of "thinning" and "invasive native species" are major threats to biodiversity. The clearing of native

vegetation on rural land is not effectively regulated, managed or enforced. Aside from the requirement to include "core Koala habitat" in rural regulated land, Koalas are ignored.

4.2. The PNF Code of Practice

The Private Native Forestry Code was introduced by the NSW Government in August 2007 and sets the minimum operating standards for harvesting in private native forests. These were made as a Regulation under the Native Vegetation Act 2003, with four Codes of Practice for separate geographic regions. Under the Code, broadscale clearing for the purpose of private native forestry is taken to be "sustainable" and "improve or maintain" environmental outcomes (even when it causes extensive environmental degradation) if:

- it complies with the requirements of the PNF Code, and
- any area cleared in accordance with the Code is allowed to regenerate and is not subsequently cleared.

The announcement included $30 million restructuring funds for the timber industry. These were only meant to be an interim measure while the Government developed a new Act to regulate private native forestry over the next few years.

Under the Native Vegetation Act 2003, harvesting and associated forestry operations conducted for the purposes of PNF require an approved PNF Property Vegetation Plan (PNF PVP). PNF operations under a PNF PVP must be conducted in accordance with the PNF Code of Practice (PNF Code). The PNF Code has been granted biodiversity certification under the Biodiversity Conservation Act. This means that once a PVP has been approved, landholders do not need to separately apply for a licence under the BC Act as threatened species are taken to have been adequately dealt with.

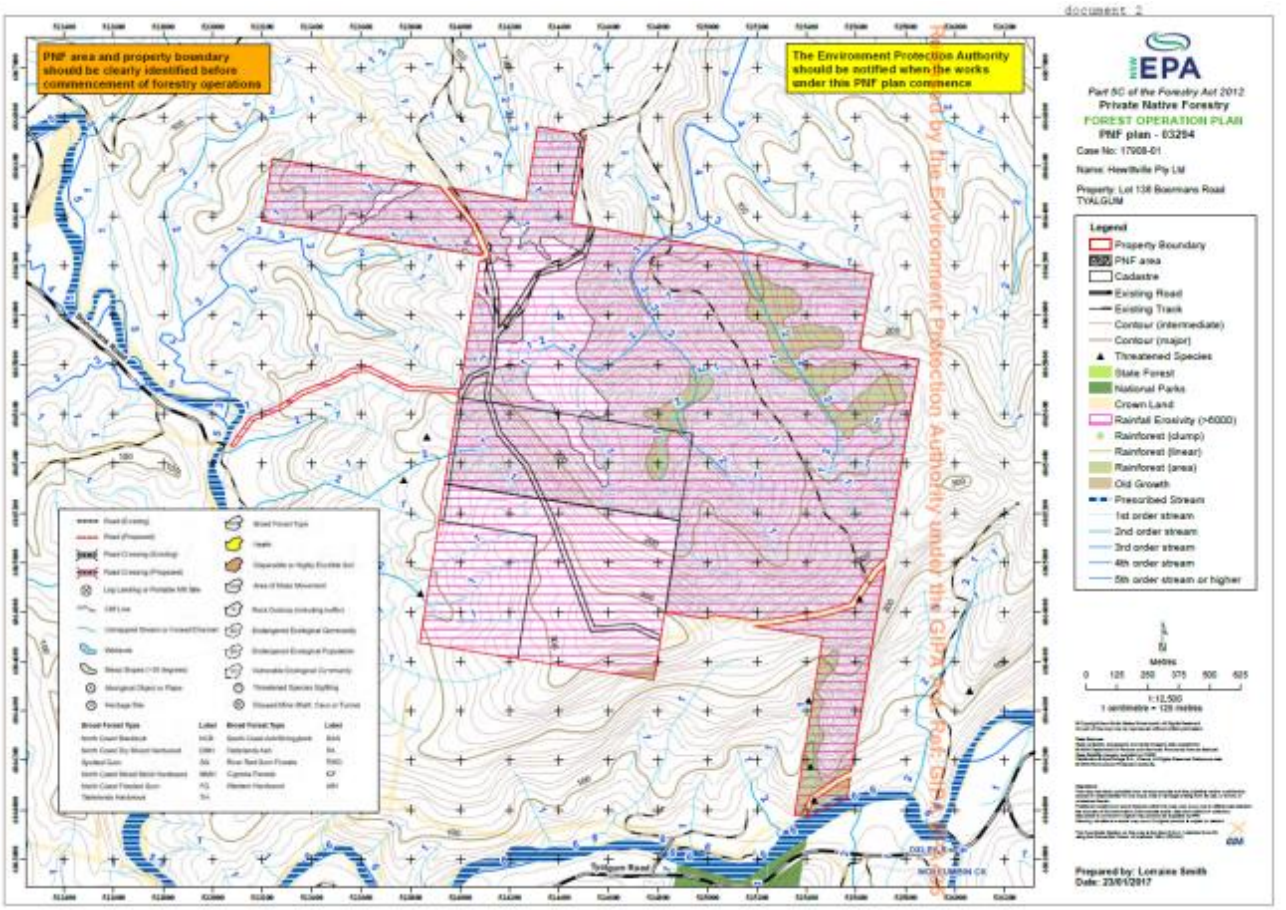
No further assessment is required over the life of the plan and only the PNF Code current when the approval was granted needs to be complied with. There is no need to consider additional information, or even to apply improved species prescriptions or species information when PNF Codes are updated. This is contrary to the principles of Ecologically Sustainable Forest Management and requirements for adaptive management. Theoretically they are meant to be monitoring their activities, review the outcomes, and change their procedures to improve outcomes. But they don't look, don't monitor, and only weaken logging rules.

This rorting is most obvious with core Koala habitat identified in KPoMs, as any "core Koala habitat" identified after a PVP is approved does not need to be excluded from logging, even though the PNF Code current at the time required "core Koala habitat" to be excluded from logging. The Koala Inquiry reported 200 properties in KPoM certified core Koala habitat that have pre-existing logging approvals, which therefore approve the continued logging of mapped core Koala habitat as if it had never been identified.

These approvals currently last for 15 years, though the LLS Amendment Act proposed extending this to 30 years. It is outrageous that these superficial 15 year PNF PVPs do not need to be updated when additional information comes to light, or that updated logging rules aren't automatically applied. The idea of not ensuring there is a new and hopefully professional assessment, along with an exemption from having to comply with new logging rules, for 15 years is bad enough, the idea of extending this to 30 years is outrageous.

The PNF PVP process is just a simplistic desk-top approval that does little to redress environmental constraints. Those observed by NEFA simply show CRA mapped rainforest and oldgrowth (except where it has been remapped by OEH) and stream orders. These are mapped data requiring no ground truthing, except where the land-owner requests deletions. There is no on-ground

environmental assessment or surveys for threatened species. They do nothing to identify the presence of Koalas or potential Koala habitat. They are token superficial assessments.



Forest Operation Plan (obtained under GI(PA) request) for a property at Tyalgum. Note that the only identified features are vegetation extent, mapped rainforest and stream orders. It is a token plan. It is revealing that while the key claims to identify Endangered Ecological Communities it fails to recognise that the rainforest is the Endangered Ecological Community Lowland Rainforest, which is likely to be more extensive than mapped. Also the key claims to identify proposed roads, proposed road crossings, log landings, broad forest types, Aboriginal objects or places, Heritage sites, areas of mass movement, dispersible or highly erodible soils, rock outcrops, threatened species records etc, though none are shown. It's not that they don't occur, but rather that the EPA didn't bother to identify them, even those readily identifiable from existing information. It is a total failure of process that even proposed roads and creek crossings are not identified, which had significant consequences. Similarly Tweed Shire Council's Environmental Zones are not delineated, which also had significant consequences. It is no wonder that the EPA want to keep their inept shoddy plans secret.

As an example of the remapping process, at Whian Whian in 2013 (Pugh 2014) NEFA found the that OEH had remapped obvious Critically Endangered Lowland Rainforest of Subtropical Australia (listed and mapped under the *Environment Protection and Biodiversity Conservation Act 1999)* as either cleared land or part of the logging area. We presented the EPA with detailed mapping (and results of ground surveys) that showed the blatant errors, with the egregious result of remapping Critically Endangered rainforest as either cleared or for logging for the life of the PNF PVP. The EPA refused to investigate our well documented complaint, or provide us with any documents on their remapping process under a GI(PA) Act request.

Examples of Lowland Subtropical rainforest at Whian Whian remapped by OEH as either cleared land (right) or assigned to the logging area (left).

The veil of secrecy surrounding private property logging hinders public accountability and encourages lax enforcement by captured regulatory agencies. As detailed in NEFA's submission to the Koala Inquiry: *The glimpses we have had of the regulator's performance since 2007 reveal numerous transgressions including approving thousands of hectares of core Koala habitat identified in a KPoM for logging, wrongly remapping thousands of hectares of oldgrowth for logging, wrongly remapping critically endangered lowland rainforest for roading, and turning a blind eye while roads were pushed through exclusion areas for Koalas and threatened plants.*

As of 13 January 2020 there was 467,341 ha approved for PNF in NSW, with 95% of this on the north coast. The NSW Government found that on the North Coast there is a significant overlap between highly suitable koala habitat and PNF forests with high timber values, with "highly suitable koala habitat" comprising:

- 55% of areas with very high timber values
- 38% of areas with high timber values

It is a safe bet that no effort has been made to identify the presence of Koalas in the majority of these operations, and that nothing is being done to protect where they occur.

The PNF Code of Practice is the regulatory mechanism that is meant to protect attributes such as soils and threatened species. There is nothing in the EPA's guidelines relating to Private Native Forestry that require surveys for any threatened species. Rather the species-specific protections identified in the code only apply to a 'known record' on Wildlife Atlas or 'site evidence' where a landowner may incidentally come across evidence of a threatened species and report it.

For koalas, the specific provisions for the PNF Code of Practice are:

(a) Forest operations are not permitted within any area identified as 'core koala habitat' within the meaning of State Environmental Planning Policy No. 44 – Koala Habitat Protection

(b) Any tree containing a koala, or any tree beneath which 20 or more koala faecal pellets (scats) are found (or one or more koala faecal pellets in Koala Management Area 5) must be retained, and an exclusion zone of 20 metres (50 metres in Koala Management Area 5) must be implemented around each retained tree.

(c) Where there is a record of a koala within an area of forest operations or within 500 metres of an area of forest operations or a koala faecal pellet (scat) is found beneath the canopy of any primary or secondary koala food tree (see Table I below), the following must apply:

(i) A minimum of 10 primary koala food trees and 5 secondary koala food trees must be retained per hectare of net harvesting area (not including other exclusion or buffer zones), where available.

(ii) These trees should preferably be spread evenly across the net harvesting area, have leafy, broad crowns and be in a range of size classes with a minimum of 30 centimetres diameter at breast height over bark.

(iii) Damage to retained trees must be minimised by directional felling techniques.

(iv) Post-harvest burns must minimise damage to the trunks and foliage of retained trees.

Clause (a) is next to useless in most areas as LLS maintain that only 4,960 ha of "core Koala habitat" has been identified in three Comprehensive Koala Plans of Management approved over the past 25 years, and that there are 200 pre-existing PVPs that over-ride its mapping as core Koala habitat. DPIE have a different interpretation of "core Koala habitat, claiming a total area of 15,809 ha identified in 5 CPoMs, and while 6,922 ha of this is claimed to be mapped as Sensitive Regulated Land (with urban and environmental zones excluded), the LLS doesn't accept it for regulation of PNF.

Clauses (b) and (c), like all species specific provisions in the PNF Code of Practice, are triggered by either a 'known record' of a koala in the Atlas of NSW Wildlife or 'site evidence' of the presence of koalas found by the landholder and/or a logging contractor. There is nothing in the EPA's guidelines relating to Private Native Forestry that require surveys for any threatened species. There are very few records in the Atlas of NSW Wildlife for private lands and no incentives for landowners or contractors to look for or report the presence of Koalas.

Most PNF logging operations are undertaken in areas where there have been no surveys for threatened species and thus there are no "known" records. Therefore the reliance is on incidental "site evidence" which is unlikely to be accidentally found for most threatened species, and even where evidence (such as quoll or Koala scats) may be found and identified by an experienced person, the landowner or contractor have a clear financial incentive not to admit to it. This means that while the PNF code has many potentially useful prescriptions for threatened species they are practically useless.

As detailed in NEFA's submission to the Koala Inquiry, NEFA have undertaken brief fauna surveys of 2 active PNF operations in the northern rivers, revealing the unrecorded presence of Marbled Frogmouth, Masked Owl, Koalas and various threatened plants on both properties, with the addition of Alberts Lyrebird, Pouched Frog and Sooty Owl on one property. The significance of this is that all these species had specific habitat retention requirements in the PNF Code that were required to mitigate logging impacts (such as wider stream buffers, increased tree retention and exclusion areas), that weren't applied until NEFA identified their presence.

At Tyalgum (see NEFA's previous submission: 2.2.1. Private Case Study 2: Tyalgum private forestry) NEFA identified 2 Koala High Use Trees (trees with 20 or more Koala scats beneath them). NEFA and the community also identified the Vulnerable Marbled Frogmouth, Masked Owl, and Durobby (*Syzygium moorei*), and the Endangered Green-leaved rose walnut (*Endiandra muelleri* subsp.*bracteata*). Even then the EPA refused to undertake, or require, surveys to identify other occurrences of these threatened species for application of required prescriptions.

At Whian Whian in 2013 (Pugh 2014), where private land was being logged by the Forestry Corporation, NEFA and the community did manage to undertake more thorough surveys. Over the course of events NEFA found and reported a total of 16 Koala high use trees and Community Surveys found an additional 10 Koala high use trees with limited searching, bringing the total to 26 such trees in an area where the Forestry Corporation had only identified 2. The PNF Code required 20m buffers around all such trees.

The surveys also found the Marbled Frogmouth, Sooty Owl, Masked Owl, Alberts Lyrebird and Pouched Frog; the Endangered plants *Endiandra muelleri* ssp. *Bracteata* and *Marsdenia longiloba;* and the Vulnerable plants *Corokia whiteana*, *Hicksbeachia pinnatifolia* and *Tinospora tinosporoides*, none of which had been identified by the Forestry Corporation. A total of 8 Koala high use trees (and numerous threatened plants) were found to have had roads and tracks constructed within 20m of them contrary to the PNF Code. It took immense community effort and angst to get Koalas, and other species, the protection they were entitled to, and even then the EPA identified roading into 12 exclusion areas after they had been identified.

Regrettably it is clear that both the Conservation and Management Strategy and NSW Recovery Plan requirements relating to identifying and protecting important habitat areas, identifying improved and standardised survey methods, and monitoring and reviewing the effectiveness of mitigation measures, are not being complied with on private lands

4.2(a). While the PNF Code has a variety of prescriptions of unknown veracity for threatened species, including the Koala, they are meaningless as there is no requirement to find the species to apply the prescriptions. This is pure tokenism, and a real threat to the survival of our threatened species. The NSW Government should be requested to identify how many threatened species listed in the PNF Codes as requiring species specific prescriptions, and Koalas in particular, have been identified within PNF PVPs since they were approved. This only requires a simple desk-top reporting of Wildlife Atlas records against PVPs. This is the litmus test of the effectiveness of the PNF Codes. Undertaking pre-logging surveys for all threatened species requiring prescriptions and likely to occur in an area is the most basic requirement if there is any genuine intent to mitigate impacts.

4.2(b). Like all the PNF prescriptions for threatened species, they are theoretical constructs that have never been monitored to assess their effectiveness. It is not known how effective they are, or whether they help mitigate logging impacts at all. They have never bothered to assess what effect retention of 15 feed trees over 30cm dbh will have on Koala carrying capacity and social structure, or what the impact will be if this is not applied. After relying on this prescription for 13 years they have no quantifiable data to assess its effectiveness or to identify improvements. Before and after studies should be a basic requirement.

4.3. Logging bushfire affected forests.

The 'Black Summer' fires that ravished north-east NSW's forests in 2019/20 were of unprecedented scale and intensity, the burning of half the native vegetation and habitats has had massive impacts on north-east NSW's ecosystems, plants and animal populations. A variety of populations and

species are likely to have been so significantly affected that they are at imminent risk of extinction. Others have been shoved further down that path.

There can be no doubt that a multitude of wildlife died in those fires, from the invertebrate world of the leaf litter to up to Koalas in the tree tops. The fires were of unprecedented proportions, in north-east NSW burning out half the forests, including a contiguous 1.9 million hectares from Tenterfield on the tablelands to Iluka on the coast and from near Bonalbo in the upper Clarence River down to near Gloucester on the Manning River. Within the burnt grounds it was so dry that fires burnt through riparian vegetation and rainforests, the usual refuges for many species.

The fires were superimposed on an existing fire regime, with many areas burnt just a year or two ago burnt again, and occurred during an extreme drought when the forest was exceptionally dry and stressed. The drought continued after the fires, compounding impacts and hindering recovery.

In summary comparison of GEEBAM v2 fire mapping with other data for north-east NSW shows the fires burnt:

- 1,324,772ha of Public Lands (54.2% of burn) and 1,118,659ha of Private Lands
- 868,714 ha (59%) of National Parks, with 517,802 ha suffering significant (full or partial) canopy loss. This includes 180,295 ha (58.3%) of the NSW section of the Gondwana Rainforests of Australia World Heritage area, including some 26,283 ha (24.4%) of World Heritage listed rainforest.
- 456,058 ha (54.4%) of State Forests, with 259,293 ha suffering significant canopy loss. This includes 16,000 hectares (43%) of Pine Plantations, most of which burnt intensively, rendering them useless for future production.
- Some 160,000 ha (34.7%) of rainforest, with 124,494 ha (78% of burnt rf) suffering significant canopy loss
- 851,847 ha (66%) of mapped oldgrowth forest, with 420,257 ha suffering significant canopy loss
- 322,191 (29.4%) of Koala Habitat Suitability Model (north-east NSW) classes 4&5, with 196,663 ha suffering significant canopy loss. (Note this is limited to the north-east NSW bioregion)

On 11 February and 14 March 2020 the Department of Agriculture, Water and the Environment released reports on the impacts of the Black Summer bushfires impacts on threatened species, based on expert advice with input from representatives from Queensland, NSW, Victorian, SA and WA state governments; and the Office of the Threatened Species Commissioner. These were just 2 of a variety of reports released by Governments that identified significant impacts and the need for specific mitigation measures.

The DAWE March 2020 report “Rapid analysis of impacts of the 2019-20 fires on animal species, and prioritization of species for management response” notes:

> *The 2019-20 bushfires have had severe impacts on many animal species. The fires have covered an unusually large spatial extent, and in many areas they have burnt with unusually high intensity. Some species were considered threatened before the fires, and the fires have now likely brought them even closer to extinction. Many other fire-affected animal species were considered secure and not threatened before the fires, but have now lost much of their habitat and may be imperiled. To support recovery of these species, conservation action will be needed for many species, at many sites, and such informed management will be carried out by a wide range of government agencies, non-government conservation organisations, university researchers, community groups and the public. However, some species are in need of more urgent help than others.*

> *The revised provisional list therefore comprises 119 species (23 reptile species, 16 frog species, 17 bird species, 20 mammal species, 5 invertebrates, 22 crayfish and 16 fish) that are identified as having the highest priority for management intervention.*

Of these 119 fauna species, 60 species occur in north-east NSW. The Commonwealth identified the highest priority actions for all species as protecting unburnt habitat patches and carrying out rapid ground assessments of remnant populations.

In their simplistic assessment the NSW Government identified Pugh's frog, Hastings River Mouse, Brush-tailed rock-wallaby, Parma wallaby, Yellow-bellied glider, New England Tree Frog, and Davie's Tree Frog as having more than half their known localities burnt. NSW's preliminary assessment identified 19 of north-east NSW's threatened plants that had more than 90% of their localities burnt, with another 27 as having more than 50% burnt.

North-east NSW is one of the Koalas remaining strongholds, though the Black Summer fires took a heavy toll on many significant populations, killing thousands of Koalas and leaving many more sick, dehydrated and starving. While overall 29.4% of modelled 'likely' Koala habitat burnt in the recent fires, many populations had 73-90% of their likely Koala habitat burnt and may consequently be in imminent danger of collapse. Extinction is the end result of the cumulative loss of populations, it is essential we address the extinction crisis at the population level.

Koalas are particularly vulnerable to wildfires due to their tendency to climb higher into the canopy. As larger trees are targeted for logging, resulting in smaller trees, more contiguous canopies and increased connectivity between ground and canopy fuels, this leaves less refuges for Koala to escape fires. Koalas also clearly prefer larger trees for feeding and roosting. At the same time as their survival is being challenged by increasing wildfires it is also threatened by the accompanying droughts and heatwaves. Koalas west of the Great Dividing Range have been some of the early victims of climate heating, in the 1990's the Pilliga was found to be a stronghold for NSW's Koalas, though by 2014 there had been an 80% drop in occupancy, and now there may be none left.

Phillips (2020) assessment of burnt forests for WWF found an average 71% decline in Koalas in burnt forests. Within the proposed Sandy Creek Koala Park NEFA found that most Koalas were lost from heavily burnt forests, with an initial loss of around half the Koalas in partially burnt forests increasing to a 60-90% loss over the next 3 months due to the continuing drought, giving an overall loss of 84-96% of Koalas from burnt forests.

As a result of the immense environmental impacts of the Black Summer bushfires on State Forests, the EPA obtained its own expert advice and issued Site Specific Operating Conditions to reduce logging impacts. To mitigate high risks the EPA used expert advice to identify requirements for significant changes:

> ***Risk mitigations of new site-specific conditions***
>
> *Amendments to the requirement to undertake (broad area) habitat searches before harvesting, with greater flexibility for how and when FCNSW undertake surveys safely.*
>
> *New requirement to only undertake selective harvesting in burnt areas (prohibition of intensive harvesting).*
>
> *New requirement to protect unburned habitat, and the ability for FCNSW to allocated these to wildlife or tree retention clumps.*
>
> *Expansion of exclusion zone protections for heath and scrub, rocky outcrops, cliffs and rainforest.*

Amendments to the requirement to undertake (broad area) habitat searches before harvesting, with greater flexibility for how and when FCNSW undertake surveys safely.

Additional site-specific conditions tailored for identified "at risk" species and habitat protections, for each site.

Requirement to update species management plans and flora road management plans to include fire impacts.

Additional requirements to prioritise and retain:

- *all hollow bearing trees (whether living or dead).*
- *additional giant (dead) trees.*
- *additional feed trees including red gum, mahogany, casuarina.*
- *New tempory feed tree clumps to increase protectiosn for koalas, glider and nectar depended species like birds and bees.*

Additional conditions to prevent or minimise soil disturbance and erosion including:

- *prohibition harvesting slopes >20°*
- *prohibition operating on high risk soils*
- *prohibition operating in wider areas of mass movement*
- *prohibition constructing new roads, tracks or track crossings (unless otherwise approved by the EPA or a qualified soil expert).*
- *minimising ground disturbance*
- *sediment control measures on drains*

Additional restrictions on operations in high rainfall areas.

Additional restrictions on the placement and management of log dumps

Additional requirements to prevent or minimise water pollution including:

- *expansion of riparian exclusion zones for all stream classes.*
- *stricter limits to reduce water flow on road, tracks and log dumps.*
- *requirements to reduce runoff by using harvesting debris and felling techniques.*

In the Black Summer bushfires over 45% of north coast PNF areas were burnt, though the PNF rules have no contingencies for fires, and there has been no changes to the logging rules to reduce impacts on burnt forests or streams. For example, the identification of evidence of species requiring prescriptions is greatly reduced following the fires, threatened herbs and shrubs were incinerated and scats burnt meaning they were less likely to be encountered after the fires as it would take some time for herbs and shrubs to resprout or scats to accumulate (such as "*koala faecal pellet (scat)"*), yet the LLS couldn't care less.

The Commonwealth and State assessments of the fires, along with the EPA's expert advice, was widely circulated and available to the LLS. The LLS's Managing a Private Native Forestry area after a bushfire urges some caution, though requires no additional protections. This exemplifies the contempt shown by the LLS for minimising the environmental impacts of logging on burnt private lands.

4.3. Despite the overwhelming evidence of significant impacts on species, ecosystems, soils and streams from the Black Summer bushfires, and the expert advices to take additional measures to mitigate impacts (such as protecting unburnt refugia), the Local Land Services did nothing to mitigate impacts. It was business as usual. The failure of LLS to increase prescriptions for burnt forests to mitigate the greatly increased impacts of Private Native Forestry on soils, streams, ecosystems and species (including Koalas) exemplifies the parlous state of regulation of private lands in NSW.

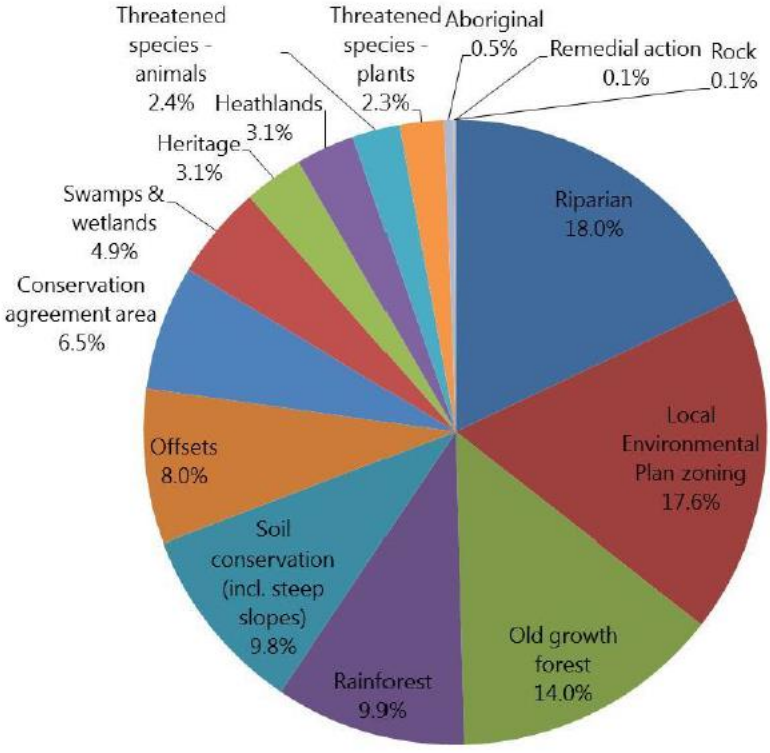
5. The impacts of current regulatory regimes on private landholders.

It is evident that the laws governing private lands are inadequate and poorly implemented, as demonstrated by the Government's refusal to publish the maps underpinning the Local Land Services Act, the fact that landclearing is skyrocketing with 60-72% unexplained, and the political unwillingness to enforcing the rules (Section 4.1). As discussed in Section 4.2 it is considered that the logging rules for PNF are inadequatw, particularly as they don't require surveys, and thus protection for threatened species. Section 6.1 and the discussion below highlight concerns that that EPA/LLS are encouraging logging in contravention of the EPA Act. Of particular concern is the reported ignorance of, and antagonism towards, the PNF rules by landholders.

What is evident is that the constraints applied to private forests are far less than State Forests, meaning there are less fauna and flora refuges during logging events. With PNF approvals covering only 16% of private lands there is no apparent case for the PNF rules unduly impacting on the availability of resources.

The NSW North Coast has around 2.8 million hectares of private native forests spread across over eighty thousand individual holdings. As of 13 January 2020 there was **467,341 ha approved for PNF** in NSW, with 95% of this on the north coast. Reputedly, some 18,260 hectares is logged annually (Jamax 2017). On the NSW north coast in 2018 there was 64,409 ha of private native forest subject to conservation agreements and 79,657 ha put aside as offsets for clearing (DPI 2018).

DPI (2018) identify "*The union of all regulatory exclusion categories covers 734,992 ha, or 25.6%, of the total area of private native forest on the NSW north coast*", with these mostly comprised of riparian, LEP exclusions and mapped oldgrowth.



Proportional make-up of exclusion areas identified by DPI (2018).

On the north coast 61% of high quality Koala habitat occurs on private property. The NSW Government found that on the North Coast there is a significant overlap between highly suitable koala habitat and PNF forests with high timber values, with "highly suitable koala habitat" comprising:

- 55% of areas with very high timber values
- 38% of areas with high timber values

For the north coast DPI (2018) identify that Local Councils allow logging of 1,832,560 ha of private native forests, while prohibiting logging of 167,217 ha (6%) and requiring development consent for 602,597 ha (25%).

DPI (2018) conclude "*4% (14,182 ha) of the PNF Plan area falls into council "forestry prohibited" zones*" and "*30% of the PNF plan area (110,578ha) is in zoning where "forestry requires development consent*", commenting "*however, many councils advised that they had not had any applications for private forestry (Appendix 5), suggesting that landowners are not aware that they may need council consent31 in addition to their PNF Plan approval*".

5.1(a). The NSW North Coast has around 2.8 million hectares of private native forests. Of this 25.6% is classed as excluded from logging, primarily because of riparian exclusions, LEP zones, oldgrowth forest, rainforest and steep slopes. Proportionally these exclusions are likely to be predominately poor, steep and unloggable areas, meaning logging areas will have a lower portion excluded from logging and thus available as refuges. This is a low level of exclusions when compared to State Forests.

5.1(b). It is apparent that over 2 million hectares of private forests is potentially available for logging outside exclusions. Only some 440,000 ha has PNF approval (which will include logging exclusions), which is less than 16% of the total forest area. While there are likely to be a variety of reasons why private forests are not being logged (or at least don't have approvals), on face value exclusions are not a constraint on logging.

5.1(c). It is of particular concern that 4% (14,182 ha) of the approved PNF Plan area falls into council "forestry prohibited" LEP zones and 30% of the PNF plan area (110,578ha) is in zoning where "forestry requires development consent", as from council responses to DPI (2018) it appears consent is rarely applied for, partly because EPA/LLS approve PVP operations without requiring or encouraging Development Applications and without informing Council (discussed in section 6.1.).

5.2. Private Native Forestry

From their survey of PNF contractors in north-east NSW Jamax Forest Solutions (2017) report that 71% of contractors reported constant volumes over recent years, with 29% reporting decreases, though the quality of the resource has significantly declined, with Jamax noting "*The majority of PNF harvesting contractors had noticed a steady decline in log size and quality on private property over the last 10 years*". As with State Forests the principal problem is the targeting of the best trees and leaving the small and defective trees. The forests of the Hunter valley are the most degraded.

Most concerning was Jamax's (2017) findings that despite most landowners having obtained their own PNF PVP through the NSW EPA, most landowners are only interested in maximising their income and don't understand or care about the logging rules. While the logging contractors get on OK with the EPA, apparently there is a high level of antagonism against the EPA from landowners. Jamax (2017) note:

> *… the responses PNF harvesting contractors gave when describing their perceptions of landowner knowledge of growing trees for timber.*

- …
- *67% of PNF harvesting contractors believed that the majority to vast majority of landowners were only interested in maximising the income from their forest*

Table 21: Proportion of landowners only interested in maximizing the $$

Proportion of landowners only interested in maximizing the $$	
Few (0-20%)	16%
Some (20-40%)	4%
Half (40-60%)	13%
Majority (60-80%)	17%
Vast majority (80-100%)	50%

Table 23: Proportion of landowners want to harvest in a way that promotes the growth of their future crop trees

Landowners who want to harvest to promotes the growth of their future crop trees	
Few (0-20%)	42%
Some (20-40%)	12.5%
Half (40-60%)	25%
Majority (60-80%)	8%
Vast majority (80-100%)	12.5%

Whilst many PNF landowners are aware of PNF requirements, many still don't know or don't want to know. Many landowners don't want to deal with government (at any level) and particularly the NSW EPA. …

"lots of tyre kickers, don't want EPA or PVP, just want you to take 20 loads and go"
"wanting to cut harder & more often; % of better species/quality sawmill pays more; cattle price influence, mix 50:50"
"Yes, don't want EPA (Government) involved (had 2 pull out because EPA was to be involved); lot more weekenders, city buyers"
…
"Current block owned by agri business and recently purchased by Chinese investors; others want to cut 2x what's allowed

…
Even though 73% of PNF landowners already have a PNF PVP through the NSW EPA before they meet a harvesting contractor, 78% of landowners understand very little (0-20%) about the PNF requirements.

Table 24: Proportion of landowners that understand the PNF requirements

Proportion of landowners that understand the PNF requirements	
Few (0-20%)	78%
Some (20-40%)	4%
Half (40-60%)	9%
Majority (60-80%)	9%
Vast majority (80-100%)	0%

… the responses PNF harvesting contractors gave when describing their perceptions of landowner knowledge of growing trees for timber.

- *…*
- *67% of PNF harvesting contractors believed that the majority to vast majority of landowners were only interested in maximising the income from their forest*

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Vast majority (80–100%)	12.5%

5.2. It is concerning that according to logging contractors most private landowners undertaking PNF are only interested in maximising their income and don't understand or care about the logging rules or sustainably managing their forests, with a high level of antagonism against the EPA. Such attitudes highlight the need for strong rules and effective enforcement.

6. The impact on local government's ability to manage koala populations in their Local Government Area and koala plans of management.

Councils make their Local Environment Plans (LEPs) in accordance with the Environment Planning and Assessment Act 1979 and state planning guidelines, with the power to regulate logging and clearing on private lands not limited or otherwise constrained by the Forestry Act, Local Land Services Act, or any other Act. Through LEP zoning and Tree Preservation Orders, local councils can prohibit logging or require proponents to hold a development consent for logging in addition to a PNF Plan approval, and in environmental zones require consent for clearing for 'allowable activities'. It is these long-held rights that the Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill) sought to remove.

For the north coast DPI (2018) identify that Local Councils allow logging of 1,832,560 ha of private native forests, while prohibiting logging of 167,217 ha (6%) and requiring development consent for 602,597 ha (25%). The EPA have shown total disregard for Council's zonings, approving Property Vegetation Plans (PVPs) with no consideration or recognition of Council's prohibitions or consent requirements. PVPs are secretive documents that are not provided to Councils, even when requested, so Councils are not informed as to what has been approved or when logging is undertaken. Of the PVP area approved for logging, the DPI (2018) identify that 4% falls within Council zones that prohibit logging and 30% falls within Council zones that require development consent, though most PVP landowners seem oblivious to the need to get Council approval.

One of Council's responsibilities is to comply with Koala SEPPs. Their ability to implement SEPP 44 and protect Koala habitat has long been frustrated by Government inaction, obstruction and interference. Despite the obstacles, and significant expenditure, seven Councils have managed to have KPoMs adopted for parts of their areas, though at least 5 others have had theirs blocked. The changes made to the Koala SEPP attempted to make the identification of "core Koala habitat" even less effective and costly, while the LLS Bill tried to remove most of their protection.

SEPP 44 requires the preparation and compliance with a Koala Plan of Management (KPoM) before Councils can grant development consent in relation to areas of "core Koala habitat". Most lands are not covered by Comprehensive KPoMs, so developers are required to prepare individual KPoMs. The EPA has approved PVPs over thousands of hectares of "core Koala habitat" in Council zones where development consent is required. The EPA/LLS make no attempt to assess Koalas and have no regard as to whether they are approving logging in "core Koala habitat". In many of these cases Council consent is never sought, individual KPoMs never prepared and Koalas are denied the protection intended by SEPP 44. By the time Councils are allowed to prepare comprehensive KPoMs there are hundreds of PVP approvals that over-ride it.

Since 2012 the National Party have stopped 5 far north coast Councils from including Koala habitat in Environmental Zones (blocking KPoMs for 2 of them), and now the Nationals claim to have obtained an assurance from Minister Stokes that "core Koala habitat" will not be protected in environmental zones anywhere in NSW. While the mechanism to achieve this is not identified, it is assumed it will be by Ministerial Direction. This is not just about logging, the exclusion of "core Koala habitat" from environmental zones excludes it from all the statutory protections from a wide variety of uses and developments provided by those zones. In fact, this seems to have been the explicit intent as the LLS Bill already stopped Council's from being able to prohibit logging.

While the National Party try to frame their LLS Bill in the context of a city vs country divide, it is all about disenfranchising local communities from having a say on management of lands within the boundaries of their Local Government Areas, because of the increasing environmental awareness of coastal populations wanting better regulation of land clearing and forestry. In his speech Liberal Matthew Mason-Cox on 19 November 2020 elaborated:

> *Councils may encompass rural areas as well as areas on the coast with highly environmentally aware populations who only have one focus and do not understand the balance that exists across those rural communities. That balance is needed to ensure that people in more rural areas are able to legally make use of their property without being encumbered or disempowered by people who only know one side of the equation and do not understand their traditions, history or the way people in their own community think.*

Ben Franklin (23 September 2020) was also frank about the intent to disenfranchise local communities in response to the Shooters. Fishers and Farmers' Local Land Services Amendment (Land Management and Forestry) Bill 2020, after detailing the Government's intent to remove Councils veto or approval powers over private native forestry, over-ride Council's rules for E-zones by allowing LLS Act allowable activities, and removing Council's ability to include core Koala in environment zones, he quoted Mark Banasiak:

> *... environmentalism has redefined the fundamental concept of being a stakeholder. Despite having nothing invested and with no risk to themselves, environmental Non-government organisations (NGOs) have managed to claim the status of stakeholders in remote matters and be accorded an equal voice to those whose entire lives, livelihoods and assets are being affected.*

While Banasiak's comments were aimed at environmentalists, Franklin was using the same rationale to over-ride democratically elected local Council's ability to affect land use in Local Government Areas.

6(a). The Local Land Services Amendment (Miscellaneous) Bill 2020 is an anti-democracy bill intended to over-ride democratically elected Local Government's ability to regulate forestry and land-clearing within their areas. The Koala is collateral damage in the National Party's intent to create a free-for-all for logging and land clearing. It is pandering to vested interests against the will of communities.

6.1. Issuing PNF approvals where forestry is prohibited or requires consent

For the north coast DPI (2018) identify that Local Councils allow logging of 1,832,560 ha of private native forests, while prohibiting logging of 167,217 ha (6%) and requiring development consent for 602,597 ha (25%), detailing:

> *Of the 2.67 million ha of private native forest on the NSW north coast, 25% or 602,597 ha, according to the council LEPs, requires development consent for forestry activities to be undertaken (Table 1, Figure 8 and Figure 10). A further of 6% or 167,217 ha has PNF prohibited (Table 1, Figure 9 and Figure 10).*
>
> *Of the 1.54 million ha of private native forest on the NSW north coast zoned RU1 Primary Production, 87% or 1.34 million ha has no LEP restriction on forestry. However, of the 0.84 million ha zoned RU2 Rural Landscape, 46% requires council consent for forestry activities according to the LEPs.*
>
> *Within the private native forest areas zoned RU4 Primary Production Small lots, 35% was reported to require council development consent and in 14% forestry is prohibited.*

Environmental zoning occurs on 240,258 ha or 9% of the private native forest estate. Within E zones forestry was prohibited on 169,102 ha (70%), permitted with council consent on 63,180 ha (26%) and permitted without consent on 7,976 ha (3%). In relation to land zoned RU, forestry was permitted without council consent on 1,824,584 ha (75%) and permitted with council consent on 602,597 ha (25%).

The vast majority of NSW EPA issued PNF Plans are on land zoned RU1 (57% by area) and RU2 (32% by area). From the council survey responses received, it is estimated that development consent would be required on 13% of the forests zoned RU1 and 46% of the forests zoned RU2.

Table 1 – Council Local Environment Plans zoning extent and planning status by private native forest area.

Private native forestry activities regulated by Council LEPs on the NSW north coast by hectares	Forestry prohibited	Forestry permitted with council consent	Forestry permitted without consent	Total
E2 Environmental Conservation	78,130			78,129
E3 Environmental Management	86,106	52,033		138,139
E4 Environmental Living	4,866	11,147	7,976	23,988
RU1 Primary Production	5	201,935	1,339,670	1,541,610
RU2 Rural Landscape	907	389,753	452,502	843,161
RU3 Forestry	1		16,342	16,343
RU4 Primary Production Small Lots	4,518	10,909	16,070	31,497
Total	174,531	665,777	1,832,560	2,672,867

DPI (2018)

It is interesting that DPI (2018) identify that forestry is prohibited in all E2 zones (Table 1), but that despite this EPA/LLS have approved PNF Plans over 989 ha of E2 zones. While the breakdown is not as obvious, it is apparent that EPA/LLS has approved PNF Plans over 20,324 of E3 zones, when logging is prohibited in 62% of E3 zones and consent is required in the balance. (Note that there have been substantial additional approvals since this data was compiled).

DPI (2018) conclude "*4% (14,182 ha) of the PNF Plan area falls into council "forestry prohibited" zones*" and "*30% of the PNF plan area (110,578ha) is in zoning where "forestry requires development consent*", commenting "*however, many councils advised that they had not had any applications for private forestry (Appendix 5), suggesting that landowners are not aware that they may need council consent31 in addition to their PNF Plan approval*".

DPI (2018) observe *"The effect of SEPP 44 on PNF is currently limited. Koalas are found in all north coast council areas, however, most north coast councils do not have approved koala plans of management and have not mapped the location of 'core koala habitat"*. DPI (2018) note:

> *Where a KoPM does not exist, responsibility for identifying core koala habitat falls to the landholder. In general landholders do not have the expertise or financial resources to identify core koala habitat. The interaction between PNF and koalas is further complicated where the zoning in a council LEP requires a PNF landholder to obtain council development consent. In this case the council has discretion to determine what conditions they impose, potentially including a requirement to prepare a KPoM in accordance with SEPP 44 if one does not already exist.*

SEPP 44 requires that before a council may grant consent in potential koala habitat "*it must satisfy itself whether or not the land is a core koala habitat*". It is not apparent that any Council has required a site specific Koala Plan of Management for PNF, though it is likely that they should have in some

of the 30% of the PNF area where consent is required. In such areas surely the EPA/LLS has a responsibility to ensure that PNF plans they approve have complied with SEPP 44 requirements, otherwise they are likely to be approving logging in “core Koala habitat” without SEPP 44 requirements having been met. Unfortunately, because of their disregard for EPA Act requirements this is likely to be a regular occurrence. For example, LLS admit to 200 PNF PVP plans being approved in areas since classed as “core Koala habitat” (in just 3 LGAs), and many more will have been granted over unmapped “core Koala habitat” on other lands requiring Council consent.

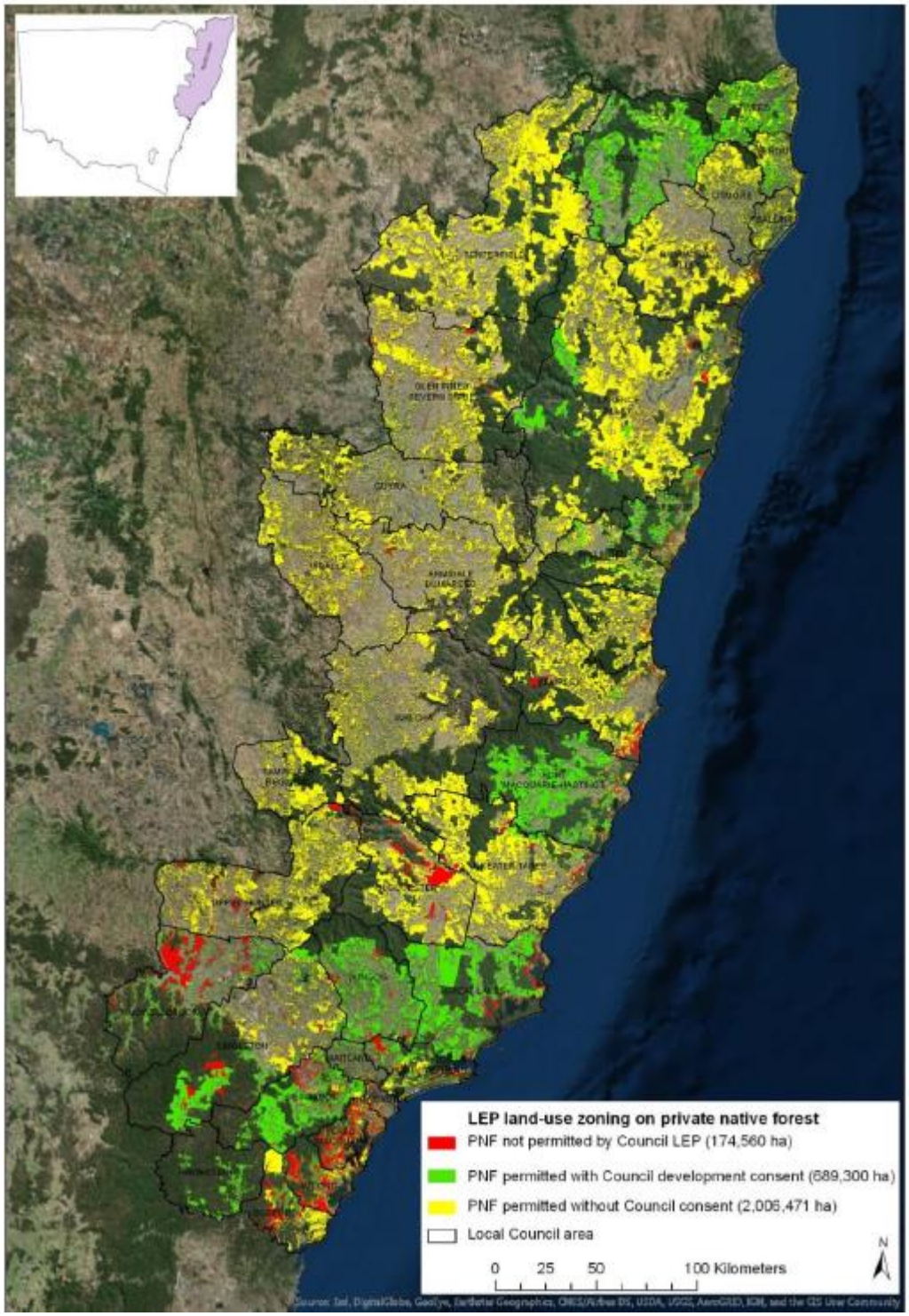

Figure 2 from DPI (2018) – NSW north coast private native forest showing regulatory effect of Local Environmental Plan zoning on private native forestry

In issuing approvals to log in Environmental Zones, where logging may be prohibited by an LEP or require consent, the EPA (and now presumably LLS) claim that they have no responsibility to identify the zones in plans, check that Council has given approval, or inform the Council when they are logged. As detailed in 2.2.1. Private Case Study 2: Tyalgum private forestry of NEFA's submission to the Koala Inquiry, the Environment Protection Authority issued a Property Vegetation Plan (PVP) for part of a property at Tyalgum on 29 April 2013. The contents of that plan and the subsequent Forest Operation Plan (FOP) were not made available to the public or Tweed Shire Council, as the EPA treat them as secret. Those parts of the property covered by the PVP and FOP are treated as confidential. The only information publicly available is the location of the property and the date the PVP was issued for some or all of it.

During the course of NEFA's assessment in 2017 it became obvious that extensive logging and roadworks had been undertaken in the Tweed Shire Council's Zones 7(d) Environmental Protection (Scenic/Escarpment) and 7(l) Environmental Protection (Habitat), despite the landholder having no consent to do so. NEFA also found evidence of recent Koala activity. Subsequent assessment of aerial photographs identified that some 18ha of the 7(d) and 7(l) Environmental Zones had been logged, with far more extensive works planned.

Despite having approved a PVP and subsequent Forest Operation Plan (FOP) that approved logging of the Environmental Zones, the EPA did not identify the Environmental Zones in the PVP or FOP, refused to provide their approved PVP and FOP to Tweed Shire Council, and did not notify Council that they were being logged.

At its meeting of 21 September 2017 Council unanimously resolved that:

> *1. Council engages its solicitors to provide advice regarding the unauthorised forestry and road works within that portion of Lot 136 DP DP755724 Boormans Road, Tyalgum affected by Tweed Local Environmental Plan 2000 environmental zones, as identified in this report, and that a further report be submitted to Council providing preferred options for prosecution of the site owners, and best options to impose a statutory stop work order under the Environmental Planning and Assessment Act 1979 and* ***a Clean Up Notice under*** *the Protection of the Environment Operations Act 1997;*

In a letter to NEFA, despite have approved and overseen the logging operation the EPA (Bryce Gorham 14 February 2018) denied any responsibility for the logging and roading in the Environmental Zones, stating:

> The EPA is aware that Tweed Shire Council is considering matters relating to the requirements of the Environmental Protection Zone (EPZ) on the property. As previously advised, the EPA has no jurisdiction in relation to such matters. Similarly, the EPA has no jurisdiction on Crown road reserves, these are administered by Department of Primary Industries - Lands. Our investigation has not considered any allegations related to the EPZ or Crown roads.

6.1(a). The EPA/LLS refusal to consider, or require compliance with, Council LEPs and zones when issuing PNF approvals is extraordinary. By 2018 the EPA had issued current PNF logging approvals for 14,182 ha where Council LEPs explicitly prohibited logging. Another 30% (110,578ha) of the current approved PNF areas required development consent from Councils, though apparently this is not identified in PNF plans, the plans do not require landholders to obtain Council consent, the plans are not available to Councils, EPA/LLS do not notify Council when logging is underway, and EPA/LLS do not care if consent has not been obtained. It appears that unapproved logging in LEP zones where consent is required is likely to be widespread because *landowners are not aware that they need council consent in addition to their PNF Plan approval.*

6.1(b). The EPA and LLS should not be allowed to continue to treat PNF as if it is already exempt from the EPA Act, and must ensure that PNF plans and operations comply with

Council LEPs and SEPP 44. Areas where forestry is a prohibited use must be excluded from PVP approvals. Where Development Consent is required PNF plans must identify this and the plans provided to Councils, and for potential koala habitat where Comprehensive KPoMs have not been prepared LLS should ensure that Koala SEPP requirements are fully complied with before they approve "core Koala habitat" for logging.

6.2. Stopping the zoning of core Koala Habitat for protection

State Environmental Planning Policy No. 44 (Koala Habitat Protection) came into effect in 1995 with the aim to "*encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:*

a) …
b) …
c) *by encouraging the inclusion of areas of core koala habitat in environment protection zones*".

The 2019 Koala SEPP and 2020 Guidelines remove this requirement, though the DPIE FAQ's (December 2019) identify:

> *SEPP 44 encouraged councils to zone land, that met the definition of potential or core koala habitat in their LGAs for environmental protection or apply development provisions or amend Development Control Plans. These plan making provisions have been transferred to a new Ministerial Direction where they are more appropriately located.*
>
> *The Ministerial Direction requires councils preparing planning proposals to identify areas of core koala habitat and zone the land Environmental Protection or include provisions that control the development of the land to consider impact on koalas and their habitat.*

This Ministerial Direction was not located.

The five far north coast Councils of Tweed, Byron, Ballina, Lismore and Kyogle encompass an identified Australian and world Biodiversity Hotspot, have the most threatened species in NSW, and are identified key refuges for Koalas. To varying extents the councils went through lengthy processes to fulfil policy and strategy requirements to identify high conservation value native vegetation, including Koala habitat, for inclusion in environmental zones. After the proposed zones had been exhibited in 2012 Ballina MP Don Page and Lismore MP Thomas George prevailed upon the NSW Planning Minister Brad Hazzard to have environmental zones (E2, E3, and later E4) excised from new Local Environmental Plans (LEPs) being prepared for Ballina, Byron, Lismore, Kyogle and Tweed council areas. Also insisting that environmental clauses be removed, for example Byron's LEP clauses 6.12 Riparian land and watercourses, 6.13 Development near the E2 or E1 zone, and 6.14 Biodiversity (which applied to wildlife corridors and EECs).

The E Zones identified in these LEPs became "deferred matters" excluded from the new LEPs and governed by the zones and requirements of the old 1980s LEPs. This means that areas identified as having the highest conservation values are still allowed to be used for intensive agriculture and other inappropriate activities and developments.

After a prolonged process in 2015 DoPE released criteria that only allow land to be included in Environmental Zones if the "*primary use of the land is considered to be environmental conservation".* This, and the detailed environment information required, effectively prohibits core Koala habitat outside pre-existing E zones from being included *within an environmental protection zone* unless a landowner agrees that they already manage it for conservation. Rob Stoke's

Ministerial Direction gave effect to this and over-rid SEPP 44 by effectively prohibiting far north coast Councils from including most core Koala habitat in new Environmental zones unless the landowner agrees. So far both Kyogle Shire Council and Lismore City Council have totally abandoned environmental zones, while the others are still trying to work out what can be protected.

Significantly, the E zone review applied only to five council areas in Northern NSW whilst over 130 Council's in the State have been allowed to fully complete their LEPs inclusive of environmental based zones. The decision to stop the far north coast Councils from protecting their exceptionally high conservation value vegetation was a political intervention by the National Party to over-ride the attempts by duly elected Councils to fulfil their mandates and legal responsibilities in the best interests of their communities and the environment. Ballina Council considered:

> *"The consequence of the review is that the State Government has not allowed Council to apply environmental based zones in the shire through the new local environmental plan. This means that Council has not been able to recognise the significant environmental values, features and assets identified by Council's research, technical studies and broad consultation as being important to the Ballina Shire community in the new plan.*
> *...*
> *The implication of the Parsons Brinkerhoff interim reporting and the Department's interim response is that the Ballina Shire community will have a vastly reduced opportunity to recognise environmental values in its local environmental plan. In particular, the suggested approach arising from the review is that Council will not be able to zone areas of coastal, scenic, urban buffer or water catchment values for environmental protection purposes unless there is an ecological value also associated with the land. The Department has further recommended a reduction in the use of other planning tools to recognise such important values.*
> *The approach suggested by the current E zone review documentation is entirely inconsistent with the historical planning approach in Ballina Shire, which has operated successfully since 1987. The State Government's suggested approach is also inconsistent with the current legal requirements in NSW for local environmental plans to recognise a variety of environmental values in local planning instruments.*
> *...*
> *Inability to recognise environmental attributes (inclusive of ecological, scenic amenity, coastal, urban buffer and drinking water catchment attributes) by way of zoning weakens the planning framework for addressing these matters. Moreover, this position weakens the existing structure and function of the planning framework presently applying to environmental areas in Ballina Shire under the Ballina LEP 1987.*

After the Minister for Planning excised environmental zones from Ballina's LEP, Council became concerned with the increasing logging of Koala habitat under PNF approvals. Which led to the council to vote in late 2014 to amend the Ballina Local Environment Plan 1987 to introduce a requirement for council consent for anyone undertaking private native forestry (PNF) in the shire. Council staff prepared a planning proposal to amend the LEP, which was lodged with the NSW Department of Planning and Environment for a 'Gateway determination' in January 2015. DoPE reject the planning proposal, so Council resolved to submit a review application. The Echonet, May 25, 2015 reported:

> *Cr Paul Worth, who led the charge against PNF, said there was limited assessment of ecological and amenity impacts associated with EPA approvals.*
>
> *He said PNF was an emerging activity in the Bagotville, Meerschaum Vale, Wardell, Coolgardie and the broader Blackwall Range localities.*

> *He said those areas had been identified by the council as ecologically significant, important from a scenic amenity perspective, and also contained important habitat for threatened species such as koalas.*
> *...*
> *'In the absence of the planning proposal being able to proceed, there is a risk of an open ended continuation of private native forestry with very limited regulation and further adverse impacts in relation to amenity, ecology, soil erosion, sedimentation, noise, traffic and roads,' staff have warned in their report.*

The National Party's campaign to over-ride duly elected Council's ability to protect Koala habitat and regulate Private Native Forestry is ongoing, as exemplified by the Local Land Services Amendment (Miscellaneous) Bill 2020 (LLS Bill).

The National Party were not content with just removing Council's ability to prohibit or regulate forestry through the LEP zoning process, as part of the backroom deals on the LLS Bill, Rob Stokes apparently did a deal with the Nationals to stop "core Koala habitat" being included in Environmental Zones. On 19 November 2020 The Hon. Sarah Mitchell (Minister for Education and Early Childhood Learning) said in the second reading speech in the Legislative Council:

> *With the endorsement of the Minister for Planning and Public Spaces, I make this statement now in this second reading speech: There will be no ministerial direction requiring any local council to zone core koala habitat as an environmental zone −period.*

Ben Franklin was more frank, in response to the Shooters. Fishers and Farmers' Local Land Services Amendment (Land Management and Forestry) Bill 2020, Ben Franklin (23 September 2020) stated "*e-zones will not be created in relation to any koala plans of management*":

> *… Finally, the Government will not require councils to zone core koala habitat for environmental protection, ensuring all land currently zoned for rural purposes will continue to be managed under the Local Land Services Act. Farmers are used to operating under the LLS Act and the Government is making sure that this can continue while also protecting threatened species like our iconic koala. Yesterday the Minister for Planning and Public Spaces made clear in an email to the mover of the bill that e-zones will not be created in relation to any koala plans of management. We make that commitment now to him publicly.*

The Nationals apparently obtained an assurance that "core Koala habitat" will not be protected in environmental zones. While the mechanism to achieve this is not identified, it is assumed it will be by Ministerial Direction. This is not just about logging, the exclusion of "core Koala habitat" from environmental zones excludes it from all the statutory protections from a wide variety of uses and developments provided by those zones. In fact, this seems to have been the explicit intent as the LLS Bill already stopped Council's from being able to exclude logging.

6.2. The National Party has an unhealthy obsession with stopping "core Koala habitat" being included in environmental zones, for reasons other than forestry. The ability for far north coast Councils to protect identified "core Koala habitat" in Environmental Zones 2 and 3 (without having to prove the land is already managed for conservation) needs to be urgently reinstated. The explicit intent for all Councils to include "core Koala habitat" in environmental zones needs to be reinstated into the Koala SEPP, and not left to Ministerial discretion and political deals.

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