



Land Management and Biodiversity Conservation Reforms
Office of Environment and Heritage
PO Box A290
Sydney South NSW 1232

21st June 2017

To the Office of Environment and Heritage,

Stand Up For Nature is an alliance of environment, wildlife and heritage groups in support of strong biodiversity and native vegetation laws in NSW. Together we represent tens of thousands of people who want the NSW Government to safeguard the future of our unique wildlife, and our healthy soils and water resources.

Stand Up For Nature members include:

Nature Conservation Council of NSW | Total Environment Centre
National Parks Association of NSW | Humane Society International
The Wilderness Society | Colong Foundation for Wilderness | NSW WIRES
WWF Australia | National Trust | Birdlife Australia IFAW

We urge the NSW Government to abandon the draft Regulations and Codes under the *Biodiversity Conservation* 2016 and *Local Land Services Amendment Act* 2016 and develop strong biodiversity conservation laws that are scientifically robust and that will deliver improved environmental outcomes, now and for future generations.

Please count this as our formal submission into these important documents, and do not hesitate to contact Daisy Barham, Campaigns Director, Nature Conservation Council on ncc@nature.org.au for any further information.



Table of Contents

INTRODUCTION	1
KEY ISSUES TO BE ADDRESSED BY THE CODES AND REGULATIONS AND RECOMMENDATIONS	2
Timeframe and the Native Vegetation Regulatory Map	2
Broad-scale land clearing	3
Threatened ecological communities	3
Koala habitat	3
Travelling Stock Routes	4
Additional Biodiversity Values – soil, water, salinity and carbon	4
Areas of Outstanding Biodiversity Values	4
Biodiversity offsets	5
Biodiversity Conservation Fund	5
Sensitive land	5
Clearing on steep and highly erodible land	6
Wetlands and streams	6
Urban trees and bushland	6
Serious and irreversible impacts and discretionary language	7
Ecological Integrity	7
Contradictory policy settings	8
Public Consultation Requirements for the Native Vegetation Regulatory Panel	8
CASE STUDIES	9
Case study 1: Superb Parrots and the importance of Travelling Stock Routes, small woodland patches and paddock trees	9
Case study 2: Clear out malleefowl! A NSW icon ignored	10
Case study 3: A wanderer no more? Plains wanderer habitat and the proposed legislation	12
Case study 4: Collective punishment: woodland birds, a large group of species threatened by habitat loss in agricultural areas	13
Case Study 5: Koalas—the ultimate iconic species	15
Case study 6: Thirty-nine Threatened Ecological Communities at risk from code-based clearing	18
REFERENCES	25

INTRODUCTION

The Stand up For Nature alliance have spent significant time and effort engaging constructively with the biodiversity legislation review process since the then Environment Minister, Rob Stokes, instigated the Independent Review of Biodiversity Legislation in NSW (the review) in 2014. The government subsequently accepted the Review's recommendations just days before the 2015 NSW election, and accompanied this acceptance with the signing of a Memorandum of Understandingⁱ between NSW Farmers and the government.

Despite our concerns of bias during the Review process and the unacceptably short amount of time the community was granted to consider the impact of such a key document, we provided significant input into the Independent Biodiversity Assessment Review Panel (the panel) process, including a detailed submission and response to Panel recommendationsⁱⁱ. Our organisation was also engaged in target stakeholder engagement with the government as it developed the draft Bills. However, we withdrew from that process in February 2016 when it became clear that the Government's position was fixed and our input into the process was not contributing to improvements in biodiversity and conservation policyⁱⁱⁱ.

Our previous submissions and policy responses remain highly relevant to ongoing discussion about proposed new biodiversity laws for NSW, as many of the concerns that we raised previously are still up for determination. For example, our concerns that the new laws would create a pathway for broad-scale land clearing via the Equity Code are shared by the Wentworth Group of Concerned Scientists, as are our concerns about a lack of consideration of climate change impacts from the proposed legislation^{iv}. These concerns led Professor Hugh Possingham, the highest-profile member of the panel, to resign from the panel in late 2016—casting serious doubt over the independence of the review process and vindicating the withdrawal of environment groups nine months earlier. Professor Possingham stated that “the codes snuck in at a late date”, “I didn’t just have a hissy fit and resign but tried to warn officials of the impact” and “I worry about Queensland and NSW.”^v Professor Possingham has been involved in the creation of conservation plans in other Australian states and internationally yet, to our knowledge, only in NSW has he chosen to resign due to the process being subverted.

We reiterate our long-held and oft-expressed view that the new laws are not concerned primarily with biodiversity conservation, but are a politically motivated outcome to repeal the *Native Vegetation Act 2003* (NVA). The NVA has been long opposed by a small but vocal group of large-scale farmers who do not accept the right of the broader community to have any oversight of farming operations or to ensure that their operations are founded in ecological sustainability. The extent of the sense of lawlessness pervading some sections of large agribusiness was laid bare on ABC Lateline on 15th November 2016. The documentary showed huge areas of cleared land, piles of burning vegetation and a Travelling Stock Route that was alleged to have been illegally cleared and planted with crops. Also included was disturbing evidence suggesting political interference in land clearing investigations by the Office of Environment and Heritage (OEH)^{vi}. This lawlessness reached its zenith with the murder of an OEH compliance officer, Glen Turner, near Croppa Creek in July 2014 while investigating potentially illegal land clearing. To the government's eternal shame,

ⁱMemorandum of Understanding, available at:

https://d3n8a8pro7vnmx.cloudfront.net/nationaltest/pages/458/attachments/original/1427316697/Memorandum_of_Understanding.pdf?1427316697

ⁱⁱSee in particular *Conserving and Restoring Biodiversity in NSW - Submission to the Independent Biodiversity Legislation Review Panel* - September 2014 - [Download](#)

ⁱⁱⁱSee for example:

- www.standupfornature.org.au/conservation_groups_withdraw_from_mike_baird_s_predetermined_biodiversity_reforms
- www.theguardian.com/australia-news/2016/feb/19/conservation-groups-storm-out-of-consultations-over-land-clearing-l
- www.smh.com.au/nsw/green-groups-blame-national-party-radicals-for-breakdown-in-land-clearing-talks-20160218-gmy5sp.html#ixzz40ZUFAHZk

^{iv}See for example:

- <http://www.smh.com.au/cqstatic/gphc0c/wentworthbio.pdf>
- https://d3n8a8pro7vnmx.cloudfront.net/natureorg/pages/144/attachments/original/1465507005/FACT_SHEET_-_Clearing_and_Climate_.pdf?1465507005

^v<http://www.smh.com.au/environment/scientist-hugh-possingham-quits-over-baird-governments-landclearing-plan-20161103-gsgx9r.html>

^{vi}<http://www.abc.net.au/news/2016-11-14/battle-for-the-bush/7903010>

Nationals MP Andrew Fraser was reported to have chosen to blame this murder on the NVA, appearing to use it as an excuse to trigger the process to repeal the NVA^{vii}.

There have been disingenuous suggestions from within government, NSW Farmers and some sections of the media that this process has pitted environmentalists against farmers. It is our experience from attending various fora and running workshops that the majority of landowners reject such drastic changes to biodiversity laws. Media has also shown a significant number of farmers speak out against the proposed changes^{viii}—as well as some within the government^{ix}. In fact, our membership includes individual landholders and Landcare groups who support the current system and want to see existing protections remain in place and be strengthened.

The NVA, although not perfect, was an important effort by NSW to put an end to broad-scale land clearing. The NVA is estimated to have saved the lives of 53,000 mammals annually due to a reduction in land clearing (Taylor & Dickman 2014). The NVA was not just important for environmental outcomes, but also for farming activities. The 2015 NSW State of Environment Report cites the NVA as being a key piece of legislation to protect soils (many of which are still in poor condition and getting worse) and to facilitate sustainable farming practices (NSW Environment Protection Authority 2015).

We reiterate our concerns that the new scheme is a significant backwards step, and will lead to increased land clearing and carbon emissions, biodiversity loss and reduced soil and water quality across NSW. In addition, we believe that the government has introduced a scheme of much greater complexity and has unfairly placed a heavy burden on landholders to self-assess ecological communities. This will likely lead to misidentification and errors, and potentially to prosecutions under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* as many of the woodland ecological communities in NSW are listed under Commonwealth law.

It has always been our view that the government would have been better to improve the performance of the NVA rather than start from scratch with entirely new legislation. Nevertheless, if the government pursues to enact new codes and regulations, it is our duty to present in the below submission the key issues to be addressed by the codes and regulations (including some elements that we believe are positive), and then present several examples of species and ecosystems that are at risk under the new laws and recommend ways in which the codes and regulations should be altered in order to lower those risks.

KEY ISSUES TO BE ADDRESSED BY THE CODES AND REGULATIONS AND RECOMMENDATIONS

Timeframe and the Native Vegetation Regulatory Map

A key concern is the proposed date for ‘switching on’ the new legislation before the scheme is ready. The new Native Vegetation Regulatory (NVR) Map is the centrepiece of the legislation as it identifies what category land falls into. Yet this mapping is not ready and has not been publicly displayed. In addition, key institutions are not yet established and rules are yet to be finalised—for example in regards the dispensing of the Biodiversity Conservation Fund and around Areas of Outstanding Biodiversity Values. Rushing commencement (as early as August 2017) puts koalas and other threatened species and their habitat at risk before it is accurately mapped. We note that there was no community consultation on the intention to switch on the system before the maps were ready, and this was only inserted via the

^{vii}See for example:

- <https://www.theguardian.com/world/2014/aug/01/land-clearing-laws-may-be-unpopular-with-farmers-but-australia-needs-them>
- <http://www.dailytelegraph.com.au/news/nsw/pushed-beyond-despair-farmer-ian-turnbulls-family-says-feud-over-trees-consumed-hardworking-man-of-the-land/news-story/5b2cb7b7fe6cb7131744c4a6b85f8b9e>

^{viii}See, for example:

- <http://www.theland.com.au/story/3687480/gilbert-quits-over-native-veg/>
- www.smh.com.au/environment/horseman-protests-on-sydney-harbour-bridge-against-clearing-vegetation-20160623-gppxup.html#ixzz4CNCaInxY

^{ix}<http://www.smh.com.au/environment/conservation/cracks-appear-in-baird-governments-landclearing-plan-as-liberal-mp-breaks-rank-20161106-gsj0zf.html>

Local Land Services Amendment Bill, which was in turn rushed through at the end of 2016 sittings. The system was never intended to allow landholders to self-assess whether their land is regulated or not.

Recommendation:

Defer commencement of the land-clearing reforms until the NVR Maps are fully finalised, landholders and stakeholders are fully consulted, staff are well-resourced and trained, and the Trust and private land conservation funding is up and running.

Broad-scale land clearing

The equity code will enable broad scale clearing (up to 625 ha in any three year period). Professor Hugh Possingham, who was a member of the Government's original review panel, and the Wentworth Group of Concerned Scientists stated that a return to broad-scale tree clearing was not an intended outcome of the review, and that the government is therefore not delivering on its commitments.

Recommendation:

The Equity and Farm Plan Codes should be removed and code-based clearing applied as the biodiversity panel originally intended – to small-scale everyday works such as clearing for fence lines.

Threatened ecological communities

Vulnerable and Endangered Ecological Communities can be cleared under the Codes with very little or no oversight from ecologists or Government. This makes a mockery of listing them for protection in the first place, as allowing these special areas to be cleared will make their existence even more threatened.

Recommendations:

1. *Remove the Equity and Farm Plan codes to prevent further loss of woodland habitat and already threatened ecosystems entering higher threat categories*
2. *Ensure that the list of exclusions to code-based clearing is broadened to include vulnerable and endangered ecological communities so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment;*
3. *Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. ecosystems listed under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999), rather than merely highlighting the risk and;*
4. *Ensure leasehold land, including Travelling Stock Routes, is excluded from code-based clearing in order to protect examples of threatened woodland communities;*
5. *Ensure cumulative development impacts on Critically Endangered Ecological Communities are recorded and publicly available.*

Koala habitat

Under the proposals, 'core koala habitat', as identified under SEPP 44, will be included in Category 2—Sensitive land. However, the definition of 'core' koala habitat is widely known to be inadequate and protects only a small proportion of preferred koala habitat. Across the entire range of the koala, only five Local Government Areas have identified core koala habitat under SEPP 44. This means that the majority of core koala habitat remains formally unidentified and therefore unprotected.

Recommendations:

1. *Broaden the application of Category 2—sensitive land to include preferred (or potential) koala habitat;*

2. *Ensure that the list of exclusions to code-based clearing is broadened to include habitat of vulnerable species so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment;*
3. *Delay commencement of the new land-clearing scheme until 2018, enabling the expansion of SEPP 44 definitions of koala habitat in the interim (as already proposed in the Government's 2016 SEPP review); concurrent, priority mapping to occur over the next 6 months and the Whole of Government Koala Strategy to be released and reviewed;*
4. *Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. species and ecosystems listed under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999), rather than merely highlighting the risk of breaching that Act if likely impacts are not referred to the federal government.*

Travelling Stock Routes

Under the proposals, Travelling Stock Routes (TSRs) are not off limits to code-based clearing. Although some TSRs are leased by landholders, TSRs remain public property. They contain some of the most valuable habitat remaining in heavily cleared landscapes, complement the National Reserve System in protecting underrepresented ecosystems and are of critical importance to many species. In fact, the 2012 NSW State of Environment Report contains the following information: *"TSRs are located on Crown land, and are often found in environments that are poorly represented in the public reserve system, heavily disturbed and in poor condition. In many of these areas, TSRs remain in relatively good condition and provide the best or only opportunity for improved conservation of threatened species or communities. They form a fundamental network of corridors connecting fragmented landscapes, particularly in the sheep–wheat belt and the tablelands"*.

Recommendation:

Travelling Stock Routes must be mapped Category 2—sensitive land and excluded from code-based clearing to reflect the importance afforded TSRs by the NSW Environment Protection Authority and the community.

Additional Biodiversity Values – soil, water, salinity and carbon

Unlike the *Native Vegetation Act 2003* the new laws do not include a mechanism to assess and avoid the negative impacts of clearing on additional biodiversity values including soils, water and salinity. Environment legislation that is fit for purpose in 2017 should also consider carbon stores and climate change impacts. This puts the future of our farmland at risk, and ignores the contribution to climate change caused by tree clearing.

Recommendation:

The regulations must prescribe these additional biodiversity values and a method to assess and protect them drawing on the existing Environmental Outcomes Assessment Methodology (EOAM). A scientific process must be developed to assess the carbon impacts of clearing. Serious and irreversible impacts on these values should be prescribed and prevented.

Areas of Outstanding Biodiversity Values

The inclusion of 'Areas of Outstanding Biodiversity Values' (AOBVs) is welcome in the Act and regulations, however the application of such values remains unclear and unsatisfactory. The criteria for listing AOBVs is adequate as proposed by the Regulations and Sensitive Biodiversity Values Map, however it is not clear how third parties (i.e. community members, or not-for-profit environment organisations) will be able to nominate them. If the new laws take effect prior to the identification of AOBVs, and if there is no automatic protection for nominated areas then there is a risk of losing AOBVs prior to nomination or declaration.

Recommendations:

1. *AOBVs must be excluded from code-based clearing as proposed and areas under consideration as AOBVs should be protected from clearing;*
2. *Any person should be able to nominate an AOBV, consistent with the ability of third parties to nominate threatened species and ecological communities;*
3. *Priority AOBVs, including at-risk areas, should be identified prior to the new legislation taking effect; and*
4. *Travelling Stock Routes should be designated as AOBVs in light of the fact they meet the criteria and have important biodiversity and connectivity values.*

Biodiversity offsets

Protection of the environment under the new laws relies too heavily on a flawed offsets scheme that fails to meet best practice standards for biodiversity offsetting (and is in our view inconsistent with the Commonwealth standard). Offsetting standards have become progressively weaker in NSW over time (Nature Conservation Council of NSW 2016). Offsetting has many flaws including difficulties in identifying baselines and time lags for the replacement of lost habitat. The use of offsets in their current form will result in the degradation of nature in exchange for cash payments, allowing irreversible damage to the ecosystems and other unsatisfactory outcomes. The current use of offsets as included in the proposals will reduce environmental outcomes.

Recommendation:

Offsets must be underpinned by the maintain or improve principle; be genuine like-for-like to the level of plant community or fauna species; occur within the same sub-bioregion; contain red-flag species and ecosystems that are off-limits to clearing. Offsetting requirements should not be subject to 'discounts' at decision-makers' discretion and payments in lieu of genuine offsets must be ruled out.

Biodiversity Conservation Fund

We do not yet know how the Biodiversity Conservation Fund will be spent as the Biodiversity Conservation Investment Strategy has not been released. Until we see the strategy, it is unjustifiable for the new legislation to take effect. Otherwise valuable biodiversity areas may be cleared before the Fund can implement conservation agreements with landowners. It is also unacceptable that the \$240 million earmarked for private land conservation under the new legislation is to come from the Climate Change Fund rather than be additional money. This is particularly concerning given there is no requirement to assess carbon loss or gain in the new land clearing framework. Biodiversity protection funding must not come at the expense of clean energy or other environmental programs.

Recommendation:

The new laws should not come into force until the community has had an opportunity to provide input into the Biodiversity Conservation Strategy, and the Strategy is ready to be implemented. The Fund should receive additional budget allocations, not divert money from the Climate Change Fund.

Sensitive land

We support the exclusion of sensitive environmental values from clearing Codes via comprehensive mapping and have long advocated for a third category of land on the Native Vegetation Regulatory Map as proposed by the Review Panel. However the categories of sensitive land are not yet sufficient as important biodiversity values are missing. For example, the government is developing a tool to identify high conservation grassland, but that tool is not yet complete and won't be for some time.

Recommendation:

In addition to the definitions proposed in the regulations, the Category 2—Sensitive Land category must be broadened to include the following:

- Preferred (or potential) koala habitat, that must be mapped in a statutory plan prior to the laws being implemented;
- Known high conservation grassland;
- Travelling Stock Routes;
- Land within 100m of a watercourse;
- Endangered ecological communities
- Vulnerable ecological communities
- National Heritage areas
- Matters of National Environmental Significance, including nationally listed threatened species and;
- The coastal zone.

Clearing on steep and highly erodible land

We support the mapping of land over 18 degrees as Category 2—vulnerable land.

Recommendation:

Code-based clearing should not apply to steep or highly erodible land, including all land above 18 degrees.

Wetlands and streams

There are insufficient protections of wetlands and streams. For example, Local Land Services (LLS) is given the discretion to ‘determine that a watercourse is not a stream’ if it does not have a defined channel with beds and banks. This means that many first order streams are likely to be unprotected, with knock-on effects for higher order streams. Some ephemeral wetlands in the Riverina form part of a Commonwealth-listed critically endangered ecological community yet will remain unprotected (see ecological communities case study). We are concerned that ‘sustainable grazing’ practices, including oversowing and fertilisation of grasslands, is permitted even on Protected Riparian Land. Wetlands such as these are inadequately protected.

Recommendation:

All riparian land should be protected and excluded from code-based clearing; first and second order streams that do not have an incised channel should be defined as streams and 100m buffers should be placed around wetlands. Oversowing and fertilisation of wetlands should not be permitted as this will lead to their degradation.

Urban trees and bushland

The Vegetation State Environmental Planning Policy (VSEPP), the Biodiversity Conservation Act and Part 6 of the Regulations apply the weak offset rules which allow cash payments for clearing, enable discounting and do not insist on offsets being ‘like for like’. Given the severe scarcity of bushland in urban areas, it is inevitable there will be more losses of irreplaceable biodiversity. The latest version of the proposed ‘offsets calculator’ is weaker, and will not adequately factor in the scarcity of offsets in the urban environment.

We are also concerned that the Biodiversity Offsets Scheme Threshold (the area of clearing beyond which the BAM is triggered) ranges between 0.25 and 2ha depending on the minimum lots size. This scale is not justified on an ecological basis (i.e. the biodiversity impacts of clearing are affected both by the area to be cleared but also the particular vegetation type and location) and a uniform threshold of 0.25ha should apply regardless of minimum lot size. This would also help to decrease the cumulative impacts resulting via multiple clearing applications below the threshold.

The draft regulation (7.2) proposes a range - from 0.25 to 2ha clearing depending on min lot size in LEP. We say it’s not ecologically justified.

Recommendations:

1. *Easy loopholes in the offset rules must be removed and the rules amended to ensure maximum protection of native vegetation in urban and environment protection zoned areas. The Regulation should not permit developers to pay into the Biodiversity Conservation Fund until like-for-like offsets have been secured. A lack of like-for-like offsets should be an alert that the impact may be serious or irreversible and that development should not proceed.*
2. The VSEPP should incorporate minimum public consultation requirements given the potential to impact threatened species and local biodiversity values.
3. Ensure that a uniform threshold of 0.25ha applies to clearing regardless of minimum lot size.

Serious and irreversible impacts and discretionary language

The Act and Regulation set out requirements and principles to consider when land-clearing or development may have serious or irreversible impacts on biodiversity values. If such impacts will occur, local projects must be refused but it is concerning that major projects and larger-scale urban or rural 'biocertification', can still proceed if further protection measures are considered. However the definition as to what constitutes "serious and irreversible impacts" under the regulation is not adequate. There should be clear, objective criteria for determining whether there are serious and irreversible impacts on biodiversity values, and it should be clear that 'extinction risk' is to be assessed at the local level under these principles, consistent with the existing 7-part test.

Recommendations:

1. *Regulations should clarify that serious and irreversible impacts must be determined objectively, refer to NSW and include, but not be limited to, any adverse effect on the following:*
 - *Critically endangered species and ecological communities (i.e. those at extreme risk of extinction);*
 - *Areas of Outstanding Biodiversity Value;*
 - *Nationally and Internationally Important Wetlands (i.e. Ramsar wetlands and/or those listed in Commonwealth Directory of Important Wetlands) and;*
2. *Any significant effect on the following (as determined by a species impact statement or equivalent BAM process):*
 - *Vulnerable and Endangered species and ecological communities;*
 - *Salinity, erosion, soil quality, water quality, hydrological processes and carbon stores (building on the existing Environmental Outcomes Assessment Methodology) and;*
 - *Important rivers and biodiversity corridors.*

Ecological Integrity

Ecological Integrity is a poorly defined and nebulous concept and there is a lack of clarity surrounding the concept and the potential for its misuse or abuse. We understand that there has been significant amount of work with OEH to better define 'ecological integrity' however we have significant concerns that key ecosystems may fall through the cracks of the ecological integrity framework in development.

One example is brigalow (listed as endangered but not critically endangered, so therefore not protected from code-based clearing). Due to its occurrence on fertile soils, brigalow has been reduced from approximately 150,000 hectares in north-west NSW to its current 3-5000 hectares in extent and occurs almost entirely as isolated patches. These fragments have very high conservation value, support many threatened species and all require protection and restoration to prevent extinctions. This make brigalow a national and State conservation priority. But because brigalow mostly occurs as isolated fragments, connectivity levels are low. Yet one of the key elements of the proposed Ecological Integrity framework is a strong weighting toward connectivity which would likely weigh against the conservation of brigalow (and other threatened woodland ecosystems as demonstrated in Case Study 6).

We note that the term 'connectivity' can be viewed as a continuum: intact ecosystems have high connectivity, while heavily cleared agricultural areas have low connectivity. However, paddock trees and small woodland patches act as 'stepping stones' and refuges for many species (see for example Case Study 1), greatly enhancing connectivity in human-dominated landscapes.

Recommendation:

The ecological value of all ecosystem features such as islands of biodiversity, should not be dismissed. Any new system developed to assess Ecological Integrity must make sure that true conservation priorities are funded, and have a transparent, scientifically-based mechanism to set priorities.

Contradictory policy settings

The proposed legislative changes affect many other elements of biodiversity and climate change policy:

1. **They exacerbate known Key Threatening Processes (KTPs):** the new laws will exacerbate the key threatening processes ‘clearing of native vegetation’, ‘loss of hollow-bearing trees’ and the ‘removal of dead wood and trees’ via increased clearing, including broad-scale clearing and clearing of paddock trees and woodland patches. KTPs are identified by the NSW Scientific Committee and are supposed to help the government develop policy that avoids further damage to biodiversity.
2. **They undermine past and ongoing conservation efforts:** landholders who have committed to managing their properties to ensure conservation outcomes via participation in Landcare, publically funded paddock tree restoration efforts or the Great Eastern Ranges initiative will see their efforts compromised by accelerated clearing elsewhere.
3. **They remove important legislation to protect farmers:** the NSW State of Environment Report 2015 (SOE) identified the *Native Vegetation Act*, along with the *Soil Conservation Act*, as a key piece of legislation protecting soils and facilitating land management. The SOE also indicated that soil condition is still in decline across the state.
4. **They clash with Commonwealth legislation:** the reforms inadequately consider the Commonwealth *Environment Protection and Biodiversity Conservation Act* (EPBC Act) and the need for landholder to comply with that piece of legislation. Many of the areas that may be cleared under codes are likely to either be EPBC listed ecological communities, or habitat for EPBC listed species (see case studies). Queensland made a similar omission in regards the EPBC Act.
5. **Climate change:** these reforms ignore the fact that averted emissions via avoided clearing have been the cornerstone of the Commonwealth Government’s Direct Action policy to reduce Australia’s carbon emissions. In fact, up to the present, the Federal Government has spent \$1.3 billion in purchasing avoided emissions from the land sector—including avoided deforestation. The Queensland reforms and the subsequent increase in clearing that has resulted has already undermined much of these taxpayer-funded emissions reductions^x [xi]. The striking similarity of the NSW reforms, to those of Queensland, and the existence of the equity and farm plan codes, leads us to expect a proportionally similarly increase in land clearing in NSW.

Recommendation:

Ensure that existing and past conservation efforts are not undermined by the new legislation by:

- *Protecting large paddock trees and patches of woodland via mapping as Category 2—sensitive land;*
- *Removing the Equity and Farm Plan code to protect soils;*
- *Developing a mechanism to consider additional biodiversity values, and carbon, building on the EOAM;*
- *Map matters of National Environmental Significance as Category 2—sensitive land to protect farmers and the environment.*

Public Consultation Requirements for the Native Vegetation Regulatory Panel

The Native Vegetation Panel (‘the panel’) will play a key role in the protection of the natural assets of NSW by making decisions on land clearing. Given the breadth of code-based clearing proposed to be permitted, clearing decisions considered by the panel have the potential to be very significant and of concern to the wider public. As such, the NSW

^x www.theguardian.com/australia-news/2016/feb/29/exclusive-land-clearing-surge-in-qld-set-to-wipe-out-direct-action-gains-report

public must be confident that the panel is making transparent, science-based decisions that are not open to interference by vested interests. This is particularly important in instances where clearing applications apply to public land such as leasehold and TSRs. We are therefore concerned that there is no public consultation required on matters referred to the panel.

Recommendation:

Ensure advertised development includes native vegetation clearing proposals under Division 6 of Part 5A of the LLS Amendment Act.

CASE STUDIES

We have presented several case studies to help illustrate the real-world impact of some of the proposed legislative changes. We have made recommendations in the context of each case study, but there are four recommendations common to each case study and which we believe would significantly improve the legislation if adopted:

1. Remove the Equity and Farm Plan codes in order to halt declines in extent of native vegetation and threatened ecological communities and increase the chances of success of restoration efforts;
2. Ensure that the list of exclusions to code-based clearing is broadened to include habitat of vulnerable and endangered species and ecological communities so that clearing impacts are assessed by the Native Vegetation Panel, rather than via self-assessment, by mapping these areas as Category 2—sensitive land;
3. Ensure that code-based clearing cannot be applied to Matters of National Environmental Significance (i.e. habitat of species and ecosystems listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*), via mapping such areas as Category 2—sensitive land and;
4. Ensure leasehold land, including Travelling Stock Routes, is excluded from code-based clearing via mapping as Category 2—sensitive land.

Case study 1: Superb Parrots and the importance of Travelling Stock Routes, small woodland patches and paddock trees

The superb parrot (*Polytelis swainsonii*) is a highly recognisable species of agricultural parts of NSW, particularly the Riverina and south-west slopes. It is listed as vulnerable under Commonwealth and NSW legislation. It is treated as a landscape species under the Saving Our Species (SOS) initiative, in recognition of its reliance on different elements of the landscape at different points in its life-history. The species is almost a NSW endemic, with a very small part of the species' range being found in the Echuca region of Victoria and in the Australian Capital Territory. Conservation and land management activities in NSW will therefore determine the fate of the superb parrot.

Superb parrots have defined breeding and foraging habitat, and travel between breeding areas using well-vegetated flight paths. In the Riverina, breeding occurs in a large hollow-bearing trees either dead or alive in very (<30m) close proximity to a water source (Manning et al. 2004), in riverine habitats such as red gum national parks (e.g. Murrumbidgee Valley National Park) or in large trees on private land. Water sources can include larger waterbodies or much smaller flow paths on agricultural land. On the south-west slopes, nesting also occurs in large hollow-bearing trees, but in this instance most breeding habitat is on private land with Travelling Stock Routes (TSRs) also used (Baker-Gabb 2011).

Following breeding, the species migrates to foraging habitat—such as Boree (*Acacia pendula*) and other grassy woodlands that have been heavily cleared and fragmented (see Table 3)—following flight paths with a high proportion of native vegetation cover. TSRs are known to be of paramount importance to supporting this migration because they provide flight paths, sources of food and roosting habitat. Most foraging habitat is found on private land (Baker-Gabb 2011), and therefore vulnerable to clearing under the Farm Plan and Equity codes.

Recent attempts to offset the loss of hollow-bearing trees for superb parrot breeding sites have been unsuccessful, with zero parrots having been recorded from almost 2500 inspections of 324 nest boxes (Lindenmayer et al. 2017). This highlights how biodiversity offsets (in the case of the study nest boxes, but also new plantings) are not a silver bullet to compensate for the loss of key habitat features like large old hollow-bearing trees. Due to the Farm Plan and Equity Codes, clearing of hollow-bearing trees will almost certainly increase under the new legislation, and the probability of tree regeneration in agricultural areas (i.e. Category 1 - unregulated land) decrease. The loss of hollow bearing trees is a Key Threatening Process (KTP) in NSW, meaning it drives species closer to extinction, and biodiversity legislation should seek to avoid exacerbating KTPs in order to protect biodiversity.

There are several key improvements that should be made to the legislation to ensure negative impacts on superb parrots are minimised. These measures will also have positive conservation effects on a wide range of threatened woodland bird species that are also heavily reliant on small remnant woodland patches and TSRs:

1. Remove the Equity and Farm Plan codes;
2. Even where leasehold, TSRs should be protected and not subject to code-based clearing via inclusion to Category 2—sensitive land;
3. Ensure that the risk of exclusions to code-based clearing is broadened to include habitat of vulnerable species so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment via inclusion to Category 2—sensitive land;
4. Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. species and ecosystems listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*) via inclusion to Category 2—sensitive land;
5. All waterbodies should be protected, not just incised streams, because even poorly defined flow paths may provide important breeding habitat;
6. All hollow-bearing paddock trees should be retained in recognition of their importance to biodiversity; large paddock trees should be protected as a disproportionately important feature of the agricultural zone enabling use of human-dominated landscapes by superb parrots (and many other species) (Manning et al. 2006; Fischer et al. 2010) and while retention of smaller-diameter paddock trees must occur to ensure recruitment of hollow-bearing trees through time.
7. Woodland remnants in the range of the superb parrot should be protected from clearing via the Farm Plan codes via inclusion to Category 2—sensitive land;
8. Promote grazing systems that encourage the regeneration and retention of paddock trees to ensure that the current lack of tree regeneration (Fischer et al. 2009) is reversed.
9. Both the retention of large paddock trees and the retention of woodland patches are identified recovery actions for superb parrots under the SOS strategy.

Case study 2: Clear out malleefowl! A NSW icon ignored

The malleefowl (*Leipoa ocellata*), listed as endangered (and therefore at very high risk of extinction in the near future) in NSW and vulnerable nationally, is one of just three species of Megapodes found in Australia, and the only Megapode species on earth that inhabits semi-arid woodlands. Malleefowl are also one of the six Saving Our Species (SOS) 'iconic' species—species that, according to the NSW government, “are important socially, culturally and economically, and the community expects them to be effectively managed and protected”.

Over the past century, the malleefowl's range has declined, and this has been driven primarily by habitat loss via land clearing—a threat that has been understood since 1884 (Benshemesh 2007). The National Recovery Plan identifies land clearing and ongoing habitat fragmentation as two of the most significant threats to malleefowl. It identifies the repealed *Native Vegetation Act 2003* as a control on clearing and states that “malleefowl are protected in every state in which they occur, and clearing applications are unlikely to be granted for areas where existing populations are known”. Unfortunately, under the proposed new laws this is no longer the case. Because malleefowl are listed as endangered, not critically endangered, code-based, broad-scale clearing of their habitat may occur via the Equity

Code. Unlike the superb parrot, malleefowl do not effectively utilise the agricultural matrix and require large patches of intact, well-connected habitat.

The NSW SOS report card 2013-14^{xi} identifies the two malleefowl project objectives as:

- Secure existing populations across the species' range;
- Achieve de-listing of malleefowl under the *Environment Protection and Biodiversity Conservation Act* within 20 years.

In NSW, malleefowl are found in the Murray-Darling Depression, Cobar Penneplain, Brigalow Belt South, South West Slopes, Riverina and Darling Riverine Plains bioregions (the order of listing reflects the order of importance as measured by the number of malleefowl records presented in the National Recovery Plan). Some significant areas of mallee habitat exist on leasehold (i.e. Crown) land in south west NSW that are vitally important for malleefowl. Unfortunately, because many of these bioregions still possess extensive areas of native vegetation, the Equity Code poses a serious threat to both the extent (Eco Logical Australia 2016) and connectivity of vegetation in these bioregions, and therefore also to the persistence of malleefowl. The estimated impact of the Equity Code in each bioregion is shown in Table 1 below. The key issue of note is that those bioregions most important to malleefowl tend to be those most at risk of clearing under the Equity Code.

Table 1: Bioregions in which malleefowl occur, their importance to malleefowl as measured by the number of records presented in the National Recovery Plan, the potential impact of the equity code on woody native vegetation measured by the percentage of total woody native vegetation eligible for clearing and the threat rank per bioregion. Source: Eco Logical 2016

NSW Bioregion (and importance to malleefowl)	Potential impact of the equity code measured by percentage of native vegetation eligible for clearing (and threat rank)
Brigalow Belt South (3)	34 (4)
Cobar Penneplain (2)	77 (2)
Darling Riverine Plains (6)	66 (3)
Murray-Darling Depression (1)	80 (1)
Riverina (5)	30 (5)
South West Slopes (4)	28 (6)

Unless the NSW government urgently reconsiders its intentions under the new legislation, we consider it extremely unlikely that either of the key SOS goals will be met. We have several recommendations to reduce the potential impact of the proposed changes to malleefowl and to ensure the government's SOS programme stands a better chance of success:

1. Remove the Equity code to avoid broad-scale land clearing and subsequent loss and fragmentation of habitat;
2. Ensure that the list of exclusions to code-based clearing is broadened to include habitat of endangered species by mapping as Category 2—sensitive land so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment;
3. Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. species and ecosystems listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*) by mapping them as Category 2—sensitive land;
4. Ensure leasehold land, including Travelling Stock Routes, is excluded from code-based clearing via mapping as Category 2—sensitive land;

^{xi}<http://www.environment.nsw.gov.au/resources/threatenedspecies/sos-annual-report-cards/leipoa-ocellata.pdf>

5. Urgently assess opportunities for the voluntary transfer of leasehold land possessing high-quality habitat to the protected area network.

Case study 3: A wanderer no more? Plains wanderer habitat and the proposed legislation

The plains wanderer (*Pedionomus torquatus*) is listed as critically endangered nationally and endangered in NSW. However, it is arguably Australia's most significant bird species: it is listed as 13 (but is the top-ranked Australian species) on the Evolutionarily Distinct and Globally Endangered (EDGE) list^{xii}. The EDGE list includes evolutionary distinctness in ranking species (Jetz et al. 2014). The National Recovery Plan for the species lists habitat loss as the both the cause of historic declines and an ongoing threat in their Riverina stronghold (Commonwealth of Australia 2016). BirdLife Australia has recently identified the threat level of the Riverina Plains 'Key Biodiversity Area', particularly important for plains wanderer, as very high as a result of agricultural activities (up from medium in 2008) (Vine et al. 2017). Unlike all of the other examples presented here, plains wanderer habitat is grassland. Their preferred habitat is found predominantly on private land, but also in public lands including Travelling Stock Routes (TSRs) and national parks.

There are two key issues with the new legislation that have the potential to negatively impact upon plains wanderers:

1. The remote sensing techniques used to develop the Native Vegetation Regulatory Map (NVR Map) are effective at distinguishing woody from non-woody native vegetation, but are not effective at identifying high conservation value grassland. This may mean that some high conservation value grassland is incorrectly mapped as unregulated, which could result in the loss of plains wanderer habitat.
2. Part 2 25 of the *Local Land Services Amendment Act* describes 'sustainable grazing' as an allowable activity. Clause (2) defines sustainable grazing as "grazing by livestock, and the management of grasslands used for grazing, that is not likely to result in the substantial long-term decline in the structure and composition of native vegetation. Management of grasslands includes (without limitation) the over-sowing or fertilisation of grasslands". This appears contradictory, as over sowing and fertilisation can both alter the density of grasslands and introduce weeds—both of which can lead to grasslands becoming unsuitable for plains wanderers (Commonwealth of Australia 2016) and alter the structure and composition of grasslands. Inappropriate grazing is identified in the National Recovery Plan for plains wanderer as a current threat to the species.

The National Recovery Plan identifies as a high priority action "reduce, and where possible prevent, the clearing and loss of habitat in important areas" and the maintenance of protections of plains wanderer habitat under the *Native Vegetation Act* as detailed in the environmental outcomes assessment methodology is described as a key performance indicator. Unless the codes and regulations amend the proposed legislation this action is unlikely to be met.

We note that the NSW government "is currently developing the Grasslands and other Groundcover Assessment Method to determine how these areas will be reflected in the NVR Map". However, the lag between this being developed and the implementation of the new laws could result in the loss of plains wanderer habitat. Because the species is so threatened and it's habitat so reduced, any loss of habitat should be deemed unacceptable.

We propose several recommendations to ensure impacts on plains wanderers are minimised:

1. Delay implementation of the new legislation until the grasslands and groundcover assessment method is developed and community consultation sought;
2. Urgently fund and deploy field staff to conduct an on-ground assessment of grasslands within the range of the plains wanderer;
3. Ensure that the list of exclusions to code-based clearing is broadened to include habitat of endangered species by mapping as Category 2—sensitive land so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment;

^{xii}<http://www.edgeofexistence.org/birds/default.php>

4. Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. species and ecosystems listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*), by mapping as Category 2—sensitive land;
5. Ensure that any grassland management for ‘sustainable grazing’ within in the range of the plains wanderer is undertaken in consultation with LLS to avoid negative impacts on grassland habitat;
6. Ensure leasehold land, including Travelling Stock Routes, is excluded from code-based clearing via mapping as Category 2—sensitive land;
7. Investigate options for including areas of plains wanderer habitat in the protected area network.

Case study 4: Collective punishment: woodland birds, a large group of species threatened by habitat loss in agricultural areas

Woodlands in the sheep-wheat belt of NSW are a quintessential feature of the landscape, but have in many cases been extensively cleared. For example, over 50% of the remnant tree cover for Blakeley’s red gum, yellow box, white box and red stringybark now occurs in small patches of less than one hectare in extent (Gibbons & Boak 2002). Travelling Stock Routes (TSRs) are known to be of great importance to woodland birds (Lentini et al. 2011b), to support highly threatened species and vegetation types (Lentini et al. 2011a; Lentini et al. 2011c) and to complement the National Reserve System because they contain underrepresented vegetation types on fertile soils (Lentini et al. 2011a). This importance is recognised by the NSW government, as the 2012 NSW State of Environment Report stated: *“TSRs are located on Crown land, and are often found in environments that are poorly represented in the public reserve system, heavily disturbed and in poor condition. In many of these areas, TSRs remain in relatively good condition and provide the best or only opportunity for improved conservation of threatened species or communities. They form a fundamental network of corridors connecting fragmented landscapes, particularly in the sheep–wheat belt and the tablelands.”*

Small woodland patches and TSRs are proposed to be able to be cleared under the Farm Plan and Equity codes. Yet there are a suite of birds closely associated or dependent upon woodlands, including small woodland patches, many of which are threatened at either State or Commonwealth level (Table 2). Included in this list are two species critically endangered on a national level, and two listed as vulnerable. As currently proposed, only habitat for the critically endangered species is not permitted to be cleared via code-based clearing.

Table 2: woodland dependent and associated species in NSW, their NSW threat status and their national threat status (V = vulnerable; E = endangered and CE = critically endangered). Source: NSW Office of Environment and Heritage search for ‘species found in the grassy woodlands formation’^{xiii}

Species	NSW threat status	Commonwealth threat status
Australian bustard	E	
Barking owl	V	
Barred cuckoo-shrike	V	
Black-breasted buzzard	V	
Black-chinned honeyeater	V	
Brolga	V	
Brown treecreeper	V	
Bush stone-curlew	E	
Diamond firetail	V	
Dusky woodswallow	V	
Flame robin	V	
Gang-gang cockatoo	V	
Gilbert’s whistler	V	
Glossy black-cockatoo	V	

^{xiii}<http://www.environment.nsw.gov.au/threatenedSpeciesApp/VegSpecies.aspx?vegName=Grassy+woodlands&habitat=F>

Grey falcon	E	
Grey-crowned babbler	V	
Hooded robin	V	
Little eagle	V	
Little lorikeet	V	
Major Mitchell's cockatoo	V	
Masked owl	V	
Olive whistler	V	
Painted honeyeater	V	V
Pied honeyeater	V	
Pink robin	V	
Powerful owl	V	
Purple-crowned lorikeet	V	
Red goshawk	CE	V
Regent honeyeater	CE	CE
Scarlet robin	V	
Sooty owl	V	
Speckled warbler	V	
Spotted harrier	V	
Square-tailed kite	V	
Squatter pigeon	CE	V
Striated fieldwren	E	
Superb parrot	V	V
Swift parrot	E	CE
Turquoise parrot	V	
Varied sitella	V	

Birdlife Australia has identified the Lower Hunter Valley Key Biodiversity Area (KBA) as having a very high threat status as a result of development and associated loss of habitat (Vine et al. 2017). This KBA is particularly important for the regent honeyeater.

The dusky woodswallow (*Artamus cyanopterus cyanopterus*) was recently listed as vulnerable in NSW (August 2016). The listing advice stated that the species prefers larger woodland patches; that historic land clearing was high in regions important to the species and that much remaining vegetation remains as paddock trees, wind breaks or small remnants. Removal of coarse woody debris was also identified as a threatening process to dusky woodswallows because of the association between insect prey and coarse woody debris^{xiv}. The dusky woodswallow therefore provides a useful, but sobering, case study of how the proposals to permit the clearing of both large and small woodland patches via the Equity and Farm Plan code will hasten the decline of woodland bird species. It is this relationship between species declines and the loss of native vegetation that has resulted in “clearing of native vegetation” being listed as a Key Threatening Process (KTP) in NSW^{xv} and “land clearance” as a KTP at the Commonwealth level^{xvi}.

We note that the SOS Partnerships grant round awarded in June 2016 funded two projects focussed on woodland birds totalling \$1,989,997. These projects were:

^{xiv}<http://www.environment.nsw.gov.au/resources/threatenedspecies/determinations/PDDuskyWoodswallowVS.pdf>

^{xv}<http://www.environment.nsw.gov.au/determinations/ClearingNativeVegKTPListing.htm>

^{xvi}<http://www.environment.gov.au/biodiversity/threatened/key-threatening-processes/land-clearance>

1. Saving our Swift Parrots and Threatened Woodland Species (\$1 million) that seeks to empower community networks and land managers to implement habitat rehabilitation and restoration works and;
2. Save our Scarlet Robin that seeks to incentivise the protection and restoration of habitat for the scarlet robin and seven other threatened woodland birds.

Although these projects are no doubt worthy, it does not make sense to spend \$2 million of valuable conservation funds on recovery actions while simultaneously removing legal protections on woodland habitat critical to the survival of these species.

Recommendations to ensure that the woodland bird community is not adversely impacted by the new legislation include:

1. Remove the Equity and Farm plan codes to halt the loss of woodland habitat and increase the chances of success of Saving Our Species projects to successfully protect woodland birds;
2. Ensure that the list of exclusions to code-based clearing is broadened to include habitat of vulnerable and endangered species as Category 2—sensitive land so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment; ;
3. Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. species and ecosystems listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*) by mapping them as Category 2—sensitive land and;
4. Ensure leasehold land, including Travelling Stock Routes, is excluded from code-based clearing by mapping as Category 2—sensitive land.
5. Ensure that Key Threatening Processes are not exacerbated by the new legislation

Case Study 5: Koalas—the ultimate iconic species

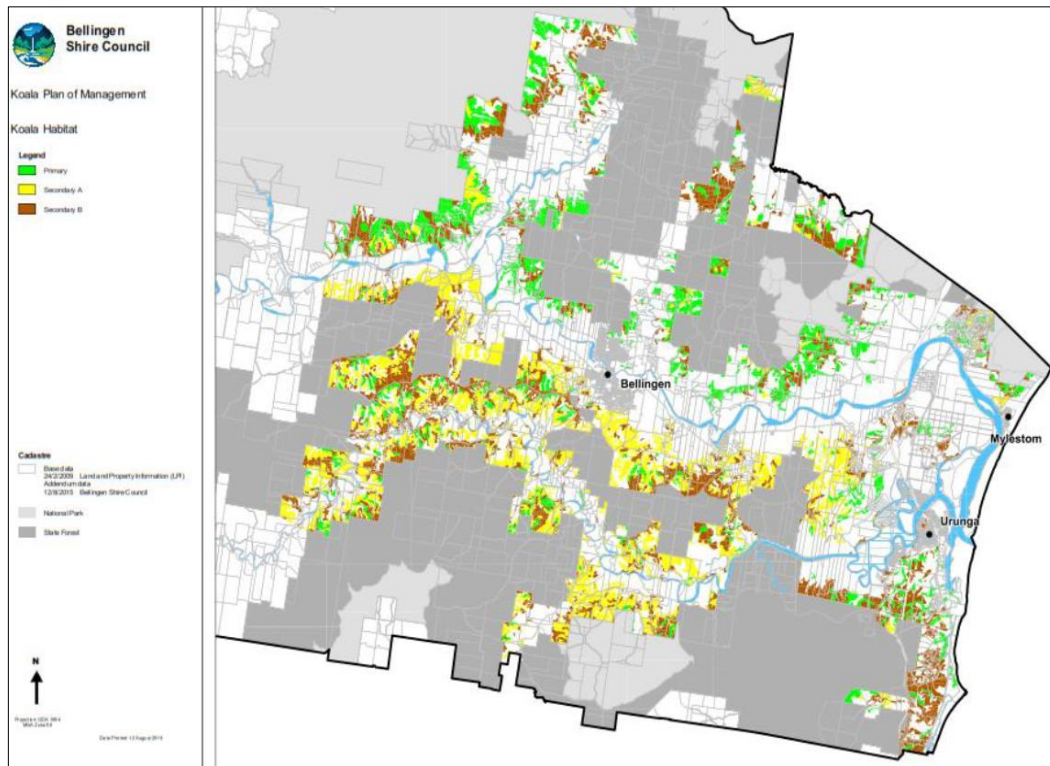
Koalas (*Phascolarctos cinereus*) are the most recognised symbol of Australia and are in the ‘iconic’ management stream of the NSW government’s Saving Our Species (SOS) programme. Koalas are listed as vulnerable at both the state and Commonwealth level, though since the Commonwealth listing declines are known to have continued in almost all populations (McAlpine et al. 2015). Serious population crashes have occurred in the Pilliga and Liverpool Plains due to drought and extreme weather events (Lunney et al. 2012). Historically, habitat loss, particularly in the most fertile areas of NSW, has been a key driver of koala declines and this may interact with climate change and other human activities such as woodchipping (Lunney et al. 2014).

Due to historical bias in national park establishment away from the more fertile soils preferred by koalas (Lunney et al. 2016), much of the best koala habitat is found outside the protected area network on private lands and state forests (Department of Environment and Climate Change NSW 2008). Importantly the configuration of habitat is a determinant of koala activity (McAlpine et al. 2006; Moore et al. 2010), which suggests that both the extent and connectivity of habitat are key considerations. Koalas are also known to use large paddock trees in times of weather stress (Crowther et al. 2014) and paddock trees and small woodland patches when navigating the agricultural matrix (NSW Office of Environment and Heritage Southern Highlands Koala Project *pers. comm.*)

Koala habitat on private land is exposed to clearing under both the Equity and Farm Plan codes. WWF has estimated that as much as 2.2 million hectares of koala habitat could be cleared under the equity code alone (Eco Logical Australia 2016). Though the new legislation proposes to include core koala habitat as identified under State Environment Planning Policy (SEPP) 44 as Category 2—sensitive land, and therefore excluded from code-based clearing, this is insufficient to protect koala habitat for the several reasons:

1. Only five Local Government Areas have fulfilled their obligations under SEPP 44, which means the vast majority of koala habitat on private land remains unprotected as it is not identified in a statutory koala plan of management;

2. Although core koala habitat is of great importance, it is also important to protect preferred koala habitat. The difference between core and preferred habitat is that preferred koala habitat is based on vegetation classification, whereas core koala habitat contains a population of koalas, or recent records. Because private land is not well surveyed, records are typically sparse. Therefore, the area identified as core koala habitat is much less than that identified as preferred koala habitat (Figures 1 and 2), and it is highly likely that some areas identified as preferred koala habitat are in fact core koala habitat. In addition, due to historic declines in koala populations, there will be unoccupied habitat in the landscape. Retaining this habitat, alongside core koala habitat, is important if declines in koala numbers are to be reversed in future;
3. The definitions of koala habitat are currently under review as part of the review of SEPP 44, and the list of feed trees is anticipated to rise dramatically. Therefore, we cannot be confident that core koala habitat will exist in the near future, and therefore whether any protection will be conferred to koala habitat; and commencing the new framework before the SEPP 44 review risks clearing of koala habitat that is not yet identified due to the low number of feed tree species included in the current iteration of SEPP 44;
4. Native forest logging on public land is a compounding threat to koala habitat and populations and koala plans of management do not address public land. This means that efforts to protect koala habitat on private land are undermined by a failure to address logging in equally valuable habitat on adjacent public land (Figure 2). We recognise that this is to be addressed in the Whole of Government Koala Strategy, but stress that a failure to adequately address the increasing intensification of native forest logging on public land will undermine any efforts to protect koalas on private land.



We have several recommendations to improve outcomes for koala conservation under the new legislation:

1. Remove the Equity and Farm Plan codes to minimise the loss of koala habitat via agricultural activities;
2. Broaden the application of Category 2—sensitive land to include preferred (or potential) koala habitat;
3. Ensure that the list of exclusions to code-based clearing is broadened to include habitat of vulnerable species by mapping as Category 2 —sensitive land so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment;
4. Delay the implementation of the new framework until the review of SEPP 44 is completed, the Whole of Government Koala Strategy is released and reviewed and priority mapping of koala habitat completed;
5. Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. species and ecosystems listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*) by mapping them as Category 2—sensitive land.

Case study 6: Thirty-nine Threatened Ecological Communities at risk from code-based clearing

Listing of species and ecological communities is undertaken in an effort to ensure belated protection of natural assets that have declined due to human activities. Effective environmental legislation should seek to prevent species and ecological communities from entering higher threat categories, and therefore edging closer to extinction.

The *Local Land Services Amendment Act* and *Biodiversity Conservation Act* are unlikely to achieve this outcome. This is primarily due to the Equity Code facilitating code-based, self-assessed broad-scale land clearing, and the Farm Plan Code that will permit the clearing of smaller patches of woodland and paddock trees.

Many threatened woodland communities commonly occur on private land and on Travelling Stock Reserves (TSRs). In fact, TSRs are of particular conservation significance in regards woodlands, because they contain examples of communities on fertile lowland soils that are not commonly incorporated in the protected area network (Lentini et al. 2011c). For example, the critically endangered ecological community ‘white box-yellow box-Blakeley’s red gum woodland’ occurred in 17.5% of TSRs, but just 3% of reserves in one major study (Lentini et al. 2011a).

Current proposals are to only exclude code-based clearing of woodland communities that are assessed as critically endangered. However, the approach of allowing landholders to self-assess woodland communities means that errors will almost certainly be made as woodland communities are not always easy to identify from one another. Because knowledge as to extent and condition of such woodlands is also often incomplete, the citizens of NSW cannot be confident that like-for-like offsets for these communities will accrue.

NSW possesses a multitude of woodland (and a small number of non-woodland) communities that are likely to decline further in extent via code-based clearing (Table 3). Notably, of the 39 threatened ecological communities that we have assessed as likely to be impacted, only three are listed as critically endangered at a state level and therefore excluded from code-based clearing. Twelve of the communities are listed as critically endangered at the Commonwealth level. Thirty-one are listed as endangered at the NSW level and one as vulnerable. Twenty-one of these ecological communities are threatened at the Commonwealth level, meaning the proposals by the NSW government are likely to impact severely on Matters of National Environmental Significance.

Table 3: List of woodland communities, plus a wetland and grassland community, threatened at either NSW or Commonwealth level that occur in small patches or as scattered paddock trees and are likely to be further threatened via code-based clearing (Equity or Farm Plan) under the new legislation, and recovery actions that are likely to be compromised via code-based clearing (where information was available).

Ecological community name (NSW nomenclature)	NSW status	Commonwealth status	NSW SOS or Commonwealth recovery actions compromised by code-based clearing
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<i>Blue Mountains Basalt Forest in the Sydney Basin Bioregion</i>	E	E	- Protect all sites from further clearing and disturbance - Ensure remnants remain connected or linked to each other
<i>Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions</i>	E	E	
<i>Brigalow-Gidgee woodland/shrubland in the Mulga Lands and Darling Riverine Plains Bioregions</i>	E	E	- Protect remaining areas of Brigalow-Gidgee community from clearing, fragmentation, thinning and timber collection - Reconnect isolated patches of Brigalow-Gidgee with vegetated corridors.
<i>Carbeen Open Forest Community in the Darling Riverine Plains and Brigalow Belt South Bioregions</i>	E		- Encourage and promote best-practice management of EECs on private land - Target sites for incentive and long-term stewardship schemes, especially on private land and TSRs.
<i>Castlereagh Swamp Woodland Community</i>	E		Protect habitat by minimising further clearing of the community. This requires recognition of the values of all remnants
<i>Central Hunter Grey Box-Ironbark Woodland in the New South Wales North Coast and Sydney Basin Bioregions</i>	E	CE	- Regulate clearing - Voluntary agreements with landholders
<i>Coolac-Tumut Serpentine Shrubby Woodland in the NSW South Western Slopes and South Eastern Highlands Bioregions</i>	E		
<i>Coolibah-Black Box Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain and Mulga Lands Bioregion</i>	E	E	- Create or restore wildlife corridors and linkages - minimise future such developments [irrigation or development for dryland agriculture] in or near the ecological community that are likely to have a significant impact - Retain native grasslands, riparian vegetation and understorey shrubs - Retain hollows - Retain fallen logs as habitat for fauna

<i>Eucalyptus aggregata</i> - endangered population in the Wingecarribee local government area	E		
<i>Fuzzy Box Woodland on alluvial Soils of the South Western Slopes, Darling Riverine Plains and Brigalow Belt South Bioregions</i>	E		- Identify key sites to be acquired or targeted for conservation incentive payments - Survey and map extant of Fuzzy Box Woodland EEC
<i>Hunter Floodplain Red Gum Woodland in the NSW North Coast and Sydney Basin Bioregions</i>	E		- Protect areas of known and potential habitat from clearing - Encourage regeneration of remnants or disturbed areas of habitat - Improve vegetative connectivity between and within remnants
<i>Hunter Lowland Redgum Forest in the Sydney Basin and New South Wales North Coast Bioregions</i>	E		- Undertake regeneration works to maintain or improve connectivity between remnants - Seek to increase the level of legislative protection afforded remnants through land use planning mechanisms and conservation agreements
<i>Hunter Valley Footslopes Slaty Gum Woodland in the Sydney Basin Bioregion</i>	V	CE	
<i>Illawarra Lowlands Grassy Woodland in the Sydney Basin Bioregion</i>	E	CE	
<i>Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Penplain, Nandewar and Brigalow Belt South Bioregions</i>	E	E	Ensure Inland Grey Box Woodland is afforded a high level of protection by relevant environmental management committees when developing environmental policy
<i>Lowland Grassy Woodland in the South East Corner Bioregion</i>	E	CE	
<i>Mallee and Mallee-Broombush dominated woodland and shrubland, lacking Triodia, in the NSW South Western Slopes Bioregion</i>	CE		Regulate clearing

<i>Moist Shale Woodland in the Sydney Basin Bioregion</i>	E	CE	Protect habitat by minimising further clearing of the community. This requires recognition of the values of all remnants
<i>Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions</i>	E	E	Ensure no further loss of Myall woodland
<i>Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory</i>		CE	
<i>New England Peppermint (Eucalyptus nova-anglica) Woodland on Basalts and Sediments in the New England Tableland Bioregion</i>	CE	CE	
<i>O'Hares Creek Shale Forest</i>	E		- Protect remnants from clearing and further fragmentation - Seek to increase the level of legislative protection for off-park remnants through land use planning mechanisms and conservation agreements. Maintain vegetative links between the remnants where possible
<i>Quorrobolong Scribbly Gum Woodland in the Sydney Basin Bioregion</i>	E		Undertake regeneration works to maintain or improve connectivity between remnants
<i>Ribbon Gum-Mountain Gum-Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion</i>	E		
<i>River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>	E		- Ensure that offset measures are undertaken within the priority conservation lands where practicable - Promote the inclusion of measures to protect and restore remnant vegetation

<i>Robertson Basalt Tall Open-forest in the Sydney Basin and South Eastern Highlands Bioregions</i>	CE	E	· Protect all sites from further clearing and disturbance · Ensure remnants remain connected or linked to each other
<i>Sandhill Pine Woodland in the Riverina, Murray-Darling Depression and NSW South Western Slopes bioregions</i> <i>Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains</i>	E	CE	· Reduce small scale clearing pressures · Create wildlife corridors between remnant vegetation patches where possible · Avoid clearance of native vegetation within the ecological community and its surrounds (at least within a buffer zone of 50 metres from the wetland edge) · Ensure that development activities minimise direct impacts to the ecological community and indirect effects on its ecological function · Develop and implement best practice standards for management of remnants on private and public lands · Ensure that planning takes the protection of remnants into account, with due regard to principles for long-term conservation · Ensure that networks of wetlands that serve as refugia or linkages for wildlife and their habitat are maintained across the landscape
<i>Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions</i>	E	E	· Liaise with landholders to encourage conservation of remnant patches of EECs on their land · Research and develop use of semi-evergreen vine thicket species for landscape rehabilitation in areas where SEVT would naturally have occurred

<i>Southern Highlands Shale Forest and Woodland in the Sydney Basin Bioregion</i>	E	CE	· Avoid further clearance and fragmentation of patches of the ecological community · Minimise impacts from any developments · Protect mature trees with hollows and a range of age cohorts in each patch · Retain fallen logs and habitat for fauna · Retain other native vegetation remnants, derived native grasslands or shrublands and paddock trees near patches of the ecological community
<i>Subtropical Coastal Floodplain Forest of the New South Wales North Coast Bioregion</i>	E		
<i>Sun Valley Cabbage Gum Forest in the Sydney Basin Bioregion</i>			
<i>Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions</i>	E		· Protect habitat by minimising further clearing of the community
<i>Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions</i>	E		· Reduce small scale clearing pressures. · Ensure remnants remain connected or linked to each other; in cases where remnants have lost connective links, re-establish them by revegetating sites to act as stepping stones for fauna and flora
<i>Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions</i>	E		
<i>Warkworth Sands Woodland in the Sydney Basin Bioregion</i>	E	CE	· Encourage retention and rehabilitation of remnants · Minimise further clearing and fragmentation of the community
<i>Weeping Myall—Coobah—Scrub Wilga Shrubland of the Hunter Valley</i>		CE	

<i>White Box Yellow Box Blakely's Red Gum Woodland</i>	E	CE	· Identify key sites for protection or acquisition · Investigate opportunities and promote examples where agricultural practices are integrated successfully with conservation
<i>Allocasuarina luehmannii Woodland in the Riverina and Murray-Darling Depression Bioregions</i>	E	E	· Achieve conservation management of significant stands on private land · Purchase of significant stands for inclusion within the reserves system · Create wildlife corridors between remnant vegetation patches where possible

Recommendations to ensure adequate protections for threatened woodland communities include:

1. Remove the Equity and Farm Plan codes to a) ensure no more ecological communities enter higher threat categories via clearing and b) protect remaining remnants of threatened ecosystems and maximise the chances of success of recovery programs;
2. Ensure that the list of exclusions to code-based clearing is broadened to include vulnerable and endangered ecological communities by mapping them as Category 2—sensitive land so that clearing impacts are assessed by the Native Vegetation Panel rather than via self-assessment;
3. Ensure that code-based clearing cannot legally be applied to Matters of National Environmental Significance (i.e. ecosystems listed under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*), by mapping them as Category 2—sensitive land;
4. Ensure leasehold land, including Travelling Stock Routes, is excluded from code-based clearing by mapping it as Category 2—sensitive land in order to protect examples of threatened woodland communities.

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