Laws for the bush

BENEFITING BIODIVERSITY AND PEOPLE

Leigh J Martin

Total Environment Centre
for the future

Laws for the bush benefiting biodiversity and people

Leigh J Martin BSc(Hons) PhD

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Suite 2, 89 Jones Street. Sydney 2007

www.tec.org.au

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Front cover photograph: Intact semi-arid woodland vegetation

Executive Summary

Protecting native vegetation is crucial for conserving biodiversity and the benefits that biodiversity brings. These include clean air, water, productive soil, pollination and nutrient cycling.

Land clearing and habitat destruction in New South Wales have caused serious losses of biodiversity. In the last 200 years more than 100 plant and animal species have become extinct in the state. Over 1,000 species and populations of plants and animals are currently threatened with extinction.

Land clearing harms biodiversity by directly destroying native plants and animals and causing the loss of habitat and food sources. It also isolates and fragments remaining habitat, promoting weed and pest animal invasion.

In addition to imperiling biodiversity, clearing and habitat destruction in NSW have threatened the viability of a wide range of natural and agricultural systems. Forests and woodlands mitigate global warming by absorbing and retaining greenhouse gases. Protecting native vegetation thus helps protect Australia from the environmental and economic threats posed by climate change. At the regional and national scale, intact vegetation and moist soils in forests and woodlands absorb more solar energy than areas cleared for pastures and crops. Land clearing has significantly reduced the moderating influence of native vegetation on extreme El Niño events and is strongly connected with more severe and prolonged droughts in eastern Australia.

Intact native vegetation has a vital role in preventing soil erosion and soil salinisation. Areas of NSW subject to the highest rates of erosion and salinisation correspond to those with historically high rates of clearing and current demands for more clearing. By preventing soil erosion and salinisation, native vegetation also helps maintain healthy rivers and catchments.

The *Native Vegetation Act 2003* and the *Threatened Species Conservation Act 1995* were introduced to protect native vegetation and threatened biodiversity in NSW. The *Native Vegetation Act 2003* has been largely effective in curtailing broadscale clearing and protecting biodiversity. The *Threatened Species Conservation Act 1995* has played an important role in identifying, increasing scrutiny of and seeking to ameliorate the threats that target biodiversity and important habitat. Despite the important contributions these Acts have made to protecting biodiversity and the environmental services it provides, land clearing (both legal and illegal) and biodiversity loss continue to occur in NSW.

The NSW Government is currently reviewing the *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003* in response to demands by farming, mining and developer groups for less regulation and greater freedom to clear vegetation. The outcome of this review will have critical implications for native plants and animals. Current protections will need to be maintained and addition protections are also required. These include a commitment to 'no net loss' of native vegetation; protection of regrowth vegetation; improved enforcement and extension services for protecting native vegetation; mandatory recovery plans for threatened biodiversity, extending and safeguarding protected areas such as national parks; and increased efforts to combat weeds and pest animal species.

(Appendices 1 and 2 have further detail on the Native Vegetation and Threatened Species Conservation Acts).

1. Introduction

Protecting biodiversity is vital to maintaining healthy ecosystems and the services they provide such as clean air, water, productive soil, pollination and nutrient cycling (EPA, 2000). This has been recognized by successive state and federal governments which, with the support of the community, have passed laws, developed financial incentives and support programs for landowners, and allocated funds to recovery of threatened species.

The biodiversity of a given place, area or region encompasses all the plants, animals and microorganisms that occur within it and the interactions between them. It is this complex array of interactions that create the environmental services which benefit the community. Maintaining large areas of intact native vegetation is critical to preserve these interactions.

Unfortunately the history of habitat destruction and degradation has led to a significant deterioration of biodiversity in NSW.

Over the last 200 years NSW has experienced a marked decline in biodiversity with over 100 plant and animal species becoming extinct (OEH, 2014a). There are currently over 1,000 species and populations of plants and animals threatened with extinction in NSW and more than 100 Endangered Ecological Communities (OEH, 2014a). This severe decline is due to human activities that have had a major impact on ecosystem functions (EPA, 2000). Despite previous attempts to protect biodiversity, strong protective measures are still needed to halt and reverse this decline of the natural environment.

Land clearing and resultant habitat destruction is the single biggest cause of species loss in NSW (Coutts-Smith & Downey, 2006; EPA, 2006). Protecting habitat and controlling land clearing is therefore essential if further losses of biodiversity and the services that healthy ecosystems provide are to be avoided.

The scale of the threat posed by land clearing in NSW is reflected by the independent NSW Scientific Committee's decision to list clearing of native vegetation as a key threatening process (KTP) affecting biodiversity in NSW (NSW Scientific Committee, 2001). The Committee was established by statute as the key recorder of the biodiversity alarm bells in the state, helping trigger actions under laws which seek to limit the threats.

The *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003* were introduced to protect biodiversity. The Acts place controls on clearing of native vegetation and on activities such as farming, mining and development that may affect threatened species and their habitats and the consequences for healthy soil, salinity and water quantity and quality. These protections have been important in efforts to control land clearing, protect habitat and slow biodiversity loss.

The NSW Government is currently reviewing the *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003* in response to demands by farming, mining and developer groups for less regulation and greater freedom to clear vegetation. The outcome of this review will have critical implications for biodiversity in NSW. Current protections will need to be maintained in order to prevent further biodiversity loss; however, addition protections are also required.

This report examines the role that the *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003* have played in protecting biodiversity and the benefits this has delivered to the community. Information sources include published scientific research and reports by government agencies such as the NSW State of the Environment Reports. Recommendations are provided for improving the management of native vegetation and threatened species in order to stop and reverse biodiversity loss throughout the state.

2. Historic scale of land clearing in NSW

NSW has experienced an extensive decline in native vegetation. Approximately 35% of the native vegetation that was present prior to European settlement has been removed (Bensen 1999; Pressey et al., 2000; EPA, 2003). Clearing for agriculture has been the main cause followed by industry and human settlement (EPA, 2000; 2012). In addition to causing the direct loss of native vegetation, clearing compromises remaining vegetation.

Fragmentation and edge disturbance cause increased weed invasion and reduce habitat suitability for native species (Taylor & Dickman, 2014). Only 9% of NSW has vegetation in natural or close to natural condition (EPA, 2012). The extensive decline in native vegetation that has occurred in NSW renders remaining vegetation critically important to biodiversity conservation. Loss of even small areas of this vegetation can have substantial impacts by removing habitat refuges for threatened species (EPA, 2003).

In the 1990s it was estimated that up to 150,000 ha of native vegetation were being cleared each year in NSW (EPA, 2000). In the Central-Western region and Far Western Division of the state clearing rates were particularly high (EPA, 2000; 2003) with concerns expressed that all unprotected vegetation in parts of the central wheat belt could be removed within 50 years (Bedward et al, 2001; EPA, 2003). Vegetation communities with high rates of clearing included poplar box, mallee and myall woodlands (EPA, 2003).

Dead trees and exposed soils following land clearing

3. Environmental loss

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NSW has experienced severe rates of biodiversity loss and species extinctions over the last 200 years. More than 100 plant and animal species have become extinct in the state (OEH, 2014a). Rates of extinction have been particularly high for small to medium-sized ground dwelling mammals (Dickman et al., 1993; Lunney et al., 2000; EPA, 2012). In total, 25 mammal species (19% of mammals species present in NSW at the time of European settlement) have become extinct. Many of these species inhabited shrublands and grasslands in western NSW (Lunney et al., 2000; EPA, 2012); areas subject to historically high levels of land clearing and current demands for more clearing.

There are over 1,000 plant and animal species and populations threatened with extinction in NSW and more than 100 Endangered Ecological Communities (OEH, 2014a). Species threatened with extinction represent 59% of all mammals, 34% of amphibians, 28% of birds, 18% of reptiles and 13% of plants (OEH, 2014a). These figures do not include species and populations that may also be in decline but have not yet reached threatened status. Nor do they include those for which a decline has occurred but remains undetected due to insufficient data (Possingham et al, 2002; EPA, 2006). Also not included are species that may be threatened by climate change but which are not yet listed.

Threat posed by land clearing and habitat loss

The major contributor to decline of plant and animal species in NSW has been land clearing and associated habitat loss (Coutts-Smith & Downey, 2006; EPA, 2012). Threatened species and population listings identify land clearing, habitat loss and habitat fragmentation as contributing factors for 353 threatened species and populations (Table 1). This represents more than a third of all threatened species and populations in NSW. Included are two species recently ranked amongst the 100 most Evolutionarily Distinct and Globally Endangered (EDGE) bird species; the Eastern Bristlebird (*Dasyornis brachypterus*) and the Plains-wanderer (*Pedionomus torquatus*) (Jetz et al., 2014).

In addition to species and populations, 25 ecological communities are threatened with extinction due to land clearing, habitat loss and fragmentation (OEH, 2014a). This represents almost a quarter of all threatened ecological communities in NSW. Clearing results in loss of native vegetation and death to native animals from injury, starvation, competition with individuals of the same and other species for reduced resources. It also causes degradation of remaining habitat through weed invasion, isolation and fragmentation (Taylor & Dickman, 2014).

Table 1. Threatened species and populations threatened by land clearing, habitat loss and habitat fragmentation

Species/ population type	Number affected	% of all listed species and populations	Total species and populations listed
Mammals (non-marine)	50	53.8	93
Reptiles	24	25.8	43
Amphibians	12	41.4	29
Birds	55	38.2	144
Invertebrates	9	50.0	18
Plants	195	29.1	671
Fungi	8	88.9	9
Total	**353**	**35.1**	**1007**

Source: OEH, 2014a

Eastern Bristlebird

Eastern Bristlebird (*Dasyornis brachypterus*) © Graeme Chapman www.graemechapman.com.au

The Eastern Bristlebird (*Dasyornis brachypterus*) is a medium sized bird that inhabits dense coastal vegetation. It requires dense, low vegetation including heath and open woodland with dense understory. The Eastern Bristlebird is restricted to three areas of south-eastern Australia: southern Queensland/northern NSW, the Illawarra Region and in the Nadgee Nature Reserve. The estimated population size is less than 2000 individuals occupying a combined area of approximately 120 km². The Eastern Bristlebird is recognised as one of world's 100 most Evolutionarily Distinct and Globally Endangered (EDGE) bird species.

Key threats to the survival of the Eastern Bristle bird include:

- **Habitat loss and isolation due to land clearing for agriculture and residential development. This makes them vulnerable to catastrophic events such as fires.**
- **Intense and too frequent fires directly kill birds and make habitat unsuitable for survivors.**
- **Weed invasion reduces the quality of habitat for Eastern Bristlebirds. Clearing native vegetation makes remaining vegetation more vulnerable to weed invasion due to fragmentation and increased edge disturbance.**
- **Predation by introduced predators such as foxes, particularly after fires.**
- **Grazing and trampling of habitat by livestock.**

Sources OEH, 2014b; Jetz et al., 2014

Plains-wanderer

Plains Wanderer (*Pedionomus torquatus*) © Ian Montgomery birdway.com.au

The Plains-wanderer (Pedionomus torquatus) is a small quail-like ground dwelling bird measuring 12-15 cm tall and weighing 40 to 95 grams. Plains-wanderers inhabit semi-arid native grasslands. It has experienced severe declines in both abundance and distribution. In NSW it is now largely restricted to the western Riverina. The Plains Wanderer is recognised as one of world's 100 most Evolutionarily Distinct and Globally Endangered (EDGE) bird species.

Key threats to the survival of the Plains-wanderer include:

- **Loss of habitat from land clearing and pasture development. A 1990s survey of 5000 km2 of land over 37 properties in the western Riverina found that suitable habitat remained on only 5% of the total area.**
- **Livestock grazing and pasture creation reducing the availability of suitable groundcover vegetation.**
- **Damage to habitat from high intensity fire.**
- **Predation by foxes and feral cats.**

Sources: OEH, 2014c; Jetz et al., 2014.

Benefits of land clearing and threatened species laws and risks to native species if *Native Vegetation Act 2005* and *Threatened Species Act 1995* are weakened

In curtailing broadscale land clearing in NSW (EPA, 2012) the *Native Vegetation Act 2003* has curbed the single biggest threat to biodiversity. The benefits for native species have been substantial. For example, it is estimated that, due to controls on clearing, 53,000 fewer native mammals have perished each year since the Act came into effect (Taylor & Dickman, 2014).

The *Threatened Species Act 1995* has been crucial in identifying and addressing threats to biodiversity (including land clearing). In this respect the two Acts are interwoven. Removing or weakening the protections provided by these Acts will accelerate biodiversity loss in NSW. If restrictions on land clearing under the *Native Vegetation Act 2003* are lost by removal or significant amendment of the Act it is likely that clearing will return to previous high levels. Loss

of the protections provide by the *Threatened Species Act 1995* would see consideration of impacts of proposed development on critical habitat and populations of threatened species diminished in land use decisions. A further factor that would cause increased vegetation loss is changes to the scientific approach to offsets used by the Acts so that social and economic factors lead to their exclusion or diminution.

CLIMATE CONSERVATION

Forests and woodlands mitigate global warming by absorbing and retaining greenhouse gases.

By protecting native vegetation, land clearing laws have made an important contribution to greenhouse gas abatement efforts. They were the primary reason Australia was able to meet its Kyoto Protocol commitments (State of the Environment 2011 Committee, 2011). Australian agricultural and natural systems are highly vulnerable to climate change (McAlpine et al., 2009; State of the Environment 2011 Committee, 2011). Protecting native vegetation thus helps protect Australia from the environmental and economic threats posed by climate change.

Land clearing also has important implications for climate at regional and national scales. Intact vegetation and moist soils in forests and woodlands absorb more solar energy than areas cleared for pastures and crops (McAlpine et al., 2009). Agricultural landscapes are associated with reduced exchange of moisture to the atmosphere, less cloud cover and reduced rainfall (McAlpine et al., 2009; Mahmood et al, 2014).

Land clearing has significantly reduced the moderating influence of native vegetation on extreme El Niño events and is strongly connected with more severe and prolonged droughts in eastern Australia. The result has been more dry and hot days and reduced rainfall (Deo et al., 2009; Deo, 2011).

SOIL EROSION AND SALINITY

Healthy soils are vital for ecosystem functioning and maintaining the productivity of agricultural land. Depletion of soils poses serious risks to natural systems and agriculture due to the slow rate at which soils are formed and renewed (EPA, 2012).

Clearing native vegetation causes soil depletion while practices such as conservation farming help to protect and maintain soil health. Many soil types throughout NSW are vulnerable to degradation due to being old, heavily weathered, infertile, and subject to a high level of climatic variability (EPA, 2003; 2006). Two damaging process that have been exacerbated by land clearing are soil erosion and soil salinity.

In need of repair

Erosion causes topsoil loss, reduces soil nutrient levels and reduces the capacity of soils to retain moisture (SCS, 1989; EPA, 2000; 2006). Land clearing since European settlement has been responsible for significantly increased soil erosion in NSW (EPA, 2000; 2003). Clearing promotes erosion because removing ground cover vegetation damages soil structure and allows loss of soil particles (EPA, 2000). In the longer term, land uses such as cropping and livestock grazing involve constant soil disturbance and erosion.

Gully erosion is a major problem in the uplands on the margins of the Murray-Darling Basin, reflecting the high levels of land clearing that have occurred there (Wasson et al., 1998; EPA 2000; 2012). Areas of the north coast are also susceptible (EPA, 2012). Sheet and rill erosion is a particular problem on the slopes of the Great Dividing Range but is also present in most parts of NSW (EPA, 2000; 2012). Wind erosion is a problem in western NSW where drier conditions prevail (EPA, 2000; 2012) including the mallee lands of the central and south-western plains (EPA, 2000; 2012).

Areas with the greatest vulnerability to erosion correspond to those subject to high rates of clearing prior to the introduction of the *Native Vegetation Act 2003*. Retaining vegetation cover is the most important factor in preventing soil erosion (EPA, 2003; 2006). Minimum levels of plant cover required to protect soil from erosion are 70% in high rainfall slopes and coastal areas, 40-50% in eastern rangeland edges and 30-40% in far west NSW (EPA, 2003).

Soil salinisation is a serious threat to land and water resources and is the major cause of land degradation in the Murray-Darling Basin (EPA, 2000). Soil salinisation reduces agricultural productivity and promotes erosion by impairing plant growth (EPA, 2000).

The major cause of soil salinisation in NSW is land clearing. Intact native vegetation absorbs rainwater entering the soil and allows small amounts to enter groundwater (groundwater recharge). When native vegetation is cleared the rate of groundwater recharge is increased and water tables begin to rise. In areas with saline groundwater and soils this carries salt to the surface resulting in increased soil salinity (EPA, 2000).

Rising water tables and dryland salinity affect the tablelands, western slopes and western plains regions of NSW (EPA, 2000). These areas were subject to high levels of land clearing prior to introduction of the *Native Vegetation Act 2003*.

Fiddler Beetle (*Eupoecila australasiae*), PHOTO: SU KENNEDY

Benefits of the *Native Vegetation Act 2003* in combating soil erosion and salinity and risks if the Act is weakened

The *Native Vegetation Act 2003* has successfully curbed land clearing in NSW. Under the Act clearing may only be approved if soil health is improved or maintained by protecting other areas of regenerating vegetation to offset the effects of clearing. The protections provided by the *Native Vegetation Act 2003* have been supported by NSW natural resource management programs

Riparian vegetation and fish habitat

Diversity and abundance of native fish is closely linked to the quality of riparian vegetation occurring next to streams (DPI, 2005). Amongst the benefits healthy riparian vegetation provides to streams and native fish are:

- **Large woody debris needed by many native fish species for habitat and spawning.**
- **Leaves, twigs and branches used as a food source aquatic invertebrates which in turn are an important food source for native fish.**
- **Lower water tables and reduced levels of salt entering streams.**
- **Stabilisation of banks and protection from erosion and bank collapse.**
- **Shade, shelter and habitat for fish.**
- **Reduced nutrient and sediment pollution.**

(DPI, 2005; 2014)

Loss of riparian vegetation has significant implications for native fish including reduced habitat quality and lowered spawning success. Removal and degradation of riparian vegetation is listed as a key threatening process affecting nine threatened native fish species (DPI, 2005).

The land uses that are enabled by land clearing, principally livestock and cropping, typically alter catchment hydrology by compacting soils, resulting in higher runoff and lower retention of rainfall in catchment soils and aquifers (Belsky et al, 1999).

Ground cover vegetation destroyed and soil exposed by land clearing

Restoration of Sandy Creek corridor, Lake Cowal. PHOTO:PETER HILL

coordinated by Local Land Services (LLS) boards. A number of programs have been undertaken with landowners for example, a $10 million fund to restore and re-vegetate degraded bushland, riparian areas and streams (EPA, 2012).

Weakening protections for native vegetation will increase the threat posed by soil erosion and salinity. This is particularly the case in north western and central western NSW where soils are highly vulnerable to wind and water erosion (EPA 2012). Changing climatic conditions and increased variability in rainfall will also increase risks of erosion and salinity (EPA, 2012). Maintaining native vegetation will be of critical importance in combating soil erosion and salinity in the future.

RIVERS AND CATCHMENTS

River and catchment health is strongly influenced by land management practices. In addition to assisting terrestrial biodiversity and soil conservation, protecting native vegetation helps maintain the health of rivers and catchments.

Loss of native vegetation cover increases surface runoff and erosion resulting in increased hydraulic, sediment and nutrient loads in streams (EPA, 2000). Increased soil salinity caused by loss of native vegetation leads to higher salinity levels in rivers and streams. Dryland salinity is a major contributor to rising river salinity levels in the Murray-Darling Basin (Williamson et al., 1997; EPA, 2000). Increased sediment loads due to erosion alter aquatic conditions and smother aquatic ecosystems. This leads to changes in fish and aquatic macroinvertebrate communities (Brierley & Fryirs, 2005; EPA, 2012). Water quality and levels of nutrient and sediment pollution are therefore strongly tied to the amount of vegetation cover present within a catchment (EPA, 2012).

Protection of riparian vegetation is particularly important for the maintenance of healthy aquatic ecosystems. Riparian vegetation protects banks from erosion and provides food and habitat for aquatic species (EPA, 2012). The *Native Vegetation Act* has been important in encouraging and supporting riparian restoration.'

4. Laws that protect nature and environmental services – and their future

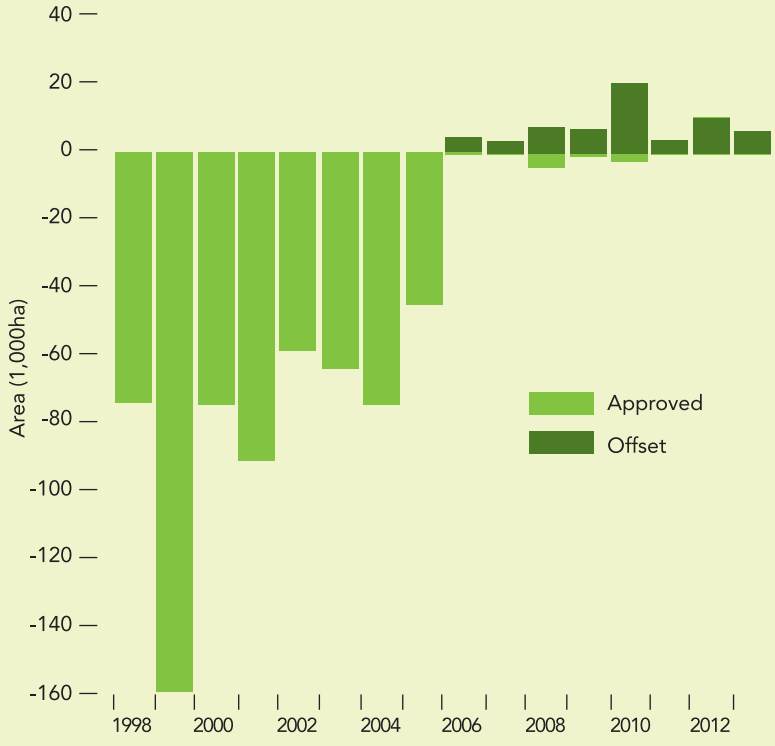
Concerns about the impact of sustained high rates of land clearing and their impact on biodiversity led to the creation of the *Native Vegetation Conservation Act 1997*. The Act was introduced to monitor and control clearing through an approval process.

While it represented an important step forward the Act had limited success in slowing the loss of native vegetation. In 1998 there were applications to clear 135,551 ha of native vegetation, of which 80% were approved. Most applications were from the Central Western region and Far Western Division; areas with the highest rates of land clearing in the preceding decade (EPA, 2000; 2003). By 2005 applications for clearing had fallen to 63,566 ha of which 44,902 ha was approved (Figure 1). While a marked reduction, this still represented a very high rate of native vegetation loss. The Act was also ineffective in preventing illegal clearing due to difficulties in detection, monitoring and prosecution (EPA, 2006).

In response to the shortcomings of the *Native Vegetation Conservation Act 1997* (NSW Auditor General 2002; 2006), the *Native Vegetation Act 2003* was passed. The Act came into effect on 1 December 2005, and implemented a model proposed by the Wentworth Group of Scientists. The objectives were to end broadscale clearing of remnant vegetation and protected regrowth; use property management plans (PVPs) to assist farmers in managing their properties while protecting native vegetation; provide funding support to farmers to conserve vegetation; and increase scientific input into vegetation management through assessment and offsets and application of the 'maintain or improve' test (Wentworth Group, 2003).

Figure 1. All clearing approved under previous legislation and under the *Native Vegetation Act 2003* after 2005 as well as areas of offsets for clearing approved after 2005 up to November 2013.

Reproduced with permission from Taylor & Dickman, 2014.



The NVA applies to rural land that is privately owned or leased (including land in the Western Division). It does not apply to urban land, the Sydney Metropolitan Area, state forests, national parks, conservation areas or critical habitat for threatened species; among other exemptions (see Appendix 1). When the Act was drafted there was an implicit economic decision to allow clearing of regrowth (grown since 1990 and the bulk of farmland) without consent; and to focus on remnant vegetation as the key area deserving greater protection. Additionally there was a $300m assistance package.

The Act has been highly successful in protecting remnants of native vegetation (Figure 1) and the overall area of woody vegetation in NSW has remained stable since the Act was introduced (EPA, 2012). Further, clearing approved under the Act since 2005 has been offset by an average of 7,852 hectares of 'like for like' land protected and allowed to recover each year (OEH, 2010).

RECENT CHANGES – AMENDMENTS TO THE *NATIVE VEGETATION REGULATION 2005*

On 28 March 2014 the NSW Government announced changes to the *Native Vegetation Regulation 2005* which implements key aspects of the Act, following intense pressure from landowners. These changes relax previous restrictions on clearing 'invasive native scrub' (ie, regenerating bushland), thinning of native vegetation and removal of paddock trees. These forms of clearing will be governed by "self-assessable codes". It is unclear how the ecological significance or conservation status of vegetation will be appropriately assessed under this self-assessment system.

A major change is that chain-clearing and blade ploughing will now be permitted as methods of clearing 'invasive native scrub'. This is contrary to the recommendations of the Native Vegetation Regulation Review (Lane, 2013) which was commissioned by the government and concluded that chain clearing and blade ploughing should not be permitted under self-assessment codes. These methods are highly destructive to ground cover vegetation and cause significant soil disturbance.

Wind erosion, cleared agricultural landscape

A further change is that the maximum area of vegetation that may be cleared in an individual treatment will increase to 40% (up from 20%) of a property with another 40% permitted in a subsequent treatment.

Clearing of a maximum 200 paddock trees per 100ha will also be permitted. This clearing must not change land use and trees to be cleared must not contain threatened fauna or habitat for threatened fauna. It is unclear how an appropriate level of ecological expertise will be ensured in assessing whether trees contain threatened fauna or habitat for threatened fauna. It is also unclear how this provision will be effectively enforced under self-assessment codes.

However these changes did not satisfy the landowners who want greater freedom to clear (NSW Farmers Association, 2014) and the government has now agreed to review the foundation *Native Vegetation Act 2003*.

THREATENED SPECIES CONSERVATION ACT 1995

The *Threatened Species Conservation Act 1995* is the key law protecting biodiversity in NSW from various types of development.

Under the Act any member of the public may nominate a species, population or ecological community for listing under the Act. Nominations are assessed by the independent NSW Scientific Committee and public comments sought, to determine whether listing as a threatened species, population or endangered ecological community is warranted. The Scientific Committee may also choose to make a listing on its own. Threatened species are classified as 'extinct', 'critically endangered', 'endangered' or 'vulnerable' depending on the degree of extinction risk (EPA, 2012). Threatened populations and endangered ecological communities may also be listed (EPA, 2012). Listings identify threatening processes contributing to extinction risk.

The Act provides for the development of recovery plans for threatened species, populations and endangered ecological communities; however development of these plans is not mandatory. Recovery plans identify critical habitat, threatening process and recovery actions required to address these threats.

Importantly, Ministers, government agencies and local councils are required to consider any available actions to implement a recovery plan and must not make decisions that are inconsistent.

The *Threatened Species Conservation Act 1995* requires planning authorities to consider critical habitat when deciding whether to grant consent to proposed developments or when public land is used. The *Environmental Planning and Assessment Act 1979* requires that developments that may affect threatened species or critical habitat must include a species impact statement providing details of the development's likely impact on threatened species. The *Environmental Planning and Assessment Act 1979* also requires that development applications be subject to a 7-part test that considers factors such as whether a viable local population of the species is likely to be placed at risk of extinction, whether habitat will be removed or modified, and whether habitat is likely to become fragmented or isolated from other areas.

To date governments have retained the key features and protections of this Act (see Appendix 2 for further information).

5. The future of the Acts

While the *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003* have made a major contribution to protecting native species and habitat, serious declines in biodiversity in NSW are continuing. Between 2009 and 2012, 35 additional species were classified as threatened in NSW (EPA, 2012). Not one species was downlisted as a result of genuine population recovery. Threats contributing to this continuing decline include ongoing land clearing whether under exemptions, or illegal clearing; insensitive development resulting in loss of native vegetation and habitat; invasive species; and climate change (Coutts-Smith & Downey, 2006; EPA, 2012; Taylor & Dickman, 2014).

Stopping and reversing biodiversity declines in NSW will require current protections in the *Threatened Species Conservation Act 1995* and the *Native Vegetation Act 2003* to be maintained or ideally strengthened. Further measures will be required to address the wide range of threats to native species and ecological communities. This is particularly important given ongoing pressures to increase exploitation of natural environments and vegetation. A recent example has been a proposal to allow logging and bulldozing of trees for timber extraction in native forests (including National Parks) under the guise of fire prevention (Deloitte Access Economics, 2014); and the burning of native forest material for electricity generation (*Protection of the Environment Operations Amendment (Native Forest Bio-material) Regulation 2013*).

As noted above the NSW government is coming under significant pressure from landowners who wish to clear more native vegetation under a nil or self-regulatory system. It has announced a major review of both Acts and while the government claims it will adhere to maintaining environmental standards there are serious questions about the real intent of the review and its effect on biodiversity protection. These concerns are heightened by the recent changes to the *Native Vegetation Regulation*.

LAND CLEARING

Despite the dramatic reduction of approved clearing, about 15,730 hectares of remnant bushland is still cleared annually in NSW for conversion to agriculture or development resulting in the deaths of over 320,000 mammals in NSW each year (Taylor & Dickman, 2014). This continued clearing is due to the exercise of grandfathered approvals under the previous ineffective legislation; exemptions under current legislation and illegal clearing; although it is unknown which of these categories contribute the most (Taylor and Dickman 2014). Clearly, grandfathered approvals need to be bought out, exemptions re-examined and illegal clearing reduced by aggressive compliance action.

Ongoing clearing includes that exempted under *Native Vegetation Act 2003* and illegal clearing. Under the Act clearing that may be permitted without an approved property vegetation plan (PVP) includes, routine agricultural management activities (RAMA), firewood collection for personal use and clearing authorised by other ACTS. The Act does not apply to urban land or non-protected regrowth (Taylor & Dickman, 2014).

One area of weakness in the NVA is the exemption for regrowth vegetation. Regrowth vegetation may have conservation significance and habitat value equal to that of remnant vegetation. Recent research from the Queensland Brigalow Belt has revealed regrowth vegetation supported reptile communities with equivalent diversity and composition to remnant woodlands (Bruton et al., 2013). Despite its value important regrowth vegetation is not protected under the *Native Vegetation Act 2003*.

Illegal clearing has been a problem due to difficulties in monitoring and enforcement. It is estimated that 40% of the land clearing that occurred in NSW in 2005 was illegal. More than half of this illegal clearing occurred in the central west of the state (NSW Auditor General, 2006; Taylor & Dickman, 2014). If the Act and compliance powers are weakened, such rates could reemerge.

RECOMMENDATION 1: The NSW and Commonwealth Governments should commit to 'no net loss' of native vegetation. This target should be supported with appropriate legislation.

RECOMMENDATION 2: Current protections for native vegetation in the *Native Vegetation Act 2003* should be retained. The Act should be strengthened to reduce loopholes allowing clearing without a PVP.

RECOMMENDATION 3: Strengthen protection for native vegetation and threatened species habitat under the Environmental Planning & Assessment Act 1979 to ensure no net loss of native vegetation from urban, industrial and mining development.

RECOMMENDATION 4: Regrowth vegetation should be assessed for its conservation significance and habitat value for threatened species. Significant regrowth vegetation should be mapped and protected under the *Native Vegetation Act 2003*.

RECOMMENDATION 5: Increase funding for extension services, assessment of applications for clearing and enforcement of the *Native Vegetation Act 2003*. Increase capacity for monitoring and detecting illegal clearing and prosecution of offenders.

THREATENED SPECIES

The *Threatened Species Conservation Act 1995* has played a vital role in helping protect threatened species in NSW. Despite this contribution biodiversity continues to decline. To address this, the Act should be strengthened to address current shortcomings.

Bilby (*Macrotis lagotis*), extinct in NSW.

A major deficiency of the Act is the fact that recovery plans are not mandatory for all species, populations and ecological communities listed as threatened under the Act . Recovery plans are vital in identifying and addressing key threats to survival. They also identify critical habitat that must be preserved to prevent extinction. In the absence of a recovery plan listing a species, population or ecological community under the *Threatened Species Conservation Act 1995* simply catalogues its extinction risk.

Recovery Plans and critical habitat designation have been shown to have important additional effects on species recovery in the United States over and above the benefits of listing a species (Taylor et al 2005).

Invasive plants and animals represent the second greatest threat to biodiversity in NSW after habitat loss (Coutts-Smith & Downey, 2006; EPA, 2012). More resources are required to assess the threats posed by invasive species. Assessment of threats allows prioritisation of resources and control activities toward those species posing the greatest threats (Johnson, 2009).

Protected areas such as National Parks play a vital role in protecting biodiversity. They provide havens for threatened species and secure habitat to prevent other species declining to the level that they become threatened with extinction. In recent years there has been increased pressure for commercial and recreational use of National Parks and other protected areas. These activities have the potential to compromise the environmental integrity and conservation value of protected areas.

Protected areas and land clearing laws are strongly associated with stable trends of threatened species populations (Taylor et al, 2011).

Climate change represents a serious threat to biodiversity. Large numbers of species face the loss of suitable habitat due to temperature changes (Burrows et al., 2014). In response to this many species will need to shift their present ranges in order to survive. Identifying and preserving habitat to provide 'climate refugia' for such species will be vital to minimising the impact of climate change on biodiversity (Reside et al., 2013). This will require expansion of current protected areas to ensure that sufficient intact habitat is available to accommodate range shifts.

RECOMMENDATION 6: Require development of recovery plans and critical habitat designation for all species, populations and ecological communities listed under the *Threatened Species Conservation Act 1995* within 4 years. Provide suitable funding for the development and implementation of these plans.

RECOMMENDATION 7: Increase funding for assessing and combating the threat of invasive plants and animals.

RECOMMENDATION 8: Maintain conservation of nature as the primary focus of protected areas. Commercial and recreational activities that compromise conservation values should be excluded from protected areas.

RECOMMENDATION 9: Expand the number and scale of protected areas in NSW. Planning for protected areas should include accommodation of range shifts and the need for climate refugia resulting from climate change.

6. References

Bedward, M., Silversten, D., Metcalf, L., Cox, S. & Simpson, C. (2001) *Monitoring the rate of Native Woody vegetation Change in the NSW Wheatbelt, final project report to the Natural Heritage Trust/Environment Australia*. NSW National Parks and Wildlife Service, Hurstville.

Belsky, A.J., Matzke, A., & Uselman, S. (1999). Survey of livestock influences on stream and riparian ecosystems in the western United States, *Journal of Soil and water Conservation*, 54, 419-431.

Bensen, J, (1999) *Setting the Scene: The Native Vegetation of New South Wales*, Native Vegetation Advisory Council of NSW, Sydney.

Brierly, G.J. & Fryirs, K.A. (2005) *Geomorphology and River Management: Applications of the river styles framework*, Blackwell Publications, Oxford.

Bruton, M.J., McAlpine, C.A. & Maron, M. (2013) Regrowth woodlands are valuable habitat for reptile communities, *Biological Conservation*, 165, 95-103.

Burrows, M.T., Schoeman, D.S., Richardson, A.J., Garcia Molinos, J., Hoffman, A., Buckley, L.B., Moore, P.J., Brown, C.J., Bruno, J.F., Duarte, C.M., Halpern, B.S., Hoegh-Guldberg, O., Kappel, C.V., Kiessling, W., O'Connor, M.I., Pandolfi, J.M., Parmesan, C., Sydeman, W.J., Ferrier, S., Williams, K.J., & Poloczanska, E.S. (2014) Geographic limits to species-range shifts are suggested by climate velocity, *Nature*, 507, 492-495.

Coutts-Smith, A.J. & Downey, P.O. (2006) *Impact of Weeds on Threatened Biodiversity in NSW*, Technical Series no.11, CRC for Australian Weed Management, Adelaide.

Deloitte Access Economics (2014) *Scoping Study on a Cost Benefit Analysis of Bushfire Mitigation. Australian Forest Products Association February 2014*. Deloitte.

Deo, R.C., (2011) Links between native forest and climate in Australia, *Weather*, 66, 64-69.

Deo, R.C., Syktus, J.I., McAlpine, C.A., Lawrence, P.J., McGowan, H.A. & Phinn, S.R. (2009) Impact of historical land cover change on daily indices of climate extremes including droughts in eastern Australia, *Geophysical Research Letters*, 36, L08705, doi:10.1029/2009GL037666.

Dickman, C.R., Pressey, R.L., Lim. L. & Parnaby, H.E. (1993) Mammals of particular conservation concern in the western division of NSW, *Biological Conservation*, 65, 219-248.

DPI (2005) *Key threatening processes in NSW. Degradation for native riparian vegetation along water NSW water courses*, Primefact 12, Department of Primary Industries.

DPI (2014) *Freshwater habitats*, http://www.dpi.nsw.gov.au/fisheries/habitat/aquatic-habitats/freshwater Accessed 10 April 2014, Department of Primary Industries.

EPA (2000) *NSW State of the Environment Report 2000*, Environmental Protection Authority, Sydney.

EPA (2003) *NSW State of the Environment Report 2003*, Environmental Protection Authority, Sydney.

EPA (2006) *NSW State of the Environment Report 2006*, Environmental Protection Authority, Sydney.

EPA (2012) *NSW State of the Environment Report 2012*, Environmental Protection Authority, Sydney.

Jetz, W. Thomas, G.H., Joy, J.B., Redding, D.W., Hartmann, K. & Mooers, A.O., (2014). Global Distribution and Conservation of Evolutionary Distinctness in Birds, *Current Biology*. http://www.cell.com/current-biology/fulltext/S0960-9822(14)00270-X

Johnson, S. (2009) *NSW Weed Risk Management System. Background information*, Industry & Investment MSW, Orange.

Lane, J. (2013) Native Vegetation Regulation Review Facilitator's Final Report. Minister for the Environment, Sydney.

Lunney, D., Curtin. A.L., Ayers, D., Cogger, H.G., Dickman, C.R., Maitz, W., Law, B. & Fisher, D. (2000) The threatened and non-threatened native vertebrate fauna of New South Wales: status and ecological attributes, *Environmental and Heritage Monograph Series*, No. 4, 1-132, NSW National Parks and Wildlife Service, Hurstville.

McAlpine, C.A., Syktus, J., Ryan, J.G., Deo, R.C., McKeon, G.M., McGowan, H.A. & Phinn, S.R. (2009) A continent under stress: interactions, feedbacks and risks associated with impact of modified land cover on Australia's climate, *Global Change Biology*, 15, 2206-2223.

Mahmood, R., Pielke, R.A., Hubbard, K.G., Niyogi, D., Dirmeyer, P.A., McAlpine, C., Carleton, A.M., Hale, R., Gameda, S., Beltrán-Przekurat, A., Baker, B., McNider, R., Legates, D.R., Shepherd, M., Jinyang, D., Blanken, P.D., Frauenfeld, O.W., Nair, U.S. & Fall, S. (2014) Land cover changes and their biogeophysical effects on climate, *International Journal of Climatology*, 34, 929-953.

NSW Auditor General (2002) *Performance audit report: Department of Land and water Conservation: Regulating the clearing of native vegetation*. NSW Auditor General.

NSW Auditor General (2006) *Regulating the Clearing of Native Vegetation: Follow-up of 2002 Performance Audit*. NSW Auditor General.

NSW Farmers Association (2014) *NSW Farmers rejects native veg codes*. NSW Farmers media release 27 March 2014. http://www.nswfarmers.org.au/news/global-news/nsw-farmers-rejects-native-veg-codes. Accessed 5 May 2015.

NSW Scientific Committee (2001) *Clearing of native vegetation – key threatening process listing. NSW Scientific Committee final determination*.

OEH (2010) *Annual Report on Native Vegetation 2010*. Office of Environment and Heritage. http://www.environment.nsw.gov.au/resources/vegetation/110685NVAR2010.pdf Accessed 5 May 2014.

OEH (2014a). Saving NSW threatened species webpage. http://www.environment.nsw.gov.au/threatenedspecies Accessed 10 April 2014, Office of Environment and Heritage.

OEH (2014b) *Easter Birstlebird – profile* http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10206 Accessed 10 April 2014, Office of Environment and Heritage.

OEH (2014c) *Plains-wanderer – profile* http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10588 Accessed 10 April, 2014, Office of Environment and Heritage.

Possingham. H.P., Andelman, S.J., Burgman, M.A., Medellin, R.A., Master, L.L. & Keith, D.A. (2002) Limits to the use of threatened species lists, *Trends in Ecology and Evolution*, 17, 503-7

Pressey, R.L., Hager, T.C., Ryan, K.M., Schwartz, J., Wall, S., Ferrier, S. &

Creaser, P.M. (2000) Using abiotic data for conservation assessment over extensive regions: quantitative methods across NSW, *Biological Conservation*, 96, 55-82.

Reside, A.E., VanDerWal, J., Philips, B.L., Shoo, L.P., Rosauer, D.F., Anderson, B.J., Welbergen, J.A., Moritz, C., Ferrier, S., Harwood, T.D., Mackey, B., Hugh, S.,

Williams, Y.M., & Williams, S.E., (2013) *Climate changes refugia for terrestrial biodiversity: Defining areas that promote species persistence and ecosystem resilience in the face of global climate change*, National Climate Change Adaptation Research facility, Gold Coast.

SCS (1989) *Land Degradation Survey: NSW 1987-1988*, Methodology Technical Report No.7, Soil Conservation Service of NSW, Sydney.

State of the Environment 2011 Committee (2011) *Australia state of the environment 2011. Independent report to the Australian Government Minister for Sustainability, Environment, Water, Population and Communities.* DSEWPaC, Canberra.

Taylor, M.F.J. & Dickman, C.R. (2014) *NSW clearing ban saves native mammals*. WWF-Australia, Sydney.

Taylor, M.F.J., Sattler, P.S., Evans, M., Fuller, R.A., Watson, J.E., & Possingham, H.P. (2011). What works for threatened species recovery? An empirical evaluation for Australia. *Biodiversity and Conservation*, 20, 767-777.

Taylor, M.F.J., Suckling, K.F., & Rachlinski, J.J. (2005). The effectiveness of the Endangered Species Act: a quantitative analysis, *BioScience*, 55, 360-367.

Wasson, R.J., Mazari, R.K., Starr, B. & Clifton, G. (1998) The recent history of erosion and sedimentation on the Southern tablelands of south-eastern Australia: sediment flux dominated by channel incision, *Geomorphology*, 24, 291-308.

Wentworth Group (2003) *A New Model for Landscape Conservation in New South Wales: Wentworth Group of Concerned Scientists Report to Premier Carr*, CSIRO, Canberra.

Williamson, D.R., Gates, G.W.B., Robinson, G., Linke, G.K., Seker, M.P. &

Evans, W.R. (1997) *Salt Trends: Historic Trends in Salt Concentration and Saltload of Stream Flow in the Murray-Darling Drainage Division*, Dryland Technical Report No. 1, Murray Darling Basin Commission, Canberra.

APPENDIX 1.

FACT SHEET: *NATIVE VEGETATION ACT 2003*

Native vegetation plays a vital role in providing the ecosystem services (like clean water and healthy soils) essential for healthy productive landscapes, and supporting biodiversity and ecosystems. After two centuries of land clearing strong laws are essential to protecting these economic and environmental benefits.

Over the last decade, land clearing laws have helped slow the decline in native vegetation coverage in NSW, (in particular remnant or more established, diverse vegetation) compared with higher clearing rates in previous years. However, land clearing is still one of the major **key threatening processes** affecting the survival of threatened species[1] because so much key vegetation has been cleared over 200 years. It is also a major factor contributing to soil erosion, salinity and climate change. The quality of vegetation and linkages generally deteriorate as coverage is diminished.

The NSW *Native Vegetation Act 2003* (**NV Act**) and its 2013 Regulation[2] govern land clearing on private lands in NSW (except in designated urban areas). The Act and Regulation outline what landowners can and can't do with native vegetation on their land. The Planning and Environment Department regulates land clearing in partnership with Local Land Services in rural NSW.[3]

The NV Act was introduced to address the regulatory failure of the previous regime,[4] which allowed significant clearing through including the arbitrary use of a shopping list of exemptions, unscientific trade offs, exacerbated by poor compliance and enforcement.[5] It does not cover the significant amount of land clearing under exempted laws including for roads, state forests and mining.

REVIEW OF NATIVE VEGETATION REGULATION

In September 2011 the NSW Government announced a review to 'cut red tape' and 'clarify' the scientific methodology underpinning land clearing decisions.[6] Over 700 submissions were received, and the NSW Government appointed an independent facilitator to progress the review and make recommendations.[7]

As a result of this review, the NSW Government is proposing reforms to change the Regulation to reinstate broader exemptions which threaten the integrity and scientific rigour of the NV Act. For example, changes that make it easier to clear scattered and isolated paddock trees will result in a loss of important ecological values. Similarly, changes foreshadowed to the environmental assessment methodology would facilitate the clearing of small areas and small clumps and could adversely impact on already fragmented vegetation types, such as endangered ecological communities.

Changes introduced in September 2013 include new or expanded exemptions to clear native vegetation, and consultation on 'self-assessable codes' is underway.[8] However it is proposed to go further and the major review of the current Act is potentially a further weakening of environment protection in response to landowner and developer demands.

The operation of the NV Act is outlined below.

WHERE DOES THE NATIVE VEGETATION ACT APPLY?

The NV Act applies to rural land that is privately owned or leased (such as land in the Western Division). The Act does **not** apply to urban land,[9] the Sydney Metropolitan Area, state forests, national parks, conservation areas or critical habitat for threatened species, among other exemptions.[10]

It seeks to control broadscale clearing where 'broadscale ' has an environmental meaning, ie a small area of rare trees may be very valuable and should be protected ('red flag'), while a more common vegetation type may be able to tolerate some clearing and have less stringent offsets. Clearing is assessed under the scientifically applied 'maintain or improve' test, which disallows consideration of economic benefits from clearing. This was adopted because so much had already been cleared and the Act applied an economic division of land, by allowing regrowth to be cleared without consent.

What sort of vegetation is covered by the Act?

The NV Act categorises native vegetation in rural areas as:

regrowth (that has regrown since 1990, or since 1983 in the Western Division)

protected regrowth (as identified in property vegetation plans, local environmental plans or other instruments as having important environmental values) and

remnant vegetation (any other native vegetation but importantly the more established and diverse communities that have been subject to significant past clearing).

The Act regulates the clearing of native trees, saplings, shrubs and scrub, understorey plants, groundcover, and plants in wetlands.

HOW DOES THE NATIVE VEGETATION ACT CONTROL CLEARING?

In brief, it is an offence to clear *remnant vegetation* or *protected* regrowth without authorisation or an exemption. Vegetation that is classified as "regrowth" can be cleared without a permit and this applies to the majority of vegetation on private lands.

A person who carries out or authorises such clearing[11] (e.g. by a contractor) without a **property vegetation**

plan, **development consent**, or under an **exemption**, is guilty of an offence. It is a defence if the person can point to an exemption under the Act.

The NV Act also prohibits clearing on vulnerable land (prone to erosion or damage).[12]

Property Vegetation Plans (PVPs)

If a landholder wishes to clear land, they may apply for a property vegetation plan. PVPs are voluntary to enter, but are binding once made. They allow the landholder to lawfully carry out clearing identified in the plan. PVPs can be made for up to 15 years, and bind future landowners.

A PVP will identify which areas of land may be cleared, which vegetation must be kept as an 'offset', and what sort of farming practices can continue to be carried out. PVPs are legally enforceable, and clearing in breach of a PVP is an offence. A large number of PVPs have been agreed with landowners including a significant number that protect important vegetation and improve the environmental sustainability of the property.

Private native forestry and PVPs

While the NV Act restricts broadscale clearing, it is permitted for the purpose of harvesting timber on private property. Such clearing must be approved by the Environment Minister under a PVP for private native forestry, and carried out in accordance with the *Private Native Forestry Code of Practice*. This and other clearing authorised under the NV Act is exempt from the *Threatened Species Conservation Act 1995* (NSW) (**TSC Act**).[13] The government is also reviewing the Code with a view to increasing timber availability.

Development consent for clearing

Instead of a PVP, a landholder who wishes to clear land may apply for development consent (but rarely used to date) from Local Land Services. Consent to clearing can only be granted if it will improve or maintain environmental outcomes (determined via the *Environmental Outcomes Assessment Methodology*). It is based on scientific rules backed by substantial research and helps remove the discretion which led to so many inconsistent and damaging decisions in the past.

EXEMPTIONS THAT ALLOW CERTAIN CLEARING

There are a significant range of exemptions under the NV Act and Regulation, which allow farmers and other landholders to maintain their property and run their business. Changes introduced in September 2013 include new or expanded exemptions to clear native vegetation without a PVP. Consultation is also underway on several 'self-assessable codes of practice', due to be implemented in 2014.[14]

Clearing of regrowth and groundcover is permitted

Clearing of non-'protected' regrowth[15] and certain native groundcover[16] is permitted without the need for a PVP or development consent.

Other permitted activities (routine management, existing farming activities, sustainable grazing and legally authorised clearing)

A landholder can clear vegetation for routine agricultural management activities (**RAMAs**) without the need for approval. RAMAs include things like erecting and maintaining farm infrastructure, pest control, private firewood collection, Aboriginal cultural activities, commercial plantation harvesting, stock fodder and urgent removal of safety hazards.

Pre-existing farming activities (such as cultivation, grazing or rotational farming practices) can also continue without development consent.[17] Sustainable grazing is also permitted.[18]

Finally, the NV Act is deemed not to apply to land clearing which is authorised under other legislation (including emergency management, rural fires, threatened species, mining and petroleum and water laws).

ENFORCEMENT OF THE NATIVE VEGETATION ACT

Development consents and PVPs issued under the NV Act are legally enforceable. Authorised officers have powers of entry, inspection, and to obtain information about breaches.[19] OEH can also issue stop work orders and written directions for remediation work in the event of a breach (it is an offence not to comply). Minor breaches can be enforced by an authorised officer issuing a penalty notice.

Civil remedies and community rights

Any person may bring proceedings in the Land and Environment Court to request an order to remedy or restrain a breach of the NV Act. Such 'open standing' is an important safeguard, although it may involve costs risks for the individual or group. The Court may make a range of orders as it thinks fit to remedy or restrain the breach, such as an injunction (e.g. to stop clearing), a declaration (e.g. that a development consent is invalid), or a remediation order.

Criminal proceedings

Any person may bring criminal proceedings in court for an offence under the NV Act, although in practice this will usually be done by OEH or the EPA.

APPENDIX 2.

FACTSHEET: *THREATENED SPECIES CONSERVATION ACT 1995*

Strong threatened species and biodiversity laws are essential to the environmental, social and economic future of NSW and Australia.[20] There are now around 1000 species listed as threatened with extinction in NSW, including 72 species that are presumed extinct.[21] Many more species are yet to be discovered, or are already extinct.[22]

The *Threatened Species Conservation Act 1995* (**TSC Act**) is the main law in NSW for the protection and management of biodiversity and threatened species. It is administered by the Office of Environment and Heritage (**OEH**).

As the lynchpin of the NSW biodiversity protection framework, the TSC Act sets out a scientific listing process, tools for long-term recovery, measures to integrate with planning and development assessment laws, and offence and enforcement provisions (alongside the NSW *National Parks & Wildlife Act 1974*).

Despite its strong objectives, implementation of the TSC Act to date has not arrested the decline of biodiversity in NSW.[23] The threatened species list is growing despite legislative objectives to protect biodiversity in NSW planning legislation for over 30 years. This is partly due to the limits of threatened species laws to protect species against planning approvals (particularly major projects, which are exempt from certain safeguards[24]).

It should also be noted that 'The effectiveness of such legislation depends critically on the provision of substantial financial and administrative resources. Historically, threatened species programs have been grossly underfunded.'[25]

The process and operation of the TSC Act is outlined in brief below.[26]

LISTING THREATENED SPECIES

The threatened species listing process is outlined in the TSC Act and the TSC Regulation 2002. **Individual species, populations** or **ecological communities** may be listed under the TSC Act (in this factsheet we use 'threatened species' for short). There are four listing categories: **vulnerable**, **endangered**, **critically endangered** or **presumed extinct** in the wild, based on the risk of extinction.[27] Listings are determined by a Scientific Committee and referred to the Environment Minister (the Minister) for formal listing.[28]

Listing may trigger the following actions:

- The Office of Environment and Heritage (**OEH**) may prepare a **recovery plan**;
- OEH must identify **critical habitat** which may then be declared by the Minister;
- A person who harms or 'picks' threatened species will commit an **offence** unless they have a licence, development consent or other authorisation;[29]
- Developments which are likely to significantly affect the threatened species or its habitat will (usually) require a **species impact statement**.

Key strengths of the listing process are the ability of any community member to make a nomination to the Scientific Committee for listing; the independence of the Scientific Committee and rigorous scientific basis for listing decisions under the Act.

LONG-TERM PLANNING TOOLS TO PROTECT THREATENED SPECIES

Recovery Plans

While not mandatory, recovery plans identify critical habitat, threatening processes (e.g. land clearing, predators) and recovery actions for threatened species.

Under the TSC Act, ministers and public authorities (including local councils) must take any appropriate action available to them to implement a recovery plan, and must not make decisions that are inconsistent with a recovery plan.

Critical Habitat

If an area of land is declared as critical habitat, it means that:

- Planning authorities (such as local councils) must have regard to the register of critical habitat when deciding whether to grant development consent;
- Public authorities must consider the habitat when public land is used;
- Licence applications and development applications to do things on the land must (usually) attach a species impact statement.

Species Impact Statements

Under NSW planning law (EP&A Act[30]), if developments are proposed for land which is critical habitat, or are likely to significantly affect threatened species, developers must submit a species impact statement that gives planning authorities important information on likely project impacts.

The EP&A Act also includes a 7-part test which consent authorities must take into account in deciding whether to grant consent.[31]

When deciding whether to grant consent, planning authorities must have regard to the register of critical habitat and all relevant recovery plans, key threatening processes[32] and threat abatement plans.[33]

Threat abatement planning

Threat abatement planning can address key threats to biodiversity in a co-ordinated way by targeting actions across regions and priority areas. Threat abatement planning will also remain a key mechanism to protect biodiversity under climate change, as climate change will exacerbate a range of existing threats. More resources therefore need to be focused on threat abatement planning.

NSW Threatened Species Priority Action Statement

Since 2007, in response to a growing number of threatened entities listed in NSW, the TSC Act now requires OEH to prepare and adopt a *Threatened Species Priorities Action Statement*. This outlines strategies to promote the recovery of each threatened species and manage key threatening processes. The OEH has recently conducted a review and consultation to amend the Priorities Action Statement. That review proposes six management streams to better target the needs of all species.[34]

THREATENED SPECIES AND DEVELOPMENT

NSW laws do not protect threatened species absolutely. Rather, the laws set up administrative procedures to guide decision-making where threatened species are affected.

For example, under the EP&A Act, a consent authority may grant development consent which will adversely affect threatened species. There are three ways that this can happen:

- The developer carries out a **species impact statement** which accompanies the development application, and is considered by the consent authority; or
- The development takes place under an environmental planning instrument (e.g. a local environment plan) which has **biodiversity certification**;[35]
- The developer participates in the NSW **BioBanking** (offsets) scheme.[36]

Each of these options is exclusive of the others. For example, a development that proceeds under the BioBanking Scheme will not need a species impact statement.

OFFENCES AND ENFORCEMENT

The criminal offences relating to threatened species are set out in the NSW *National Parks and Wildlife Act 1974* (**NPW Act**). OEH is responsible for bringing criminal prosecutions.

It is an offence to:

- harm any animal (or 'pick' any plant) that is a threatened species, or which is part of an endangered population or an endangered ecological community. This includes harm caused by any substance (e.g. poison), animal (e.g. dog), firearm, net, trap or hunting device;
- damage threatened species habitat (knowingly and otherwise);
- buy, sell or possess any threatened species of animal or plant.

There are also a broad range of defences to criminal charges regarding threatened species. In short, if the offending activity was authorised in some way (e.g. by a licence or development consent), there is no offence.[37]

OEH is responsible for enforcing the TSC Act and NPW Act through criminal prosecutions or other enforcement powers, such as penalty notices, warning letters, stop work orders and interim protection orders.

Civil remedies and community rights

Any person may bring civil proceedings to remedy or restrain a breach of the TSC Act (known as 'open standing'), although this may involve costs risks. In these cases the Land and Environment Court may grant an injunction to stop an activity that is causing harm to a threatened species or its habitat. It may also make an order to remedy or restrain a breach of the Act, or declare a provision has been breached.

CASE STUDIES – PENALTIES

NSW OEH engages in a range of regulatory activities and provides a good model for environmental enforcement. However, generally low fines are imposed, with some exceptions in recent years.

In *Carmody v Brancourts Nominees Pty Ltd and Another* [2003] NSWLEC 84 both defendants were charged with knowingly clearing vegetation from land at Hawks Nest that was the habitat of an endangered population of koalas, contrary to s 118D(1) of the NPW Act. The defendants pleaded guilty, and were fined $5,000, while agreeing to undertake remediation works under s 118E of the NPW Act.

In *Bentley v BGP Properties Pty Ltd* (2006) 145 LGERA 234 the defendant slashed, cleared and excavated land that contained thousands of plants of the vulnerable species *Tetratheca juncea*. The plant is listed as a vulnerable species under the TSC Act. The defendant was convicted of picking threatened species contrary to s 118A(2) of the NPW Act, and fined $40,000.

In *Garrett v Williams* (2006) 160 LGERA 115, Mr Williams owned land in the Southern Highlands where the listed Shale Woodland grew. The Southern Highlands Shale Woodland was listed as an endangered ecological community under the TSC Act. Over two separate periods, the defendant arranged for trees of the woodland

to be cleared or cut down, in contravention of s 118A(2) of the NPW Act. The offences occurred while Mr Williams' application for development consent to subdivide the land was being considered by the local council. Mr Williams pleaded guilty to the charges. The Land and Environment Court found that the clearing was premeditated and deliberate, and that it was done to remove an impediment to the subdivision being approved. A fine in the upper limit of the range was imposed. The Court fined Mr Williams a total of $180,000 and also ordered him to pay the prosecutor's costs.

In *Garrett v Freeman (No 5)* (2009) 164 LGERA 287 the Port Macquarie Hasting Council, headed by the defendant, constructed a road that caused damage to the habitat of a threatened species. The act of damaging the habitat of a threatened species contravenes s 118D(1) of the NPW Act. Fines across all parties amounted to $137,500.

Plath v Knox [2007] NSWLEC 670
The defendant engaged in spraying of vegetation on reserved land, harming three species of flora and fauna that are either endangered or vulnerable. Following the plea of guilty, and other mitigating factors, a $13,200 fine was imposed.

Plath v Chaffey [2009] NSWLEC 196
The defendant was charged with four counts of collecting eggs of a threatened species, and one count of harm to protected fauna. The defendant had intentionally collected the eggs of the threatened species on Lord Howe Island. The defendant pleaded guilty to collecting 94 eggs of four species (Masked Booby, Red-Tailed Tropicbird, Sooty Tern, White Tern) in contravention of s 118A(1) of the NPW Act and also s 98(2)(a). The defendant had limited capacity to pay a fine, and as such was sentenced to 80 hours of community service.

Plath of Department of Environment and Climate Change v Fish [2010] NSWLEC 144
The defendants cleared the habitat of threatened koalas contrary to s 118D(1) of the NPW Act, after receiving incorrect advice as to whether planning approval was needed. The defendants were found guilty, and cumulatively paid fines of $15,000, as well as being obligated to carry out remediation work.

Plath v Hunter Valley Property Management Pty Ltd [2010] NSWLEC 264
The defendant cleared vegetation, including of the endangered species *Acacia pendula* in the Hunter Valley, contrary to s 118A(2) of the NPW Act. The defendant pleaded guilty. Due to mitigating factors, the defendant was fined $37,500.

Plath v Lithgow City Council [2011] NSWLEC 8
The defendant pleaded guilty to two charges under s 118A(2) of the NPW Act of picking plants of threatened species, listed as 'endangered' under the TSC Act, in the course of roadworks. The defendant was ordered to pay $105,000 in fines, and direct $105,000 to rehabilitation of the area that was cleared.

Similar to some of the penalties imposed for breaches regarding terrestrial threatened species, low fines have also been imposed in relation to marine species. For example, a recreational fisher from Lake Munmorah who killed an endangered grey nurse shark was fined $2000 for the offence. The man pleaded guilty in Forster Local Court for taking the 1.7m long female shark off Hastings Point in June 2006. Grey nurse sharks were listed as an endangered species in 2001 under the *Fisheries Management Act 1994*, after first being declared threatened in 1984. The fine was disappointingly low. As the proceedings were dealt with in the Local Court, the maximum fine available was $10,000. If proceedings had been commenced in the Supreme Court or the Land and Environment Court, a much larger penalty would have been possible (that is, $220,000 or two years imprisonment).

ENDNOTES

[1] See, for example, National Sustainability Council, *Sustainable Australia Report 2013*, Ch. 10 & 14.C.

[2] Environment Protection Authority, *NSW State of the Environment 2012* (2013), Chapter 5, available at http://www.epa.nsw.gov.au/soe/.

[3] In September 2013, the Native Vegetation Regulation 2013 replaced the Native Vegetation Regulation 2005. See http://www.environment.nsw.gov.au/vegetation/.

[4] Local Land Services replaced Catchment Management Authorities (CMAs) in January 2014.

[5] *Native Vegetation Conservation Act 1997* (NSW) and *State Environmental Planning Policy (SEPP) 46 – Protection and Management of Native Vegetation.*

[6] Audit Office of NSW,*Performance audit: regulating the clearing of native vegetation.* 2002.

[7] Review of the *Native Vegetation Regulation 2005* and *Environmental Outcomes Assessment Methodology*. See http://www.environment.nsw.gov.au/vegetation/ReviewofNVRegulations.htm.

[8] The *Native Vegetation Regulation Review Facilitator's Final Report* (Report) was finalised on 25 March 2013. The NSW Government has committed to adopting all 40 recommendations, most of which focus on reducing the regulatory requirements for landholders and improving service delivery under 6 key areas.

[9] http://www.environment.nsw.gov.au/vegetation/.

[10] (being land zoned 'residential', 'village', 'township', 'industrial' or 'business', or other zones with a similar urban character)

[11] Other exemptions include land subject to interim protection or interim heritage orders, and land subject to development under the Seniors Living SEPP (*SEPP - Housing for Seniors or People with a Disability 2004* (NSW)).

[12] 'Clearing' includes removing, cutting, thinning, bulldozing, clearing groundcover (unless exempt), poisoning, ringbarking, uprooting, or burning native vegetation.

[13] Vulnerable land is land that is especially prone to soil erosion, sedimentation and landslip if appropriate land clearing techniques are not used. Vulnerable land is classified as *protected regrowth*, and therefore needs approval to clear (or a PVP).

[14] This is because the Environment Minister has conferred biodiversity certification on the *Private Native Forestry Code of Practice*, as well as on the NV Act and Regulations. The effect of biocertification is to exempt covered activities from the need to comply with the TSC Act.

[15] http://www.environment.nsw.gov.au/vegetation/.

[16] 'Protected regrowth' is regrowth in those areas which are identified in a property vegetation plan, an environmental planning instrument, a natural resource management plan or an interim protection order as 'protected regrowth', and includes 'vulnerable land'.

[17] where at least 10% of the area is covered with vegetation (dead or alive), and more than 50% of that vegetation is introduced species.

[18] If they were being carried out as at 1 December 2005. This excludes the clearing of remnant native vegetation (i.e. vegetation which has not been cleared since 1 January 1983 in the Western Division and 1990 on other land); and vegetation in the Western Division, or vegetation that is river red gum, belah or white cypress pine more than 3 metres high.

[19] Sustainable grazing that is not likely to result in the substantial long-term decline in the structure and composition of native vegetation.

[20] Either with landholder consent or OEH executive authorisation.

[21] See, for example, National Sustainability Council, *Sustainable Australia Report 2013*, Ch. 10 & 14.C.

[22] NSW Office of Environment and Heritage (OEH), *Introducing Saving Our Species*, 2013.

[23] There are substantial gaps in representation on lists under the Act, particularly in relation to insects, invertebrates and fungi. See also *NSW State of the Environment Report 2006* at: http://www.environment.nsw.gov.au/soe/soe2006/chapter6/chp_6.3.htm#6.3.22

[24] See *State of the Environment NSW* reports, 2009 and 2012.

[25] See for example, EP&A Act 1979, ss 78A(8)-(8A), 79B(2A), 89J-K, 115ZG.

[26] *Laws of Australia*, Updated May 2012, at [14.7.2680], p405-406.

[27] Note that threatened fish and their habitat, and threatened marine vegetation, are protected under a different law – the *Fisheries Management Act 1994* (NSW).

[28] Any person can nominate a species, population or ecological community for listing. The Scientific Committee may also make a listing on its own initiative.

[29] The Minister may refer the proposal back to the Committee on scientific grounds. Final determinations are published in the NSW Government Gazette, and can only be challenged within 6 months of their publication.

[30] Licences regarding threatened species are issued under the TSC Act. OEH is required to keep a public register of all licences and applications. Development consents are issued under the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act). Other authorisations include biodiversity certification (see below, and http://www.environment.nsw.gov.au/biocertification/).

[31] *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act), section 5A.

[32] These factors include whether a viable local population of the species is likely to be placed at risk of extinction, whether habitat will be removed or modified, and whether habitat is likely to become fragmented or isolated from other areas.

[33] Key threatening processes may be listed by the Scientific Committee. A process can be listed if it could adversely affect, or cause a species, population or ecological community which is not presently threatened to become threatened. Any person may nominate a threatening process for inclusion on the list. Once a key threatening process is listed, it may trigger the need for a threat abatement plan.

[34] If a key threatening process is listed, the OEH must

consider preparing a threat abatement plan setting out how the threat should be reduced or eliminated, which authority is responsible, and give a proposed timetable. Ministers and public authorities must take any action available to them to implement the plan. Consent authorities must have regard to threat abatement plans when considering a development application or when a determining authority is considering an approval.

[35] http://www.environment.nsw.gov.au/threatenedspecies/PASAmendment.htm accessed March 2014.

[36] Since 2011, developments within an area that is 'biodiversity certified' under the TSC Act will not need to have a species impact statement. Any activity that normally requires consent is assumed not to have a significant impact on threatened species. The Environment Minister must keep a public register of all biodiversity certifications. See http://www.environment.nsw.gov.au/biocertification/

[37] In 2008, the NSW Government introduced the BioBanking scheme to protect threatened species via 'offsetting' arrangements. Under the scheme, an owner of land containing threatened species or habitat can receive biodiversity 'credits' in exchange for the long-term protection of threatened plants and animals on their land (as a 'biobank site'). Developers of other lands can then buy these credits to 'offset' biodiversity impacts of their development (determined via a 'biobanking statement').

[38] Examples include licences to harm, kill, etc; lawful development approval; routine agricultural and farming activities; property vegetation plans with biodiversity certification; property management plans and conservation agreements.

[39] Note: Gordon Plath represented the then Department of Environment and Climate Change (now OEH).

Total
Environment
Centre

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Suite 2,
89 Jones Street
Sydney 2007

www.tec.org.au