



Paradise | lost

The **weakening** and **widening**
of NSW biodiversity offsetting
schemes, 2005-2016



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Conservation
Council

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1. EXECUTIVE SUMMARY

Biodiversity is fundamental to our wellbeing and prosperity because it provides the basic requirements of life and underpins our economy. Our bushland and native animals are integral to our national identity, an essential part of what makes Australia and Australians unique.

Biodiversity in NSW, however, is in steady decline. Almost 80 species of plants and animals have become extinct in the state since Europeans arrived, and there are currently a further 999 threatened with extinction, including 59% of all mammals, 34% of amphibians and 30% of birds. Clearing of native vegetation and habitat modification are the greatest threats to the survival of the great majority of species on the threatened list. After 200 years of settlement, NSW has lost almost half of its bushland through land clearing and only 9% of that which is left is in good condition. (See Section 3.)

The continuing loss of biodiversity in NSW poses a significant challenge for governments who have a responsibility to protect species and ecosystems and a desire to promote economic growth and create jobs by allowing land clearing for urban development, infrastructure, agriculture, mining and other major projects. State and federal governments in Australia, following the lead of governments around the world, have embraced biodiversity offsetting in a belief that it can resolve this conundrum and deliver growth that is ecologically sustainable. In theory, offsetting achieves this by allowing the loss of biodiversity values at a development site on the condition that biodiversity values at offset sites are protected and enhanced, ensuring there is no net loss of values across all sites.

The NSW Government has used biodiversity offsetting for more than a decade as an adjunct to land clearing, planning and threatened species conservation laws. The government is poised to significantly expand its use through the introduction of a Biodiversity Offsets Methodology (BAM) that is a central pillar of its new biodiversity conservation and land-clearing laws, including a new *Biodiversity Conservation Act* and *Local Land Services Amendment Act*. This report provides a timely review of the performance of biodiversity offsets policies in NSW and a critical appraisal of the Draft Biodiversity Assessment Methodology that the government proposes to introduce to supersede them.

KEY FINDINGS

Biodiversity offsetting schemes in NSW have failed to deliver the promised outcomes.

The performance of five existing offsets schemes was examined through the lens of eight Case Studies in the state's northwest, southwest, Hunter Valley, and in Sydney. These Case Studies demonstrated that biodiversity offsetting in NSW is failing to deliver the environmental outcomes governments and policy makers have promised. In one Case Study (Boggabri/Maules Creek), biodiversity outcomes were deemed to be "Disastrous". In five others, outcomes were "Poor" (Warkworth, Mount Owen, Huntlee, Albury, Kellyville). Only two Case Studies were found to have resulted in "Adequate" biodiversity outcomes (Namoi, Wagga Wagga), while none resulted in outcomes deemed "Good". (See Table 2 below and Section 5.)

Biodiversity offsetting schemes in NSW have become weaker as standards have slipped.

A review of the key features of the five biodiversity offset schemes in operation in NSW since 2005 found the later models contained fewer best-practice principles and standards than the earlier ones. Schemes were judged on their inclusion of eight features essential for positive environmental outcomes. Only the first offsets scheme (the Environmental Outcomes Assessment Methodology under the Native Vegetation Act) contained all eight features. The Biodiversity Offsets Policy for Major Projects introduced by the Baird government in 2014 contained only one. (See Table 1 below and Section 6.)

The Draft Biodiversity Assessment Methodology contains fewer best-practice principles and standards than any previous scheme and will likely deliver worse environmental outcomes.

Many of the weaknesses and few of the strengths of earlier offsets schemes have been carried forward into the new *Biodiversity Conservation Act* and Draft Biodiversity Assessment Methodology, which the government intends to implement in 2017. The government is proceeding with this model despite warnings from leading

scientists, conservationists and lawyers who have identified many concerns. For example:

- Clear objectives for protecting biodiversity are lacking
- There is no consideration of impacts on water quality, salinity and soil quality
- It does not provide absolute protection (red flags or 'no-go zones) for areas of high conservation value
- The like-for-like principle is undermined
- Supplementary measures are allowed in lieu of genuine offsets
- Mine site rehabilitation can be used as an offset credit
- Developers can pay money into a fund rather than find an appropriate offset site
- Offset obligations can be 'discounted' under the discretion of the Minister
- Offset areas are not guaranteed protection in perpetuity
- The new scheme is unlikely to meet Federal standards (See Section 6.)

CONCLUSION

Biodiversity offsets schemes in NSW are failing to deliver the environmental outcomes governments and policy makers have promised and the design and performance of these schemes is declining. The proposed Draft Biodiversity Offsets Methodology (BAM) sets lower standards and drifts further from best practice than the underperforming schemes it is intended to replace and will consequently be less effective as a conservation measure. Implementing the BAM will in fact add extinction pressures to the very species and ecological communities offsetting is supposed to protect by facilitating the more rapid and widespread destruction of threatened species habitat across NSW.

RECOMMENDATIONS

This report recommends 13 actions the government must take to ensure its offsetting schemes maintain and improve biodiversity in NSW. (See Section 2.)

Table 1: Summary of Case Study scores

CASE STUDY	1. Namoi	2. Kellyville	3. Wagga Wagga	4. Albury	5. Huntlee	6. Boggabri/ Maules Ck	7. Warkworth	8. Mt Owen
SCHEME	EOAM	BioBanking	Biodiversity Certification	Biodiversity Certification	OEH Principles	OEH principles	OEH principles	BOMP
CRITERIA								
Avoid	4	1	4	1	0	0	0	1
Equivalence	3	1	5	5	2	1	2	3
Security	3	3	2	3	3	0	0	2
Net gain	3	0	3	2	0	0	0	1
Additionality	3	1	2	2	1	1	1	2
Enforceable	3	5	1	3	4	1	3	3
Monitoring	1	4	0	0	2	1	2	2
Transparency	3	4	4	4	4	4	4	3
Total	23/40	19/40	21/40	20/40	16/40	8/40	12/40	17/40
Assessment	Adequate	Poor	Adequate	Poor	Poor	Disastrous	Poor	Poor

Detailed assessments of each Case Study is contained in **Appendix 2**.

Table 2: Desirable features of offsetting schemes in NSW.

FEATURE	Environmental Outcomes Assessment Methodology (NVA 2003)	BioBanking Assessment Methodology (TSCA 1995)	Biodiversity Certification Assessment Methodology (TSCA 1995)	OEH Principles for Biodiversity Offsetting (EP&A Act 1979)	Biodiversity Offsets Policy for Major Projects (EP&A Act 1979)	Draft Biodiversity Assessment Methodology (BC Bill 2016)
Excludes discounting of offsets credits	YES	YES	YES	YES	YES	NO
Excludes supplementary measures	YES	YES	YES	YES	NO	NO
Excludes mine rehabilitation	YES	YES	YES	YES	NO	NO
Clear standard for environmental outcomes	YES	YES	YES	YES	NO	Partial/pending
Does not allow payment in lieu of genuine offsets (Offsets Fund)	YES	YES	YES	YES	Partial/pending	NO
Red flags	YES	YES	YES	NO	NO	Partial/pending
Impacts on water quality, salinity and soil	YES	NO	NO	NO	NO	Partial/pending
Like for like offsetting	YES	NO	NO	NO	NO	NO
Key:	= Positive environmental outcomes		= Negative environmental outcomes			



2. RECOMMENDATIONS

ACHIEVE NO NET LOSS

ISSUE/KEY FINDING: Biodiversity offsets work, in theory, by protecting and managing biodiversity values in one area (e.g., by restoring habitat on previously cleared land, or increasing the habitat quality of a patch) in exchange for loss of biodiversity values in another. Improvement in the biodiversity values of an offset area is essential to ensure no net loss in biodiversity and preferably a net gain in those values across both the impact and offset sites. In NSW, the aim of maintaining and improving biodiversity, which was a feature of early biodiversity offsets schemes, has been weakened or removed from later schemes.

RECOMMENDATION 1: Biodiversity offsets must achieve no net loss, and preferably a net gain, in biodiversity.

COVER A WIDE RANGE OF ENVIRONMENTAL VALUES

ISSUE/KEY FINDING:

While some of the earlier NSW schemes cover a wide range of biodiversity and environmental values, including water quality, salinity and soil health, more recent schemes cover a more limited scope of biodiversity values.

RECOMMENDATION 2: Biodiversity offsets must maintain or improve biodiversity and environmental outcomes, including water quality, salinity and soil health. This commitment must be reflected in NSW laws.

AVOID AND MINIMISE IMPACTS

ISSUE/KEY FINDING: Best practice offsetting schemes require that impacts be first avoided or mitigated and that biodiversity loss be permitted only as a last resort. Existing and proposed schemes have failed to properly implement this mitigation hierarchy principle.

RECOMMENDATION 3: There must be clear guidance and adherence to the mitigation hierarchy of avoiding and minimising impacts on biodiversity before offsetting is considered as an option.

NO-GO ZONES / 'RED FLAGS'

ISSUE/KEY FINDING: Some natural areas coastal rainforests and wetlands, are so precious their destruction should not be permitted (e.g., koala habitat). Under the proposed new offsetting scheme, there is no absolute protection for any type of habitat or natural area.

RECOMMENDATION 4: Biodiversity offsetting must not be used to permit the destruction of important landscapes and habitats. Legal mechanisms (e.g., 'red flags', no-go zones) must be in place to provide absolute protection for areas of high conservation value (e.g., endangered ecological communities, threatened species habitat, critical habitat). These mechanisms must apply to all types of development, including major projects.

EQUIVALENCE (LIKE FOR LIKE)

ISSUE/KEY FINDING: Over time, the requirement that offset sites be ecologically equivalent to impacted sites has been weakened, with significant variations to like-for-like offsetting proposed under the new biodiversity assessment methodology.

RECOMMENDATION 5: If biodiversity offsetting is used, it must demonstrate equivalence (like for like), and not permit development that cannot be offset using like-for-like offsets. Variations to like-for-like offsetting should not be permitted.

NO SUPPLEMENTARY MEASURES

ISSUE/KEY FINDING: The concept of 'supplementary measures' has recently found its way into NSW offsetting schemes. Supplementary measures permit indirect offsets (such as research or education) in lieu of on-ground biodiversity offsets.

RECOMMENDATION 6: Supplementary measures or additional conservation action (e.g., research and education) must not be permitted in place of genuine offsets.

NO MINE REHABILITATION AS OFFSETS

ISSUE/KEY FINDING: Recently, developers have been permitted to use mine rehabilitation sites to generate biodiversity offset credits. The NSW Government proposes continuing this practice under the new laws. It is doubtful that ecological values can be restored on former mine sites sufficiently to warrant their use in offset calculations. It is also questionable whether mine site rehabilitation is 'additional' to the obligations of mining companies.

RECOMMENDATION 7: Mine site rehabilitation should not be eligible for offset credits. The restoration of ecological values during mine site rehabilitation must be required as a standard condition of consent, and not be permitted as a biodiversity offset.

ADDITIONALITY

ISSUE/KEY FINDING: Biodiversity offset actions must be additional to what is already required and deliver gains in biodiversity that would not have otherwise occurred. For example, land that is already protected or actions that are already required to be undertaken should not be used to create offset credits.

RECOMMENDATION 8: Any offset action must be additional to what is already required by law.

STRICTLY LIMIT PAYMENTS IN LIEU OF OFFSETS

ISSUE/KEY FINDING: The NSW Government has proposed a new biodiversity conservation fund that would allow the payment of money in lieu of identifying genuine biodiversity offsets prior to a development consent being granted.

RECOMMENDATION 9: Payments should not be accepted in lieu of offsets. Upfront payments for biodiversity offsetting must only be permitted where it can be demonstrated the payment will result in the identification and protection of appropriate offset sites before development commences.

SCIENCE-BASED, TRANSPARENT ASSESSMENTS

ISSUE/KEY FINDING: Biodiversity is complex, and the assessment of impacts and calculation of offsets is difficult. It should be underpinned by robust scientific processes that are based on best-practice offsetting principles.

RECOMMENDATION 10: Offsetting must be underpinned by a robust, scientific assessment methodology based on best-practice offsetting principles that is publicly available and consistently applied.

LASTING LEGAL PROTECTIONS

ISSUE/KEY FINDING: Impacts on biodiversity are often permanent and therefore offsets for those impacts need to be legally enforced, and protected into the future. The new *Biodiversity Conservation Act* contains provisions that allow offset areas to be subsequently cleared (subject to further offsetting).

RECOMMENDATION 11: Offsets must be legally enforceable and protected in perpetuity.

NO DISCOUNTS

ISSUE/KEY FINDING: The NSW Government proposes introducing ‘discounting’ into its new biodiversity conservation laws. This will allow offset credit requirements to be ‘discounted’ based on claimed social and economic benefits. Economic prioritisation policies are likely to contribute to the incremental and permanent loss of significant biodiversity in NSW, and undermine the credibility of the policy.

RECOMMENDATION 12: Discounting of biodiversity credits should not be permitted, and impacts on biodiversity should be the only consideration in determining appropriate biodiversity offsetting credits.

PUBLIC REGISTER AND REGULAR MONITORING AND REPORTING ON ALL OFFSET LANDS

ISSUE/KEY FINDING: While records of offset lands are maintained under the various schemes, there is no single public register of all offsets in NSW. The lack of such a register hampers efforts to monitor and enforce offsetting commitments, and gives rise to the risk that the same parcel of land may be used to offset more than one development. In order to assess whether biodiversity offsetting is delivering no net loss in biodiversity, regular monitoring and reporting on offset outcomes should be carried out.

RECOMMENDATION 13: A single public register of all offsets in NSW (with maps) must be maintained, and there must be regular auditing and reporting on the outcomes achieved by offset agreements.



3. WHAT IS BIODIVERSITY?

“ Biological diversity or biodiversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. ”

Convention on Biological Diversity
(United Nations 1992)

Biodiversity refers to the complexity of biological life, including genetic diversity within species, between species and between ecosystems (United Nations 1992). It is the sum of all the organisms that make up life on Earth, the micro-organisms, the fungi, plants and animals that are the result of hundreds of millions of years of evolution. Australia is one of the world's 12 megadiverse countries that together harbour most of the Earth's species and individually contain a high number of endemic species (UNEP 2014). Some 93% of amphibians, 89% of reptiles, 83% of mammals, and 24% of fish and insects found in Australia occur nowhere else on the planet (Williams et al. 2001). When the First Fleet sailed into Port Jackson in 1788, NSW was home to an estimated 903 species of birds, mammals, reptiles and amphibians (OEH 2016a). Since then, the variety, abundance and distribution of this extraordinary biodiversity has been in decline. In NSW, at least 25 species of mammal, 12 species of bird, and one species of reptile are known to have become extinct in the past 230 years (OEH 2016a). That is equivalent to one extinction event every six years since

European arrival, and there are many more species whose long-term survival is far from guaranteed. There are currently about 1000 species of plants and animals and 108 ecological communities listed as threatened under NSW legislation, including the koala and about 60 per cent of all other native mammals (OEH 2016a).

Why conserve biodiversity?

Conservation of biodiversity is a common concern of humanity because it is essential for evolution and the maintenance of life-sustaining systems of the biosphere. Biodiversity has intrinsic, ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values that are all worth preserving (UN 1992). It provides a range of services that are of fundamental importance to human well-being, health, livelihoods, and survival, including the generation of oxygen, nutrient recycling, pest and disease control, crop pollination, water regulation and climate control. It also provides genetic resources for foods and medicines, renewable resources such as fuel, building materials, and fibre for clothing, and it contributes to the sustainability of agriculture, particularly in marginal areas prone to soil loss (quoted in Bates 2006). In purely economic terms, it is estimated that biodiversity contributed more than \$US125 trillion of value to the global economy in 2011 alone (Constanza 2014). Our bushland and native animals are integral to our national identity, an essential part of what makes Australia and Australians unique.

Key threats

Clearing of native vegetation, and associated destruction of habitat, is identified as the process representing the single greatest threat to biodiversity in NSW (OEH 2016a). Land clearing is listed as a key threatening process under both NSW and Commonwealth

biodiversity legislation. Protecting habitat and controlling land clearing is therefore essential if further loss of biodiversity is to be avoided. Other impacts, such as invasive species and climate change are also closely linked to biodiversity loss.

Reserves and beyond – protecting biodiversity on public and private lands

The principal response by governments to the decline in biodiversity has historically been to create reserves such as national parks where species and ecosystems are quarantined from exploitation¹. While this has made a priceless contribution, the reserve system that NSW has today does not constitute the comprehensive, adequate and representative network to protect the full range of habitats needed to ensure for the long-term survival of all species and ecosystems under threat. Currently less than 10% of NSW is protected in the conservation reserve system, and the rate of additions to this system has slowed markedly over the past four years (OEH 2016b).

Subsequently, the Commonwealth Government has failed to meet the Aichi Biodiversity Target of 17% protected areas, set under the United Nations Environment Programme's Convention on Biological Diversity². Even if those targets were met, it is unlikely the reserve system on its own would guarantee the survival of the state's biodiversity in perpetuity. Since the 1980s, attention began turning towards new measures that supported conservation on private lands. These ranged from government-supported community landscape restoration schemes (e.g., Landcare 1988) to regulatory measures mandating the protection of bushland (the *Native Vegetation Act* 2003), and biodiversity offsetting schemes (e.g., BioBanking 2008).

1. www.environment.gov.au/land/nrs/about-nrs/history

2. Target 11 of the Aichi Biodiversity Targets under the United Nations Environment Programme's Convention on Biological Diversity states: "By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes." <http://www.cbd.int/sp/targets/>



4. BIODIVERSITY OFFSETTING – AN OVERVIEW

The Business and Biodiversity Offsets Programme, an international collaboration for the development of offset methodologies, provides this commonly cited definition:

"Biodiversity offsets are measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity." (Business and Biodiversity Offsets Programme 2009)

Biodiversity offsetting in its various forms has developed as a mechanism for ameliorating the negative environmental impacts of land clearing for urban development, agriculture, infrastructure, or mining and gas projects. Offsets theoretically work by protecting and managing biodiversity values in one area in exchange for impacting on biodiversity values in another area, by restoring habitat on previously cleared land or increasing the habitat quality of a patch. Improvement in the biodiversity values of an offset area is generally required to achieve a no net loss in biodiversity values, as explained in Figure 1 below.

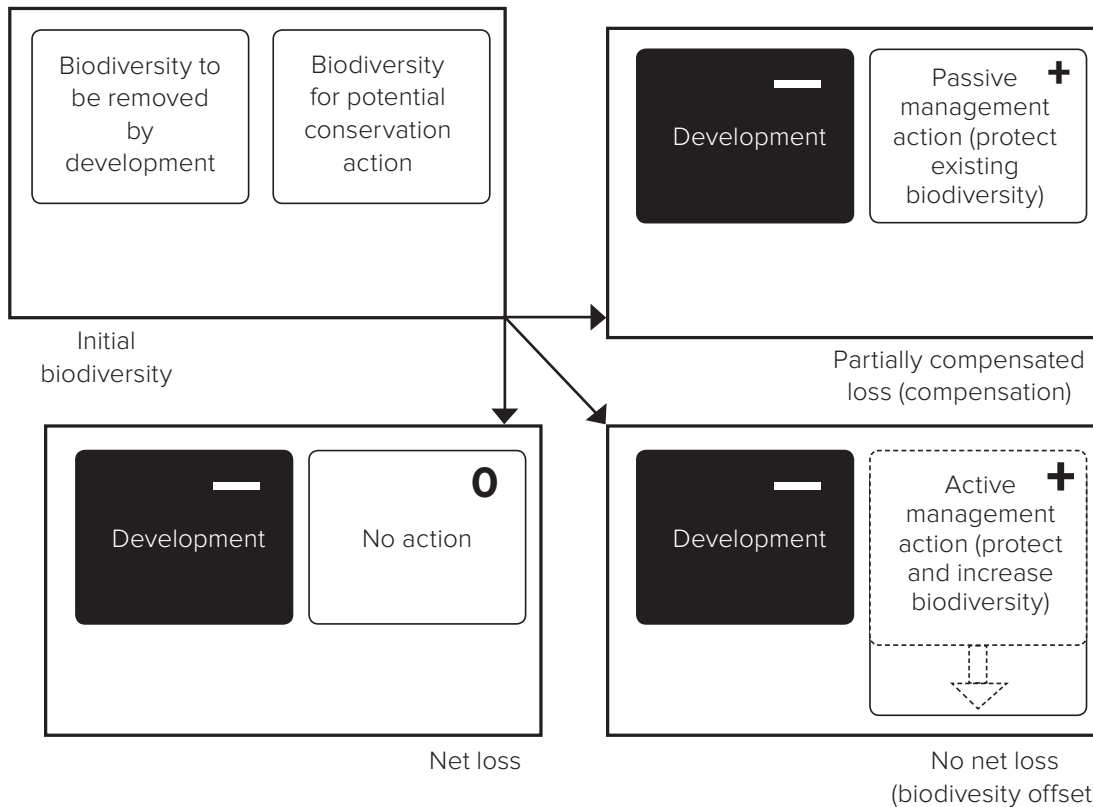


Figure 1. Schematic of the offsetting principle for development impacts. Source: Bull et al. (2013).

Biodiversity offsetting is viewed by governments as a way of meeting ecological commitments and being seen to protect the environment, without restricting business (Walker S. et al 2009). Some industries view offsetting mechanisms as a way of moving ahead with projects that might otherwise be restricted due to environmental impacts (Burgin 2008; Overton J. et al. 2012).

ORIGIN AND DEVELOPMENT

Offsetting emerged in the United States of America in the 1970s as a novel approach to the management of impacts of development on wetland systems. Section 404 of the *Clean Water Act* established a program to regulate the discharge of dredged materials into waters, including wetlands, and allows developers to mitigate unavoidable impacts by enhancing, restoring, or recreating wetlands on or near the development site. In the decades that followed, biodiversity offsetting expanded significantly in North America and Australasia, and programs were established or developed in other parts of the world, including Asia, South America and Europe (Maron et al. 2012; Bull et al. 2013).

Offsetting was originally used in NSW in an ad hoc manner for certain development activities, e.g., by the Roads and Traffic Authority to offset the impacts of its activities. Offsetting schemes were first formalised in 2005 in the form of the Environment Outcomes Assessment Methodology (EOAM) under the *Native Vegetation Act 2003 (NVA)*. This was followed by the BioBanking Scheme (2008) and Biodiversity Certification (2010) under the *Threatened Species Conservation Act 1995 (TSCA)*, and then the NSW Biodiversity Offsets Policy for Major Projects (2014) under the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. The NSW Government now proposes to rationalise offsetting into a single Biodiversity Assessment Methodology (BAM) modelled on the Biodiversity Offsets Policy for Major Projects. The BAM will be a keystone element of the government's new *Biodiversity Conservation Act*.

RISKS AND DEFICIENCIES

As biodiversity offsetting has become wide spread and more offsetting case studies have been analysed, research shows that there are limitations to what biodiversity offsetting can achieve. While some scientists recommend that offsetting schemes can be modified to overcome identified challenges (Gibbons and Lindenmayer 2007), others conclude that biodiversity offsetting is inherently flawed and cannot achieve the biodiversity outcomes necessary to compensate for environmental impacts and biodiversity loss (Walker et al. 2009; Maron et al. 2012; Curren et al. 2014).

There are a number of risks and deficiencies that effective offset schemes must seek to overcome:

The lack of adequate “currencies” for trading species and ecosystems

There is no single metric that objectively captures the full extent of biodiversity, so any measure of biodiversity can only ever be a proxy (Bull et al. 2013). Some schemes determine credits based on a composite score for an area using assessments of “condition of the vegetation”, “landscape context” and other factors. Credit calculations are complicated by the fact that the value of any one component of biodiversity is not fixed. For instance, habitat values of a patch of bushland change over time as trees mature and provide new niches for different species. A small isolated patch of bushland may be “worth” less than one that connects two larger patches, thereby providing a corridor for species to migrate (Bull et al. 2013).

The complexity of the calculations required to derive credits is a significant risk. There are numerous opportunities for errors in calculating the values required as inputs to the formulas used in biodiversity assessment methodologies. See for example Figure 2, which is just one of several formulas from the NSW Government’s Framework for Biodiversity Assessment (FBA). This one is used to calculate credits required to offset the loss of endangered ecological communities and threatened species habitat impact.

$$n = \sum_{i=1}^n \left[\left\{ (\Delta S_{\text{Loss}} \times \frac{1}{T_{\text{G spp1}}}) \times A \right\} + (LV_{\text{loss}} \times A) \right] \times 0.25$$

Figure 2. Equation 5 of the Framework for Biodiversity Assessment – Determine the number of ecosystem credits required for the impact in vegetation that is an endangered ecological community or contains a threatened species.³

The failure to account for benchmark declines

While many offset schemes aim to deliver no net loss in biodiversity, the baseline against which this is measured is often not specified. It is often incorrectly assumed that the baseline is neutral or fixed, when there is in fact an underlying trend of biodiversity decline that must be factored in when calculating no net loss (Bull et al. 2013). A declining baseline means there needs to be greater conservation action to achieve no net loss than were the baseline fixed.

Difficulties in recreating nature

Biodiversity offsetting assumes ecosystems and habitats can be re-created. This is often not the case, particularly if offset sites have been highly degraded and lost essential characteristics. In Australia, a number of studies have shown revegetated areas rarely resemble the ecosystem it was intended they would replicate (Maron et al. 2012). There is a high level of uncertainty that restoration can compensate for biodiversity losses elsewhere.

³ Source: Framework for Biodiversity Assessment 2014, <http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf>

Time lags

The calculation of biodiversity offsetting credits often fails to adequately account for the negative consequences of long time lags required to replicate habitat characteristics lost from impact sites. For example, planting seedlings in place of mature trees does not create immediate compensation because it takes decades, sometimes centuries, of growth before seedlings will provide suitable feed or nesting hollows for animals (Maron et al. 2012).

Market limitations and difficulty in securing like-for-like offsets

There is often a mismatch between the types of offsets required by developers and those available for purchase (van Teeffelen et al. 2014). In highly cleared landscapes, like much of NSW, remnant vegetation available for offsetting is often scarce, especially endangered ecological communities. This means that there is frequently limited opportunity to establish offset credits that meet strict like-for-like requirements.

Perverse outcomes

Perverse outcomes are those that undermine the intended function of offsetting schemes. For example, biodiversity offset schemes may allow developers to legally destroy biodiversity and use degraded land to achieve biodiversity gains (e.g. through BioBanking credits), which provides an incentive for restoration over preservation (Hillman & Instone 2010) and rewards poor land managers more than responsible ones. Offsetting may exacerbate or entrench baseline biodiversity decline; lead to the winding back of non-offset related conservation action; shift the focus of conservation volunteer work; and provide false public confidence in environmental outcomes due to marketing offsets as gains (Gordon et al. 2015).

Failure to adequately monitor and enforce biodiversity offsetting commitments

Offsetting arrangements are complex and long term, often involving restoration and/or ongoing management to achieve net gains. Inadequate monitoring and long-term enforcement makes it more likely that conservation gains are not realised. Monitoring is complicated by the lack of

adequate baselines (Gibbons and Lindenmayer 2007; van Teeffelen et al. 2014).

Lack of a single, public register of all offset lands in NSW

While records of offset lands are maintained under the various schemes, there is no single public register of all offsets in NSW. The lack of such a register hampers efforts to monitor and enforce offsetting commitments, and gives rise to the risk that the same parcel of land may be used to offset more than one development. The Wentworth Group of Concerned Scientists believes an independently maintained public register “is essential to avoid duplication of offsets and for evaluation of the success or otherwise of offsets in restoring landscape processes” (Senate Standing Committees on Environment and Communications 2014).

Failure to protect offsets in perpetuity

Biodiversity values can only be maintained and enhanced if offsets are protected in perpetuity, but legal mechanisms to ensure lasting protection are lacking. For example, patches of the endangered Warkworth Sands Woodland ecological community, set aside as a condition of development consent for the Rio Tinto’s Warkworth open-cut coal mine in the Upper Hunter, were subsequently overturned to permit the project’s further expansion. When granting the expansion approval, the Planning Assessment Commission observed: “There is no failsafe measure currently available to permanently and irrevocably protect an area of land in perpetuity. Designation as a National Park is the highest level of protection, but for practical reasons [this may not be not considered appropriate]. Given that there is coal under most of the land around the mine site, it seems it would be virtually impossible to find a suitable offset area that could be permanently protected from mining interests in perpetuity, with absolute certainty.” (NSW Planning Assessment Commission 2014)

SPECIES SPOTLIGHT 1:

Regent Honeyeater (*Anthochaera phrygia*)



Regent Honeyeater (*Anthochaera phrygia*)

Conservation Status: Critically Endangered

Key Threat(s): Loss of habitat trees, restricted breeding due to small population

The striking black, white and yellow markings of the Regent Honeyeater and its rarity have made it an icon for birdwatchers in southeast Australia. The species inhabits eucalypt forests and woodlands, particularly Box-Ironbark woodland, where it feeds on nectar, insects and honeydew found in eucalypt species. The Regent Honeyeater is only found in southeast Australia, where it is widespread but with an extremely patchy distribution (Garnett et al. 2011). This striking bird is listed as Endangered by the Commonwealth and as Critically Endangered in NSW, where its population is estimated to be fewer than 250 mature individuals. Breeding in NSW is restricted to a handful of areas, chiefly Capertee Valley near Lithgow, the Hunter Valley, the Bundarra-Barraba region west of Armidale, and the Clarence Valley (ADEE 2016a). Key threats include continuing loss of key habitat tree species and remnant woodlands from strategic agricultural developments, timber gathering, residential developments and mining (OEH 2016c). Biodiversity offsetting policies in NSW are enabling the destruction of scarce Regent Honeyeater woodland habitat. See **Case Studies 5 and 7** in **Appendix 2**.



5. CURRENT BIODIVERSITY OFFSETTING SCHEMES IN NSW

5.1 Outline of current NSW biodiversity offset schemes

Biodiversity offsetting in NSW has evolved over the past two decades to become an important feature of the state's environment and planning laws. There are now multiple mechanisms for biodiversity offsetting in NSW, each underpinned by a different methodology, or "rules". These mechanisms underpin a range of "actions", including land clearing for agriculture, mining and other major projects; the creation of credits for trading in the BioBanking Scheme; and the upfront strategic assessment of biodiversity in a particular area.

Land clearing applications

ACTION: Land clearing activities, including applications to clear native vegetation

LEGISLATION: *Native Vegetation Act 2003*

METHODOLOGY: Environment Outcomes Assessment Methodology⁴

Offsetting is a component of the Environment Outcomes Assessment Methodology (EOAM), which underpins land clearing applications under the *Native Vegetation Act 2003*. It has been in operation since 2005. The EOAM governs the use of offsets under the NSW *Native Vegetation Act 2003*. A Biometric Tool is used to calculate the biodiversity losses from clearing and potential gains from proposed offsets and management activities. Landholders proposing to clear native vegetation under the Act can voluntarily enter into a legally binding Property Vegetation Plan (PVP). If the proposed clearing will have impacts on biodiversity, offsetting can be used in accordance with the Biometric Tool.

BioBanking

ACTION: Voluntary creation of biodiversity credits

LEGISLATION: *Threatened Species Conservation Act 1995*

METHODOLOGY: BioBanking Assessment Methodology⁵

The Biodiversity Banking Offsets Scheme was established under the *Threatened Species Conservation Act 1995* in 2006. The scheme allows landholders to voluntarily generate 'biodiversity credits' by protecting and enhancing biodiversity values on their land through conservation management actions. Credits, which are determined using the BioBanking Assessment Methodology Credits, can be sold to companies and individuals seeking to offset biodiversity impacts of a development, or to investors interested in conservation.

Biodiversity Certification

ACTION: Upfront biodiversity assessment and certification of an area

LEGISLATION: *Threatened Species Conservation Act 1995*

METHODOLOGY: Biodiversity Certification Assessment Methodology⁶

Biodiversity Certification provisions were added to the *Threatened Species Conservation Act 1995* in 2010. Biodiversity Certification (Biocertification) allows for biodiversity assessment at a landscape scale during upfront strategic planning⁷. Planning authorities undertake a biodiversity assessment to identify areas of high conservation value and plan the future use of the area to avoid and mitigate impacts on biodiversity. Where impacts cannot be avoided or mitigated, planning authorities have a range of options for offsetting impacts on biodiversity. In order to receive Biocertification, proposals must meet the criteria

in the Biodiversity Certification Assessment Methodology. After Biocertification is conferred, development may proceed without the usual requirement under the *Environmental Planning and Assessment Act 1979* for site-by-site threatened species assessment under the *Threatened Species Conservation Act*.

Development application (OEH Principles for Biodiversity Offsetting)

ACTION: Development assessment (non-major projects and major projects prior to October 2014)

LEGISLATION: *Environmental Planning and Assessment Act 1979*

METHODOLOGY: OEH Principles for Biodiversity Offsetting⁸

The NSW Office of Environment and Heritage has developed 13 guiding, non-binding principles for determining biodiversity impacts and offset requirements during the assessment of development applications under the *Environmental Planning and Assessment Act 1979*. These principles applied to all projects, including State Significant Development (SSD) or State Significant Infrastructure (SSI), until the introduction of the NSW Offsets Policy for Major Projects in October 2014. Since then it has applied only to non-major projects.

4 Further information regarding the Environment Outcomes Assessment Methodology is available at www.environment.nsw.gov.au/vegetation/eoam/; www.environment.nsw.gov.au/vegetation/pvp.htm; www.environment.nsw.gov.au/projects/biometrictool.htm

5 Further information on the BioBanking Assessment Methodology is available at www.environment.nsw.gov.au/biobanking/

6 More information on the Biodiversity Certification Assessment Methodology is available at www.environment.nsw.gov.au/biocertification/index.htm

7 Legislation for biodiversity certification can be found in Part 7AA of the *Threatened Species Conservation Act 1995* (TSC Act).

8 More information on the OEH Principles of Biodiversity Offsetting is available at <http://www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm>

Development application (Biodiversity Offsets Policy for Major Projects)

ACTION: Development assessment (major projects post-2014)

LEGISLATION: *Environmental Planning and Assessment Act 1979*

METHODOLOGY: NSW Biodiversity Offsets Policy for Major Projects⁹

The NSW Biodiversity Offsets Policy for Major Projects (BOPMP) applies to State Significant Development (SSD) and State Significant Infrastructure (SSI) under the *Environmental Planning and Assessment Act 1979*, including highways, mines, hospitals, etc. When biodiversity impacts cannot be avoided or mitigated, proponents can offset them in accordance with the Framework for Biodiversity Assessment (FBA) and Biodiversity Assessment Methodology. The policy introduced new rules allowing ‘supplementary measures’ and the use of mine rehabilitation for offset credits. The government had intended to establish a new Biodiversity Offset Fund to operate in conjunction with the policy to allow proponents to satisfy their offset requirement via a monetary contribution into the fund. The BOPMP has been highly criticised by academics and environment groups for departing from best practice offsetting, which is alarming given that the proposed new Biodiversity Offset Method has been modelled on the BOPMP. A more detailed analysis of the BOPMP is included in 5.2 and 5.3 below.

Federal Environmental Offsets Policy

It is also noted that the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Environmental Offsets Policy, October 2012, applies to species or communities occurring in NSW listed as threatened under the EPBC Act. The Federal Environmental Offsets Policy is not discussed in detail in this report, but the overarching principles of that policy are outlined in **Appendix 3**.

5.2 Analysis of existing biodiversity offset schemes

This report draws on eight case studies of the application of offsetting in NSW, including its use for residential and commercial developments, regional planning, and major projects including open-cut coal mines (see **Appendix 2**).

CASE STUDY 1.

NAMOI CATCHMENT PROPERTY VEGETATION PLANS – NORTHWEST NSW

Approval for land clearing under the *Native Vegetation Act 2003*

CASE STUDY 2.

KELLYVILLE BIOBANKING STATEMENT – NORTHWEST SYDNEY

Creation of credits under the BioBanking Scheme

CASE STUDY 3.

WAGGA WAGGA LOCAL ENVIRONMENT PLAN – SOUTHWEST NSW

Biodiversity Certification for strategic planning

CASE STUDY 4.

ALBURY LOCAL ENVIRONMENT PLAN – SOUTHWEST NSW

Biodiversity Certification for strategic planning

CASE STUDY 5.

HUNTLEE DEVELOPMENT – HUNTER VALLEY

Development consent – OEH Principles for Biodiversity Offsetting

CASE STUDY 6.

BOGGABRI AND MAULES CREEK COAL MINES – HUNTER VALLEY

Development consent – OEH Principles for Biodiversity Offsetting

⁹ More information on the NSW Biodiversity Offsets Policy for Major Projects is available at www.environment.nsw.gov.au/biodivoffsets/biooffsetspol.htm

CASE STUDY 7.

**WARKWORTH EXTENSION PROJECT (2012)
– HUNTER VALLEY**

Development consent – OEH Principles for Bio Offsetting

CASE STUDY 8.

**MOUNT OWEN CONTINUED OPERATIONS
COAL MINING PROJECT – HUNTER VALLEY**

Development consent – Biodiversity Offsets Policy for Major Projects

CRITERION

Each case study has been assessed using best-practice Assessment Criteria drawn from a range of sources (see **Appendix 1**):

CRITERION 1.

Be a last resort after avoidance and mitigation (including appropriate ‘red flags’)

CRITERION 2.

Deliver biodiversity equivalence (like for like)

CRITERION 3.

Provide security and achieve benefits in perpetuity

CRITERION 4.

Deliver a net gain in biodiversity

CRITERION 5.

Be additional to conservation measures already in place

CRITERION 6.

Be enforceable, resourced and well managed

CRITERION 7.

Be subject to a rigorous monitoring and evaluation framework

CRITERION 8.

Be open and transparent

For each Case Study, the extent to which each of the criteria has been met was assessed and scored out of five. A total score out of 40 has been allocated for each case study and outcomes for biodiversity identified as either good, adequate, poor or disastrous.

SCORE	OUTCOMES FOR BIODIVERSITY
31-40	Good
21-30	Adequate
11-20	Poor
0 – 10	Disastrous

Table 1: Summary of Case Study scores

CASE STUDY	1. Namoi	2. Kellyville	3. Wagga Wagga	4. Albury	5. Huntlee	6. Boggabri/ Maules Ck	7. Warkworth	8. Mt Owen
SCHEME	EOAM	BioBanking	Biodiversity Certification	Biodiversity Certification	OEH Principles	OEH principles	OEH principles	BOMP
CRITERIA								
Avoid	4	1	4	1	0	0	0	1
Equivalence	3	1	5	5	2	1	2	3
Security	3	3	2	3	3	0	0	2
Net gain	3	0	3	2	0	0	0	1
Additionality	3	1	2	2	1	1	1	2
Enforceable	3	5	1	3	4	1	3	3
Monitoring	1	4	0	0	2	1	2	2
Transparency	3	4	4	4	4	4	4	3
Total	23/40	19/40	21/40	20/40	16/40	8/40	12/40	17/40
Assessment	Adequate	Poor	Adequate	Poor	Poor	Disastrous	Poor	Poor

A general assessment of the performance of offsetting schemes follows. Detailed assessments of each Case Study is contained in **Appendix 2**.

Discussion

The Case Studies demonstrate that biodiversity offsets schemes in NSW have generally failed to deliver anticipated positive environmental outcomes, and have in several instances likely resulted in negative biodiversity outcomes.

One of the Case Studies, Boggabri/Maules Creek, had biodiversity outcomes that were deemed “Disastrous” and five were “Poor”. Only two Case Studies had “Adequate” biodiversity outcomes, and none were deemed “Good”. These schemes have generally underperformed because the requirements of a rigorous, successful biodiversity offsets schemes have been lacking or poorly implemented.

Criterion 1. Be a last resort after avoidance and mitigation (including appropriate ‘red flags’)

Although the schemes purport to adhere to ‘avoid, minimise and offset’ mitigation hierarchy, there is little guidance as to how the principle must be applied. Few of the schemes actually interrogate in detail whether project proponents have explored all avenues to avoid or mitigate impacts. The Environmental Outcomes Assessment Methodology appears to deliver the strongest avoidance of impacts. While Biodiversity Certification has the potential to ensure high conservation value areas are avoided, it is highly discretionary and can lead to wide disparity in outcomes, as shown by the differences between Case Study 3 and Case Study 4. A high degree of discretion increases the risk of decisions being influenced by political rather than ecological considerations, as well as the risk of corruption.

Criterion 2. Deliver biodiversity equivalence (like for like)

Biodiversity equivalence is best achieved when offset sites are like for like, close to impact sites and when detailed mapping and biodiversity assessments have been conducted, as in Case Study 3 and Case Study 4 (Biodiversity Certification). The EOAM (Case Study 1) also delivered good outcomes against this criterion as it has the most robust like for like requirements. The BOPMP (Case Study 8) delivered mixed outcomes, as some of the offset sites demonstrated equivalence where others did not.

Criterion 3. Provide security and achieve benefits in perpetuity

Security of offsets is a substantial problem, with the most frequent problems being the vulnerability of offsets to exploration and mining and the failure to ensure that offsets are protected in perpetuity. The gazettal of offsets as National Parks is likely to provide the most secure form of protection but this is not required in all circumstances, nor will all offset sites be suitable for addition to the National Parks network due to location, size, ecological condition or vegetation type. Details relating to the security of offsets within schemes and in relation to specific development proposals are often imprecise or ambiguous, and previous offsets can be overridden, as was evident in the Warkworth Extension Project (Case Study 7).

Criterion 4. Deliver a net gain in biodiversity

Biodiversity offsets rarely deliver a net gain in biodiversity, largely because they fail to first avoid preventable impacts. As a result, they generally enable clearing of vegetation to proceed on the basis of predicted improvements in the management of vegetation elsewhere. Issues such as time lags and non-equivalence in biodiversity values means net gains may not be achieved for many years, if at all.

Criterion 5. Be additional to conservation measures already in place

Offsets are not additional if they relate to land that is already protected or actions that are already required to be undertaken. The case studies show that determining whether offsets are additional can be difficult, and in a number of instances the offsets were found to not be additional, or are only partially additional.

Criterion 6. Be enforceable, resourced and well managed

BioBanking is the only biodiversity offsetting scheme that guarantees that substantial resources are available in the long-term for management of biodiversity offsets. Other schemes can deliver such resources, but they are discretionary.

Criterion 7. Be subject to a rigorous monitoring and evaluation framework

The Case Studies reveal that monitoring and evaluation of offset schemes has been poor, undermining public confidence in the ability of these instruments to deliver the promised environmental outcomes over time.

Criterion 8. Be open and transparent

There appears to be considerable transparency in the environmental assessment process, Biodiversity Certification and BioBanking, however the Environmental Outcomes Assessment Methodology (Case Study 1) did not perform as well on this criterion compared with other case studies. While the development assessment process under the EPA Act can provide detailed information on impacts, it frequently leaves many details about offsets to be determined at a later date. This adds weight to the view that offsetting is more about facilitating development rather than a genuine tool to protect the environment.

Conclusion

The analysis shows the standards in biodiversity offset schemes have been in steady decline, with the most recent iteration, BOPMP, potentially delivering worse outcomes for biodiversity than earlier schemes due to significant departure from best practice offsetting principles. The EOAM led to the best outcomes, due to its stricter adherence to the mitigation hierarchy, like for like offsetting, and legal requirement to maintain or improve biodiversity outcomes. The EOAM lost points, however, due to poor monitoring and enforcement of Property Vegetation Plans. The OEH Principles for Biodiversity Offsetting, although generally based on best practice, failed to deliver outcomes for the environment because they are not legally enforceable. While they are intended to guide development assessment decisions under the EP&A Act, the case studies show the principles were not always effectively followed. The BOPMP, which has deviated furthest from best practice offsetting principles, is analysed in more detail below.

5.3 Further analysis of the NSW Biodiversity Offsets Policy for Major Projects

The NSW Biodiversity Offsets Policy for Major Projects (BOPMP) warrants further examination because it is the template upon which the NSW Government has based its Draft Biodiversity Assessment Methodology, a keystone policy in its proposed new regime of conservation and land-clearing laws. In September 2014, the government implemented the BOPMP, ostensibly to clarify and standardise biodiversity impact assessment and offsetting for major project approvals in NSW. The policy states: “biodiversity offsets provide benefits to biodiversity to compensate for adverse impacts of an action. They assist in achieving long-term conservation outcomes while providing development proponents with the ability to undertake actions that have unavoidable impacts on biodiversity ... by implementing clear and consistent guidance for assessing and offsetting the biodiversity impacts of major projects, the policy strikes an effective balance between the needs of proponents, communities and the environment” (OEH 2014). That view of the policy was not widely shared. While the key developer and mining lobbies applauded the changes, conservation organisations were universally opposed. Scientists also raised significant concerns.

Nature Conservation Council and Total Environment Centre review

The NSW Nature Conservation Council and Total Environment Centre spoke for many when they observed “the draft policy fails to meet accepted standards in relation to biodiversity offsetting, and is not consistent with the government’s stated commitment to protect high value conservation land, native vegetation and biodiversity” (NCC and TEC 2014). The policy appeared to have been drafted to benefit big

mining interests, consistent with the government amendments to State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 that made environmental and social concerns subordinate to economic ones in the assessment and approvals process (NCC 2013).

The NSW Nature Conservation Council, which represents more than 150 conservation groups in NSW, and the Total Environment Centre made a joint submission (NCC and TEC 2014) that identified the following key faults:

- It failed to deliver on commitments to achieve ‘net positive’ biodiversity outcomes;
- It failed to require the identification and protection of ‘red flag’ areas, including areas of high conservation value;
- It weakened like-for-like offsetting requirements;
- It created of multiple pathways to offsetting, including supplementary measures, such as research and education in lieu of an offset;
- It included mine site rehabilitation as a creditable offset;
- It created of an Offset Fund that developers may pay into in lieu of an offset;
- It allowed ‘discounting’ of offsets based on claimed social and economic benefits.

The submission concluded: “The draft policy fails to meet accepted standards in relation to biodiversity offsetting, and is not consistent with the government’s stated commitment to protect high value conservation land, native vegetation and biodiversity. While we acknowledge that there should be consistency and transparency in assessing biodiversity impacts of major projects and the use of offsets, this does not mean there should be a lowering of existing standards. We are concerned that the draft policy has been heavily compromised by pressure from industry and fails to provide adequate protection for important wildlife habitat.”

These concerns were shared by a number of other key stakeholders making submissions on the draft policy. For example, EDO NSW highlighted that the draft policy did not meet fundamental principles for an ecologically sound offset scheme¹⁰. The NSW Scientific Committee concluded “the whole policy is fundamentally flawed, lacks an empirically tested scientific evidence base and will result in increases to the extinction risk of threatened and non-threatened species and ecological communities”¹¹.

The Maron Review

In addition to seeking feedback during a public consultation period, the government engaged Associate Professor Martine Maron, a leading authority on biodiversity offsets, and Dr Ascelin Gordon, a conservation planning researcher with expertise in modelling the impacts of environmental policies on biodiversity values, to conduct a review of the biodiversity assessment methodology that was to underpin the BOPMP. Their findings were published in a report to government titled *Peer Review of the Draft Framework for Biodiversity Assessment for Assessing and Offsetting State Significant Development and State Significant* (Maron and Gordon 2014). The report, obtained under freedom of information laws, was scathing, and warned the draft policy:

- Met less than 17% (i.e. two out of 12) internationally-accepted best-practice criteria for an offsetting policy;
- Would lead to “unintended losses of biodiversity”;
- Posed risks “that net losses of particular species and ecological communities will accrue over time”; Failed to specify whether the aim was to achieve a net gain or no net loss of biodiversity. (In fact, it failed to state any ecological objectives that the policy was designed to achieve); and

- Was highly technical and hard even for the review authors to follow, which meant there was a significant risk biodiversity losses would occur as a result of faulty implementation.

Given the risks of “unintended losses of biodiversity” and given the “large number of assumptions and the complexity of parts of the [Framework for Biodiversity Assessment] FBA”, the review authors recommended the assessment methodology be independently tested and empirically validated to ensure consistency, transparency and repeatability. They emphasised the need to “report, evaluate and respond to the extent to which ... unintended outcomes emerge from offset exchanges during early implementation of the FBA”.

Despite the risks identified, it is not apparent that any of the recommendations were incorporated before the policy came into force on 1 October 2014. This is not surprising given the Maron Review was only prepared in September 2014, and there was unlikely sufficient time to consider and respond to the outcomes of the Review before finalising the policy.

Conclusion

Given the government’s eagerness to oblige mining industry’s desire for greater “flexibility”, it is perhaps not surprising the government chose to dismiss constructive feedback from environment groups and key stakeholders. The only significant change that was made to the draft policy before it was finalised was to remove the principle of ‘discounting’. There was other minor tinkering on each of the elements of the draft policy, but ultimately key features such as supplementary measures and variations to like for like offsetting remained in the final Biodiversity Offsets Policy for Major Projects¹². It is remarkable and troubling that the government appears to have dismissed the expert opinion of leading offsets experts.

¹⁰ EDO NSW (2014a) Submission on the draft NSW Biodiversity Offsets Policy for Major Projects www.environment.nsw.gov.au/resources/biodiversity/offsets/62EnvironmentalDefendersOffice.pdf

¹¹ NSW Scientific Committee Submission on the draft NSW Biodiversity Offsets Policy for Major Projects www.environment.nsw.gov.au/resources/biodiversity/offsets/66NSWSscientificCommittee.pdf

¹² See Office of Environment and Heritage, Submissions report on the Draft NSW Biodiversity Offset Policy for Major Projects, September 2014, www.environment.nsw.gov.au/resources/biodiversity/140671biosubmission.pdf

SPECIES SPOTLIGHT 2:

Swift Parrot (*Lathamus discolor*)



Swift Parrot (*Lathamus discolor*)

Conservation Status: Critically Endangered

Threats: Habitat loss, loss of older trees with hollows, mining, residential and agricultural developments

The Swift Parrot is mostly bright green, with dark-blue patches on the crown, a prominent red face, and yellow highlights on the chin and throat. Birds migrate annually from summer breeding grounds in Tasmania to winter foraging sites in mainland eastern Australia where they feed on nectar and insects in mature flowering eucalypts. Most of its foraging sites are outside conservation reserves and are therefore vulnerable to loss, fragmentation and disturbance. Habitat loss is a significant threat to the long-term survival of the species, particularly the loss of tree hollows in mature eucalypts that the Swift Parrot requires for nesting. It is estimated there is approximately 2000 breeding individuals left in the wild (ADEE 2016b). Consequently, the Swift Parrot is listed as Endangered under NSW legislation and Critically Endangered under Commonwealth legislation and on the International Union for the Conservation of Nature's Red List. The Hunter Valley is the wintering site for about 200 individuals each year, the largest concentration of the species in NSW (ADEE 2016b). That region is also subject to significant pressures from mining, residential and agricultural developments that are driving the loss of woodland. See **Case Studies 4, 5, and 7** in **Appendix 2**.



6. THE FUTURE OF OFFSETTING IN NSW

In 2014, the NSW Government commissioned an independent review of the state's biodiversity and conservation laws. The Independent Biodiversity Legislation Review Panel report (Byron et al. 2014) made 43 recommendations adopted by government, including:

- Repeal existing legislation, including the Native Vegetation Act 2003, Threatened Species Conservation Act, 1995, Nature Conservation Trust Act 2001 and parts of the National Parks and Wildlife Act 1974;
- Draft a new *Biodiversity Conservation Act*; and
- Expand the Biodiversity Offsets Policy for Major Projects and biodiversity offsets fund

In May 2016, the government released for public consultation its proposed package of laws, including a Draft Biodiversity Assessment Methodology (BAM) to replace existing biodiversity offsets schemes. The Draft BAM was highly criticised for carrying into the new regime many of the undesirable features of the

NSW Biodiversity Offsets Policy for Major Projects that are likely to result in negative environmental outcomes (Table 2).

In November 2016, the Biodiversity Conservation Bill and Local Land Services Amendment Bill passed the NSW Parliament and are scheduled to commence in 2017. It is expected the Draft BAM will be finalised under the new laws and will also take effect in 2017.

The Draft BAM sets lower standards and drifts further from best practice than the underperforming schemes it will replace. If not substantially amended before being finalised, the BAM will continue the drift away from best-practice offsetting in NSW to more “flexible” arrangements that facilitate destruction of important wildlife habitat, and the degradation of water resources and soils across the state. It is poor public policy that will add extinction pressures to the very species and ecological communities offsetting is intended to protect.

Table 2: Desirable features of offsetting schemes in NSW.

FEATURE	Environmental Outcomes Assessment Methodology (NVA 2003)	BioBanking Assessment Methodology (TSCA 1995)	Biodiversity Certification Assessment Methodology (TSCA 1995)	OEH Principles for Biodiversity Offsetting (EP&A Act 1979)	Biodiversity Offsets Policy for Major Projects (EP&A Act 1979)	Draft Biodiversity Assessment Methodology (BC Bill 2016)
Excludes discounting of offsets credits	YES	YES	YES	YES	YES	NO
Excludes supplementary measures	YES	YES	YES	YES	NO	NO
Excludes mine rehabilitation	YES	YES	YES	YES	NO	NO
Clear standard for environmental outcomes	YES	YES	YES	YES	NO	Partial/pending
Does not allow payment in lieu of genuine offsets (Offsets Fund)	YES	YES	YES	YES	Partial/pending	NO
Red flags	YES	YES	YES	NO	NO	Partial/pending
Impacts on water quality, salinity and soil	YES	NO	NO	NO	NO	Partial/pending
Like for like offsetting	YES	NO	NO	NO	NO	NO
Key:	= Positive environmental outcomes		= Negative environmental outcomes			

KEY CONCERNS WITH THE DRAFT BIODIVERSITY ASSESSMENT METHOD

Independent reviews by leading scientists (Gibbons and Eyre 2015) and submissions by expert bodies, including the Royal Zoological Society of NSW and the EDO NSW, have highlighted concerns in relation to the Draft BAM, including variations to like for like offsetting, the wider availability of supplementary measures, and the crediting of mine rehabilitation sites, among other flaws. Environment groups also critically assessed the Draft BAM in a joint submission on the biodiversity reforms package¹³. A summary of the key concerns identified in the assessment is outlined below.

No clear objective to protect biodiversity

The Draft BAM lacks a clear objective to protect biodiversity, which is an extraordinary omission. Even though the maintenance and improvement of biodiversity¹⁴ is stated as the objective of Environmental Outcomes Assessment Methodology (NVA) and Biodiversity Certification (TSCA), this has not been carried over into the new laws. This is in direct contrast to recommendations of independent experts who advised the government the net ecological outcome must be explicitly stated to improve clarity and transparency (Maron and Gordon 2014). Gibbons and Eyre (2015) raised concerns that the standard against which an impact was to be judged was unclear. The government has tried to address these concerns by adding a requirement in the *Biodiversity Conservation Act* that the Minister when making the biodiversity assessment method should adopt a standard that will, in the Minister's opinion, result in no net loss of biodiversity in NSW¹⁵. Failure to comply with this requirement does not, however, affect the validity of a biodiversity assessment method established by the Minister. It remains to be seen if and how the Draft BAM will be amended to meet this requirement.

No consideration of impacts on water quality, salinity or soil quality

The Environmental Outcomes Assessment Methodology (NVA) recognises the complexity of

biological diversity and provides a mechanism for assessing a broad range of biodiversity values, including water quality, salinity, and soil. The Draft BAM, however, covers only a limited range of biodiversity values, including vegetation integrity and habitat suitability. This is inconsistent with the recommendations of the Independent Panel, which argued that a universal biodiversity assessment methodology should consider the same range of values (vegetation integrity, habitat quality, soil health, water quality, etc.) for all types of development (Byron et al. 2014). The *Biodiversity Conservation Act* does allow the regulations to prescribe additional biodiversity values¹⁶, and this should be used to expand the definition of biodiversity values to include soil quality, salinity and water quality.

No “red flag” areas

The Draft BAM does not include robust red flags that will provide absolute protection for areas of high conservation value, environmentally sensitive areas and endangered ecological communities. Scientists and conservationists support the concept of red flags, particularly for endangered ecological communities, populations and species. For example, the International Union for the Conservation of Nature's Principles for Biodiversity Offsetting recognise that there must be limits to what can be offset, and the Nature Conservation Trust considers values such as critically endangered and endangered ecological communities, populations, species (and their habitats) to be values that should be considered for red flag status¹⁷. Bush Heritage Australia supports the use of red flags for ecological communities in NSW that are threatened above a critical threshold.¹⁸ While the *Biodiversity Conservation Act* does include some restrictions on proposals that cause “serious and irreversible impacts” to biodiversity, which could end up operating like a “red flag”, the criteria for defining “serious and irreversible impacts” have not yet been developed¹⁹, and more alarmingly, in the case of major projects or Biodiversity Certification, “serious and irreversible impacts” can be ignored²⁰.

¹³ The Future For Biodiversity in NSW, Environment groups' joint response to the consultation package of reforms to land management and biodiversity conservation in NSW, June 2016

¹⁴ See section 3(b) of the Native Vegetation Act 2003 and the Environmental Outcomes Assessment Methodology (www.environment.nsw.gov.au/resources/vegetation/130788EOAMNVR13.pdf); see also sections 126O and 126P Threatened Species Conservation Act 1995

¹⁵ See *Biodiversity Conservation Act*, section 6.7(3)

¹⁶ See *Biodiversity Conservation Act*, section 1.5(2)(c)

¹⁷ Nature Conservation Trust Submission on the Draft NSW Biodiversity Offsets Policy for Major Projects (www.environment.nsw.gov.au/resources/biodiversity/offsets/33NatureConservationTrust.pdf)

¹⁸ Bush Heritage Australia - Submission on the Draft NSW Biodiversity Offsets Policy for Major Projects (www.environment.nsw.gov.au/resources/biodiversity/offsets/36BushHeritageAustralia.pdf)

¹⁹ See Appendix 4 of the Draft Biodiversity Assessment Method and section 6.5 of the Biodiversity Conservation Bill

²⁰ See clauses 7.16(3) and 8.8 of the Biodiversity Conservation Bill 2016

The “like for like” principle is undermined

The Draft BAM allows deviation from “like for like” offsetting (i.e., offsetting across vegetation classes and formations or between species in the same order), undermining the principle that offsets should replace the values being lost. This will broaden allowable offsets to include similar vegetation types that have been heavily cleared or by species that are under the same or greater level of threat, resulting in a net loss of the impacted vegetation type or species and ensuring the habitat and species that an offsets scheme should preserve (NSW Scientific Committee 2014; EDO NSW 2014b).

Supplementary Measures (Indirect offsets)

The Draft BAM allows the use of supplementary measures (“biodiversity conservation actions”) in place of genuine offsets. These are measures other than protection and management of land as an offset site said to improve biodiversity values, and may include biodiversity research and survey programs. The NSW Scientific Committee has raised particular concerns with the introduction of supplementary measures, advising that “the proposal that a proponent can provide funds for supplementary measures that do not involve protecting and managing a site, or by paying into the Fund, is clearly a case of developers being able to buy themselves out of any obligation to protect biodiversity in any meaningful way. This proposal should be rejected.” (NSW Scientific Committee 2014). Gibbons and Eyre (2015), who undertook an independent review of the Draft BAM for government, were also critical of the inclusion of supplementary measures, warning that they would “undermine the intent of offsetting” and create “a reduced incentive to avoid impacts that are costly to offset and a reduced incentive for 3rd parties to establish offsets for these types of biodiversity” (Gibbons and Eyre 2015).

Mine site rehabilitation can be used as an offset credit

Under the Draft BAM, rehabilitated mine sites can be used to generate biodiversity offset credits. Numerous critics have raised concerns about the ability to effectively restore degraded land, and whether mine site rehabilitation was ‘additional’ to the obligations of mining companies. (See Gould 2011; Brady & Noske 2010; Maron, M. et al. 2012) The mining industry has a very poor record of successfully restoring ecological values during mine site rehabilitation and the NSW Government has a poor track record of monitoring and regulating mine site rehabilitation (Gibbons and Lindemayer 2007; van Teeffelen et al. 2014). Even the Government’s own environmental agency, the Office of Environment and Heritage, has raised concerns that the record of success in biodiversity restoration from the rehabilitation of degraded land (specifically mine sites) is very poor with impacts lasting “multiple decades”, and questioned whether restoration of biodiversity on a degraded site is even possible (SMH 2016a).

Developers can pay cash into a fund rather than find an offsets site

The NSW Government proposes establishing a new Biodiversity Conservation Trust that will be responsible for managing private land conservation agreements and the expanded NSW biodiversity offsets scheme, including a new offsets fund. The Draft BAM would allow proponents to discharge offsets requirements simply by paying money into a fund rather than requiring offsets to be identified and secured before development proceeds. The idea that land clearing or development applications could be approved without certainty of an offset measure contradicts the recommendation of the Senate Standing Committees on Environment and Communications that environmental offsets should be clearly identified before approval of a development or activity (Senate Standing Committees on Environment and Communications 2014). See **Appendix 3**.

Offsets obligations can be 'discounted'

As outlined earlier in the report, when the draft NSW Biodiversity Offsets Policy for Major Projects was first released for public comment, significant concern was raised over proposals to allow 'discounting' of biodiversity credits when a major project would have significant social and economic benefits to NSW. Subsequently, the discounting principle was removed from the final NSW Biodiversity Offsets Policy for Major Projects. Alarmingly, the concept of discounting has been reintroduced in the new biodiversity conservation framework. While not explicitly included in the Draft BAM, several proposed clauses of the draft Bills allow for the discounting of offset credits if the consent authority determines that the reduction is justified having regard to the environmental, social and economic impacts of the proposed clearing or development²¹.

Offset areas are not protected in perpetuity

The *Biodiversity Conservation Act* 2016 contains provisions that allow offset areas to be subsequently cleared (subject to further offsetting)²². This is contrary to best practice offsetting practice that requires offsets be protected in perpetuity.

Unlikely to meet federal standards

It is unlikely that the Draft BAM as proposed will meet federal standards. For example, the Draft BAM allows expanded use of indirect offsets and supplementary measures, while the Federal Government's Offsets Policy under the *Environmental Protection and Biodiversity Conservation Act* 1999 puts a 10% cap on the use of supplementary measures.

It is also noted that many aspects of the Draft BAM were inconsistent with the 2014 findings of the Senate Environment and Communications References Committee Inquiry into Environmental Offsets. The committee, which examined the appropriateness and effectiveness of the use of environmental offsets in federal environmental approvals in Australia, made 21 recommendations on how environmental offsetting under the EPBC Act could be improved, including the need for:

- greater guidance on the principle of additionality;
- greater emphasis on the mitigation hierarchy and offsets should only be used as a last resort;
- greater guidance on developments in which offsets are unacceptable including a list of 'red flag' areas;
- environmental offsets related to any particular development or activity should be clearly identified prior to approval being given for that development or activity;
- a publicly available nationally coordinated register of environmental offsets; and
- requirements in conditions of approval under the *Environment Protection and Biodiversity Conservation Act* 1999 for the secure funding of the future management of offset areas.

More information on that inquiry is provided in **Appendix 3**.

Conclusion

The analysis of the Draft BAM demonstrates a significant shift away from best practice offsetting rules, towards a more flexible system that allows decision makers to vary rules and proponents to move through various options until they can simply discharge offset obligations by paying money into a fund and ultimately proceed with development. As Gibbons and Eyre conclude '(i)n effect, the BAM outlines conditions of consent rather than an offsetting scheme' (Gibbons and Eyre 2015).

This demonstrates, as Walker and colleagues observed, that "political theory predicts that... biodiversity protection interests will fail to counter motivations for officials to resist and relax safeguards to facilitate exchanges and resource development at cost to biodiversity" (Walker S. et. al 2009).

At the end of the day, the Draft Biodiversity Assessment Method will not deliver positive environmental outcome for NSW. It will simply make it easier for unsustainable development to continue to destroy important vegetation, water resources and soil right across the NSW landscape.

²¹ See clause 60C of the draft *Local Land Services Amendment Bill* and clause 7.15 of the *Biodiversity Conservation Bill* 2016

²² See clause 5.11 and 5.16 of the *Biodiversity Conservation Bill* 2016

SPECIES SPOTLIGHT 3:

Spotted-tailed Quoll (*Dasyurus maculatus*)



Spotted-tailed Quoll (*Dasyurus maculatus*)

Conservation Status: Endangered

Threats: Habitat loss, loss of older trees with hollows, mining, residential and agricultural developments

The Spotted-tailed Quoll is the largest marsupial carnivore surviving on mainland Australia, with males growing to almost a metre from nose to tail. They are capable hunters, both on the ground and in trees, preying on small- to medium-sized mammals, birds, reptiles and insects. The Spotted-tailed Quoll is especially sensitive to habitat change, as it is dependent on forests for its prey and shelter. Research shows the species may disappear from a forest if 50 per cent of the canopy is removed (Macdonald 2001). Adult spotted-tailed quolls have a territory of up to 500 hectares, which ensures there are few places where quolls can exist without encountering the effects of humans (ADEE 2014c). Spotted-tail Quoll populations are continuing to decline, and the species distribution in NSW is highly fragmented. Consequently, in southeast mainland Australia the species is listed as Endangered under the Commonwealth law and Vulnerable under NSW legislation. Case Study 8 shows how approval to destroy Spotted-tail Quoll habitat for a coal mine expansion was granted in exchange for a biodiversity offset that lacked many of the habitat characteristics required to guarantee the species' survival in that locality. See **Appendix 2**.

Appendix 1. Review of biodiversity offsetting principles

For the purposes of this report, a number of existing principles were reviewed in order to develop an assessment framework to apply to the selected case studies.

Conservation International

Conservation International has worked in partnership with a range of government agencies, companies, scientists and environmental NGOs from around the globe to develop the Business and Biodiversity Offsets Program. This included the development of a set of Principles for Biodiversity Offsetting, as follows:

1. **NO NET LOSS:** A biodiversity offset should be designed and implemented to achieve in situ, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.
2. **ADDITIONAL CONSERVATION OUTCOMES:** A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity in other locations.
3. **ADHERENCE TO THE MITIGATION HIERARCHY:** A biodiversity offset is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance and minimization measures have been taken according to the mitigation hierarchy.
4. **LIMITS TO WHAT CAN BE OFFSET:** There are situations where residual impacts cannot be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected.
5. **LANDSCAPE CONTEXT:** A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach.
6. **STAKEHOLDER PARTICIPATION:** In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design, implementation and monitoring.
7. **EQUITY:** A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements. Special consideration should be given to respecting both internationally and nationally recognized rights of indigenous peoples and local communities.
8. **LONG-TERM OUTCOMES:** The design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing outcomes that last at least as long as the project's impacts and preferably in perpetuity.
9. **TRANSPARENCY:** The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner.
10. **SCIENCE AND TRADITIONAL KNOWLEDGE:** The design and implementation of a biodiversity offset should be a documented process informed by sound science, including an appropriate consideration of traditional knowledge.

International Union for Conservation of Nature (IUCN)

In 2012, the IUCN resolved to develop an IUCN general policy on biodiversity offsets. A technical study paper was prepared in the first phase of this process, which informed the development of the Draft Biodiversity Offsets Policy. Following a public consultation on the draft policy, which is now underway, the Policy Working Group is expected to finalise the draft policy for consideration by the IUCN Council meeting in September 2016.

Copies of the technical study paper and Draft Biodiversity Offsets Policy, and updates, are available on the IUCN website: www.iucn.org

Australian Network of Environmental Defender's Offices

ANEDO recommends a number of principles that must underpin a national offset standard and be reflected in legislation:

- Biodiversity offsets must only be used as a last resort, after consideration of alternatives to avoid, minimise or mitigate impacts
- Offsets must be based on sound ecological studies and principles, such as like for like.
- Legislation and policy should set clear limits on the use of offsets.
- Indirect offsets must be strictly limited
- Offsetting must achieve benefits in perpetuity
- Offsets must be based on principles of net gain
- Offsets must be additional
- Offset arrangements must be legally enforceable

NSW Office of Environment and Heritage

The NSW Office of Environment and Heritage has a set of 13 principles for the use of biodiversity offsets in NSW²¹, as follows:

- Impacts must be avoided first by using prevention and mitigation measures.
- All regulatory requirements must be met.
- Offsets must never reward ongoing poor performance.
- Offsets will complement other government programs.
- Offsets must be underpinned by sound ecological principles.
- Offsets should aim to result in a net improvement in biodiversity over time.
- Offsets must be enduring - they must offset the impact of the development for the period that the impact occurs.
- Offsets should be agreed prior to the impact occurring.
- Offsets must be quantifiable - the impacts and benefits must be reliably estimated.
- Offsets must be targeted.
- Offsets must be located appropriately.
- Offsets must be supplementary.
- Offsets and their actions must be enforceable through development consent conditions, licence conditions, conservation agreements or a contract.

²¹ See further www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm

The Environment Outcomes Assessment Methodology

Governs the use of offsets under the NSW *Native Vegetation Act 2003*, includes the following principles:

1. The benefits of the offset persist for at least the duration of the negative impact of the proposed clearing (usually in perpetuity); and
2. The benefits from any offset whether the same property or elsewhere will improve or maintain environmental outcomes for each relevant environmental value; and
3. The offset vegetation for biodiversity is either of equal or greater regional conservation significance as the site proposed for clearing; and
4. Management actions are likely to be deliverable and enforceable; and
5. Permanent conservation measures are given greater value than other management actions;
6. The benefits of the offset are assessed using the same methodologies used to assess the impacts of the proposed clearing; and
7. The offset is additional to actions or works carried out using public funds or to fulfil regulatory obligations; and
8. Only benefits from the management action or permanent conservation action may comprise the offset.

Fallding - Environmental Planning and Law Journal – Offsets Review

In 2014, environmental planner Martin Fallding reviewed the Australian framework for biodiversity offsetting and offsetting practice, especially in NSW (Fallding 2014). Fallding notes that while there is widespread acceptance of the principles of offsetting in Australia, the practice is confusing and inconsistent. The following key offset principles were distilled from the review:

1. Biodiversity offsets will be used as a last resort, after consideration of alternatives to avoid, minimise or mitigate impacts
2. Offsets must be based on sound ecological studies and principles
3. Offsetting must achieve benefits in perpetuity
4. Offsets must be based on the principle of net gain
5. Offset arrangements must be enforceable

Appendix 2. Case Studies of biodiversity offsetting in NSW

Overview

In order to examine whether biodiversity offsetting has led to positive biodiversity outcomes in NSW, an analysis of eight case studies was undertaken. Each case study was assessed against best-practice assessment criteria, which was developed having regard to previous scientific analysis and established offsetting principles.

The original part of this analysis (Case Studies 1-6) was undertaken in 2011 by an external contractor. Additional analysis (Case Studies 7-8) added in 2015, including one instance where the new NSW Biodiversity Offsets Policy for Major Projects was used. The analysis was undertaken using the limited information that is publicly available.

Case Study Assessment

Methodology

In order to review each case study, eight assessment criteria were developed having regard to previous scientific analysis of offsets and various offsetting principles:

Assessment Criteria

1. Be a last resort after avoidance and mitigation (including appropriate 'red flags')
2. Deliver biodiversity equivalence (like for like)
3. Provide security and achieve benefits in perpetuity
4. Deliver a net gain in biodiversity
5. Be additional to conservation measures already in place
6. Be enforceable, resourced and well managed
7. Be subject to a rigorous monitoring and evaluation framework
8. Be open and transparent

For each case study, the extent to which each of the criteria has been met was assessed and scored out of five. A total score out of forty was calculated for each case study – see **Table A** below.

For each case study, the extent to which each of the criteria has been met is assessed and scored out of five. A total score out of forty has been allocated for each case study and outcomes for biodiversity have been identified as good, reasonable, poor or disastrous.

SCORE	OUTCOMES FOR BIODIVERSITY
31-40	Good
21-30	Adequate
11-20	Poor
0 – 10	Disastrous

CASE STUDY 1:

Namoi Catchment Property Vegetation Plans

ACTION

Land Clearing Application
(application to clear native
vegetation)

LEGISLATION

Native Vegetation Act 2003

METHODOLOGY

Environment Outcomes
Assessment Methodology

SUMMARY

The Namoi Catchment Management Authority (CMA) covered a total area of 42,000 square kilometres (4.2 million hectares). The Namoi CMA was responsible for the Namoi Catchment Action Plan (CAP) which included the management of Property Vegetation Plans. From 1st January 2014, the Namoi catchment was almost entirely included in the North West Local Land Services Region. The LLS incorporates CMA and Livestock Health and Pest Authority functions. The Namoi CAP will inform future catchment planning for the LLS.

A Property Vegetation Plan (PVP) is a voluntary but legally binding agreement between a landholder and the local CMA.

This case study considers PVPs from the introduction of the Native Vegetation Regulation 2005 until May 2011. In that period there were 59 Property Vegetation Plans approved in the Namoi Catchment Management Area. Collectively, those PVPs approved:

- 991 hectares of clearing
- 1244 hectares of thinning
- 702 hectares of paddock trees
- 2,352 individual paddock tree clearing
- 3,917 hectares of invasive native scrub clearing

This amounts to a total approved disturbance footprint of 6,857 hectares. The total areas of offsets that have been protected in PVPs over that same period has amounted to 5,984 hectares.

For the purposes of this analysis, an attempt was made to obtain copies of all Property Vegetation Plans that included offsets. However, the CMA advised that it did not release PVPs to the public. The only information available upon which to assess the offsets was a table setting out the management actions that were allowed, the area and a single map grid reference for a location.

THE OFFSETS

Most of the PVPs that approved clearing in the Namoi catchment did not trigger offset requirements. Of the 59 PVPs approved, only 10 triggered offset provisions. Clearing approved by those PVPs amounted to 940 hectares of remnant vegetation and 706 hectares of dispersed paddock trees. The offset areas required amounted to 5984 hectares. Therefore, considering those PVPs only, the ratio of offsets to clearing was about 4:1, however on an individual PVP basis, the offset ratio varied widely from 2:1 to 7:1.

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE
1. Be a last resort after avoidance and mitigation	The Native Vegetation Regulation 2005 and the Environmental Outcomes Assessment Methodology provide a red light for endangered ecological communities and over-cleared landscapes in moderate to high ecological condition. This represents a very important measure to avoid impacts. However, the red lights do not apply to thinning or clearing for invasive native species.	4/5
2. Deliver biodiversity equivalence	The areas zoned for environmental protection are generally close to those being lost, and are often found on the same property. The EOAM has as a principle that “the offset vegetation for biodiversity is either of equal or greater regional conservation” value. This principle does not necessarily deliver “like for like” as it can result in a very different ecosystem with equivalent conservation status being used as an offset, but when combined with geographic proximity tends to not deliver strongly in terms of biodiversity equivalence. The offset ratio of 4:1 for offset to cleared areas is relatively modest compared to other offsetting schemes. The EOAM purportedly requires that condition and connectivity of offsets are equivalent to cleared areas, but there is no information against which to assess this, and the approach to identifying offsets is piecemeal. The same methodologies are used to assess the impacts of the proposed clearing and the offsets, but field surveys for fauna and flora are not required to demonstrate equivalence.	3/5
3. Provide security and achieve benefits in perpetuity	Offsets can be registered on title, potentially providing substantial security and longevity, although they are yet to be tested over long timeframes. It is unknown to what extent offsets have been registered. The PVPs specify that management actions should be in perpetuity, however, PVPs do not protect areas from mining or exploration.	3/5
4. Deliver a net gain in biodiversity	It is difficult to ascertain the outcomes from the Namoi PVPs due to the paucity of data. Additional data obtained from the CMA for five PVPs that contain offsets indicates there is a variety of offset activities available ranging from a prohibition on firewood collection to restoration of native grassland from pasture. The overall disturbance footprint allowed by the CMA is greater than the overall areas identified for offsets, and the vast majority of clearing conducted did not trigger offset requirements. This would suggest there will be a net loss in native vegetation, particularly as many of the offset measures will involve simply a change in management, not an increase in vegetation extent.	3/5

5. Be additional to conservation measures already in place	It is not possible to ascertain whether the outcomes are genuinely additional due to the lack of information available. One of the principles in the EOAM is that offsets should be “additional to actions or works carried out using public funds or to fulfil regulatory obligations”, although how this is working in practice is unknown.	3/5
6. Be enforceable, resourced and well managed	PVPs may be made for up to 15 years and bind future owners of the land. Landholders are required to allow authorised officers of the CMA or DECCW to enter the property to conduct audits, however resources are considered scarce and the extent of audits unknown. There are no specific resources identified for managing the offsets. The data available on the offsets from the CMA suggests the requirements for management are very broadly framed and does not involve the development of a detailed conservation management strategy.	3/5
7. Be subject to a rigorous monitoring and evaluation framework	The monitoring and evaluation of individual PVPs is not reported publically, and therefore it is unclear to what extent this occurs in practice. The Office of Environment and Heritage does monitor annual native vegetation clearing and reconcile this against approved clearing, including PVPs.	1/5
8. Be open and transparent	There is no public consultation process in relation to the development of PVPs. The <i>Native Vegetation Act 2003</i> and Regulation requires information to be made available on a public register, including the total area approved for clearing and offsets, and a single spatial point reference for each. Further information is to be made available by the Local Land Service on request.	3/5
TOTAL SCORE		23/40
ASSESSMENT	ADEQUATE outcomes for biodiversity	

CASE STUDY 2: Kellyville BioBanking Statement

ACTION	LEGISLATION	METHODOLOGY
Biodiversity Credits (voluntary creation of biodiversity credits)	<i>Threatened Species Conservation Act 1995</i>	BioBanking Assessment Methodology

SUMMARY

The BioBanking Statement pertains to a 14.35 hectare proposed residential development area close to the growth centre at North Kellyville in northwest Sydney²². Most of the area is vegetated, with the exception of a closed waste disposal facility to the north. There are two vegetation types mapped in the area include:

- Ecosystem 1 — 6 hectares of Narrow-leaved Ironbark—Broad-leaved Ironbark—Grey Gum Open Forest on the edges of the Cumberland Plain, Sydney Basin.
- Ecosystem 2 — 5.4 hectares of Red Bloodwood—Grey Gum Woodland on the edges of the Cumberland Plain, Sydney Basin.

Ecosystem 1 is categorised as an endangered ecological community under the NSW Threatened Species Conservation Act 1995. The area also contains habitat for the threatened plant Port Jackson Heath (*Epacris purpurascens* var *purpurascens*).

THE OFFSETS

On 14th February 2011, the Director General of the Department of Environment and Climate Change issued a BioBanking Statement (BioBanking Statement 01) for the Kellyville development site. Under the statement, the proponent is required to 'retire' 105 credits for Ecosystem 1, 126 credits for Ecosystem 2, and 500 credits for Port Jackson Heath (*Epacris purpurascens* var *purpurascens*). In this case, an area of vegetation surrounding the development site will be managed as a BioBank site and will provide the majority of credits required. A BioBanking Agreement has been developed for this area (BioBanking Agreement 39). This amounts to 105 credits for Ecosystem 1 (8.3 hectares), 39 credits for Ecosystem 2 (3.31 hectares) and 507 credits for Port Jackson Heath. Additional credits will have to be retired to meet a small shortfall for Ecosystem 2 before development can commence. There is no information available on where such credits may be found.

The legal effect of the BioBanking Statement is that that the proposed development to which it applies is exempt from threatened species assessment requirements under Parts 4 and 5 of the Environmental Planning and Assessment Act 1979. Therefore, it is taken to be a development that is not likely to significantly affect any threatened species, population or ecological community or its habitat. When a BioBanking Statement has been issued and supplied to a consent authority, the authority is not required to take into consideration the likely impact or effect of the development on biodiversity values. If approving a development that is the subject of a BioBanking statement under the EP&A Act 1979, a determining authority must include a condition that the conditions of the statement are complied with.

²² www.environment.nsw.gov.au/bimsprapp/StatementDetails.aspx?ID=1

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE
1. Be a last resort after avoidance and mitigation	<p>The BioBanking Methodology contains “red flags” that are supposed to prevent clearing of moderate to good condition endangered ecological communities. However, it also contains a clause that allows the OEH Chief Executive Officer to allow red flags to be cleared. In this case, the red flag areas were an Endangered Ecological Community in moderate and good condition. However, the CEO determined these areas could be cleared while still “maintaining or improving” environmental outcomes under the BioBanking methodology. The reasons given to allow the clearing were:</p> <ul style="list-style-type: none"> • The red flag vegetation is not “viable” under existing management regime. • Substantial measures have been taken and further are proposed to avoid adverse impacts on biodiversity. • 8.2 hectares of the subject type will be managed for conservation in perpetuity in a BioBank Agreement site. • The vegetation makes a relatively low contribution to regional biodiversity values. 	1/5
1. Be a last resort after avoidance and mitigation (continued)	<p>None of these reasons are valid for allowing an EEC to be cleared. The viability argument is particularly specious – given that viability varies widely for different elements of biodiversity, and that although the vegetation patch size will be effectively halved by the clearing it is still proposed to manage the remainder as a biobank agreement site. If the original area was not viable, then it is questionable how half of the remaining could be considered of sufficient conservation value to be a BioBanking site. The BioBanking Methodology provides wide discretion to clear red flag areas, of which Kellyville is a prime example. It does not deliver a credible process to avoid impacts.</p>	1/5
2. Deliver biodiversity equivalence	<p>In this case, the offset areas are adjoining those proposed for clearing, however, this will not generally be the case with BioBanking. In many cases, BioBanking allows offsets to be found in far distant Catchment Management Authority areas. However, because it requires species credits to be found for the same species, it may ultimately result in most credits having to be found closer to the development site. The offset ratio delivered at Kellyville is about 1:1. The same methodologies are used to assess the impacts of the proposed clearing and the offsets, but field surveys for fauna and flora do not appear to have been required to demonstrate equivalence.</p>	1/5

<p>3. Provide security and achieve benefits in perpetuity</p>	<p>BioBanking Agreements are a statutory agreement under s127D of the Threatened Species Conservation Act 1995 between the Minister and the landowner. They are registered on title and can only be terminated under very restricted circumstances.</p> <p>The Kellyville agreement does limit the permissible uses to only those required for conservation management or passive recreation, except for mining. In fact, petroleum mining is even specifically listed as a permissible use. The agreement states that one of the permissible uses is: "Carrying out of the petroleum exploration and production and ancillary activities authorised under Petroleum Exploration Licence 463 granted under the Petroleum (Onshore) Act 1991 or any other petroleum title that maybe granted under that Act."</p>	<p>3/5</p>
<p>4. Deliver a net gain in biodiversity</p>	<p>The Kellyville statement and agreement will lead to a net loss of vegetation and biodiversity. An area of 11.5 hectares of native vegetation will be cleared. A similar area adjoining it will still be vegetated, with a likelihood of improved management. The fragmentation and perimeter-to-area ratio of the remaining stand will be considerably worse than the original.</p>	<p>0/5</p>
<p>5. Be additional to conservation measures already in place</p>	<p>There is no information provided in the BioBanking agreement to ascertain whether conservation measures are additional.</p>	<p>1/5</p>
<p>6. Be enforceable, resourced and well managed</p>	<p>The most positive aspect of BioBanking is undoubtedly resourcing and management. For the Kellyville BioBanking agreement credits to be transferred or retired, a sum of \$1,231,838 (known as the Total Fund Deposit) must first be placed in the BioBanking Trust Fund. The value of the Total Fund Deposit is based on an estimate of the cost of undertaking the management actions agreed for the site. The BioBanking Trust Fund invests the deposit and uses the interest to provide funds to the landowner to undertake management actions in perpetuity.</p> <p>The BioBanking agreement represents a detailed plan for the property in question and its management. The area is segmented into zones and detailed management actions are identified for each zone. A detailed schedule of management priorities by year is identified for the first 20 years.</p> <p>There are strong enforcement powers and provisions under the Threatened Species Conservation Act 1995 to remedy or restrain a breach of a BioBanking agreement.</p>	<p>5/5</p>
<p>7. Be subject to a rigorous monitoring and evaluation framework</p>	<p>The BioBanking agreement contains provisions for monitoring and annual reporting of management actions. Annual reports have to be provided to the OEH Chief Executive Officer. There is no requirement for biodiversity monitoring over time on the site.</p>	<p>4/5</p>

8. Be open and transparent	There is no public exhibition process for BioBanking agreements and statements. However, BioBanking agreements, details of required management actions and high-resolution maps are made available on a public register. BioBanking statements showing the area to be cleared and a summary of biodiversity values are also made available. However, there is no obvious way of tracking what BioBanking credits are purchased for any given BioBanking statement, and hence no way of knowing which BioBanking agreement has been used to offset a specific development. This is a substantial flaw in the transparency of the program.	4/5
TOTAL SCORE		19/40
ASSESSMENT	POOR outcomes for biodiversity	

CASE STUDY 3:

Wagga Wagga Local Environment Plan

ACTION

Biodiversity Certification
(Certification of biodiversity
assessment of an area)

LEGISLATION

*Threatened Species
Conservation Act 1995*

METHODOLOGY

Biodiversity Certification
Assessment Methodology

SUMMARY

The Wagga Wagga Local Environment Plan was granted biodiversity certification under the Threatened Species Conservation Act 1995 on the 20th December 2010²³. The certification remains effective for 10 years. The Biodiversity Certification area encompasses 10,655 hectares around the township of Wagga Wagga. It does not cover the whole local government area, but covers only the existing urban area and proposed future urban and industrial release areas.

Only 10% of the certification area, or 1029 hectares, is vegetated and there are also an additional 11,841 scattered paddock trees. There are five vegetation types mapped in the area: White Box Woodland, Yellow Box Woodland, Grey Box Woodland, Wagga Wagga Hills Open Forest, and River Red Gum Forest. Four of the vegetation types qualify as endangered ecological communities. One threatened plant species and 15 threatened fauna species are considered likely to occur, and there is an endangered population of the Squirrel Glider.

There are eight main 'release areas' identified for increased land-use intensity or development in the Local Environment Plan.

THE OFFSETS

Biodiversity Certification aims to apply the principles of offsetting at a landscape scale. The overall loss of vegetation identified by OEH in the Wagga Wagga certification area is 61 hectares of vegetation and 1347 trees within the certification area. The offset requirements set under certification are for the retention of 614 hectares of native vegetation and 7564 trees.

The certification incorporates a number of conservation measures that are contained in the Local Environment Plan. These include:

- 933 hectares of vegetation (91% of all mapped vegetation in the area) is retained in sympathetic LEP zones (e.g., 451 hectares in Environmental Conservation E2, 21 hectares in Environmental Living E4, 466 hectares in Public Recreation RE1 and 33 hectares in RU6 (Transition Zone).
- According to Department of Climate Change and Water (DECCW), this includes all areas that the BioBanking Methodology and Environmental Outcomes Assessment Methodology would identify as 'red flags', except for three small areas.
- Two clauses are provided in the Wagga Wagga LEP that will provide additional protection outside these zonings, as follows:
 - Clause 7.3 — Sets ecological objectives and places constraints on development including consideration of biodiversity impacts in all 'natural area' zones.

²³ For more information, visit www.environment.nsw.gov.au/biocertification/notcert.htm

- Clause 5.9 — Preservation of Trees or Vegetation, which will require council consent for any impacts on vegetation outside natural area zones.
- The most significant ecological asset in the certification area, 251 hectares at Lloyd contains outstanding examples of extensive White Box Woodlands (part of the Box-Gum Woodland EEC) that provide habitat for a range of threatened fauna, including the Squirrel Glider endangered population and contributes greatly to the connectivity of landscapes and habitats in the wider Wagga Wagga area. The area was previously zoned 1e (Future Urban) and 7b (Hillscape) and will be re-zoned as E2 Environmental Conservation. Local landholders have agreed to transfer this area to Wagga Wagga Local Council, and it will be managed under a Conservation Management Plan.
- A further 36 hectares of important vegetation is retained through 'other measures' – primarily through Development Control Plans at Bomen, Lloyd and Boorooma East, and the through the provisions of development consent at Gumly Gumly.

The primary effect of certification is that any development requiring consent is taken to be development that is not likely to significantly affect threatened species, thus removing the requirement to conduct an assessment of significance under s5A of the NSW Environmental Planning and Assessment Act 1979. Consent is still required for clearing in these zones under the Native Vegetation Act 2003, except for permitted or exempt clearing under that Act.

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE
1. Be a last resort after avoidance and mitigation	There is considerable avoidance of clearing achieved by the biodiversity certification. The most significant achievement is the change of zoning for the highly significant Lloyd area from Future Urban to Environmental Protection and the transfer of the land to Wagga Wagga City Council. The certification has largely ensured that the majority of 'red flag' areas are excluded from urban and residential zones.	4/5
2. Deliver biodiversity equivalence	The areas zoned for environmental protection are in very close proximity to those that will be lost, and do contain equivalent vegetation types. The offset ratio of zoned areas to loss areas is 10:1. There is no time lag in habitat provision from offsets because it is largely based on existing vegetation rather than rehabilitation/ restoration. Condition and connectivity of offsets are markedly superior to loss areas.	5/5

3. Provide security and achieve benefits in perpetuity	Biodiversity certification provides some security for its 10-year duration against the threat of re-zoning. However, benefits are not protected in perpetuity and may be eroded in the future. Furthermore, other planning instruments can over-ride environmental zoning and allow development e.g., the Seniors Living SEPP. The Natural Area Zones in the Wagga Wagga LEP are not fully protected and do allow development. There is a serious question mark over zones E4, RE1 and RU6 being valid for use as offsets. The effect of Biodiversity Certification means developments in those zones will not trigger a significant impact assessment. In the Albury LGA, Biodiversity Certification in those same zones was deemed unsuitable to “maintain or improve” biodiversity.	2/5
4. Deliver a net gain in biodiversity	There is a predicted net loss of native vegetation of 61 hectares and 1347 scattered trees. This equates to 6% of mapped vegetation and 11% of scattered trees. DECCW (2009) claims to deliver a maintain or improve outcome for biodiversity, but given offset requirements were set at 615 hectares and only 431 hectares were included in the most protected E2 zones, that outcome is questionable.	3/5
5. Be additional to conservation measures already in place	The outcomes are not all additional, as the Natural Area Zones include areas that were previously zoned for environmental protection and most of the zoned areas were not within the proposed release areas. The data provided on the certification does not clearly differentiate additional actions from existing measures.	2/5
6. Be enforceable, resourced and well managed	Local Environment Plan zones are legally enforceable. There are no resources specifically associated with management of the areas. The highly significant Lloyd area will be managed by Wagga Wagga Council under a Conservation Management Plan, but resources are not clearly committed.	1/5
7. Be subject to a rigorous monitoring and evaluation framework	There is no reference to any monitoring or evaluation of conservation outcomes from the biodiversity certification.	0/5
8. Be open and transparent	The proposed Biodiversity Certification and the data behind it was publicly exhibited along with the Local Environment Plan. Detailed maps and information are available in the public domain as to what areas will be cleared, what areas will be zoned, and what the certification entails.	4/5
TOTAL SCORE		21/40
ASSESSMENT	ADEQUATE outcomes for biodiversity	

CASE STUDY 4:

Albury Local Environment Plan

ACTION

Biodiversity Certification
(certification of biodiversity
assessment of an area)

LEGISLATION

*Threatened Species
Conservation Act 1995*

METHODOLOGY

Biodiversity Certification
Assessment Methodology

SUMMARY

The Albury Local Environment Plan was granted biodiversity certification under the Threatened Species Conservation Act 1995 on the 25 February 2011²⁴. The Biodiversity Certification remains effective for 10 years and encompasses almost the entire Albury Local Government Area, covering 29,896 hectares and excluding 778 hectares.

Some 75% of the area has previously been cleared, and there are now only 7,773 hectares of mapped vegetation remaining, which equates to 25% of the LGA. There are three broad vegetation types mapped in the area: River Red Gum Forest and Floodplain Woodlands; Grassy Box-Gum Woodland; and Box-Gum Open Forest. The latter two qualify as endangered ecological communities. Six threatened plant species and 28 threatened fauna species are considered likely to occur in the area, including the nationally threatened Parrot and Superb Parrot, and numerous woodland birds.

Developable zones (Residential, Industrial and Business) proposed in the Local Environment Plan covered 7,838 hectares, of which 693 hectares was mapped as native vegetation.

THE OFFSETS

On 16th February 2011 the Minister for Climate Change and Environment granted biodiversity certification to the Albury Local Environment Plan for the Albury Local Government Area, with the exception of 778 hectares.

DECCW estimate the potential loss of 539 hectares of vegetation and 527 paddock trees within the certification area, and claim to have offset the clearing with 5262 hectares of offsets.

Relevant conservation measures contained in the LEP include:

- 5262 hectares of vegetation and 3,863 paddock trees are retained and included in Environmental Conservation E2 (1,619 hectares) and Environmental Management E3 (3,643ha) zones in the LEP
- A further 1075 hectares of vegetation is to be retained in other zones which are not proposed for development (ie Environmental Living, Public Recreation)

Three clauses provided in Albury LEP that will provide additional protection in developable areas:

- Clause 7.1 — Development Along the Murray River, which constrains development within 400m of the Murray River
- Clause 5.9 — Preservation of Trees or Vegetation, which will require council consent for any impacts on vegetation in the developable areas
- Clause 7.8 — Natural Resources Sensitivity - Riparian Land and Waterways, which will apply additional constraints on development in riparian areas.

Biodiversity Certification was excluded from eight developable areas covering 191 hectares of high conservation value vegetation.

The Albury-Wodonga Development Corporation (AWDC) will transfer 650 hectares of high conservation lands to the NSW Land and Property Management Authority to be dedicated as Crown Reserve under the NSW Crown Lands Act 1989, and zoned E2.

Management funding equivalent to \$912 per hectare per annum, or \$5.94 million, in addition to one-off capital funding of \$573,075 will be provided to LPMA (Land & Property Management Authority, now part of NSW Trade and Investment) for these lands.

Additional protection for Natural Area Zones is provided by Clause 7.9 Protected Regrowth in Zones E2 & E3, which makes all regrowth protected regrowth for the purposes of the Native Vegetation Act 2003, thus requiring consent.

The primary effect of certification is that any development requiring consent is taken to be development that is not likely to significantly affect threatened species, thus removing the requirement to conduct an assessment of significance under s5A of the NSW Environmental Planning and Assessment Act 1979. Consent is still required for clearing in these zones under the Native Vegetation Act 2003, except for permitted or exempt clearing under that Act.

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE
1. Be a last resort after avoidance and mitigation	There has been little real avoidance of proposed development by the biodiversity certification outcome. None of the vegetation in the developable areas has been excluded from clearing in a secure manner. All the offset areas have been obtained from outside the developable area, and were therefore not currently planned for development and not within a development footprint. However, some additional measures increase constraints on development.	1/5
2. Deliver biodiversity equivalence	The areas zoned for environmental protection are in very close proximity to those that will be lost, and do contain equivalent vegetation types. The offset ratio of zoned areas to loss areas is approximately 10:1. There is no time lag in habitat provision from offsets, because it is largely based on existing vegetation rather than rehabilitation/restoration. Condition and connectivity of offsets are markedly superior to loss areas.	5/5
3. Provide security and achieve benefits in perpetuity	Biodiversity certification provides some security for its 10-year duration against the threat of re-zoning. However, benefits are not protected in perpetuity and may be eroded in the future. Furthermore, other planning instruments can over-ride environmental zoning and allow development e.g. Seniors Living SEPP. The 'Natural Area' Zones in the Albury LEP are however the highest categories of environmental zoning, but do still allow minimal development.	3/5

4. Deliver a net gain in biodiversity	There is a predicted net loss of native vegetation of 539 hectares and 527 scattered trees. This equates to 7.6% of mapped vegetation, and 13.6% of scattered trees. DECCW (2009) claims to deliver a maintain or improve outcomes for biodiversity, but given that the majority of areas in the development zone are the Grassy Box-Gum Woodland EEC, that claim is questionable.	2/5
5. Be additional to conservation measures already in place	The outcomes are not all additional, as the Natural Area Zones include areas that were previously zoned for protection and the zoned areas were not within the developable area. The data provided on the certification does not clearly differentiate additional actions from existing measures.	2/5
6. Be enforceable, resourced and well managed	Local Environment Plan zones are legally enforceable. There are substantial financial resources provided by the AWDC to manage E2 zones transferred to LPMA annually. There have been detailed conservation strategies developed for two of the highest conservation value areas: Albury Ranges and Thurgoona.	3/5
7. Be subject to a rigorous monitoring and evaluation framework	There is no reference to any monitoring or evaluation of conservation outcomes from the biodiversity certification.	0/5
8. Be open and transparent	The proposed biodiversity certification and the data behind it was publicly exhibited along with the Local Environment Plan. Detailed maps and information as to what areas will be cleared, what areas will be zoned, and what the certification entails are available in the public domain.	4/5
TOTAL SCORE		20/40
ASSESSMENT	POOR outcomes for biodiversity	

CASE STUDY 5: Huntlee Development

ACTION	LEGISLATION	METHODOLOGY
Development assessment (Non-major project and major projects prior to October 2014)	<i>Environmental Planning and Assessment Act 1979</i>	OEH Principles for Biodiversity Offsetting

SUMMARY

The Huntlee Development covers a 1,722 hectares site near Cessnock, adjoining the small village of North Rothbury. Huntlee will be a new township 5,600 residential dwellings, large areas of employment lands, a further 1,500 residential dwellings and 200 rural/residential lots, roads, utilities and community facilities²⁵. The total area of development footprint is 1,075 hectares.

The Huntlee Development site includes known or likely habitat for 325 recorded plant species, 207 vertebrate fauna and six vegetation communities. It includes four threatened plants, 27 threatened fauna species and four endangered ecological communities, as well as numerous other species of conservation significance²⁶. The most significant species is *Persoonia pauciflora*, a critically endangered species endemic to the Rothbury area. Most of the site is covered by the Central Hunter Ironbark—Spotted Gum—Grey Box Forest Endangered Ecological Community.

Threatened fauna of the area include a number of declining woodland birds: a large breeding population of Grey-crowned Babbler; Little Eagle and Spotted Harrier; nectivorous birds such as the Regent Honeyeater, Swift Parrot and Little Lorikeet; a large number of threatened bat species; and the vulnerable Squirrel Glider.

About 1,156 hectares of the site is vegetated, and a total of 1,041 hectares is mapped as endangered ecological communities. The development footprint will clear approximately 421 hectares of vegetation, all of which is listed as endangered ecological

THE OFFSETS

The proposal is for a development consent supported by a voluntary planning agreement designed to secure the conservation offset proposals. The Voluntary Planning Agreement seeks to dedicate 780 hectares of conservation land within the Huntlee site, a further 17 hectares of conservation land as *Persoonia* Park within Huntlee, plus a total of 4,988 hectares of conservation land elsewhere in the Lower Hunter region.

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE

²⁵ Project application – Huntlee, Stage 1, Subdivision and Infrastructure works, March 2011.

²⁶ Huntlee Ecological Assessment Report, Appendix I, Part 1, pp25-27

<p>1. Be a last resort after avoidance and mitigation</p>	<p>The Huntlee development proposes to clear 421 hectares of endangered ecological communities. It is apparent from the environmental assessments that these are habitat for threatened species and include hollow-bearing trees and other important habitat elements. The development consent supported by a voluntary planning agreement does not avoid the impacts on endangered communities.</p>	<p>0/5</p>
<p>2. Deliver biodiversity equivalence</p>	<p>The offsets in this case vary in the extent to which they provide biodiversity equivalence. The Black Creek and Persoonia Park offsets areas within the Huntlee site contain the same endangered community and similar threatened species habitats as those being destroyed. However, all but one of the other offsets (Elderslie) are widely scattered and are largely located in very different habitats to those that will be cleared. Elderslie, Persoonia Park and Black Creek together encompass 742ha of Central Hunter Ironbark—Spotted Gum—Grey Box Forest, while the development will clear 341ha.</p> <p>The remaining vegetation offsets are located largely in ridgetop vegetation of the Wollemi Sandstones, which differs significantly from the Hunter Valley floor vegetation of the development site. They are located in a different IBRA (Interim Biogeographic Regionalisation for Australia) subregion, contain different ecosystems and occur on steep and dissected landforms. None of these offsets contains the same endangered ecological communities as those that will be cleared at Huntlee, and therefore it is highly likely they will not represent the same suite of fauna species. The proponent suggests the same fauna species will be present without conducting any surveys or providing any evidence to support that argument.</p>	<p>2/5</p>
<p>2. Deliver biodiversity equivalence (Continued)</p>	<p>None of the offsets proposed contains likely or known habitat for the critically endangered <i>Persoonia pauciflora</i>. According to Patrick, the Huntlee development will remove up to 15% of the known individuals of the species (total mature plants estimated at <350) and remove or permanently modify 50% of known and potential habitat for the species. No individuals of the species are currently located in a permanent conservation reserve. The proposal plans to include a small number of individuals in Persoonia Park and a further small number west of Wine Creek Rd in the conservation areas. However, Patrick argues these plants or clusters will be threatened by fire, loss of connectivity for pollinators and vectors, weed invasion from adjacent residential/development areas, and reduced viability due to isolation.</p>	<p>2/5</p>

3. Provide security and achieve benefits in perpetuity	The Voluntary Planning Agreement that is intended to operate alongside the development consent requires the title of the conservation offset lands be transferred to the National Parks and Wildlife Service. The Planning Agreement constitutes a Planning Agreement within the meaning of s93F of the EP&A Act 1979. There is no requirement for this land to be transferred to National Parks estate, although it is inferred that this will be the outcome. However, there is the likelihood of objections from other government departments, such as the Department of Resources and Energy, which may prevent such transfers.	3/5
4. Deliver a net gain in biodiversity	The Huntlee development and associated planning agreement will lead to a net loss of vegetation and biodiversity. An area of 421 hectares of endangered ecological communities will be cleared. This includes areas that are nesting habitat for the vulnerable Grey-crowned Babbler and an important population of the critically endangered and endemic <i>Persoonia pauciflora</i> . It is not possible to deliver a net gain in biodiversity while clearing such an important remnant of Hunter Valley vegetation.	0/5
5. Be additional to conservation measures already in place	Most of the proposed offset zones do not qualify as additional conservation measures. All of the sandstone offsets contain large areas of land that are mapped as steep or highly erodible lands under the Native Vegetation Act 2003, which are already protected from clearing. Two of the offsets constitute perpetual leases over Corrabare State Forest and Pokolbin State Forest. These State Forests are already excluded from clearing for agriculture or development and managed to a certain extent for conservation outcomes and the public interest.	1/5
6. Be enforceable, resourced and well managed	If the conservation offsets are included in National Parks then they will deliver much improved and resourced management under a conservation management plan. The Voluntary Planning Agreement requires the proponent to make environmental contributions of \$1,100,000, which are available for OEH to use in management of the conservation offset reserves. Even though this is a significant sum, given the area of land at issue it is proportionally less than would be required under a BioBanking agreements.	4/5
7. Be subject to a rigorous monitoring and evaluation framework	There is no requirement for monitoring or evaluation in the proposal, and this will only be incorporated to the extent that it occurs generally within the National Parks estate.	2/5
8. Be open and transparent	The development consent provides details of the proposed clearing and the offset sites. The information on the offsets is, however, broad and detailed information and mapping on the conservation values of each offset site is not available.	4/5
TOTAL SCORE		16/40
ASSESSMENT	POOR outcomes for biodiversity	

CASE STUDY 6:

Boggabri and Maules Creek Coal Mines

ACTION	LEGISLATION	METHODOLOGY
Development assessment (non-major project and major projects prior to October 2014)	<i>Environmental Planning and Assessment Act 1979</i>	** Biodiversity offsets prepared without clear consideration of OEH guiding principles

SUMMARY

These two open-cut coal projects are in the Liverpool Plains subregion within the Brigalow Belt South Bioregion and the Namoi Catchment Management Area. They are both located almost entirely within the recognised, high conservation value public land of Leard State Forest.

The Boggabri Coal Mine has already commenced and open-cut about 500 hectares of forest, and it currently proposes to expand fourfold and to clear a further 1,385 hectares. The Maules Creek Coal Project is proposing to develop an open-cut coal mine that clears a total of 2,079 hectares of vegetation, including 1,665 hectares of forest and woodland and 414 hectares of native grassland. Together, the two mines will clear about 4,000 hectares of native vegetation, more than half the total area of Leard State Forest.

The two mine proposals cover an area recognised as habitat for up to 36 threatened species and five endangered ecological communities. Key species include a suite of declining woodland birds such as the Brown Treecreeper, Hooded Robin, Black-chinned Honeyeater, Grey-crowned Babbler, Speckled Warbler, Diamond Firetail, Turquoise Parrot and Varied Sittella. The area is also important for the threatened Barking Owl and Masked Owl, and is known habitat for the Koala. It also provides habitat for at least six different threatened bat species, including the nationally threatened South-eastern Long-eared Bat. It also includes a large population of the vulnerable plant Stony Bush-pea (*Pultenaea setulose*).

Undoubtedly the most significant impact in relation to the two mines is the fact that they will clear about 1,150 hectares of the critically endangered Box-Gum Woodland, which is listed under both state and federal legislation. The woodland is in very good condition and has very few weeds and surveys have recorded 100 tree hollows per hectare.

Leard State Forest is an area of outstanding conservation significance. It is the largest remnant of vegetation remaining on the heavily cleared Liverpool Plains and is one of the most diverse and significant patches of vegetation left in the entire Brigalow Belt South bioregion. Only 1.7% of the Liverpool Plains province is included in reserves and only 15% of the region is now covered by woody vegetation. Leard State Forest is exceptionally biologically diverse, with 396 native plant and animal species having been recorded in the area. It is undoubtedly a major refuge area and likely to be crucial for the resilience of wildlife of the Liverpool Plains in the face of accelerated global warming. Leard State Forest was mapped by the NSW Government in its draft Strategic Regional Land Use Plan for the New England-North West as a Tier 1 Biodiversity Area that “cannot sustain any further losses”, identified as critical for biodiversity persistence.

THE OFFSETS

The offsets proposed for the Maules Creek Coal Project cover an area of 8,052 hectares and the offsets proposed for the Boggabri Coal Project cover an area of 7,570 hectares, which results in an overall offset ratio of 4.5 to 1. The offsets purport to produce an east-west corridor, and extend out from Leard State Forest to both the east and the west. The Boggabri Coal offsets include 1,724 hectares of Box-Gum woodland and the Maules Creek Project includes 3,517 hectares of Box-Gum woodland. This includes areas for derived grassland.

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE
1. Be a last resort after avoidance and mitigation	There is no meaningful consideration of avoidance for either coal project. The areas proposed for clearing include high condition endangered ecological communities (that would have triggered a “red flag” under the Environmental Outcomes Assessment Methodology (EOAM) and the BioBanking Methodology.	0/5
2. Deliver biodiversity equivalence	While there are some attempts to assess the impacts of the proposed clearing and the offsets using broadly similar assessments, the offsets do not deliver biodiversity equivalence because key attributes are not assessed or compared in detail. Notably, the two largest forested offsets that are proposed both occur outside the Brigalow Belt South Bioregion, in the adjoining Nandewar Bioregion. An analysis of the offsets shows that they are not like for like with regard to productivity, soil depth, spatial configuration, patch size or vegetation condition. Although the proponents claim to have conducted some surveys in the offset areas, there is no detailed information provided on the scope and nature of those surveys.	1/5
3. Provide security and achieve benefits in perpetuity	<p>The security and permanence of offsets is difficult to ascertain, due to the fact that it is not clearly stated in the Environmental Assessment (EA). The Boggabri Coal EA states that “it is the long-term objective” of its offset strategy to “secure land under permanent conservation agreements”. However, it notes it does not own all the land proposed for offsets and then states: “it should be recognised that a number of different conservation strategies to provide for the ongoing protection of offsets may be required and one strategy may not be suitable for all land tenures.”</p> <p>Overall, there is little certainty about the conservation offsets proposed. As far as the Maules Creek Coal Mine is concerned, one of the proposed offsets mapped in its Environmental Assessment has already had an application lodged over it for an Exploration Licence by Aston Resources (ELA 4408)²⁷. Therefore, before the area is even confirmed as an offset for one mine, it has already been sought for mining.</p>	0/5
4. Deliver a net gain in biodiversity	This mine is proposing to clear a large, highly intact remnant of vegetation that is undoubtedly source habitat for many important species, and to replace it with a set of small, fragmented, highly dispersed and mostly low quality patches of vegetation. There is no doubt this proposal will lead to a net loss in native vegetation and biodiversity.	0/5

²⁷ www.dpi.nsw.gov.au/minerals/titles/current-coal-and-petroleum-exploration-licence-applications/current-coal-exploration-licence-applications

5. Be additional to conservation measures already in place	Many of the proposed offsets are not genuinely additional. The two largest forested blocks proposed as offsets contain large areas already effectively protected from clearing because they are classified as Steep or Highly Erodible Land under the Native Vegetation Act 2003. Both mines have included large areas in their offsets that they have to purchase anyway as part of their Zone of Affection, and it is therefore not an additional measure. The Boggabri Coal Project has attempted to utilise the mine site itself, once it has been “rehabilitated”, as an offset. The Boggabri Coal Project is also seeking to use a block of Crown Land owned by the NSW Land and Property Management as an offset, claiming it will provide funds for the area to be managed for conservation. However, active conservation management of this land is already required under NSW law.	1/5
6. Be enforceable, resourced and well managed	There is no commitment of funds to manage the proposed offsets. It is difficult to ascertain whether the offsets will be enforceable when the land tenure and management regimes have not yet been finalised.	1/5
7. Be subject to a rigorous monitoring and evaluation framework	The EAs for both mines commit to the development of Biodiversity Offset Management Plans and claim that they will include environmental monitoring. However, because these management plans themselves are not yet prepared and are not made available for public comment, there is no way to ascertain whether they will in fact provide a systematic, high quality monitoring and evaluation framework.	1/5
8. Be open and transparent	Substantial data is made available to the public and placed on public exhibition with the Environmental Assessment.	4/5
TOTAL SCORE		8/40
ASSESSMENT	DISASTROUS outcomes for biodiversity	

CASE STUDY 7:

Warkworth Extension project (2012)

ACTION

Development assessment:
Non-major project and major
projects prior to October 2014

LEGISLATION

*Environmental Planning and
Assessment Act 1979*

METHODOLOGY

OEH Principles for Biodiversity
Offsetting

SUMMARY

The Warkworth mine is an existing open-cut coal mine located in the Hunter Valley southwest of Singleton and several kilometres northeast of the village of Bulga²⁸.

This case study relates to the Warkworth Extension Project (09_0202), which was originally approved by the Planning Assessment Commission in 2012 but subsequently appealed in the NSW Land and Environment Court and NSW Court of Appeal. A subsequent project application for the Warkworth Continuation Project was approved in November 2015²⁹.

The mine expansion proposed:

- The closure and excavation of a local road;
- Clearing of about 766 hectares of native vegetation, including four types of endangered ecological communities (EECs); and
- Removal of a significant local landform, Saddleback Ridge, which currently separates the village of Bulga from the mine and provides visual and some noise screening for the village residents.

The proposed disturbance area is known or potential habitat for a number of NSW and Commonwealth listed threatened species, including the vulnerable Squirrel Glider, Regent Honeyeater and the Swift Parrot.

THE OFFSETS

The main offsets proposed for the project included:

- Direct offsets for seven areas of existing vegetation communities that would be conserved in perpetuity. The seven areas are:
 - the Southern Biodiversity Area (997.1 hectares near to or adjoining the disturbance area);
 - the Northern Biodiversity Area (342.2 hectares about 8km to the north of the disturbance area, separated by the HVO South open-cut coal mine);
 - Goulburn River Biodiversity Area (1439.3 hectares about 100km to the northwest from the Warkworth mine);
 - Seven Oaks Biodiversity Area (522.7 hectares further west again from the Goulburn River Biodiversity Area and hence about 110km from the Warkworth mine);
 - Putty Biodiversity Area (378.8 hectares about 55km southwest of the Warkworth mine);
 - Bowditch Biodiversity Area (607 hectares about 55km northwest of the Warkworth mine); and

²⁸ Warkworth Extension Project, Environmental Impact Statement, available at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&-job_id=3639

²⁹ For further information on the Warkworth Continuation Project can be found at http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6464

- Rockery Glades (an additional biodiversity area of 750 hectares required by proposed Condition 31 of Sch 3 of the Project Approval, in satisfaction of which Warkworth proposes an area).
- The Offsets Package also proposed a suite of other compensatory measures, including the payment of money to research projects and the development of a recovery plan for the Warkworth Sands Woodland.

The court concluded the Biodiversity Offsets Package would not adequately compensate for the significant impacts the project would have on endangered ecological communities in the disturbance area³⁰. The court made reference to OEH Principles for the Use of Biodiversity Offsets in NSW.

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE
1. Be a last resort after avoidance and mitigation	The Land and Environment Court found: “In the case of the project, Warkworth has proposed no avoidance measures and little mitigation measures to reduce the scale and intensity of the significant impacts on biodiversity particularly on the affected endangered ecological communities ... Rather, Warkworth has proposed an offsets package in order to compensate for the significant residual impacts of the Project” ³¹ .	0/5
2. Deliver biodiversity equivalence	The Land and Environment Court found: “The ecological communities are not the same in the disturbance area compared to the remote biodiversity areas and hence there is not like for like offsetting (see principle 10 of the Principles for the Use of Biodiversity Offsets in NSW). It is not appropriate to trade offsets across different ecological communities. Where a project impacts on a specific ecological community, any offset must relate to that same ecological community which is impacted. The consequence is that the majority of the biodiversity areas proposed in Warkworth’s offset package as direct offsets do not achieve the fundamental objective of improving or maintaining the viability of the EECs impacted by the Project” ³² .	2/5
3. Provide security and achieve benefits in perpetuity	The Land and Environment Court noted that Warkworth would be required to ensure the long-term security of the seven biodiversity areas by entering or causing the owner of the land within the biodiversity areas to enter a conservation agreement pursuant to s 69B of the National Parks and Wildlife Act and to register the agreements pursuant to s 69F of the Act ³³ . This would provide some level of security for the offsets. However, it is noted the Warkworth Extension Project sought to override previous offsets security measures by proposing to extend the project into areas of the existing Habitat Management Area 1 (‘HMA 1’) established under the 2003 development consent. Condition 4 of Sch 4 of the 2003 development consent requires Warkworth to exclude open cut mining in the HMAs.	0/5

³⁰ Bulga Milbrodale Progress Association v Minister of Planning and Warkworth Mining Ltd [2013] NSWLEC 48 at 255

³¹ Ibid at 153

³² Ibid at 205

³³ Ibid at 189

4. Deliver a net gain in biodiversity	The Land and Environment Court found: “Warkworth’s offset package does not adequately compensate for the project’s significant impacts on the affected EECs, particularly the WSW and CHGBIW EECs, that will be lost by clearing and open-cut mining. The direct offsets (being the seven biodiversity areas and the rehabilitation area on the mined lands) would not provide sufficient, measurable conservation gain for the particular components of biological diversity impacted by the Project, particularly the affected EECs. The other compensation measures would not add sufficient benefits to achieve an overall conservation outcome of improving or maintaining the viability of the affected EECs” ³⁴ .	0/5
5. Be additional to conservation measures already in place	A large proportion of the Southern Biodiversity Area consists of areas already set aside as offsets under the 2003 consent (see point 2 above), so far from being additional they actually represent a form of double dipping. Other areas are not additional because they are already protected from clearing by the Native Vegetation Act 2003, and there is no evidence in the EIS that they are under threat of clearing from any other source.	1/5
6. Be enforceable, resourced and well managed	It is intended to create the offsets through conservation agreements pursuant to s 69B of the National Parks and Wildlife Act, which means there will be some level of enforceability and management into the future.	3/5
7. Be subject to a rigorous monitoring and evaluation framework	There is no clear framework for monitoring and evaluating the offsets in the long-term, however, conservation agreements can be enforced under the National Parks and Wildlife Act.	2/5
8. Be open and transparent	Details of the proposed offsets package were made publicly available in the EIS and Preferred Project Report. The decision to accept the proponent’s offset package was subject to merit review in the court, and could be tested with expert evidence.	4/5
TOTAL SCORE		12/40
ASSESSMENT	POOR outcomes for biodiversity	

³⁴ Ibid at 202

CASE STUDY 8:

Mount Owen Continued Operations Project

ACTION

Development consent: Major projects post-2014

LEGISLATION

Environmental Planning and Assessment Act 1979

METHODOLOGY

NSW Biodiversity Offsets Policy for Major Projects

SUMMARY

The Mt Owen Continuation Coal Mine Proposal is located in the Upper Hunter Valley about 20km northwest of Singleton³⁵. The proposal would expand the Mt Owen open-cut coal mine to the south, allowing the continuation of mining on the site until about 2030. The existing mining activities are operating under an approval granted in 1994. The existing mining activities have already had a significant impact on the natural landscape, with the destruction of 55% of the Ravensworth State Forest, a regionally important biodiversity hotspot.

According to the environmental impact statement, the proposed expansion of the Mount Owen mine would result in the clearing of:

- 217.7 hectares of native woodland and forest
- 6 hectares of riparian vegetation
- 4.7 hectares of shrub land
- the loss of 223.1 hectares of derived native grassland.

The EIS acknowledges that the project would have a likely or potentially significant impact on six mammal and seven bird species listed as threatened in NSW. The EIS also acknowledges the project would have a significant impact on species listed as threatened under the Commonwealth EPBC Act, including the Spotted-tailed Quoll. The EIS indicates Ravensworth State Forest is core quoll habitat. The proposal will destroy significant forest habitat for quolls, and the bush corridor linking these areas with the remnant Ravensworth State Forest will be cleared and mined³⁶.

The adjoining offset areas are mainly cleared cattle paddocks with negligible habitat values for a forest-dependent species such as the Spotted-tailed Quoll.

The EIS acknowledges there are three NSW listed endangered ecological communities that will be destroyed in the project area if it goes ahead.

THE OFFSETS

Three offset sites are proposed in the EIS:

- Cross Creek offset site, 367 hectares of basically cleared grazing land with minimal biodiversity values.
- Esparanga offset site, 303 hectares. The site has undoubted biodiversity values, but is located about 60 km away from the mine disturbance area (EIS Vol 1, Figs 7.2 & 7.5).
- Stringy Bark Creek offset site, 97.5 hectares of partly wooded land classified as corridor regeneration in the EIS, but forms a corridor to nowhere (EIS Vol 1, Figs 7.8 & 7.9).

³⁵ Mt Owen Continue Operations Project Environmental Impact Statement, <https://majorprojects.affinitylive.com/public/c10de74949d754c-cf37ad4b241560020/12.%20MOCO%20Project%20-%20EIS%20-%20Appendix%201%20-%20Ecological%20Assessment.pdf>

³⁶ Mt Owen Continued Operations Project, EIS Volume 1, Introduction. Figures 1.5 & 2.17 clearly indicate the bush corridor between the Ravensworth State Forest and the southern forested areas which are proposed to be cleared for mining. These areas are known quoll habitat.

APPRAISAL

ASSESSMENT CRITERIA	ASSESSMENT	SCORE
1. Be a last resort after avoidance and mitigation	The EIS indicates that the proposed disturbance area was designed to ensure the Ravensworth State Forest was not disturbed, while no acknowledgement was made that 55% of the forest had already been destroyed as a result of previous projects. The mitigation strategies proposed are inadequate.	1/5
2. Deliver biodiversity equivalence	There is no evidence to suggest the Cross Creek and Stringybark Creek offsets offer any biodiversity equivalence compared to the mature woodlands that will be lost in the disturbance area. On the other hand, the Esparanga site has been chosen for its biodiversity equivalence to the disturbance area, and this is recognised in the score allocated.	3/5
3. Provide security and achieve benefits in perpetuity	The proponent, Glencore, appears to have management and/or ownership of the three offset properties in question. The issue of secure long-term conservation is considered in the EIS, but the mechanism remains to be determined in consultation with the relevant government agencies. This is far below best practice, which requires long-term conservation mechanisms for management of the offset be spelt out before development approval is sought.	2/5
4. Deliver a net gain in biodiversity	<p>The EIS offers offsets of Cross Creek (367 hectares of cleared grazing land) and Stringybark Creek (97.5 hectares mainly cleared “corridor”) to compare to 217.7 hectares of native woodland and forest (much of it EECs) plus 10.7 hectares of riparian vegetation and shrubland. The native woodland is mature regrowth forest that provides core habitat for woodland dwelling species but will be destroyed by the proposal. The comparison is therefore a clear net loss in biodiversity at the disturbance site.</p> <p>The Esparanga offset, 303 hectares with high conservation values, is too far from Mt Owen to be assessed in the gain/loss equation. There is no evidence in the EIS that the biodiversity values on that site were under threat due to clearing, even if the property had not been acquired by Glencore.</p>	1/5
5. Be additional to conservation measures already in place	<p>There is no evidence provided that the forested areas on the Esparanga site were under threat of being cleared before the site was acquired as an offset. Those areas were already protected under the <i>Native Vegetation Act 2003</i>, so the site provides no additionality to the woodland scheduled for destruction in the Mt Owen disturbance area.</p> <p>Active management proposed for the Cross Creek and Stringybark Creek offsets constitute additional conservation measures at those sites.</p>	2/5

6. Be enforceable, resourced and well managed	As mentioned above, Glencore's record in managing current offsets is well regarded in the area, and deserves to receive the benefit of the doubt in relation to the management of these new offset areas. Future management of offset areas after the coal resource runs out remains highly uncertain.	3/5
7. Be subject to a rigorous monitoring and evaluation framework	There is little evidence of any rigorous monitoring and evaluation by government agencies. However, it is noted Mount Owen has a record of environmental monitoring of its offset sites.	2/5
8. Be open and transparent	Substantial data is made available to the public through the environmental impact statement process and the public has the opportunity to review and comment on the offsets package as part of the assessment process.	3/5
TOTAL SCORE		17/40
ASSESSMENT	POOR outcomes for biodiversity	

Appendix 3. Federal Biodiversity Offsetting Policy and Senate Recommendations EPBC Act Environmental Offsets Policy

EPBC Act Environmental Offsets Policy³⁷

The Federal Government has its own *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy (October 2012) that applies to proposals that impact matters of national environmental significance under the *Environmental Protection and Biodiversity Conservation Act 1999*. The Policy has 10 overarching principles that are applied in determining the suitability of offsets.

Offset Principles

Suitable offsets must:

1. deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action
2. be built around direct offsets but may include other compensatory measures
3. be in proportion to the level of statutory protection that applies to the protected matter
4. be of a size and scale proportionate to the residual impacts on the protected matter
5. effectively account for and manage the risks of the offset not succeeding
6. be additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action)
7. be efficient, effective, timely, transparent, scientifically robust and reasonable
8. have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.

In assessing the suitability of an offset, government decision-making will be:

9. informed by scientifically robust information and incorporate the precautionary principle in the absence of scientific certainty
10. conducted in a consistent and transparent manner.

³⁷ See www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy

Senate Environment and Communications References Committee – Inquiry into Environmental Offsets³⁸

In 2014, the Senate Environment and Communications References Committee – Inquiry into Environmental Offsets was established to inquire into and report on:

The history, appropriateness and effectiveness of the use of environmental offsets in federal environmental approvals in Australia, including:

- *the principles that underpin the use of offsets;*
- *the processes used to develop and assess proposed offsets;*
- *the adequacy of monitoring and evaluation of approved offsets arrangements to determine whether promised environmental outcomes are achieved over the short and long term; and*
- *any other related matters*

The Senate Committee made 21 recommendations on how environmental offsetting under the *Environment Protection and Biodiversity Conservation Act 1999* could be improved, including the need for:

- greater guidance on the principle of additionality
- greater emphasis on the mitigation hierarchy and offsets should only be used as a last resort
- greater guidance on developments in which offsets are unacceptable including a list of ‘red flag’ areas
- environmental offsets related to any particular development or activity should be clearly identified prior to approval being given for that development or activity,

- a publicly available nationally coordinated register of environmental offsets
- requirements in conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999* for the secure funding of the future management of offset areas.

A full list of Recommendations is outlined below.

RECOMMENDATION 1

6.8 The committee recommends that the *Environment Protection and Biodiversity Conservation Act 1999* be amended to expressly recognise environmental offsets and to include the principles set out in the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy as relevant considerations for the minister in making decisions about conditions of approval relating to offsets.

RECOMMENDATION 2

6.12 The committee recommends that the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy be revised to provide further clarity on the principle of additionality.

RECOMMENDATION 3

6.13 The committee recommends that the Department of the Environment ensure that all offsets adequately reflect the principles of additionality, and are not granted in relation to areas that are already protected under existing Commonwealth, state or territory legislation or policy.

RECOMMENDATION 4

6.16 The committee recommends that offsets be used only as a last resort.

³⁸ See www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Environmental_Offsets

RECOMMENDATION 5

6.17 The committee recommends that, prior to approval being given for actions under the *Environment Protection and Biodiversity Conservation Act 1999*, the mitigation hierarchy be rigorously implemented, with a greater emphasis on avoidance and mitigation.

RECOMMENDATION 6

6.21 The committee recommends that the *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy be revised to provide greater guidance on developments in which offsets are unacceptable, including a list of 'red flag' areas, such as world heritage and critically endangered ecological communities and species.

RECOMMENDATION 7

6.26 The committee recommends that environmental offsets related to any particular development or activity should be clearly identified prior to approval being given for that development or activity.

RECOMMENDATION 8

6.31 The committee recommends that all environmental offsets plans and strategies, required as part of the conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999*, be published on the Department of the Environment's website.

RECOMMENDATION 9

6.34 The committee recommends that the Department of the Environment expedite the development of a publicly available nationally coordinated register of environmental offsets.

RECOMMENDATION 10

6.37 The committee recommends that the Department of the Environment develop a separate offsets policy in relation to the marine environment.

RECOMMENDATION 11

6.39 The committee recommends that the Department of the Environment carefully verify all calculations and information provided by proponents in relation to environmental offsets.

RECOMMENDATION 12

6.42 The committee recommends that the scheduled technical review of the *Environment Protection and Biodiversity Conservation Act 1999* Offsets Policy be commenced as soon as possible. The technical review should be made publicly available and should consider evidence provided to this committee in relation to the Offsets Assessment Guide.

RECOMMENDATION 13

6.49 The committee recommends that resource and staffing levels within the Department of the Environment should be sufficient to ensure adequate monitoring capacity in relation to approvals of conditions under the *Environment Protection and Biodiversity Conservation Act 1999*, including conditions relating to offsets.

RECOMMENDATION 14

6.53 The committee recommends that the Department of the Environment's compliance audit program be extended to include an evaluation of the progress of offsets granted as conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999* in achieving their intended environmental outcomes.

RECOMMENDATION 15

6.54 The committee recommends that the scheduled five-year review of the *Environment Protection and Biodiversity Conservation Act 1999* Offsets Policy include consideration and evaluation of the extent to which offsets are achieving positive environmental outcomes.

RECOMMENDATION 16

6.59 The committee recommends that the Department of the Environment reviews the mechanisms for securing offsets under the *Environment Protection and Biodiversity Conservation Act 1999* with a view to ensuring that the strongest possible legal mechanisms are used or developed, if required, to secure offsets in perpetuity.

RECOMMENDATION 17

6.62 The committee recommends that the Department of the Environment revise the *Environment Protection and Biodiversity Conservation Act 1999* Offsets Policy to clarify that offsets need to be protected in perpetuity and should not be subject to future development.

RECOMMENDATION 18

6.64 The committee recommends that the Department of the Environment include requirements in conditions of approval under the *Environment Protection and Biodiversity Conservation Act 1999* for the secure funding of the future management of offset areas.

RECOMMENDATION 19

6.69 The committee recommends that the Department of the Environment examine and review options to ensure a more strategic approach to offsets, including encouraging greater use of 'advanced offsets'.

RECOMMENDATION 20

6.74 The committee recommends that a consistent national standard be developed in relation to environmental offsets based on the *Environment Protection and Biodiversity Conservation Act 1999* Offsets Policy.

RECOMMENDATION 21

6.75 The committee recommends that the Australian Government not accredit state and territory approval processes under the *Environment Protection and Biodiversity Conservation Act 1999*.

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