NSW GOVERNMENT Office of Environment & Heritage

Biodiversity Legislation Review

OEH Paper 5: Conservation in Development Approval Processes

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Abbreviations

BBAM	BioBanking Assessment Methodology
CMA	Catchment Management Authority
DPE	Department of Planning and Environment
EEC	endangered ecological community
EIS	environmental impact statement
EOAM	Environmental Outcomes Assessment Methodology
EP&A Act	*Environmental Planning and Assessment Act 1979* (NSW)
EPA	NSW Environment Protection Authority
EPBC	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
ESD	ecologically sustainable development
ESFM	Ecologically Sustainable Forest Management
FBA	Framework for Biodiversity Assessment
FCNSW	Forestry Corporation of NSW
IFOA	Integrated Forestry Operations Approvals
LLS	Local Land Services
MNES	matters of national environmental significance
NV Act	*Native Vegetation Act 2003* (NSW)
OEH	Office of Environment and Heritage
PN	penalty notice
PNF	private native forestry
PVP	Property Vegetation Plan
RAMA	Routine Agricultural Management Activity
RIS	regulatory impact statement
SIS	species impact statement
TSC Act	*Threatened Species Conservation Act 1995* (NSW)
TSL	threatened species licence

1. Purpose of this paper

The Minister for the Environment has commissioned the Independent Biodiversity Legislation Review Panel to undertake a review of the native vegetation, threatened species and related biodiversity legislation in New South Wales.

As part of this process, the Office of Environment and Heritage (OEH) is preparing a series of six background papers. These are OEH papers, rather than a product of the panel. The panel will set out its views in its final advice to government.

This paper examines the current methods to protect biodiversity and avoid species loss in site-based development approval processes in New South Wales.

2. History of the site-based approvals processes in New South Wales

The NSW system for approving site-based activities has its origins in concerns about the impact of urban growth and infrastructure on the environment's capacity to support economic growth and maintain natural amenity. It has evolved to respond to emerging needs and keep pace with international and national obligations and community expectations.

This evolution has led to New South Wales having one legislative regime for clearing and land management activities in rural and rural-residential areas and another for most other forms of development in other areas in the State. This has also led to a number of different assessment and approval pathways being introduced over time (see Section 3 for further information).

Appendix A sets out the key events over the past 35 years which have led to the development approval system we have today.

3. Assessing and approving site-based development and activities in New South Wales

In New South Wales, most site-based development and land management activities are authorised under the *Environmental Planning and Assessment Act 1979* (EP&A Act). The *Threatened Species Conservation Act 1995* (TSC Act) provides a legislative framework for consent and determining authorities to assess the impacts of these developments and land management activities on listed threatened species, populations and ecological communities (and their habitats).

In rural and rural-residential areas of New South Wales, the *Native Vegetation Act 2003* (NV Act) provides another legislative framework for authorising clearing of native vegetation and other land management activities involving native vegetation. Forestry operations on private land are also authorised under the Native Vegetation Regulation 2013 (NV Regulation).

The *Environmental Planning and Assessment Act 1979* and *Native Vegetation Act 2003* include a range of regulatory approaches for authorising activities affecting the environment, including urban development, public infrastructure, mining and agriculture. These approaches include:

- exemptions – for example, exempt development under the *Environmental Planning and Assessment Act 1979*, permitted activities, permitted clearing and legislative exclusions under the *Native Vegetation Act 2003*
- complying development – for example, complying development under the *Environmental Planning and Assessment Act 1979*, and Routine Agricultural Management Activities (RAMAs) subject to ministerial orders under the Native Vegetation Regulation 2013
- consents, approvals and licences – for example, consent for development and approval of land management activities under the *Environmental Planning and Assessment Act 1979* and approval of property vegetation plans under the *Native Vegetation Act 2003*.

Appendix B sets out the full range of regulatory instruments that authorise site-based activities in New South Wales.

This paper analyses and compares the methods used for assessing, and in some cases authorising, development and land management activities that impact biodiversity and threatened species. These processes are set out predominantly under the *Environmental Planning and Assessment Act 1979*, *Threatened Species Conservation Act 1995* and *Native Vegetation Act 2003* and corresponding frameworks.

3.1 How do the Environmental Planning and Assessment Act 1979 and the Threatened Species Conservation Act 1995 work together?

The *Environmental Planning and Assessment Act 1979* specifies the processes for approving development, infrastructure and certain activities in New South Wales. It sets out decision-making processes, including the aspects of the development or activities that need to be taken into account in determining their approval and conditions. These considerations include social, economic and environmental impacts, the public interest, heritage and air pollution. Consideration of environmental impacts, including impacts on biodiversity, is relevant to this paper.

There are many different pathways for approving development, infrastructure and activities under the *Environmental Planning and Assessment Act 1979*. Some developments do not require development consent (exempt development) and others can be quickly approved if pre-determined standards are met (complying development). Exempt and complying developments are generally lower impact developments that are unlikely to negatively impact biodiversity and therefore do not require specific consideration of biodiversity impacts by a consent authority.

The assessment and approval pathways that consider impacts on biodiversity and threatened species can be largely divided into the following categories:

- State-significant development and State-significant infrastructure generally approved by the Minister for Planning or delegates, such as the Planning Assessment Commission – referred to in this paper as 'major projects'
- development approved by local government and activities undertaken or approved by government authorities – referred to in this paper as 'non-major projects'.

These pathways have different requirements for considering biodiversity and threatened species impacts. For major projects, biodiversity impacts are considered through an environmental impact statement (EIS) prepared by the proponent and heads of consideration that are used to guide the consent authority in making a decision. From October 2014, the NSW Biodiversity Offsets Policy for Major Projects (the new offsets policy) will provide a standard method for assessing impacts of major projects on biodiversity and determining offsetting requirements. The policy applies to State-significant development and State-significant infrastructure under the *Environmental Planning and Assessment Act 1979*, including projects such as highways, mines and hospitals.

For non-major projects, consideration of biodiversity impacts depends on whether there is likely to be a significant impact on threatened species, ecological communities, populations or their habitat. If the assessment finds there is likely to be a significant impact, then a Species Impact Statement (SIS) is required.

There is also an alternative process for considering biodiversity impacts under the *Environmental Planning and Assessment Act 1979*, which involves application of the Biodiversity Banking and Offsets Scheme (the BioBanking Scheme) under the *Threatened Species Conservation Act 1995*. Proponents are able to apply the BioBanking Assessment Methodology (BBAM), which is a metric-based approach that assesses impacts, to determine whether impacts are acceptable and offset them appropriately. The successful application of BioBanking satisfies the biodiversity requirements of a development application under the *Environmental Planning and Assessment Act 1979*. Further information on the BioBanking Scheme is provided in Appendix C.

More information on the processes for considering impacts on biodiversity under the *Environmental Planning and Assessment Act 1979* is set out in in Section 3.4.

3.2 How does the Native Vegetation Act 2003 work?

The *Native Vegetation Act 2013* regulates clearing and other land management activities in rural and rural-residential areas of New South Wales (Figures A and B). Certain urban local government areas are excluded from the operation of the *Native Vegetation Act 2003*, along with land within certain zones (see section 5 of the *Native Vegetation Act 2003* for a complete list of land excluded from the operation of the Act).

The *Native Vegetation Act 2003* covers:

- land management activities involving clearing of native vegetation to support existing agricultural operations – e.g. lopping, removing noxious weeds, collecting firewood, construction of rural infrastructure (fences, roads, dams)
- land management activities involving clearing of certain vegetation – e.g. management of invasive native scrub, clearing of paddock trees in cultivation, thinning trees to benchmark densities
- clearing of native vegetation for new agricultural operations – e.g. conversion of grazing land to cropping
- private native forestry.

The *Native Vegetation Act 2003* then applies a hierarchy of controls depending on environmental risk and whether the clearing or land management activities are required to ensure existing cultivation, grazing or rotational farming practices can continue. These span from:

- legislative exclusions or exemptions from the need for approval for sustainable grazing activities, clearing of non-protected regrowth and clearing of certain groundcover – comparable to exempt development under the *Environmental Planning and Assessment Act 1979*
- exemptions from approval for a range of low risk RAMAs, subject to the clearing being 'to the minimum extent necessary' – comparable to exempt development under the *Environmental Planning and Assessment Act 1979*
- exemptions from approval for a range of higher risk RAMAs, subject to prescribed buffer distances (which are targeted to regional conditions) – comparable to complying development under the *Environmental Planning and Assessment Act 1979*
- exemptions from approval for a range of low-risk land management activities, subject to the activity being carried out in accordance with an order made by the Minister for the Environment (e.g. self-assessable codes for thinning, clearing invasive native species and isolated paddock trees were released by the Minister for the Environment on 20 November 2014) – comparable to complying development under the *Environmental Planning and Assessment Act 1979*
- approval requirements via a Property Vegetation Plan (PVP) for clearing and some land management activities – similar to a Part 4 development application under the *Environmental Planning and Assessment Act 1979*.

These controls are applied to both clearing and land management activities depending on the likely environmental value of the vegetation. Relevant definitions include:

- (unprotected) regrowth – any native vegetation that has regrown since the earlier of 1 January 1983 in the case of land in the Western Division and 1 January 1990 in the case of other land, or the date specified in a PVP in exceptional circumstances being a date based on existing rotational farming practices (see Section 4.2 for more information).
- protected regrowth – any native vegetation that is regrowth and is identified as protected regrowth for the purposes of the *Native Vegetation Act 2003* in: a PVP; an environmental planning instrument; a natural resource management plan of a kind prescribed by the Native Vegetation Regulation 2013; an interim protection order under section 10 of the *Native Vegetation Act 2003*; or any native vegetation that is regrowth and that has been grown or preserved with the assistance of public funds granted for biodiversity conservation purposes (see Section 4.2 for more information).
- remnant vegetation – any native vegetation other than regrowth.

The *Native Vegetation Act 2003* also includes RAMAs for clearing and land management activities not related to agricultural operations (e.g. construction of dwellings), infrastructure works by councils and activities carried out on Crown land (e.g. construction, operation and maintenance of roads, tracks, viewing platforms, signs and recreational facilitates).

Unlike the *Environmental Planning and Assessment Act 1979*, the *Native Vegetation Act 2003* does not rely on a system of mapped land-use zones to prescribe permissible uses. Instead, landholders rely on their own assessment with the advice of Local Land Services (LLS) to determine if approval is required.

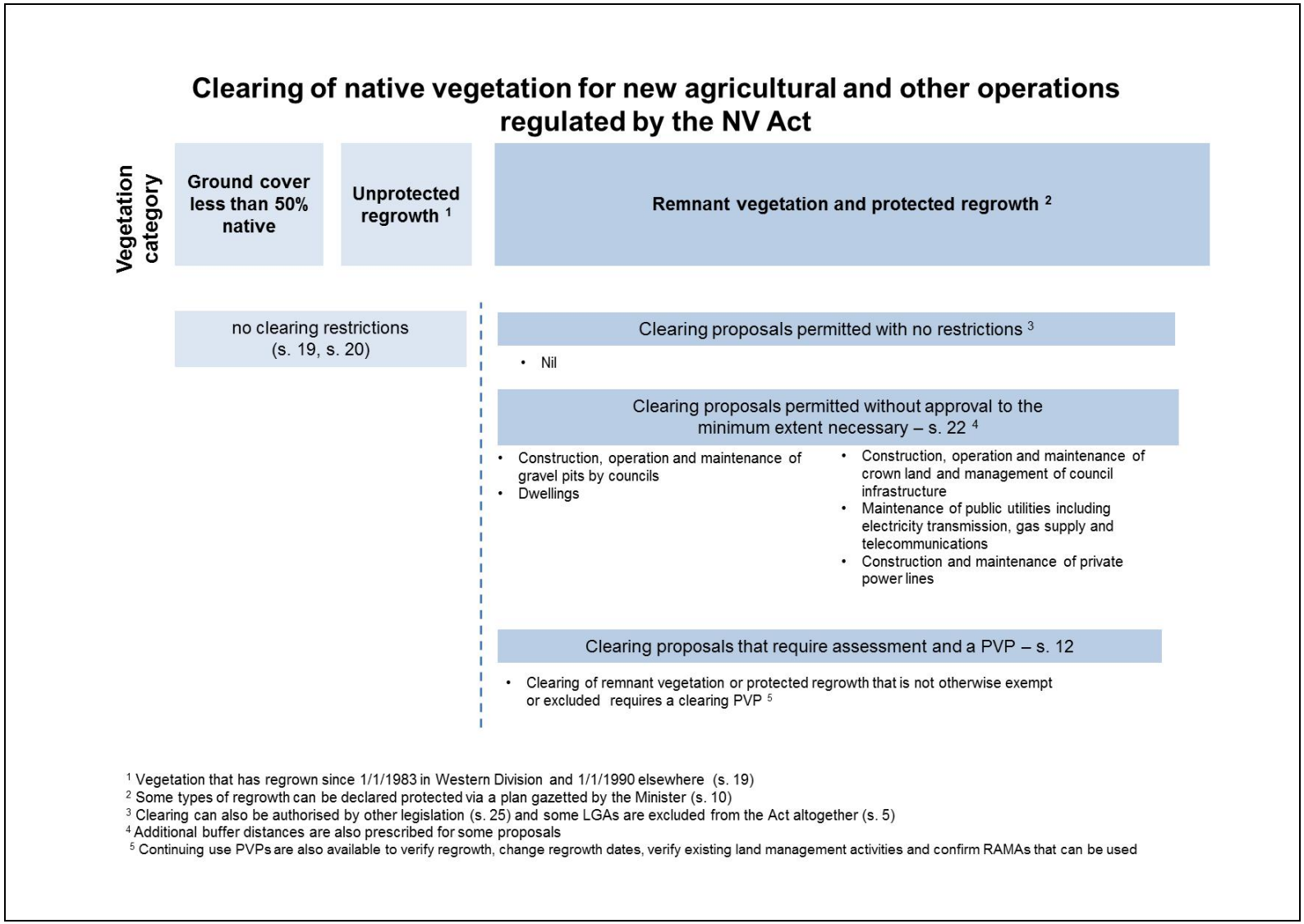

Figure A: Clearing of native vegetation for new agricultural and other operations regulated by the *Native Vegetation Act 2003*

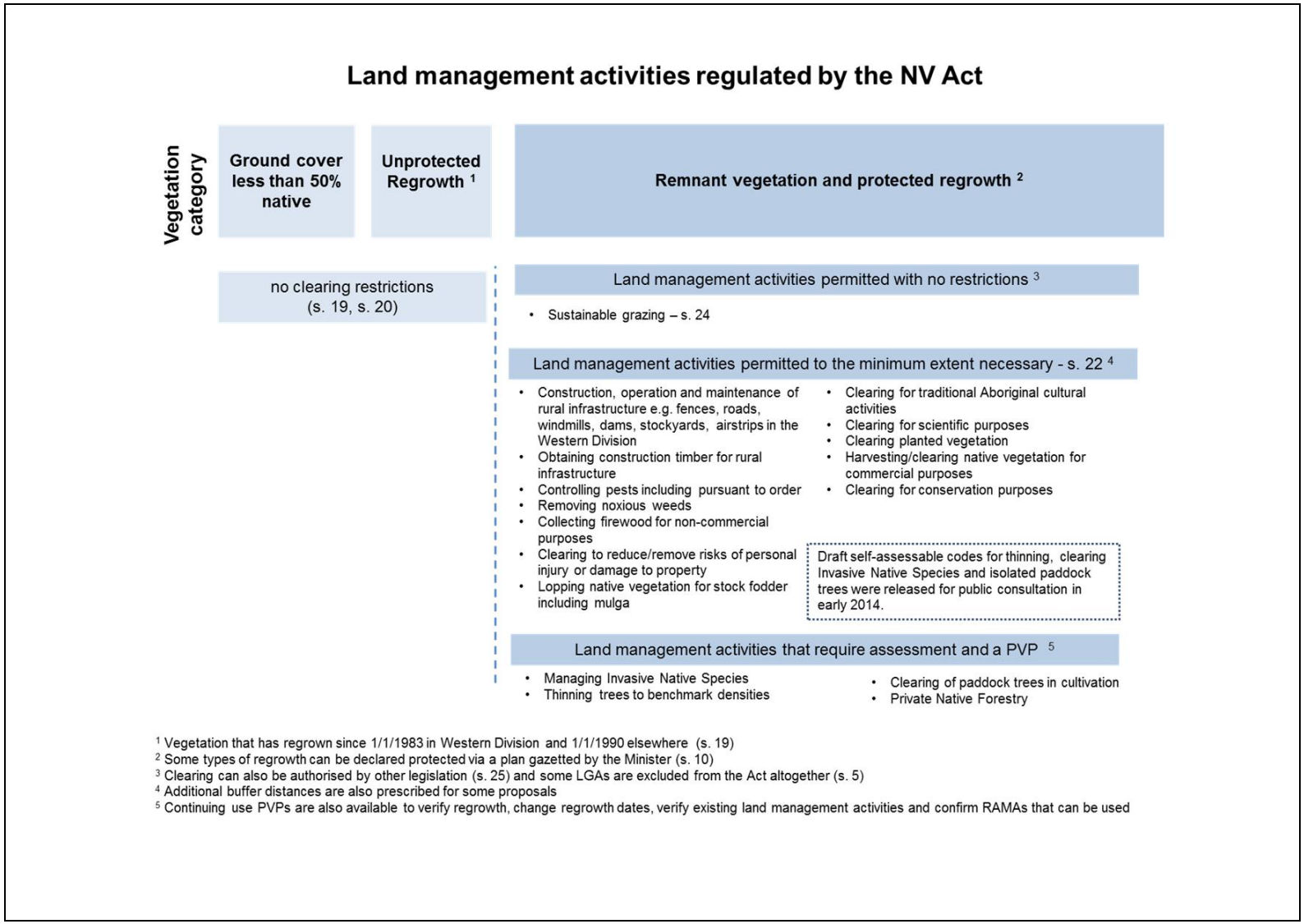

Figure B: Land management activities regulated by the *Native Vegetation Act 2003*

PVPs issued under the Native Vegetation Act 2003

Appendix D provides an overview of the number of PVPs approved by Local Land Services under the *Native Vegetation Act 2003* to 31 July 2014. Private native forestry PVPs are covered in Section 5.4. Incentive PVPs are covered in *Biodiversity Legislation Review OEH Paper 3: Conservation Action.*

Since 2004, about 96,000 hectares of woody vegetation has been cleared for agriculture (clearing rates for regrowth are not known). The mean annual rate of agricultural clearing has decreased since introduction of the *Native Vegetation Act 2003* (21,500 hectares between 1988 and 2004 and 16,033 hectares between 2004 and 2011).

Areas where PVPs have been approved

Figure C shows the areas of the State in which PVPs have been approved since 2005. This map shows that:

- invasive native scrub (INS) PVPs were mostly approved in North West, Central West, Western and Northern Tablelands Local Land Services regions – these areas are either partially or largely cleared of native vegetation
- a large number of paddock tree PVPs have been issued in the Central West Riverina and Murray Local Land Services regions – these regions are mostly cleared of native vegetation
- the largest number of regrowth verification, date change and continuation of existing farming practices PVPs (continuing use PVPs) have been approved in the Northern Tablelands, North West and Central West Local Land Services regions – these are largely partially cleared landscapes
- most broadscale clearing (defined as clearing of remnant native vegetation or protected regrowth in the *Native Vegetation Act 2003*) PVPs have been approved in coastal regions which have a mix of remnant and cleared vegetation
- 12 of the 25 largest PVPs (in area) have been approved in the Western Local Land Services region.

Interpretation issues associated with the Native Vegetation Act 2003

Feedback from the community during the 2012 review of the Native Vegetation Regulation 2013 and the experience of Local Land Services and OEH in implementing the Act, indicates that a number of definitions in the Act pose challenges for on-ground implementation. While changes to the regulation have made some progress in redressing these issues, a number of the terms are defined by the Act not the Regulation. Problematic definitions include:

- ‘regrowth’
- ‘native grasslands’
- ‘minimum extent necessary’ in the context of some RAMAs
- ‘sustainable grazing’.

There is also anecdotal evidence to suggest that awareness within some parts of the regulated community about how these definitions operate, including the flexibility provided to landholders and Local Land Services, is not always high. This has led to the perception that the Act is inflexible in its operation and therefore prone to perverse outcomes.

Biodiversity certification of the native vegetation package

Biodiversity certification of the native vegetation reform package means that activities that receive a PVP or development consent under the *Native Vegetation Act 2003* do not require licences under the *Threatened Species Conservation Act 1995*. Biodiversity certification of the *Native Vegetation Act 2003* is different to biodiversity certification offered to planning authorities to streamline the biodiversity assessment processes.

The *Threatened Species Conservation Act 1995* allows the Minister for the Environment to confer biodiversity certification on the native vegetation reform package through an order published in the NSW Government Gazette. Biodiversity certification can be granted on any or all components of the package, provided the Minister is satisfied that biodiversity values are maintained and improved.

The native vegetation reform package comprises:

- the *Native Vegetation Act 2003* and the regulations under that Act
- statewide standards and targets for natural resource management issues recommended under the *Natural Resources Commission Act 2003* (NRC Act) and adopted by the NSW Government
- local strategic plans under the *Local Land Services Act 2013*
- protocols and guidelines adopted or made under the Native Vegetation Regulation 2013 and *Natural Resources Commission Act 2003*.

The native vegetation package (excluding the *Private Native Forestry Code of Practice*) received biodiversity certification in November 2005. The *Private Native Forestry Code of Practice* received biodiversity certification in August 2007.

The effect of biodiversity certification of the native vegetation reform package is that the clearing of native vegetation as authorised by a PVP or development consent issued under the *Native Vegetation Act 2003* is a defence to a prosecution for certain offences under Part 8A of the *National Parks and Wildlife Act 1974* (NPW Act).

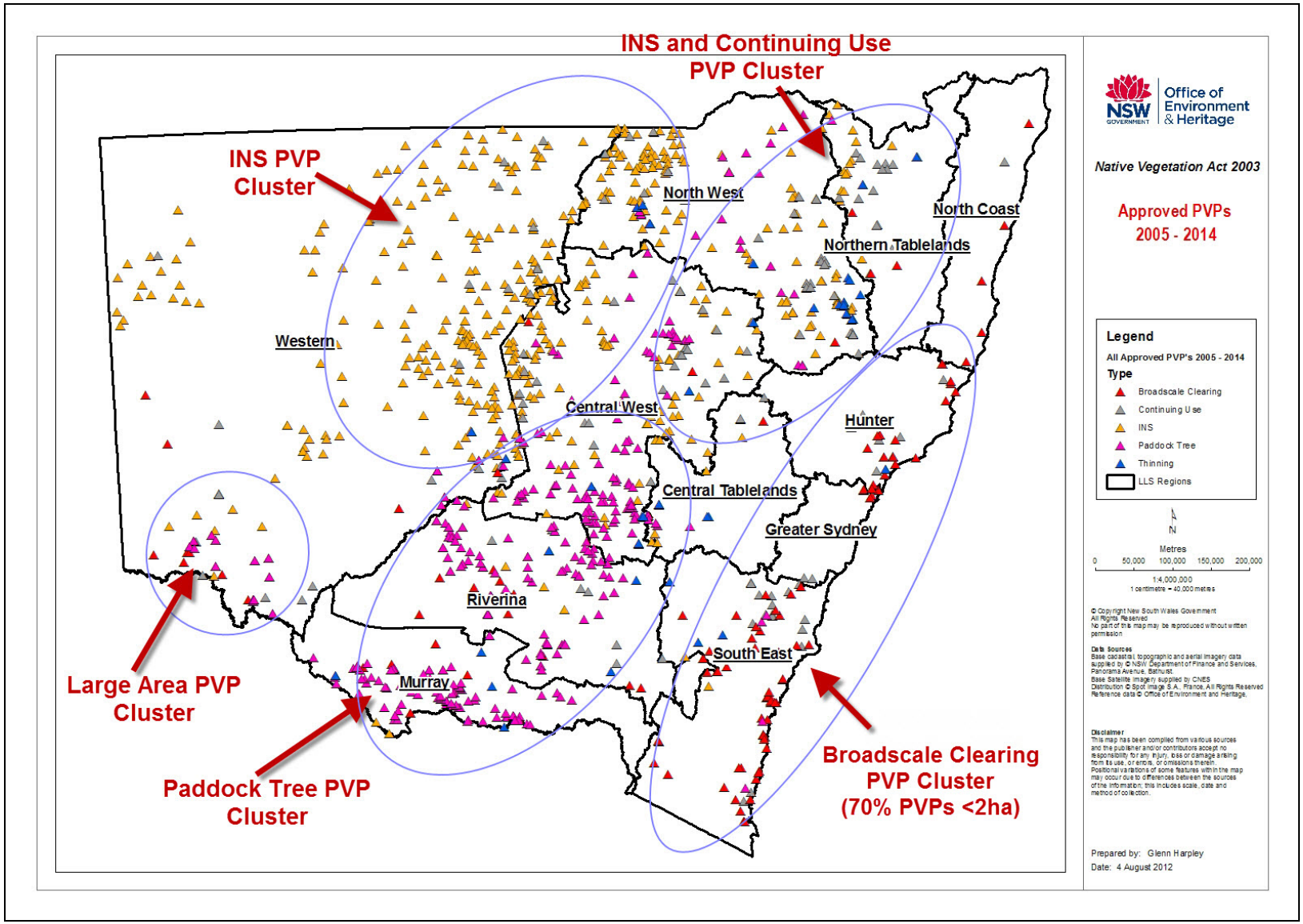

Figure C: Location of clearing PVPs approved between 2005 and 2014

3.3 How else does the Threatened Species Conservation Act 1995 regulate impacts on threatened species?

Under Part 8A the *National Parks and Wildlife Act 1974*, it is an offence to harm or pick threatened species, populations or ecological communities (threatened entities), or damage their habitats. There are a wide range of defences to these offences including where the act constituting the alleged offence was:

- authorised under a licence issued under the *Threatened Species Conservation Act 1995*
- authorised under a PVP issued under the *Native Vegetation Act 2003*
- essential for the carrying out of development in accordance with a development consent or approval under the *Environmental Planning and Assessment Act 1979*
- a RAMA as defined in section 118G of the *National Parks and Wildlife Act 1974*
- for the control of noxious weeds under the *Noxious Weeds Act 1993*
- part of traditional Aboriginal cultural activities (except for commercial activities).

If an action is likely to 'harm' or 'pick' threatened entities, or damage its habitat, or damage critical habitat, and this action does not fall into one of the legislative defences outlined above, then a licence application needs to be made to OEH under section 91 of the *Threatened Species Conservation Act 1995*.

In practice, these licences are not used widely because most development and activities affecting threatened species are carried out under an *Environmental Planning and Assessment Act 1979* or *Native Vegetation Act 2003* consent.

Further information on these licences is provided at Appendix E. *Biodiversity Legislation Review OEH Paper 6: Wildlife Management* outlines how the *Threatened Species Conservation Act 1995* licensing regime interacts with the *National Parks and Wildlife Act 1974*.

3.4 Methods to assess biodiversity, threatened species, soil, land and water impacts for site-based activities

Where the regulatory system requires a formal approval for site-based activities, the decision-maker is required to consider the impacts of an activity on biodiversity and other environmental values. Often approvals are provided on the condition that impacts are mitigated in certain ways. These conditions may include requirements to avoid, minimise and offset impacts on biodiversity. As set out in Appendix B, a number of different pathways are used to assess biodiversity impacts for different site-based activities.

Table 1 sets out the main characteristics of each of these methods. This table also sets outs the characteristics of two emerging methods being developed by the NSW Government: Ministerial orders (or self-assessable codes) for certain types of RAMAs and the new NSW Biodiversity Offsets Policy for Major Projects and supporting Framework for Biodiversity Assessment (FBA).

Analysis of the strengths and weaknesses of each method is set out in Sections 4 and 5. Appendices G to K consider issues related to the timeliness of current assessments and approvals, monitoring, compliance and enforcement and the costs these methods to government and landholders/proponents.

Table 1: Methods for assessing the biodiversity, threatened species, soil, land and water impacts of site-based activities

Method	Application	Environmental standard	Metric or non-metric system	Information used to make decision	Rules used to make decision	Decision-maker
CURRENT METHODS						
Assessment of 'significant effect on threatened species, populations or ecological communities, or their habitats' using a 7-part test (assessment of significance) (EP&A Act and TSC Act)	Generally used for non-major projects and activities approved under the EP&A Act	No standard specified for impacts permitted If significant effect or development is on critical habitat, concurrence is required from OEH (or consultation with the Minister) for projects other than major projects.	Non-metric	Assessment of significance: The test looks at seven factors, including risk of local extinction, fragmentation, critical habitat, relevant recovery and threat abatement plans and key threatening processes. Species impact statement (SIS): If significant effect is likely, a SIS is prepared. Required content is set out in Part 6, Div 2 of the TSC Act and includes description of the threatened species, relevant local context, the likely impact, measures to mitigate the impact etc.	Assessment of significance: While information is provided by the proponent, whether development is likely to significantly affect threatened species is a question of fact. This involves qualitative analysis of the likely impacts under the seven factors taking into account the *Threatened Species Assessment Guidelines – the assessment of significance*. All factors must be considered and an overall conclusion drawn from all factors in combination. No one factor is weighted more heavily than another. Concurrence: If significant effect is likely, concurrence from OEH (or the Minister) involves considering heads of consideration including the SIS, submissions received, relevant recovery plans, principles of ecologically sustainable development (ESD) and social and economic consequences (ss. 79B, 112D EP&A Act).	Local councils and public authorities (responsible for applying test of significance and ultimate approval). For non-major projects, if significant effect likely or on critical habitat, consent cannot be granted without the concurrence of OEH or, if a Minister is the consent authority, consultation with the Environment Minister.
Heads of consideration with environmental impact statement (EIS) (EP&A Act and TSC Act)	Generally used for major (state-significant) projects approved under the EP&A Act, designated development and Part 5 activities that are likely to significantly affect the environment	No standard specified for impacts permitted	Non-metric	The proponent prepares an EIS. The information that needs to be included in the EIS is specified on a case-by-case basis in the Secretary's Environmental Assessment Requirements (SEARs) that are provided to the proponent upon application.	Heads of consideration for the consent authority, including: • the likely environmental, social and economic impacts of the development • the public interest • the objects of the Act, including ESD, protection of the environment including threatened species, ecological communities etc. The new NSW Biodiversity Offsets Policy for Major Projects will provide guidance on how biodiversity considerations are dealt with.	Minister for Planning

Method	Application	Environmental standard	Metric or non-metric system	Information used to make decision	Rules used to make decision	Decision-maker
BioBanking Assessment Methodology (BBAM) (TSC Act)	An alternative to the methods used for major and non-major project approvals outlined above	'Improve or maintain' biodiversity values To meet this standard, development must avoid 'red flags' (defined unacceptable biodiversity impacts) and offsets must provide equivalent biodiversity values to those lost at development sites.	Metric	The BBAM is an information and decision-making tool. It provides instructions for information required. This includes: • identification of native vegetation types, and endangered ecological communities (EECs) • information on measures to avoid and minimise impacts • assessment of current and likely changes to vegetation condition • connectivity and other landscape-scale parameters • threatened species surveys where predicted to occur • whether 'red flag areas' are impacted. It is also underpinned by databases, such as the Threatened Species Profile Database, which help inform the above information gathering.	The BBAM assigns a number and type of biodiversity credits to represent the biodiversity that is assessed to be impacted. These are matched to biodiversity credits that the BBAM assesses to be generated at a biobank (offset) site through management actions. If a proposed development will impact on a red flag area, the Chief Executive OEH may approve a red flag 'variation' (development can go ahead) if the 'improve or maintain' standard is still met (Part 2, Clause 3 (4) TSC (Biodiversity Banking) Regulation 2008). For this to occur, information must be provided by the proponent to demonstrate certain criteria have been met that, among other things, prove the biodiversity values being impacted are not high and have been appropriately mitigated.	Chief Executive OEH (or delegate) approves biobanking statement. Consent/determining authority then assesses application without regard to biodiversity.
Environmental Outcomes Assessment Methodology (EOAM) (NV Act)	Broadscale clearing of native vegetation for agricultural purposes	Proposed clearing must improve or maintain environmental outcomes for relevant environmental values [water quality, salinity, biodiversity and land degradation (soil)]. The benefits from any offset are taken into account in assessing this.	Metric	Uses a computer-based decision support tool to facilitate the assessment of biodiversity, water quality, salinity and land degradation impacts and benefits. This includes: • identification of vegetation types and EECs • assessment of current and likely changes to vegetation condition • connectivity and other landscape-scale parameters • defining appropriate management actions on the clearing and offset sites for biodiversity, salinity, water quality and land degradation.	Like the BBAM, the EOAM is a decision support tool that allows local environmental variables, details of proposed clearing and any offsets to be entered (into a software program) to determine if the proposed clearing maintains or improves environmental outcomes.	Minister's approval is delegated to Local Land Services
Private Native Forestry (PNF) Code of Practice (NV Regulation)	Approval of forestry operations on private land	Broadscale clearing for the purposes of PNF is taken to improve or maintain environmental outcomes provided it is carried out in accordance with the PNF Code of Practice (cl. 22 NV Regulation).	Non-metric	• Relevant PNF Code of Practice • NSW Wildlife Atlas • Old-growth and rainforest mapping • Where available, indicative mapping and data on other features such as threatened ecological communities, wetlands, and steep slopes.	The NSW Environment Protection Authority (EPA) cannot approve a private native forestry PVP unless the PNF PVP adopts the PNF Code and provides for the clearing to be carried out in accordance with the PNF Code, which sets the minimum operating standards for harvesting in private native forests.	Minister's approval is delegated to EPA

Method	Application	Environmental standard	Metric or non-metric system	Information used to make decision	Rules used to make decision	Decision-maker
EMERGING APPROACHES						
NSW Biodiversity Offsets Policy for Major Projects (the Offsets Policy) and supporting Framework for Biodiversity Assessment (FBA)	Major projects approved under the EP&A Act	No standard specified for impacts permitted	Metric	The FBA uses a similar methodology to the BBAM. It has similar information requirements, as described above for BBAM. Instead of red flags, the FBA has certain defined 'impacts that require further consideration'. A Biodiversity Assessment Report and Biodiversity Offset Strategy are produced by applying the FBA. These documents are submitted along with the development application.	Heads of consideration once the offset requirement is identified	Minister for Planning (or delegates)
Draft self-assessable codes for: • **clearing isolated paddock trees in a cultivated area** • **thinning of native vegetation** • **clearing invasive native scrub.** (NV Regulation)	Low-impact clearing of native vegetation	Proposed clearing must improve or maintain environmental outcomes for relevant environmental values	Metric	The proposed codes outline practical instructions on what vegetation can and cannot be cleared. They also detail how much and under what circumstance clearing of native vegetation can occur. If clearing is consistent with one of these codes, approval in the form of a PVP will not be required. Further self-assessable codes planned for development include: • environmental works for groundcover rehabilitation and soil protection • clearing of feral native species • clearing of mulga.	Application of code will determine whether clearing can be undertaken	Self-assessment by landholder

4. Evaluation of assessment and approval approaches for site-based development involving clearing

This section evaluates the implementation of approaches used to assess the site-based impacts of land clearing on biodiversity. This includes approvals under the *Environmental Planning and Assessment Act 1979* and the *Native Vegetation Act 2003* for development and activities that involve land clearing.

Section 5 evaluates methods used to assess and approve site-based land management activities that impact biodiversity including management of invasive native scrub and forestry operations.

4.1 What do we mean by biodiversity?

Biodiversity is described in Article 2 of the *United Nations Convention on Biological Diversity* as:

> *… 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 a part; this includes diversity within species, between species and of ecosystems.*

The various pathways used to assess clearing proposals in New South Wales consider elements of the environment related to biodiversity in different ways. These approaches are consistent with the different policy origins of regulation of impacts on biodiversity, discussed in *Biodiversity Legislation Review OEH Paper 1: Objects*. They range from specific consideration of threatened species, to more holistic consideration of biodiversity or ecosystem services, which also involves consideration of water quality, salinity and land degradation. The various assessment methods and their scope are outlined in Table 2.

While the focus of these methods may be different, on some occasions they achieve similar outcomes. As discussed in *Biodiversity Legislation Review OEH Paper 2: Information Provisions*, some elements of biodiversity, such as threatened species, can act as a proxy for broader biodiversity values. For example, protection of a certain threatened species will require protection of that species' habitat, which will result in protection of the habitat of many other species that live there. However, focusing on threatened species alone is not likely to prevent currently common species from becoming threatened, protect areas of high species richness or keystone species that play important ecological functions such as pollination.

The same can also be said for ecosystem services. A focus on protection of biodiversity can, to some extent, act as a proxy for protection of ecosystem services, because protection from clearing certain biodiversity will also protect against (for example) soil erosion. Again, focusing on biodiversity, rather than ecosystem services, is unlikely to result in complete protection of all ecosystem services because it may fail to pick up impacts on low-value biodiversity areas that are important for ecosystem services, such as areas of high salinity.

For the purpose of evaluating other aspects of these assessment methods and for the sake of simplicity, these assessment methods will be described throughout this section as having a focus on 'biodiversity'. This is not a focus on biodiversity as described under the Convention on Biological Diversity, but rather a collective term to describe the various biodiversity-related focuses set out in Table 2.

Table 2: Assessment methods and their scope

Assessment method	Scope
Assessment of significance / Species Impact Statement (SIS) for non-major projects under the EP&A Act	For test of significance and concurrence, only threatened species, populations, ecological communities, their habitats, and critical habitat are considered. Other biodiversity or environmental impacts can be considered by the consent authority under broader heads of consideration in making a decision on the entire project – but there is no specific process for how this should be done.
Heads of consideration supported by an environmental impact statement (EIS) for major projects under the EP&A Act	All environmental impacts, as defined by the Secretary's Environmental Assessment Requirements (SEARs) and the EP&A Regulation
BioBanking Assessment Methodology (BBAM) for assessments under the BioBanking Scheme	Biodiversity (threatened species and vegetation type)
Framework for Biodiversity Assessment (FBA), to be used under the new NSW Biodiversity Offsets Policy for Major Projects	Threatened species, populations, ecological communities, or their habitats
Environmental Outcomes Assessment Methodology (EOAM), used to determine PVPs under the NV Act	Biodiversity (threatened species and vegetation type) and other environmental elements relating to ecosystem services, including water quality, salinity, and land degradation (soil)

4.2 Is a risk-based approach used to determine when approval is required?

Using a risk-based approach to deal with biodiversity impacts involves undertaking more extensive assessment of impacts where the risk of significant environmental impacts (including impacts on biodiversity) is considered high, and lessening (or removing) the need for assessment where risk of impact to biodiversity is low. The current legislative frameworks do not use a consistent risk-based approach to determining whether approval is required.

Environmental Planning and Assessment Act 1979

Under the *Environmental Planning and Assessment Act 1979*, a risk-based approach is demonstrated through the use of exempt and complying development that can proceed without any assessment of biodiversity impacts. These generally include low-impact developments, such as decks, fences and extensions to existing houses in designated urban development zones.

Native Vegetation Act 2003

The *Native Vegetation Act 2003* requires detailed assessment and approval for activities defined as broadscale clearing but does not require approval for:

- RAMAs

- clearing of non-protected regrowth
- clearing of groundcover with less than 50 per cent native species
- **sustainable grazing** not likely to result in the substantial long-term decline in the structure and composition of native vegetation.

Allowing sustainable grazing without approval is an example of a risk-based approach. While it involves the removal of some native vegetation, it is a low-intensity activity that generally allows the vegetation to grow back.

The extent to which other *Native Vegetation Act 2003* exemptions adopt an environmental risk-based approach is somewhat inconsistent and analysed further below.

RAMAs

Routine Agricultural Management Activities (RAMAs) were introduced to ensure landholders could continue to carry out day-to-day farming, ensure safety within the property and undertake other activities without the need for an approval.

When the *Native Vegetation Act 2003* was first drafted, it was intended that RAMAs be associated with agricultural activities necessary for ongoing farm management. This was based on the principle of existing use rights which is a feature of planning law across Australia and is designed to ensure the new approval requirements are not put in place for pre-existing land uses.

By the time the *Native Vegetation Act 2003* was implemented, the RAMAs had already been expanded to cover non-agricultural activities that take place in rural areas for a range of reasons. For example, maintenance of powerlines was included as a RAMA to ensure risk of fire is prevented without the delays that may be associated with obtaining approval. Over time, RAMAs have been expanded even further to include new non-rural infrastructure RAMAs (e.g. infrastructure built by councils). RAMAs are now also used to reduce the dual consent issue described in Section 4.10. The new Native Vegetation Regulation 2013 expanded the single-dwelling RAMA to allow clearing for the purposes of constructing certain dwellings, as long as that clearing is done in accordance with development consent under the *Environmental Planning and Assessment Act 1979*.

Many RAMAs permit the clearing regardless of the impact on listed threatened entities or other biodiversity. This means there is no legal impediment to a landholder clearing the last remaining individuals of a species if he or she chooses to place rural infrastructure in that location.

At the same time, a small number of RAMAs do not allow clearing if the vegetation is a threatened species or a component of a threatened population or ecological community (e.g. clearing up to 2 hectares for cemeteries and clearing up to 5 hectares in the Western Division and 2 hectares in other areas for gravel pits). Clearing up to 5 hectares for a dwelling is permitted, but is more likely to require approval under the *Environmental Planning and Assessment Act 1979*, which will consider impacts on biodiversity.

Clearing for RAMAs can only be undertaken to the minimum extent necessary. While some RAMAs are likely to have a minimal impact on the environment, including clearing for noxious weeds, farm fences, collection of firewood) other RAMAs have limits that apply to the area that can be cleared based on the purpose for which the land is being cleared and the area of the State in which the clearing is undertaken. For example, in the Western Division, up to 5 hectares can be cleared to build a shearing or machinery shed, ground tank,

dam or stock yards. In coastal areas, clearing is permitted within certain minimum distances from the infrastructure being built (e.g. 15 metres from the edge of a dam and 20 metres from the edge of a stockyard).

These limits are intended to reflect the smaller lot sizes and higher levels of development pressure in coastal regions when compared to Western New South Wales, which demonstrates some adoption of a risk-based approach.

Broadscale clearing, on the other hand, which requires approval through a PVP, often authorises the clearing of relatively small areas of land. For example, at July 2011:

- in the Central West and Western regions, 42 per cent of clearing approvals issued since the commencement of the *Native Vegetation Act 2003* were for areas less than 2 hectares
- out of the 79 broadscale clearing PVPs approved in South East, Hunter and North Coast regions, 70 per cent of PVPs were for less than 2 hectares in clearing size and 54 per cent for less than 1 hectare.

While it is not known how the impact of the PVP process (e.g. prohibition on clearing high value vegetation or offsetting requirements) has acted to modify the proposed clearing and reduce the size of the clearing ultimately authorised, it is clear that the PVP process is being used to authorise many small incremental clearing events.

It is unlikely the PVPs for less than 2 hectares described above have been obtained for the purpose of cropping. It is likely many were required for undertaking new activities on smaller rural holdings, such as clearing for the purpose of smaller fruit or vegetable plantations.

On the whole, the split between activities that do not need approval under a RAMA and those that require a PVP cannot clearly be described as a risk-based approach. It is more a policy-based approach, with allocation of what does not require approval based originally on what was considered necessary for carrying out pre-existing agricultural activities – and then expanded to other uses considered not to require approval for various other policy reasons.

Non-protected regrowth

Under the *Native Vegetation Act 2003*, clearing of non-protected regrowth is permitted to allow landholders to keep land in a cleared condition so existing land uses can continue. This is similar to the intention behind RAMAs described above. It is a policy position to recognise the need for farmers to continue their business, rather than adoption of a risk-based approach.

As outlined in Section 3.2, regrowth is defined under the *Native Vegetation Act 2003* as native vegetation that has regrown since 1 January 1990. Regrowth does not include vegetation that has regrown after unlawful clearing or because of natural causes such as bushfires, floods or droughts. This is because relying on such events is not consistent with the policy intent behind allowing clearing of regrowth.

Prior to the *Native Vegetation Act 2003*, vegetation could be cleared if it was less than 10 years old. The move to fixed dates was intended to remove the perverse incentive for farmers to regularly re-clear and keep vegetation below 10 years of age. However, a negative consequence of fixed dates, particularly as time elapses, is that much older vegetation is now able to be cleared without approval.

Victoria has adopted a 10-year moving regrowth date as part of its native vegetation regulatory system. The Victorian system allows the approval to identify regrowth at the time it

is made. That vegetation can then be cleared at a future date, avoiding the perverse incentive described above.

Groundcover

As outlined in Section 3.2, groundcover is herbaceous vegetation and includes grasses. Clearing of native groundcover is permitted if:

- the native groundcover which is to be cleared comprises less than 50 per cent of total live cover, and
- 10 per cent or more of the area is covered with vegetation (dead or alive).

Allowing clearing of groundcover where the majority of the vegetation is non-native may be seen as a risk-based approach related to the object of the *Native Vegetation Act 2003* to protect high conservation value native vegetation. Groundcover that has a majority of non-native species is arguably not that high in conservation value and can be cleared without approval. At the same time, groundcover – whether native or not – is important for ecosystem services, because it can provide valuable protection against soil erosion and may avoid soil salinity issues. In such situations, the State-protected land provisions (Schedule 3 of the *Native Vegetation Act 2003*), which were carried forward from the *Soil Conservation Act 1938,* provide for non-native vegetation (such as willows) to be protected on steep slopes and riparian areas.

Equally, it is also true that groundcover that comprises greater than 50 per cent native species is not necessarily high conservation value. This is particularly evident in the Monaro region where a small number of grazing-tolerant native grasses have come to dominate long-grazed areas. Likewise, in rangelands areas of the State, the species that recolonise after a disturbance event such as major and prolonged flood, are often native species such as galvanised burr. In these situations the percentage of native species present is not a good indicator of conservation value.

Another issue related to the groundcover exemption is compliance. To understand if groundcover clearing is permitted, a landholder needs to identify vegetation species and determine the percentage of indigenous types. While guidance is provided by OEH and Local Land Services, it is an onerous test for the landholder and exposes the landholder to legal risk.

Illegal clearing of groundcover is also difficult to regulate because satellite imagery cannot detect changes in groundcover over time. Satellite imagery cannot assist in establishing what groundcover was present prior to any alleged act of illegal clearing. There have been no prosecutions of illegal groundcover clearing in New South Wales.

Other jurisdictions

Victoria has recently started using a risk-based approach to the level of detail that is required for biodiversity impact assessments for activities that involve clearing of native vegetation. Victoria now distinguishes between low-, medium- and high-risk clearing of native vegetation, based on the location of the vegetation that will be cleared, rather than the activity involved. Given this type of approach relies on the accuracy of the assumptions about where low-risk areas are, extensive resources are required for mapping.

Queensland has not adopted a risk-based approach. Native vegetation clearing that requires an approval is assessed against specified environmental performance outcomes. These

outcomes vary based on whether the clearing is part of ongoing land management activities or results in material change in land use. Where the clearing results in material land-use change, different outcomes are specified depending on the land use (e.g. while agricultural development must demonstrate environmental impacts are avoided or minimised, the same is not required of clearing for extractive industries such as mining).

Further information on the Victorian and Queensland approaches is provided in Section 6.

4.3 Do the methods aim to meet the same environmental standard?

The mechanisms for assessing, protecting and allowing impacts on biodiversity in New South Wales do not require the same environmental standard to be reached for a project to be approved.

Development assessed under the *Environmental Planning and Assessment Act 1979* using the assessment of significance and EIS approaches (including major projects such as mines) do not prescribe a minimum standard. On the other hand, approval for clearing under the *Native Vegetation Act 2003* and biobanking statements under BioBanking can only be issued if the proposed action including any offset will 'improve or maintain' environmental outcomes or biodiversity values.

These differences have attracted significant criticism from farmers who are concerned that this 'double standard' creates inequity between the amount of land that can be cleared by large-scale extractive industries, such as mining and coal seam gas, and the agricultural sector. NSW Farmers has called for the *Native Vegetation Act 2003* to better reflect a triple bottom line approach where the net benefit of any proposed clearing is assessed across social, economic, soil, water, salinity and biodiversity factors (NSW Farmers' Association 2012).

Issues with the 'improve or maintain' standard

The meaning of an 'improve or maintain' standard depends on how it is applied under a policy or methodology. 'Improve or maintain' has a specific statutory meaning under both the *Native Vegetation Act 2003* and the *Threatened Species Conservation Act 1995* (for BioBanking). It requires the use of either the EOAM or BBAM and effectively means that impacts on biodiversity values considered irreplaceable (i.e. unable to be effectively offset and called 'red flags') will be avoided and the remaining impact will be offset.

While an 'improve or maintain' outcome provides an explicit standard, it has been shown to be difficult and sometimes impossible to achieve in all circumstances. This is particularly the case for urban development in the Sydney region where there are many irreplaceable biodiversity areas (Williams 2012).

Different standards can also contribute to the issue of 'policy shopping' with regard to the voluntary BioBanking Scheme, discussed in Section 4.10.

The Australian Government has developed an environmental offsets policy that also aims to meet 'an overall conservation outcome that improves or maintains the viability of the protected matter'. This standard is different to the NSW standards in both wording and application. First, it only focuses on the protected matter (a nationally listed threatened species or ecological community), rather than biodiversity or environmental values more

generally. Secondly, unacceptable impacts (red flags) that need to be avoided are not specified in the policy in order to meet this standard.

4.4 Are the methods capable of considering cumulative impacts?

Currently, metric and non-metric approaches are unable to assess the cumulative impacts of developments and activities on a broader scale. Cumulative impacts are the combined incremental effects of past, present and anticipated future actions within a regional setting.

In an environmental context, cumulative impacts can have significant consequences for biodiversity, including the eventual fragmentation of habitat or the gradual build-up of pollution concentrations in soil. Strategic land-use plans enable the consideration and determination of land uses at the planning stage to predict, protect and mitigate the cumulative impacts of developments and activities within a region.

As outlined in *Biodiversity Legislation Review OEH Paper 5: Conservation in Land-use Planning*, strategic land-use assessments typically involve significant upfront costs and participation from many parties, and are therefore not suited for all development. For this reason, site-based assessments continue to play an important role in addressing biodiversity concerns.

4.5 Do relevant people have the knowledge and expertise to apply the methods?

The assessment of significance has been observed to be 'inconsistently applied' across New South Wales (Douglas 1999). Staff in local councils conducting the assessments (or deciding whether one should be done at all) have variable skills, and resources dedicated to assessments differ from one council to the next. In addition, there is no auditing or oversight framework to ensure that environmental impact is appropriately considered. The Australian Network of Environmental Defender's Offices claims this is leading to a situation in which 'developments are often proceeding without a proper assessment of threatened species and in the absence of an SIS where one should have been required' (ANEDO 2014, p. 31).

Lack of relevant skills and experience in applying the assessment may be evidenced in the low number of concurrences required from OEH each year. For example, in 2013–14, only nine concurrences were required for development likely to significantly threatened entities, or their habitat across all local government areas in New South Wales. These low figures may be in part a result of OEH collaboration with proponents and consent authorities to assist in altering project designs to avoid and minimise biodiversity impacts so they come under the 'significant impact' threshold. On the other hand, it could also indicate there are other proposed developments that are likely to significantly affect threatened species which are not being assessed.

On the other hand, the FBA, BBAM and EOAM can only be applied by qualified persons who have completed mandatory training. The FBA and BBAM are applied by accredited ecological consultants and the EOAM by accredited Local Land Services staff. These arrangements help to ensure greater consistency in the application of the methodologies and subsequent decisions. Requiring accreditation does, however, add to the costs of consents for proponents.

4.6 How is the balance between certainty and flexibility addressed?

Providing certainty to proponents about how biodiversity impacts are to be dealt with is desirable because it allows proponents to factor these requirements into project design from the outset and reduces time-consuming negotiations with government.

In addition to certainty, flexibility is also considered important. Greater flexibility facilitates innovation and enables better outcomes to be achieved where the rigidity of the rules may not enable this.

Certainty and flexibility can be inherently conflicting and some trade-offs may be required to achieve an appropriate mix of each.

The methods used to assess biodiversity impacts in New South Wales can be characterised as being either metric-based or non-metric-based. Non-metric methods are more subjective and rely heavily on consent authority discretion. They include:

- the assessment of significance and consideration of SIS for non-major projects under the *Environmental Planning and Assessment Act 1979*
- the heads of consideration, including EIS, process used by consent authorities for major projects under the *Environmental Planning and Assessment Act 1979*.

Metric assessment methods are more objective with limited consent authority discretion. They include the:

- Environmental Outcomes Assessment Methodology (EOAM), used to determine PVPs under the *Native Vegetation Act 2003*
- BBAM, used for assessments under the BioBanking Scheme
- FBA, to be used for the new Biodiversity Offsets Policy for Major Projects.

The key features of metric- and non-metric-based systems are set out in Table 3. This section explores how the metric assessment methods provide significantly more certainty than non-metric methods, while non-metric methods are generally more flexible. The new Biodiversity Offsets Policy for Major Projects aims to achieve a greater balance between certainty and flexibility under a metric-based approach.

Table 3: Features of metric- and non-metric-based systems

	Metric-based systems	**Non-metric-based systems**
Standardised approach based on common rules and datasets	Yes	No
Assists in achieving consistency in approvals between projects	Yes	No
Enables proponents to determine their biodiversity requirements upfront	Yes	No
Able to incorporate better local data	Sometimes	Yes – no standardisation of data
Capable of assessing emerging impacts or impacts other than biodiversity loss and fragmentation	Not immediately – requires new data to be incorporated into method	Yes – in a non-quantifiable way

	Metric-based systems	Non-metric-based systems
Assessment proportionate to scale of development	No – except for streamlined PVP assessment for low-risk clearing	Yes

Do approaches provide upfront certainty and consistent approvals?

The EIS process for major projects and the assessment of significance for non-major projects currently apply subjective approaches to assessing impacts on biodiversity. They do not provide a standard method for doing this.

For major projects, the content required for an EIS varies on a case-by-case basis, depending on the Secretary's Environmental Assessment Requirements (SEARs). The SEARs could be as broad as requiring 'a detailed assessment of potential impacts of the development on … terrestrial or aquatic threatened species or populations and their habitats, endangered ecological communities and groundwater dependent ecosystems' (Director General's Requirements for Western Coal Services Project, issued in November 2012).

For non-major projects, the assessment of significance lists factors that must be given consideration. Some further guidance on interpretation of these factors is provided in the *Threatened Species Assessment Guidelines – the assessment of significance,* but there is little standardised guidance on how these factors are to be assessed.

These processes can lead to wide variations in assessments and lengthy and costly debates around their adequacy and outcomes. Similarly, biodiversity offsets are often negotiated between proponents and government on a case-by-case basis. The resulting requirements for addressing biodiversity can vary widely, leading to uncertainty for proponents and the community.

The BBAM, FBA and EOAM, on the other hand, provide more transparent and repeatable methods for assessing impacts on biodiversity. These methods standardise the process for assessing impacts and determining offsets. They provide step-by-step guidance to ecological consultants about what components of biodiversity need to be measured and the survey effort required (i.e. how detailed the assessment needs to obtain an approximation of biodiversity present that will be considered adequate). The methods also provide clear instructions for determining what sort of offset is required.

Using a standard process provides more certainty when considering impacts on biodiversity and saves time in the approval process, because it removes the need for back-and-forth negotiations with government regarding adequacy. The additional benefit of using a standardised process is that decisions regarding biodiversity impacts are less reliant on the discretion of the consent authority, making the process more transparent to the public and proponents.

Is there certainty in the final decision?

Lack of clear guidance for addressing biodiversity impacts in non-metric approaches has also created uncertainty about the outcome of project applications because different decision-makers weigh up the merits of the application, and the impact on biodiversity values, in different ways. This is evidenced in the decision of the Land and Environment Court to refuse an extension of the Warkworth Coal Mine in 2013 – see Box 1 for more information.

The introduction of the new Biodiversity Offsets Policy for Major Projects may address this issue to some extent because it provides clear whole-of-government guidance on how to address biodiversity impacts.

Box 1

Warkworth decision: Bulga Milbrodale Progress Association Inc. v Minister for Planning and Infrastructure and Warkworth Mining Limited [2013] NSWLEC 48

In 2012, the Planning Assessment Commission (PAC) approved the extension of the Warkworth Mine subject to a number of conditions, including a requirement to offset impacts on biodiversity. A community group appealed to the Land and Environment Court on various grounds, including that the biodiversity impacts were unacceptable and the offsets were inadequate.

In the absence of a NSW Government policy on biodiversity offsetting and a prescribed method for determining offsets, the Court looked to other sources for guidance to determine if biodiversity impacts were appropriately addressed. This included the OEH 'Principles for the Use of Biodiversity Offsets in NSW'. The principles had not been adopted across government and had not been applied by the PAC in granting the approval. The Court decided that the Principles should apply in the absence of any other guidance and found that the project failed to meet its environmental requirements, in part because it did not meet these principles.

While the biodiversity impacts of the project were not the only reason the extension was refused by the Court, its conclusion about the use of offsets demonstrates the lack of certainty that can exist without clear guidance in an approval system.

Can biodiversity issues be factored into project design?

The subjectivity of non-metric approaches makes it more difficult for proponents to factor biodiversity considerations into project design compared to a metric approach. In particular, non-metric approaches do not provide proponents with certainty about unacceptable impacts (including red flags). Proponents can make certain assumptions at the project planning stage, but will not have full certainty about the requirements until their project is being considered by a consent authority. By this time, plans for the project may be too far down the track to redesign to avoid impacts on biodiversity. Rejection of a project at this stage will generally have significant economic consequences, given the investment that has already occurred (e.g. lost job opportunities on mining projects).

To deal with this issue, consent authorities often give approvals and concurrences that contain a number of conditions to deal with the environmental constraints that were not considered by the proponent during planning (Milledge 2007; Langden and Farrier 2010). The time taken to negotiate these extensive conditions can often result in delays in the planning approval process and implementation of the conditions can incur unanticipated costs for proponents. This also heavily relies on effective implementation of approval conditions and compliance procedures to achieve good environmental outcomes.

For development proponents, increased certainty provided under metric approaches allows the real cost of impacting biodiversity to be factored in at the project planning stage. The

practical biodiversity constraints of land are understood early in the development design process and scenario testing can be done to understand the cost of dealing with biodiversity under various designs.

How is flexibility provided?

Table 4 outlines how flexibility is achieved under the various methods. Non-metric approaches are generally significantly more flexible than metric approaches. Metric approaches do, however, have some scope for flexibility.

Table 4: Flexibility of the various assessment methods

Method	Flexibility
Assessment of significance	• Significant amount of flexibility • Consent authorities determine whether an impact is significant, provided they take into account the seven relevant considerations (i.e. a question of fact). • If an impact is significant, the consent authority has discretion to determine how impacts will be dealt with, provided they take into account the SIS and other relevant considerations.
EIS	• Significant amount of flexibility • Minister for Planning (or delegate) has discretion to determine how significant impacts are dealt with in determining approval and conditions of consent, provided they take into account certain heads of consideration.
BBAM	• Limited flexibility – proponent must assess in accordance with the method, proponent must avoid red flags and fully offset the remaining impact in order to meet the 'improve or maintain' standard. • If a proponent cannot find the appropriate number and type of biodiversity credits required to offset an impact under the BBAM, they cannot proceed with approval of the impact through BioBanking. • There is some flexibility built in for red flags. Red flags generally mean an impact cannot occur. Some red flag variations are permitted where proponents can demonstrate certain criteria have been met that prove the biodiversity values being impacted are not high and have been appropriately mitigated.
EOAM	• Limited flexibility – Local Land Services must assess in accordance with the method, landholder must avoid certain impacts and fully offset the remaining impact in order to meet the 'improve or maintain' standard. • Minor variations permitted – Local Land Services officers can use their own discretion to make minor variations where they have more detailed local data or expert advice.
Biodiversity Offsets Policy for Major Projects (FBA)	• Some flexibility – instead of red flags, the policy has 'impacts for further consideration', which permits discretion by the consent authority. • Proponent's ecological consultant must assess in accordance with the method. • If a proponent cannot find appropriate biodiversity credits to offset an impact, they can go to other options, including choosing from a broader suite of biodiversity credits and supplementary measures.

Based on this analysis, BBAM and EOAM could be considered the least flexible processes. The lower level of flexibility can be seen as a trade-off for the amount of certainty these processes provide.

The perceived inflexibility of BBAM and EOAM has been criticised by proponents, particularly in relation to how unacceptable impacts are specified and options available for offsetting. These two issues are discussed further below.

How are unacceptable impacts specified?

Specifying unacceptable impacts in a metric-based approach allows proponents to factor these considerations into project design when there is greatest opportunity to avoid impacts. However, what impacts should be specified and the degree of flexibility that should be permitted around them is complicated.

The specification of unacceptable impacts – or red flags – has been criticised by landholders and proponents. They argue that red flags make the BBAM and EOAM unattractive or unfair to many prospective users.

One submission from an ecological consultant to the BioBanking Review stated that 'the rules around red flags and the trading of credits are a constraint of trade and require relaxation. Whilst we acknowledge the ecological intent of these rules they are, in a practical sense, too strict and un-workable'. A number of submissions to the review of the Native Vegetation Regulation 2005 (particularly from farmers) also commented on the EOAM's lack of flexibility.

Other stakeholders, including environmental groups, believe that the red flag areas are inadequate because they do not identify all areas requiring protection and allow clearing on some occasions when it should be strictly prohibited.

Whether a project with severe impacts should be permitted is often dependent upon context. For example, a project may have significant social importance, such as a hospital, and there may be no other appropriate site available. Or, an impact may be considered severe on the face of it but could actually be reasonably dealt with if appropriate measures were put in place. For example, an impact on the riparian zone of a river could be reduced if appropriate measures are put in place to prevent erosion and maintain connectivity in that area.

The new Biodiversity Offsets Policy for Major Projects recognises that, while clearly articulating unacceptable impacts would be ideal, this is difficult to achieve in practice, particularly for major projects, which are often of significant social or economic importance to the State. To address these issues, it identifies impacts that may be considered severe enough to prevent a project going ahead. These are 'impacts that require further consideration'.

The starting position for these impacts is that a project should not proceed if they are likely to occur. The policy then allows the consent authority to consider if there may be other factors that could allow the project to proceed and what modifications, additional actions or offsets may be required of the proponent to address that impact.

Further consideration of how this approach could be applied to other types of activities is required because the severe impacts that should be permitted will depend on the type of activity proposed. For example, the social and economic benefits of a major project, such as a hospital or mine, may in some circumstances provide some justification for undertaking an impact that will significantly reduce the viability of a species. On the other hand, a small residential development or clearing for cropping may not be considered adequate justification.

Resources also differ between proponents. For example, a mining company may have substantial resources to adequately mitigate clearing that occurs in a riparian area, whereas an individual landowner may not be able to do the same. However it is applied, the more flexibility that is provided around red flags, the less certainty there will be for the proponents of those impacts.

Currently there is also inconsistency between how the methods define red flags. (Table 5).

Table 5: Definition of impacts to be avoided

Method	Requirements to avoid
BBAM	Defines a red flag area as 'an area of land that has high biodiversity conservation values'. An area is considered to have high biodiversity value if it contains: • a vegetation type that is greater than 70 per cent cleared • an endangered or critically endangered ecological community and the vegetation is not in low condition • threatened species that are defined in the Threatened Species Profile Database as not being able to withstand further loss in the Catchment Management Authority region.
EOAM	There are some areas for which the EOAM notes that clearing will not improve or maintain values, and therefore clearing is not permitted. For water: • clearing within 20 metres of, and within, a stream listed in the Major Rivers Database • clearing within set riparian buffer distances around important wetlands or minor wetlands. For biodiversity: • native vegetation in a Mitchell landscape[1] that is more than 70 per cent cleared and not in low condition • a vegetation type that is more than 70 per cent cleared and in moderate to good condition • an ecological community listed as endangered or critically endangered under the TSC Act, or endangered, critically endangered, or vulnerable under the EPBC Act and in moderate to good condition.
FBA	Identifies 'impacts on biodiversity that require further consideration'. These are defined as impacts that are considered to be complicated or severe, and require further examination by the consent authority before a decision can be made about whether they can occur. Categories of impacts that require further consideration are: • impacts that will reduce the width of vegetation in the riparian buffer zone bordering significant streams and rivers, important wetlands and estuarine areas • impacts that will prevent species movement along significant biodiversity linkage corridors • impacts on native vegetation that are likely to cause the extinction of an endangered or critically endangered ecological community from a subregion or significantly reduce its viability

[1] Over-cleared landscapes called 'Mitchell landscapes' are defined as landscapes in which more than 70 per cent of native vegetation cover has been cleared.

- impacts on critical habitat or on threatened species or populations that are likely to cause the extinction of a species or population from a subregion or significantly reduce its viability.

Is critical habitat a red flag?

Critical habitat is a mapped area of land declared by the Minister for the Environment under the *Threatened Species Conservation Act 1995*. It comprises (some or all of) the habitat of an endangered species, population or ecological community or critically endangered species or ecological community that is critical to its survival. Critical habitat is only declared after consultation with the NSW Scientific Committee, public authorities, affected landholders and the wider community.

A critical habitat declaration affects biodiversity impact approval requirements under the *Environmental Planning and Assessment Act 1979*. While critical habitat declarations were introduced to protect habitat considered critical for species' survival and has the potential to be a 'red flag', the current legislative requirements do not provide proponents with enough certainty to avoid impacts on critical habitat. Under the *Environmental Planning and Assessment Act 1979*, a consent authority must have regard to critical habitat declarations when deciding whether to grant development consent. Proposed development on critical habitat also triggers the requirement for a SIS for non-major projects. Critical habitat has recently been included as an 'impact for further consideration' under the FBA.

In practice, very few areas of critical habitat have been declared. The process for declaring critical habitat set out in the *Threatened Species Conservation Act 1995* is reasonably onerous. In addition, the Minister must have regard to the likely social and economic consequences of a declaration and the likely consequences for landholders. This may result in economic considerations preventing the listing of critical habitat, even when there is strong scientific evidence to support its need for protection (ANEDO 2014).

The Commonwealth Senate Standing Committees on Environment and Communications (2013) found that critical habitat listing is a very under-used conservation tool for endangered and critically endangered habitat in New South Wales. Currently, there are only four critical habitat declarations in New South Wales (three of which are already in existing protected areas):

- Gould's petrel habitat on Cabbage Tree Island, offshore from Port Stephens
- little penguin population in Sydney's North Harbour
- Mitchell's rainforest snail in Stotts Island Nature Reserve
- Wollemi pine in the Greater Blue Mountains World Heritage Area.

Due to the significant process requirements involved in declaring critical habitat, the critical habitat provisions have arguably not been used to their greatest extent. In practice, it appears effort has instead been invested in alternative protection approaches (e.g. Saving our Species program, establishing new national parks and reserves) and efforts to mitigate and offset the impacts of development assessed under the *Environmental Planning and Assessment Act 1979*.

Other jurisdictions

There is no uniform approach to the listing of critical habitat in other Australian jurisdictions. Provisions to list critical habitat do not exist in all states and territories, and where they do exist, they have also not been well-utilised.

Legislation in Victoria, Queensland, Tasmania and the Northern Territory allows for critical habitat determinations to be made with various levels of protection for declared areas. In Victoria, compensation is payable to landholders for financial loss resulting from the declaration. South Australian and Western Australian legislation does not provide for the listing of critical habitat.

No areas of critical habitat have been declared in Tasmania, Queensland and the Northern Territory and only one has been made in Victoria.

Is appropriate flexibility provided around offsetting?

BioBanking

Concerns have been raised about offset supply and the lack of flexibility permitted in locating appropriate offsets, particularly in relation to the BioBanking Scheme which has strict credit matching rules. For example, in some circumstances, land with a specific vegetation type that is the same as that being impacted is not available for an offset. This lack of supply could be because there are no landowners with that vegetation on their land willing to provide an offset (rather than scarcity of that vegetation type).

Native Vegetation Act 2003

Under the *Native Vegetation Act 2003*, some clearing types require offsets. Table 6 shows where offsets are required by the EOAM. Over time, the data used in the assessments has been refined and the required offset ratios have been revised (generally down).

Table 6: Offsets required under the *Native Vegetation Act 2003*

Clearing type	Offset requirement
Paddock trees	Offset ratio is usually 10:1 for trees with hollows greater than 5 cm and 5:1 for all other trees
Invasive native scrub	No offset required
Thinning to benchmark	No offset required
Other clearing involving land-use change	Offsets usually required and ratios vary widely depending on circumstances
RAMAs	No approval or offset is required for RAMAs

There are a range of factors affecting the size of offsets required for clearing PVPs. These include (but are not limited to):

- the condition of the vegetation being cleared (the loss) and the capacity of the vegetation being offset to improve (the gain)
- the frequency of specific habitat features contained in the offset vegetation – for example if hollows greater than 10 centimetres are required in the offset and they occur infrequently then a large amount of offset might be required

- the management actions the landholder is prepared to undertake on the offset area – the more effort put into actively managing the site the smaller the offset has to be to balance the losses and meet the improve or maintain standard
- in some circumstances the landholder wants to include additional area (over and above what is required by the tools) in the offset.

Supply of offsets can also be a problem. Offsets required through application of the EOAM are generally sourced onsite within land owned by the landowner. This has been a source of frustration for farmers who are sometimes restricted in how much vegetation they can clear on their land due to the amount they need to retain for offsets. While the EOAM does not prohibit farmers from establishing an offset site outside their property, there is no formal guidance on how to do this.

A key consideration in extending opportunities to farmers to source offsets offsite or use more flexible offsetting options is the issue of cost. Sourcing offsets offsite involves considerable cost to locate the offset, purchase the land (or compensate the landowner for lost development opportunity) and pay for its management. Farmers often have significantly fewer resources available when undertaking a project that involves clearing compared to developers who invest significant capital into their development on the expectation of significant return.

Environmental Planning and Assessment Act 1979

Flexibility in offsetting has been permitted informally under *Environmental Planning and Assessment Act 1979* approval processes (other than BioBanking). Proponents have been able to provide funds for conservation activities instead of an offset. For example, a proposal for an aged-care facility in Bankstown local government area was required to provide funds for bush regeneration activities in a council reserve that contained the same threatened species as that being impacted by the development. However, there has not been clear guidance on how these more flexible options for offsetting should be used in these approval processes.

New Biodiversity Offsets Policy for Major Projects

The new Biodiversity Offsets Policy for Major Projects recognises that the growing scarcity of available offset land in New South Wales will become an issue over time. The policy tries to address this problem by introducing clear methods that will allow more flexibility when strict 'like-for-like' offsets are not available.

The policy also proposes the introduction of an offsets fund, which will enable proponents of major projects to pay money into the fund, rather than sourcing offsets themselves. The role of sourcing offsets will then be centralised in a fund program manager, who will be able to consolidate expertise and knowledge in locating offsets. This will ensure the most appropriate offsets are found and enable this to be done in a strategic manner.

The methods that enable increased flexibility for offsetting can be used by both the fund and proponents sourcing their own offsets. They include:

1. *Broadening like-for-like* – recognising that exactly the same biodiversity is not always available for an offset, the policy allows for variations in the 'like-for-like' requirement. Offsets do not always need to be strictly matched to the biodiversity impacted and can be targeted to relevant equal or higher conservation priorities. Variation rules can only be applied after all reasonable steps have been taken to satisfy the like-for-like offset requirements.

2. *Supplementary measures* – these are other measures that benefit biodiversity but do not specifically involve protecting and managing a site. They may include actions outlined in threatened species recovery programs, actions that contribute to threat abatement programs, biodiversity research and survey programs and rehabilitating degraded aquatic habitat. Proponents must undertake reasonable steps in locating appropriate like-for-like offset sites before they are able to provide funding for supplementary measures, which will be approximately equivalent to the cost of establishing an offset site.
3. *Mine site rehabilitation* – biodiversity credits can be generated through the restoration of biodiversity values on mine sites after mining activities have ceased. Under the policy, proponents will need to return a recognisable plant community to the site in order to generate biodiversity credits. The policy uses a staged method for calculating the generation of biodiversity credits through rehabilitation to address the inherent limitations of the process. These limitations include that the full ecological restoration of a site impacted by mining may not ever be possible, and that biodiversity gain achieved through rehabilitation often occurs much more slowly than biodiversity gain at a typical offset site.

4.7 What are the limitations of metric-based approaches?

While metric-based approaches have significant advantages in providing certainty and consistency in approvals, there are some constraints on their effectiveness – and current approaches could be further improved.

Reliance on correct assumptions

A risk associated with the use of metric-based approaches is that of incorrect assumptions becoming embedded in all approvals. If the data that underpins the assumptions is out of date or if a technical assumption underpinning that approach is incorrect, this can be systemically embedded in all approvals.

For example, current methods, including BBAM, do not adequately accommodate the issue of preserving habitat provided by tree hollows. The methodology allows a site containing trees with hollows to be cleared and does not necessarily require the offset for that site to contain hollow-bearing trees.

Given hollow-bearing trees take significant time to establish, the habitat provided by these trees is not necessarily offset. While amendments can be made to BBAM and other methodologies to accommodate this need, there must be a focus on continuous improvement of these methodologies in order to address these types of issues when they become apparent.

Quantifying indirect impacts

Another shortcoming of current metric-based approaches is they do not have a clear method for quantifying indirect impacts. Metric-based approaches use vegetation loss as a surrogate for estimating the loss of habitat and the reduction in population size of the threatened species using the habitat. This does not involve quantifying impacts resulting from factors other than reduction in habitat (indirect impacts).

Indirect impacts can have significant impacts on populations. Some of the more commonly observed indirect impacts include:

- increase in low-intensity fire when housing is established adjacent to habitat
- increase in weeds and other edge-effect threats
- road mortality
- disturbance to behaviour and breeding cycle from infrastructure, noise, lighting and human visitation
- birds and bats striking wind turbines.

OEH has committed to further investigating ways to quantify indirect impacts under current methodologies.

4.8 How are social and economic considerations accommodated?

Social and economic issues are accommodated in different ways under the various impact assessment and approval processes.

Social and economic considerations under Environmental Planning and Assessment Act 1979 approaches

Under section 79C of the *Environmental Planning and Assessment Act 1979*, consent authorities must consider a range of factors in deciding whether to allow a development to proceed, including consideration of social, economic and environmental impacts, the public interest, social and economic welfare of the community, and the principles of ecologically sustainable development.

The *Environmental Planning and Assessment Act 1979* specifically requires consent authorities to consider the likely environmental impacts of a development on both the natural and built environments, and social and economic impacts in the locality. The consent authority must weigh up these interests as well as other relevant factors. However, there is no guidance as to how this is to be done. In the Warkworth Mine decision, the Land and Environment Court stated that determining project approval should involve a subjective weighing up of all social, economic and environmental impacts and benefits of a project (see Box 1 in Section 4.6 for more information). As with the assessment of biodiversity impacts, this is considered on a case-by-case basis, which results in reduced certainty.

Social and economic considerations under metric-based approaches

Metric-based assessment methodologies have the advantage of providing a greater level of certainty by quantifying impacts on biodiversity. While these methodologies focus on biodiversity value, they also account for social and economic impacts.

To maintain the objectivity of these methodologies, social and economic considerations need to be dealt with in a more explicit way, rather than a subjective weighing of different interests. Table 7 describes the factors and mechanisms that are included in these methods to accommodate social and economic considerations.

The difference in approach described in Table 7 reflects the different social and economic issues that are associated with the activities being approved. For example, the mechanisms

used under the FBA reflect the fact that many major projects are large, have high offsetting requirements and are often of significant social or economic value to the State. On the other hand, the mechanisms used under the *Native Vegetation Act 2003* recognise the lower environmental risks associated with the proposed clearing, the desirability in farmers continuing to use their land for the purpose of ongoing agricultural business and farmers' limited financial resources to pay for assessments.

The methodologies described below also have the overarching social and economic benefit (compared to the discretionary methods described above) of providing certainty for dealing with environmental impacts. This streamlines approvals for proponents and provides greater transparency for the broader community.

Table 7: Factors that accommodate social and economic considerations under metric-based approaches

Factor	Mechanisms	Used by:		
		EOAM	BBAM	FBA
Offsetting	• Offsetting itself is a measure that accommodates social and economic interests. • If the environment was the only consideration, clearing or development would not occur. • Use of offsetting acknowledges the social and economic benefits of development.	✓	✓	✓
Impacts that require further consideration	• Certain severe impacts on biodiversity are defined as 'impacts that require further consideration'. • The starting position is the impact should not occur (unacceptable impact). The consent authority is then given the ability to further consider the impact in the context of the social and/or economic benefits of the project to determine if the impact can go ahead (similar to the subjective weighing of social, economic and environmental impacts under the EP&A Act).			✓
Flexibility in like-for-like	• Impacts can be offset in a way that is not strictly like-for-like if like-for-like offsets cannot be found after reasonable steps have been undertaken. • The broader offsetting options still need to be similar to the biodiversity impacted, according to certain rules. • This flexibility recognises the economic difficulties locating like-for-like offsets, especially for major projects where the offset requirements are often large.			✓
Supplementary measures	• Supplementary measures can also be used where like-for-like offsets cannot be found. • Contributing money to other actions that benefit threatened species is a less measurable way of achieving biodiversity gain compared to offsetting. • As with the flexibility in like-for-like (above), this option recognises the economic difficulties locating like-for-like offsets, especially for major projects where the offset requirements are often large.			✓

Factor	Mechanisms	Used by:		
		EOAM	BBAM	FBA
Mine site rehabilitation	• Mine site rehabilitation is included in the calculation of offsets for major projects to reflect the social benefits for local communities that come with good quality rehabilitation to a high ecological standard after a mine has ceased operating.			✓
Impacts that do not require approval – RAMAs, regrowth, low-condition vegetation	• RAMAs allow landholders to carry out certain activities without approval under the NV Act. This recognises the social and economic need for farmers to continue their existing agricultural practices. • Clearing of non-protected regrowth is permitted to support continuity in land management practices – i.e. farmers can take an area of their farm out of production for a period of time and then go back to using it. • The FBA does not require assessment and offsetting of certain low-condition vegetation.	✓		✓
Site assessment costs covered by government	• Reflects the economic realities for rural landholders and their capacity to employ ecological consultants to assess the impacts of their clearing.	✓		

Social and economic considerations under the Native Vegetation Act 2003

As discussed in Section 3.2, the *Native Vegetation Act 2003* divides clearing activities into those that require approval and those that do not. This division is primarily based on social and economic considerations.

Clearing for new agricultural activities (broadscale clearing) can only be approved under the *Native Vegetation Act 2003* if it 'maintains or improves' environmental outcomes. Such activities require a PVP. Approval for clearing is not required under the *Native Vegetation Act 2003* for RAMAs. This is based on the concept that farmers should be able to continue to use their land for routine activities required to manage a farm. It recognises the social and economic need for farmers to continue existing agricultural practices on their land, despite the fact this may require clearing of native vegetation.

Similarly, clearing of non-protected regrowth is permitted to allow farmers to continue to use cleared areas of their farm as new vegetation grows. This also recognises the economic impact to farmers if they were required to obtain a clearing approval every time vegetation started to regrow on an area of their land set aside for production.

The approach taken by the *Native Vegetation Act 2003* has been criticised for:

- not providing flexibility for the consideration of social and economic factors for new agricultural activities (broadscale clearing)
- not adequately considering environmental impacts of clearing permitted through RAMAs and existing and continuing agricultural uses (e.g. regrowth).

The lack of flexibility in the *Native Vegetation Act 2003* to incorporate these additional social, economic and environmental considerations for certain activities can be considered a trade-off for certainty provided by the current system (as discussed in Section 4.6). Increasing flexibility to further consider social, economic and environmental impacts under PVPs and RAMAs would inevitably require increased Local Land Services discretion, which would

increase the time taken for approval of PVPs and potentially add approval requirements for some RAMAs.

It is noted that the proposed self-assessable codes will extend the flexibility of the framework to account for social and economic factors by permitting further clearing without approval.

Social and economic considerations under the new Biodiversity Offsets Policy for Major Projects

In light of issues associated with the strictness of red flag approaches, the new Biodiversity Offsets Policy for Major Projects requires the consent authority to give further consideration to any likely severe impacts on biodiversity in the context of the potential social or economic benefits of the project.

The policy includes a number of flexible elements to acknowledge the social and economic implications of major projects. As outlined in Section 4.6, the policy recognises the economic difficulties of locating like-for-like offsets by broadening these and allowing the use of supplementary measures.

The policy also recognises the social effects associated with biodiversity offsetting, including concern expressed by farming communities that mining companies are purchasing farmland for offsets. To address this, the policy requires offsets be provided through stewardship payments to landowners through biobanking agreements. Companies no longer need to purchase whole properties and offsets can be integrated with other land uses, including farming.

4.9 Do offsets provide adequate environmental outcomes?

Biodiversity offsets attempt to minimise overall harm to the environment caused by the impacts of an activity. They involve undertaking measures to benefit biodiversity in order to compensate for the adverse impacts of a development action, such as clearing. Biodiversity offsets work by protecting and improving biodiversity values in one area to compensate for impacts on biodiversity values in another. For example, if a development requires an area of native woodland to be cleared, another area of similar woodland can be protected, improved and managed for conservation in perpetuity, effectively 'offsetting' the clearing at the development site. The assumption is that the gain in biodiversity achieved by improving a similar area of woodland balances the loss to biodiversity due to the clearing.

Offsets generally need to be secured in a way that ensures there is confidence they will lead to a gain in biodiversity. For example, if an offset is supposed to be in perpetuity but is not recorded on the property title of a piece of land, there is no guarantee the land will be known and treated as an offset after it is onsold. Enforcement mechanisms are also important to ensure action can be taken if management actions at an offset site are not being carried out.

Current use of offsets

The case-by-case negotiation of offset requirements has led to a wide variety of mechanisms being used to secure offsets (Table 8). These mechanisms lead to varying levels of certainty that expected biodiversity gains will be achieved. Weaknesses associated with some of these offset mechanisms include:

- the offset site is not secured in perpetuity

- active management of biodiversity at the site is not required
- there is no guarantee the landowner will be appropriately supported to undertake such management.

Table 8: Mechanisms to secure offsets

	Mechanisms used to secure offsets
Biobanking agreement (TSC Act)	• Landowner enters an agreement with the Minister for the Environment to undertake certain management actions on their land, such as weeding, fencing and pest control. • The agreement is in perpetuity and registered on the property title. • This enables the landowner to generate biodiversity credits to signify the expected improvement in biodiversity at that site. • Biodiversity credits can be sold to developers who require an offset. • A payment for biodiversity credits results in both an upfront amount of money going to the landowner (to cover site assessment/establishment costs and opportunity cost) and annual payments to the landowner to manage the land managed through the BioBanking Trust Fund.
Conservation Agreement (CA) (NPW Act)	• A voluntary agreement between a landowner and the Minister for the Environment that provides for the permanent protection of land. • CAs are registered on the property title and require the landholder to undertake ongoing responsibility for the management of the land. • Unlike biobanking agreements, CAs were designed to apply to the conservation of land for altruistic reasons – therefore government bears more of the cost of establishing these agreements. • There is no mechanism in place to provide an ongoing source of funding to undertake management actions.
Transfer of land to the national parks estate	• Some major projects have had offsets secured by the purchase and transfer of land to the NSW National Parks and Wildlife Service. • The land is then declared as a conservation reserve under the NPW Act and managed in perpetuity. • Some initial management funding may also be provided, but ongoing funding sources are generally not provided.
Nature Conservation Trust (NCT) Agreement (NCT Act)	• A voluntary agreement between a landowner and the NCT that provides for permanent protection of land. • The agreement is registered on the property title and requires the landowner to protect and enhance the natural values of the property. • Like CAs, NCT agreements were designed for voluntary conservation purposes and, while support for the management of the land is often provided by the NCT (including grants), this mechanism does not guarantee ongoing funding to undertake management actions.

	Mechanisms used to secure offsets
Voluntary Planning Agreement (VPA) (EP&A Act)	• These are agreements entered into with a planning authority (Minister for Planning, local government etc.) whereby a developer agrees to provide material public benefits for the conservation or enhancement of the natural environment for a public purpose to help offset a proposed development. • This can include the dedication of land for conservation purposes. • How a VPA operates depends largely on the specific wording of the agreement. • A VPA does not by itself guarantee ongoing funding to undertake management actions on dedicated land.
Property Vegetation Plan (NV Act)	• PVPs are voluntary, legally binding agreements between a landholder and Local Land Services (as delegate of the Minister) that can describe how native vegetation will be managed on a property. • This includes identifying areas that can be cleared and, if necessary, what areas need to be conserved to offset proposed clearing. • The details of offset areas identified under PVPs are negotiated on a case-by-case basis but can be established in perpetuity.
Public positive covenant or restrictions on the use of land (*Conveyancing Act 1919*)	• These impose obligations that are transferrable to subsequent owners of the land. • The details of such obligations depend on the wording of each arrangement but covenants are not mechanisms that are designed for conservation objectives. • Covenants can only be enforced by a Supreme Court decision, which is an expensive process, and do not provide ongoing funding to undertake management actions.

New Biodiversity Offsets Policy for Major Projects

Criteria for an appropriate mechanism for securing offsets were considered during the development of the new Biodiversity Offsets Policy for Major Projects. The following criteria were developed:

- the principal objective of ongoing site management is biodiversity conservation
- management is undertaken in accordance with a plan of management
- there is reasonable likelihood that sufficient resourcing will be available to implement the plan of management over time
- there are appropriate accountability mechanisms to secure the outcomes and these mechanisms cannot be altered without alternative and comparable offsetting arrangements being put in place
- the arrangements are in-perpetuity and conservation obligations are transparently transferred and disclosed to any new owners of the land through appropriate administrative procedures.

Of the various mechanisms that have been used in the past to secure offsets, only biobanking agreements fully adhere to the above criteria. Importantly, biobanking agreements provide a mechanism for ensuring there are adequate resources to undertake management of biodiversity at the offset site. As such, the Biodiversity Offsets Policy for Major Projects prescribes that biobanking agreements are the mechanism to be used to secure offsets.

Benefits of biobanking agreements for securing offsets

Under biobanking agreements, landowners agree to protect and manage an area of their land to improve its biodiversity values. In return, landowners can receive upfront compensation and an ongoing annual payment. These payments are made by the proponent to fulfil their offset requirements.

Biobanking agreements provide security and certainty for offsets because they ensure adequate funding for offset site management and have clear monitoring and reporting requirements. This gives increased confidence that agreed management actions will be undertaken and conservation outcomes achieved. Furthermore, biobanking agreements are recorded on the property title and transferred transparently to future owners in perpetuity. This provides added security because any future owners are required to undertake management actions (and will receive annual payments to cover these costs).

Given biobanking agreements provide annual funding in perpetuity for management of an offset site, they make ownership of an offset site a more attractive option. Farmers can use a biobank site to diversify their income. It means offset land is an actively managed part of the landscape and reduces the risk it will be 'locked up' and left.

Challenges with securing offsets under biobanking agreements

While their popularity is increasing, use of biobanking agreements is currently not widespread, especially among farmers. Reasons for this include:

- because it is a voluntary program there are a number of different streams that developers or farmers can go down including the *Environmental Planning and Assessment Act 1979* and the *Native Vegetation Act 2003*.
- many developers do not calculate their offset requirement using biodiversity credits – BioBanking is only currently used for a small proportion of projects, so developers do not look to purchasing credits as a way of fulfilling their offset requirements; instead, they set up and manage their own offset sites
- the upfront cost in setting up a biobank site of up to $40 000 – while these costs are usually recouped upon sale of the biodiversity credits, many landowners do not have the capital upfront or do not want to risk the uncertainty of not being able to find a buyer for the credits.

Commencement of the new Biodiversity Offsets Policy for Major Projects will address many of these issues because developers will be required to calculate their offsets in biodiversity credits. This will encourage the market for biodiversity credits to be established to some extent independently of government intervention. Developers will be looking to purchase biodiversity credits to fulfil offsets and this will provide further incentive for landowners to set up biobanking agreements. Developers may also choose to assist landowners to set up biobanking agreements instead of purchasing land and managing it themselves.

This will be further assisted by the BioBanking public register. To demonstrate they have taken appropriate steps to source offsets, developers are required to put an expression of interest for the credits they require on the BioBanking public register for a minimum of six months (or until they find a seller). Landowners can use this to get in touch with developers who require the types of biodiversity they have on their land. Landowners can also place their own expressions of interest on the register, which could result in developers approaching them directly.

Further assistance to landowners provided by the offsets policy fund

An offsets policy fund will be developed over the next 12 to 18 months to provide further assistance to landowners in setting up biobanking agreements. The fund will operate so that developers pay an amount of money into it in order to fulfil their offset requirements. The fund will have a program manager who will locate and secure appropriate offsets using this money. This program manager can proactively work with landowners and even provide loans to address the upfront costs.

4.10 Does the current system lead to inefficiencies?

The current regulatory framework results in inefficiencies including the need to obtain two approvals for the same activity. Multiple pathways for assessing biodiversity impacts can also create confusion for proponents and inefficiencies for government and proponents.

Overlap with Commonwealth legislation

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities, Ramsar wetlands, World Heritage and National Heritage places. The Australian Government Minister is responsible for assessing and approving actions, such as mines or port developments, which may impact on any matters of national environmental significance (MNES).

These responsibilities overlap with state approval processes. Proponents often need to engage with two governments to obtain environmental approval to undertake an activity. For example, if a proponent has a project proposal that will impact a nationally important species (listed as threatened by the Australian Government and usually also listed as threatened in New South Wales under the *Threatened Species Conservation Act 1995*), the impact on this species will need to be assessed and approved under NSW legislation (usually the *Environmental Planning and Assessment Act 1979*), as well as under the *Environment Protection and Biodiversity Conservation Act 1999*. This can result in delays and confusion for proponents, especially when each jurisdiction approaches the impact differently, requiring different (and sometimes conflicting) conditions of consent.

This overlap can be reduced if the Australian Government enters into an approvals bilateral agreement with a state or territory. These agreements allow the Australian Government to 'accredit' particular state or territory approval processes. This means the development will be approved by the state or territory and no further approval is required from the Australian Government Environment Minister under the *Environment Protection and Biodiversity Conservation Act 1999*.

New South Wales and the Australian Government (Commonwealth of Australia) are working towards having an approvals bilateral agreement in place as soon as possible. It is expected that any agreement signed will accredit some (but not all) of the development approval processes under the *Environmental Planning and Assessment Act 1979*.

Further information on the proposed approvals bilateral agreement is provided at Appendix F.

Duplication of approval requirements for native vegetation clearing

In some instances, landholders and proponents require both a PVP under the *Native Vegetation Act 2003* and a development consent issued under the *Environmental Planning and Assessment Act 1979* to clear. This requirement is commonly referred to as 'dual consent' and occurs in land-use zones to which the *Native Vegetation Act 2003* applies for activities that require development consent under the *Environmental Planning and Assessment Act 1979* within that zone. Most commonly, this includes rural-residential subdivisions and occasionally tourist accommodation, such as the construction of cabins in bushland.

The prevalence of dual consent has reduced following the commencement of the Native Vegetation Regulation in 2013. It expanded the number and scope of RAMAs removing the need for the landholder to obtain a PVP for activities such as clearing for dwellings.

For private native forestry, dual consent is a more significant issue. Currently, private native forestry (PNF) PVPs occur in a total of 70 local government areas across New South Wales. Approximately 40 per cent of these councils require landholders to obtain development consent to conduct forestry operations. The need to obtain a development consent in addition to a PNF PVP is considered to be inefficient and cumbersome by landholders and industry members. It adds an additional layer of regulation to the approval process and may be a barrier to landholders participating in private native forestry.

Multiple assessment pathways available under the Environmental Planning and Assessment Act 1979

The assessment pathways outlined in this paper have evolved over time as new biodiversity assessment needs have arisen or new policies have been developed. It is acknowledged, however, that it is confusing and inefficient to have many different methods for measuring biodiversity impacts.

For example, BioBanking currently provides an optional alternative pathway for proponents to use for biodiversity assessment and approval under the *Environmental Planning and Assessment Act 1979*. The BioBanking pathway can be advantageous for proponents because it is objective and therefore takes any politics out of approving an environmental impact. On the other hand, there is anecdotal evidence that proponents will opt not to take the BioBanking pathway where they can see they might impact a red flag (impact not permitted) and instead try their luck with the consent authority's discretion under the assessment of significance pathway. This is sometimes called 'policy shopping'.

Parallel processes could also lead to decisions being made along one path or another for political, economic, environmental or other reasons, leading to completely different outcomes for a prospective proponent. The introduction of the new Biodiversity Offsets Policy for Major Projects will resolve this problem for major projects, but the issue remains for other types of development.

Having multiple assessment pathways also conflicts with the NSW Government's *NSW 2021* priority action of developing a common set of offsetting principles and aligning offsetting practices.

4.11 Is effectiveness monitored?

While knowledge about the conservation status of threatened species has improved over the past 20 years, there is little data available to assess the effectiveness of biodiversity assessment and offsetting approaches for site-based activities in achieving conservation outcomes. A system has not yet been established to monitor the overall impact of site-based approval processes on the status of biodiversity in New South Wales.

In a step towards establishing this kind of monitoring system, OEH and the Department of Planning and Environment (DPE) have started compiling a register of biodiversity offsets that have been required through conditions of consent for approvals under the *Environmental Planning and Assessment Act 1979*.

Issues related to monitoring compliance with the approvals issued under the *Environmental Planning and Assessment Act 1979* and the *Native Vegetation Act 2003* are covered in Appendix H.

5. Regulation of site-based land management activities

As outlined in Section 3.2, in addition to regulating clearing, the *Native Vegetation Act 2003* and Native Vegetation Regulation 2013 also authorise land management activities including:

- activities that are usually part of existing agricultural operations (including sustainable grazing, management of invasive native scrub, clearing of paddock trees in cultivation and thinning trees to benchmark densities)
- a range of RAMAs that support or are related to existing agricultural operations
- other (non-agricultural) land management RAMAs
- forestry operations on private land.

This section considers how these activities are regulated under the current legislative framework.

5.1 Agricultural land management activities

Invasive native scrub management

Invasive native scrub (INS) is a native plant species that invades vegetation communities where it has not been known to occur previously or a species that regenerates densely following natural or artificial disturbance, and:

- the invasion and/or dense regeneration of the species results in a change of structure and/or composition of the vegetation community, and
- the species is within its natural geographic range or distribution.

Native plants that are invasive vary according to location, but include:

- woody weeds such as turpentine and budda that are widespread throughout western areas of the State, and
- dense growth-locked cypress pine and localised stands of dense eucalypt regeneration, for example bimble or poplar box, that commonly occur in the central part of New South Wales.

Under the *Native Vegetation Act 2003*, unless invasive native scrub is regrowth or can be cleared via RAMA, farmers are required to obtain a PVP to treat INS on their property. These requirements were developed in response to the need for a specific solution to the management of invasive native scrub.

INS PVPs allow the management (including clearing) of areas affected by INS to restore a mosaic of vegetation types (including grasslands, grassy woodlands and shrubby woodlands) across the landscape. INS PVPs do not allow a long-term intensification of land-use – i.e. from grazing to cropping.

INS PVPs do not require an offset. As at 31 July 2014, 503 INS PVPs have been approved covering 3,921,957 hectares. These PVPs have an average size of 7800 hectares. The majority of these INS PVPs are in the western parts of the State (see Figure C in Section 3.2).

While the areas approved for INS clearing is extensive, the amount of clearing actually taking place is very small. The *Native Vegetation Report Card* (OEH 2013) shows the estimated total clearing for crop, pasture and thinning across all of New South Wales was 8600 hectares in 2009–10 and 5400 hectares in 2010–11. This shows that the amount of the

approved INS clearing that is being undertaken must be very small. This is largely due to the cost of clearing of INS compared to grazing or cropping, particularly in western New South Wales. For example, in 2006, a landholder group estimated the cost of clearing INS to be between $75 and $120 per hectare depending on the technique used (Cobar Vegetation Management Committee 2006).

The INS PVP framework has been developed with a triple bottom line outcome in mind. It provides for the clearing of INS to create a mosaic of vegetation states across the landscape. This improves the carrying capacity of the land allowing farms to be more viable. It allows for the short-term cropping of appropriate land for up to three years out of 15. This helps the control of the woody weeds and allows the landholder to recover some of the costs of the INS control. The Cobar Vegetation Management Committee report (ibid.) claims that a landholder on the Cobar Peneplain could recover the costs of INS clearing in about five years with three crops allowed in 15 years.

Using INS for electricity generation

In March 2014, the NSW Government made changes to the Protection of the Environment (Operations) Regulation 2009 to allow INS cleared in accordance with a PVP or an INS order under the Native Vegetation Regulation 2013 to be burnt for electricity generation. This amendment creates a new market for INS and allows farmers to sell trees cleared on their properties to local electricity generators with purpose-built plants.

Clearing of paddock trees in cultivation

Paddock trees are native vegetation remaining in areas of cropping or pasture. Some paddock trees on farms are important for a healthy environment, particularly for the survival of native fauna such as birds and mammals. They work as islands of habitat and stepping stones between larger patches of native vegetation.

Paddock trees can be removed in relatively small numbers to improve production efficiencies, while balancing environment protection and loss through the use of offsets. In practice small numbers of paddock trees can usually be cleared if the landholder can secure sufficient offsets.

As at 31 July 2014, 307 paddock tree PVPs have been approved permitting the removal of 66,248 trees over an area covering 6620 hectares. Approximately 10 per cent of these are for less than 10 trees and about 10 per cent are for greater than 500 trees. The average number of paddock trees per PVP is 218. Paddock tree clearing is mostly distributed throughout the central parts of the State along the western plains (Lachlan, Murrumbidgee and Murray catchments).

An inter-agency working group is considering the feasibility of streamlining the assessment of paddock tree clearing. Analysis of paddock tree assessments up to 2011 shows that almost all paddock tree clearing required an offset of 5:1 or 10:1 depending on whether the trees being cleared contained hollows. This outcome lends itself to streamlining the assessment and focusing the accredited assessors effort on defining an appropriate offset strategy that suits the landholder.

The proposed method would also provide greater flexibility in suitable offsets for paddock tree clearing. For example, in some instances it would allow the creation of an offset by revegetation rather than reserving and managing existing mature vegetation.

Thinning trees to benchmark densities

Thinning is the selective removal of individual trees and woody shrubs to specified benchmark densities. Thinning:

- increases native pasture and groundcover growth
- reduces competition between trees and shrubs
- improves growth and maturation of retained trees
- assists regeneration and recruitment of other species of that vegetation community.

Offsets are not required for thinning PVPs because thinning to benchmark levels is taken to enhance vegetation condition.

Only a small number of thinning PVPs have been issued to date. As at 31 July 2014, 39 thinning PVPs have been approved covering 5882 hectares. It is likely that landholders are not thinning to benchmark stem densities because it does not increase the area available for grazing enough to warrant investment.

Introduction of self-assessable codes

The Native Vegetation Regulation 2013 now provides that the Minister may by order declare INS clearing, thinning and clearing of paddock trees in cultivation to be a RAMA. Self-assessable codes were introduced on 20 November 2014, and now it is more likely that landholders will carry out these types of clearing as RAMAs, and PVPs for these types of clearing will not always be required.

5.2 Land management RAMAs that support existing agricultural operations

As outlined in Section 4.2, the *Native Vegetation Act 2003* and Native Vegetation Regulation 2013 include a range of RAMAs that support ongoing farm management such as:

- construction of rural infrastructure (and obtaining construction timber for rural infrastructure **on the same land**)
- clearing of pests and noxious weeds
- collecting firewood (other than for commercial purposes)
- lopping for stock fodder
- clearing to remove or reduce an imminent risk of serious personal injury or damage to property
- clearing planted native vegetation as needed to best manage the property, including vegetation planted for commercial purposes (farm forestry).

5.3 Other land management RAMAs

The *Native Vegetation Act 2003* and Native Vegetation Regulation 2013 also include some RAMAs for other land management activities that are authorised under other legislation:

- clearing in accordance with a conservation agreement made under NSW or Commonwealth legislation
- clearing permitted under and in accordance with a scientific licence under the *National Parks and Wildlife Act 1974*.

Clearing native vegetation for traditional Aboriginal cultural activities (except commercial activities) is also a RAMA. This RAMA recognises the custodial relationship Aboriginal people hold with the land and its resources and the importance of maintaining Aboriginal cultural practices.

5.4 Private native forestry

Private native forestry (PNF) is the management of native vegetation on privately owned land for the purpose of obtaining timber products on a sustainable basis.

The sustainable use of forests does not result in land-use change. PNF is regulated under the *Native Vegetation Act 2003* because the definition of clearing includes the cutting down of trees, such as occurs in a forestry operation. The Native Vegetation Regulation 2013 provides that broadscale clearing for PNF is taken to maintain or improve environmental outcomes if carried out in accordance with a separate PNF Code of Practice (the PNF Code).

PNF is regulated by the NSW Environment Protection Authority (EPA) under the *Native Vegetation Act 2003* and the Native Vegetation Regulation 2013 under delegated powers. Forestry operations for the purpose of PNF require approval under a PNF PVP. A PNF PVP is a legally binding agreement between a landholder and the EPA, and requires the landholder to agree to apply the PNF Code. The PNF Code protects landscape features, such as old-growth forests, rainforests, drainage features, and Aboriginal cultural sites and objects. Additional prescriptions in the Code protect threatened species where there is a known record or site evidence of their presence.

The PNF Code also includes minimum basal area requirements (essentially a floor for how intense harvesting can be), standards for particular harvesting practices, regeneration requirements, minimum standards for tree retention including hollow-bearing trees, protection of drainage features, standards for roading and species-specific provisions.

PNF PVPs approved to date

As set out in Table 9, since 2008–09, 2870 PNF PVPs have been approved covering 463,770 hectares. Demand for hardwood timber from native forests is cyclical and heavily driven by the construction industry. The decrease in 2012–13 and 2013–14 in PNF PVP approvals is likely to have been affected by broader economic trends which have influenced the construction industry.

Table 9: PNF PVPs approved to date

	Area of PNF PVP (hectares)						
Forest type	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**Total**
Northern NSW	92,390	54,727	58,490	58,730	43,200	35,190	342,727
Southern NSW	4,943	3,804	5,830	3,093	4,243	494	22,407
River Red Gum	37,367	4,506	11,860	4,664	10,047	1,694	70,138
Cypress and Western Hardwood	8,184	3,906	3,511	5,678	3,698	3,521	28,498
Totals	142,884	66,943	79,691	72,165	61,188	40,899	463,770

Decision-making and assessment

The EPA cannot approve a PNF PVP unless the PVP adopts the PNF Code and provides for the logging to be carried out in accordance with the PNF Code, which sets the minimum operating standards for harvesting in private native forests.

The EPA provides the landholder with advice and information to help them make a decision as to where on their property it might be appropriate to apply PNF. For example, areas that are mainly cleared are usually best left out of a PNF PVP. Similarly, there may be benefits in excluding areas such as rainforest and old growth that cannot be harvested.

There are no pre-harvest environmental surveys carried out because the general provisions of the PNF Code are considered to maintain general habitat values, such as hollow-bearing trees, to a sufficient degree.

The PNF Code has been granted biodiversity certification under the *Threatened Species Conservation Act 1995*. This means that once a PNF PVP has been approved, landholders do not need to separately apply for a licence under the *Threatened Species Conservation Act 1995*.

Use of offsets

Offsets are not used in PNF regulation. PNF operations carried out in accordance with the PNF Code of Practice are taken to improve or maintain environmental outcomes without the need for offsetting.

Common stakeholder concerns about the PNF Code

The PNF Code was reviewed as part of the review of the Native Vegetation Regulation 2005 Some common concerns about the operation of the PNF Code are outlined below. The issue regarding dual consents for PNF is covered in Section 4.10.

Weak biodiversity protection

A significant and consistent concern of conservation groups is the lack of mandatory pre-harvest biodiversity surveys. The species-specific provisions in the PNF Code are triggered by existing records on the Atlas of NSW Wildlife, or by site evidence. Given these operations are on private land, records on the Atlas of NSW Wildlife are uncommon. Site evidence is rarely triggered, as it would only be obtained during forestry operations if an EPA officer visited the property and actively looked for evidence, or if landholders did this.

Given specialist threatened species knowledge is often needed to identify threatened species habitat in the field, and the majority of landholders and their contractors do not hold this knowledge, there is a strong risk that threatened species and their habitat on private land will not be found. This is borne out by anecdotal evidence that threatened species prescriptions are rarely triggered in PNF.

Not requiring pre-harvest biodiversity surveys can be seen as adoption of a risk-based approach. The Code was designed on the basis that the general requirements, such as basal area retention and landscape provisions, should minimise the impact on biodiversity, including threatened species. In comparison, pre-harvest surveys are currently required on State forest, where harvesting is usually of greater intensity. Not requiring a pre-harvest survey also takes account of social and economic realities of landowners, as many PNF

operations are undertaken to supplement farm income and requirements for pre-harvest survey would be cost prohibitive.

The EPA is currently mapping threatened ecological communities on State forest and improving mapping on private land, which might inform improved approaches to biodiversity assessment processes in the PNF Code.

Protection for koala habitat under the PNF framework

Stakeholders have raised particular concerns about the protection of koalas and their habitat under the PNF Code.

The EPA exhibited a discussion paper about this issue in 2012 at the same time as the review of the Native Vegetation Regulation 2005. In part the issue is the same as that for threatened species in general, i.e. the lack of pre-harvest surveys. The PNF Code also requires forestry operations be excluded from core koala habitat, as defined under State Environmental Planning Policy 44. In general this refers to areas mapped as such by local governments in comprehensive koala plans of management (KPOMs).

Only some councils with koala habitat have prepared KPOMs, and the approach to the definition and mapping of core koala habitat varies greatly. This has created challenges for the EPA in determining where core koala habitat exists and led to strong criticism from the community.

The EPA is considering options to improve the treatment of koalas in the PNF framework that will improve how habitat is identified and protected, including the consistency of mapping.

Flexibility in the PNF Code

Landholders are able to seek a minor variation to their PVP if the projected impact of the PNF Code's environmental prescriptions means that more than 10 per cent of a PVP area cannot be logged. The Minister can determine to modify the PNF Code if an accredited expert certifies (among other things) that the variation to the environmental prescriptions is minor, the proposed logging will improve or maintain environmental outcomes, and strict adherence to the PNF Code in the particular case is unreasonable and unnecessary.

However, no minor variations have been made to date. While the lack of guidelines and processes for minor variations may be a contributing factor, the lack of requests for minor variations is mostly due to the fact that landholders and contractors can nearly always work within the requirements of the PNF Code.

Limited application of PNF Code amendments

PNF PVPs must comply with PNF Code provisions that existed at the time the PVP was granted. Subsequent amendments to the Code do not apply retrospectively to existing PVPs. While this provides greater certainty for landholders, it means that any PNF Code amendments that improve environmental outcomes are limited to PVPs that are issued after the amendments are made (unless a landholder voluntarily applies to amend their PVP to adopt the new version of the PNF Code).

Regulation

Some landholders have expressed concern that the current regulatory controls do not provide long-term certainty regarding the availability of timber. There is some anecdotal evidence that some landholders harvest at a greater intensity than they otherwise would, on the assumption that future changes to regulatory controls may reduce or prevent harvesting altogether.

Some landholders would consider the PNF Code provisions to be too restrictive and do not allow sufficient silvicultural flexibility. Equally, some environmental stakeholders consider the PNF Code provisions to be too weak and permit excessive environmental harm.

Inconsistencies regulating native forestry across tenures

Native forestry operations on Crown land (including State forests) in New South Wales are approved under the provisions of the *Forestry Act 2012*. Under this Act native forestry operations are subject to regionally based Integrated Forestry Operations Approvals (IFOA) which permit forestry operations and set approval conditions. Further information on the assessment and approval of native forestry on Crown land in New South Wales is provided in Appendix L.

The public and private forestry sectors supply roughly the same amount of native timber to NSW timber mills each year, however, the regulatory frameworks are based on different legislative principles. While the *Native Vegetation Act 2003* sets an improve or maintain standard for biodiversity impacts the IFOA authorises conditional harm to threatened species during forestry operations.

The EPA is working towards aligning regulatory requirements across tenures through the remake of the coastal IFOAs, increasing alignment with the PNF Code of Practice, and through the introduction of consistent minimum standards for timber contractors and haulage operators.

6. Comparison with approaches in other jurisdictions

Legislative and policy frameworks for biodiversity are regularly reviewed in most jurisdictions due to the impact of the laws on landholders/developers and the environment. Key policy issues include the way social, economic and environmental considerations are balanced and methods used to determine areas with important biodiversity values.

This section provides a summary of New Zealand, Victorian and Queensland systems (Table 10), which have all undergone recent reviews, and information about the way the key policy issues have been treated in those jurisdictions.

6.1 Balancing social, economic and environmental considerations

In Victoria, the decision-maker (usually local councils) assesses development and native vegetation clearing proposals against policy objectives set out in State planning provisions. This non-metric-based approach involves striking a balance between social, economic and environmental matters. Decision-makers may be guided by schedules (similar to NSW Development Control Plans) to supplement or fine-tune the State planning provisions to local circumstances.

In Queensland, where approval to clear native vegetation is required, the proposal is assessed against specified environmental performance outcomes set out in the State Development Assessment Provisions (SDAP). If the clearing is for the purpose of 'high value agriculture' 'or 'high value irrigated agriculture' (clearing of native vegetation to establish, cultivate and harvest crops that may or may not be supplied with water by artificial means), the proponent must demonstrate in a development plan that the land is suitable for the proposed activity.

For required development approvals in Queensland, specified performance outcomes and acceptable outcomes are set out in local and State planning schemes. The consent authority uses a non-metric-based, heads-of-consideration approach in determining whether the development should be approved. However, as outlined in Section 4.2, where the clearing results in material land-use change, different outcomes are specified depending on the land use (e.g. while agricultural development must demonstrate environmental impacts are avoided or minimised, the same is not required of clearing for extractive industries such as mining). This means that extractive industries can proceed to identifying offsets without the requirement to avoid or minimise impacts first.

In New Zealand, resource consent decisions (including agricultural clearing and other forms of development) are made by district councils following an assessment of environmental effects by the proponent. Where the development will result in what are considered as 'more than minor' environmental effects, the applicant needs to show how they will 'avoid, remedy or mitigate' effects. The consent authority makes a decision using a heads-of-consideration approach that weighs up various social, economic and environmental factors.

6.2 Methods used to determine areas with important biodiversity values

For native vegetation clearing, New South Wales relies on definitions in the *Native Vegetation Act 2003* to identify types of vegetation which may or may not require approval to be cleared (for example groundcover, regrowth). The Act also uses definitions to limit the geographical application of the Act.

Other jurisdictions (such as Victoria and Queensland) have recently moved to using mapping to identify where certain biodiversity values may be present, triggering regulatory controls and avoiding the need for definitions such as regrowth and remnant vegetation. Once regulatory controls are triggered some jurisdictions go further and use mapped information to guide the outcomes of the assessment process. Given a map-based approach relies on the accuracy of the assumptions about where low-risk areas are, extensive resources would be required to roll out an equivalent system in New South Wales.

Victoria, which has less native vegetation and a smaller land area than New South Wales, has developed the following maps for native vegetation:

- native vegetation location risk map – used to determine the process for how a permit application is assessed, including the application requirements and the decision guidelines that are applied
- native vegetation condition map – used to calculate the offset requirements for applications assessed in the low risk-based pathway.
- strategic biodiversity map – used to calculate and determine the offset requirements for applications assessed in the low risk-based pathway.
- habitat importance maps for rare or threatened species – used to assess the impact of the proposal on the habitat for any rare or threatened species.

Given the maps were largely compiled using modelling of vegetation types, the Victorian maps have been criticised because of errors in accurately identifying vegetation. For example, several errors have been identified where habitats of threatened species were mapped as low risk and can be cleared without approval (Chee 2013). While site-based validation processes are in place to address these concerns, they do add to implementation costs.

In Victoria, local councils are also encouraged to use available information to incorporate biodiversity considerations into local planning provisions for development controls. This includes using maps to show zoning and overlays to the maps to supplement baseline conservation provisions.

Queensland has also produced a series of maps to trigger the requirement for approval and to inform the decision made:

- regulated vegetation management maps – showing vegetation categories needed to determine clearing requirements
- supporting maps – giving information on regional ecosystems, wetlands, watercourses and essential habitat
- land suitability maps – for considering irrigated and non-irrigated high-value agriculture clearing proposals.

While the maps provide landholders with greater certainty about what can be cleared, the regulated vegetation management maps have been criticised by environmental groups. These maps re-categorise regrowth on freehold and indigenous land that was previously

considered to be high conservation value as unprotected regrowth that can be cleared without approval. The Australian Network of Environmental Defender's Offices reports that this change has opened up 700,000 hectares of bushland for clearing, of which 79 per cent was previously protected due to the presence of essential habitat for threatened species or endangered ecosystems (ANDEO 2014).

For planning decisions, Queensland has mapped its matters of State environmental significance which are utilised for development consent decisions.

In New Zealand, the *Resource Management Act 1991* requires the protection of areas of significant indigenous vegetation and significant habitats for indigenous fauna as a matter of national importance. This applies to all forms of development, including clearing of vegetation. Rather than providing a test of significance, criteria used to identify matters for protection are included in regional policy statements. The regional statements may also identify additional matters of significance based on local or regional factors.

Once identified as significant, councils must manage the effects of activities through district and regional plans and resource consent decisions (or be satisfied that effects are managed through other methods).

The proposed New Zealand National Policy Statement (NPS) on Indigenous Biodiversity will introduce standardised criteria for identifying areas of significance. The proposed NPS contains a list of criteria for identifying areas of indigenous vegetation and habitats of indigenous animals that have been recognised as being rare and/or threatened at a national level.

Table 10: Summary of the systems operating in Victoria, Queensland and New Zealand

	Victoria	Queensland	New Zealand
Development approvals	• Biodiversity considerations are incorporated into planning provisions. • Councils may use schedules to set out decision guidelines for specific biodiversity assets such as protecting sites of biological significance or essential habitat for threatened species. • Majority of approvals are determined by the local council; Minister for Planning is responsible for state-significant projects in certain areas. • Environmental assessment may be required; consent authorities need to consider this assessment in making a determination.	• Biodiversity impacts are not directly considered through the planning approval system. • Approvals are determined by the local council or by the State Assessment and Referral Agency. • Environmental assessment may be required; consent authorities need to consider this assessment in making a determination. • A range of low-risk development does not require approval.	• Biodiversity considerations are incorporated into statutory planning control through district and regional plans. • District plans are used to identify sites of 'significant indigenous vegetation' and 'significant habitat' and impose controls on development at these sites. • Proposed National Policy Statement on Indigenous Biodiversity (NPS) is intended to guide decision-makers when making consent decisions at district and regional level. • Under NPS, consent authorities will be required to make decisions which maintain native biodiversity and ensure no net loss of biodiversity of areas of 'significant indigenous vegetation' and 'significant habitats'. • Regional policy statements may also impose requirements on how development proposals are considered in order to provide added protection at local level.
Native vegetation clearing	• Integrated into planning provisions. • Four-tier approach: exempt and three risk-based pathways (low, medium and high). • Risk-based pathway is determined by the extent and location of proposed clearing. • Low- and medium-risk applications are considered by the local council; high-risk applications are considered by the Department of Environment and Primary Industries. • Clearing proposals of low risk are subject to a simplified process to minimise administration and costs to landholders. • Guidelines and assessment tools (metric-based) are used to prepare and assess applications. • Offset requirements are determined by a metric score called the biodiversity equivalence score.	• Operates as a separate system to planning. • Four-tier approach for deciding what activities need approval: 1. Exempt, 2. Self-assessable codes, 3. Clearing without an approval where area management plans have been prepared by groups of rural landholders or rural organisations with notification, 4. Development approval for clearing that does not come under tiers 1–3. • Where approval is required, different requirements apply depending on the type of clearing; e.g. clearing for environmental works can be done under a self-assessable code (to restore the ecological and environmental condition of land, prepare for the likelihood of a natural disaster or remove contaminants from land). • Development approval applications are assessed by the State Assessment and Referral Agency.	• Fully integrated into the planning system. • Regional and district plans identify certain clearing activities as requiring consent.
Offsets	• Applies an 'avoid, mitigate, offset' framework, and has an objective of no net loss. • Offsets are required whenever a permit to remove native vegetation is granted. • Offsets requirements are determined by applying guidelines that identify the type of offset required (specific or general), the amount of gain required, and the attributes the offset must have. • Offsets can be delivered on a proponent's own land, or through the purchase of a 'native vegetation credit from a third party'. • Proponents can engage a broker to assist in sourcing credits through some local councils, BushBroker, or the Trust for Nature. • Offsets must provide permanent gain. • A native vegetation credit register tracks the creation and sale of offset credits.	• New policy introduced in July 2014 applies an 'avoid, mitigate, offset' framework. • Requires offsets to deliver a 'conservation outcome'. That is, they must maintain the viability of the matter impacted, relative to the status quo. • The policy is for the use of all administering agencies including local government. • Offsets can be in the form of a 'proponent-driven offset' (either a traditional land-based offset, or a 'Direct Benefit Management Plan' – similar to supplementary measure in New South Wales) or a 'financial settlement offset' (payment to the department who delivers the offset with the funds provided). • Offsets must exist for the duration of the impact. • Developers can enter into contractual arrangements with offset providers, who are then responsible for delivering the offset under the terms of the contract.	• Offsets are currently treated as consent conditions and imposed by consent authorities depending on requirements of regional and district planning controls and regional policy statements. • Offsetting principles identified in the proposed NPS include no net loss, additionality and adaptive management. • No net loss objective to be achieved by 'avoid, remediate, mitigate, offset' framework. • Certain impacts in removing listed vulnerable or irreplaceable vegetation cannot be offset and will require the development proposal to be amended.

7. Conclusions

The main conclusions of the paper are:

- Over time, a number of different assessment and approval pathways for development and land management activities that impact on biodiversity have been introduced in New South Wales. This includes one legislative regime for clearing and land management activities in rural and rural-residential areas (the *Native Vegetation Act 2003*) and another for development in other areas in the State (the *Environmental Planning and Assessment Act 1979*) (Sections 3.1 and 3.2).
- Metric-based and non-metric-based assessment methods are used. Metric-based assessment methods (EOAM, BBAM and FBA) aim for an objective assessment and determination that limits consent authority discretion as much as possible. Non-metric-based methods (assessment of significance and EIS) are more subjective and rely heavily on consent authority discretion (Section 3.4).
- The methods used to assess biodiversity impacts do not consider the same range of impacts. Some focus on impacts on threatened species and others also consider broader impacts on ecosystem services (Section 4.1).
- The *Environmental Planning and Assessment Act 1979* and *Native Vegetation Act 2003* do not use a consistent risk-based approach to determining whether approval is required before clearing/development can occur (Section 4.2).
- The mechanisms for assessing, protecting and allowing impacts on biodiversity in New South Wales do not require the same environmental standard to be reached for a project to be approved (Section 4.3).
- Non-metric-based systems provide significant flexibility to allow for reasonable alternatives to be developed that address the biodiversity impacts of a project. However, the benefits of this flexibility come at the cost of a significant lack of certainty about the outcomes for proponents and the broader community (Section 4.6).
- Metric-based systems provide greater certainty, but issues have been raised about their inflexibility in specifying unacceptable impacts and options available for offsetting. The new Biodiversity Offsets Policy for Major Projects seeks to include this kind of flexibility in a metric-based approach (Section 4.6).
- There are currently some constraints on the effectiveness of metric-based systems. They do not assess indirect impacts of developments and there is also a risk of incorrect technical assumptions becoming embedded in all approvals (Section 4.7).
- The *Environmental Planning and Assessment Act 1979* and *Native Vegetation Act 2003* approval pathways both consider social and economic considerations, albeit in different ways. Under the *Environmental Planning and Assessment Act 1979* the social, economic and environmental impacts of each project are considered broadly to determine if a project should go ahead. The *Native Vegetation Act 2003* doesn't undertake this assessment on a case-by case basis. Instead, the legislation defines which environmental impacts do not require assessment and approval based on social and economic considerations (for example, through RAMAs, and definitions of regrowth, etc.) (Section 4.8).
- The case-by-case negotiation of offset requirements has led to a wide variety of mechanisms being used to secure offsets. Not all mechanisms used guarantee the desired environmental outcome will be achieved (Section 4.9).
- The new Biodiversity Offsets Policy for Major Projects promotes the use of biobanking agreements, which provide opportunities for private landowners to financially benefit from

offsets. The offsets fund will assist landowners to better engage with these opportunities in future (Section 4.9).

- The current regulatory framework results in inefficiencies, including the need to obtain two approvals for the same activity. Multiple pathways for assessing biodiversity impacts can also create confusion for proponents and inefficiencies for government and proponents (Section 4.10).
- The *Native Vegetation Act 2003* also relies on unclear terms to determine what vegetation can and can't be cleared without approval. These definitions create uncertainty for landholders and may contribute to poor biodiversity outcomes (Section 3.2).
- Instead of using definitions, Victoria and Queensland have moved to using maps to define important biodiversity values and land that cannot be cleared without approval. However, it is likely that extensive resources would be required to accurately map important biodiversity values (Section 6.2).
- In addition to regulating clearing, the *Native Vegetation Act 2003* also regulates some land management activities that that do not result in land-use change. These activities include management of invasive native scrub, clearing of paddock trees in cultivation, thinning trees to benchmark densities and private native forestry (Section 5).
- While the public and private forestry sectors supply roughly the same amount of native timber to NSW timber mills each year, the regulatory frameworks for logging on private and public land are based on different environmental standards and rule sets (Section 5.4).

These issues will be further explored by the Independent Legislation Review Panel and recommendations for reform will be made in the panel's report to the government.

Appendix A: Key events in the history of the NSW development approval system

Year	Event	
1979	*Environmental Planning and Assessment Act 1979* (EP&A Act) made	New South Wales became the first Australian state to follow the lead of the United States in requiring the environmental impacts of public infrastructure and private development be considered by the authority approving the development or activity.
1991	*Endangered Fauna (Interim Protection) Act 1991* made	Amended the NPW Act and EP&A Act to provide for the interim protection of endangered and protected fauna and their habitat until a more comprehensive regulatory system could be developed. This amendment arose following legal action against the NSW Forestry Commission for failing to obtain a licence to harm under the *National Parks and Wildlife Act 1974*.
1995	*Threatened Species Conservation Act 1995* (TSC Act) made and EP&A Act amended	The TSC Act repealed *the Endangered Fauna (Interim Protection) Act 1991* and integrated threatened species, populations and ecological communities considerations into site-based decision-making for development, removing the need for a separate licence from the NSW National Parks and Wildlife Service. The EP&A Act was amended to introduce a new list of factors to be considered when determining whether a development is likely to significantly affect any threatened species, populations or ecological communities, or their habitat at s. 5A (the assessment of significance).
	State Environmental Planning Policy 46 – Protection and Management of Native Vegetation (SEPP 46) introduced	Interim measure to prevent inappropriate clearing of certain native vegetation with the consent of the Director General of the then Department of Land and Water Conservation and the concurrence of the Director General of the National Parks and Wildlife Service while the NSW Government developed native vegetation conservation legislation.
1996	NSW Vegetation Forum established	The Forum considered options to replace SEPP 46 and recommended adopting a regional approach combined with an incentive scheme in the new legislation. Included representatives of rural and conservation interests and government agencies.
1997	*Native Vegetation Conservation Act 1997* made	Repealed SEPP 46 and introduced Regional Vegetation Management Plans (RVMPs) developed by Regional Vegetation Committees to provide specifications on permissible clearing in a region. Clearing of native vegetation permitted in an RVMP did not require development consent.
1998	EP&A Act amended	The EP&A Act was amended to include ecologically sustainable development (ESD) as an object of the Act in s. 5 and to require concurrence authorities to take ESD into consideration when determining whether or not concurrence should be granted for a proposed activity.

Year	Event	
2002	Auditor General's Audit Report *Regulating the Clearing of Native Vegetation*	The audit found that accountability was not clear and that the strategy, targets and RVMPs were yet to be finalised. 'Permitted clearing' was interpreted and applied differently across the regions, leading to intractable disputes over the Walgett and Nyngan RVMPs. Landholders saw the differences in regional plans as unfair and lacking transparency.
2003	Report by the Wentworth Group of Concerned Scientists *A New Model For Landscape Conservation in NSW* and formation of the Native Vegetation Reform Implementation Group	Wentworth Group of Concerned Scientists released a report outlining a new model for landscape conservation at the request of the NSW Government. In response to the Wentworth Group's report, 48 recommendations were made by the Native Vegetation Reform Implementation Group on how to implement the NSW Government's native vegetation policies.
	Native Vegetation reform package made	The NSW Government introduced the native vegetation reform package, including the *Native Vegetation Act 2003* (NV Act), the *Catchment Management Authorities Act 2003* (CMA Act) and the *Natural Resources Commission Act 2003* (NRC Act). The CMA Act established 13 regional Catchment Management Authorities (CMAs) authorised to conduct assessments of site-based clearing approvals (using the EOAM), issue Property Vegetation Plans (PVPs) and provided extension and advisory services to landholders.
2004	TSC Act amended	The TSC Act was amended to allow the Minister for the Environment to grant biodiversity certification to environmental planning instruments (EPIs). The rationale for biodiversity certification is that biodiversity assessment is undertaken at the strategic planning phase, rather than on a site-by-site basis, providing greater certainty for biodiversity outcomes, development applicants, local governments and other stakeholders.
2005	Native Vegetation Regulation 2005 and Environment Outcomes Assessment Methodology made	The NV Act commenced when the Native Vegetation Regulation 2005 was made and the Environment Outcomes Assessment Methodology (EOAM) came into effect.
	Biodiversity certification conferred on the native vegetation reform package	The Minister conferred biodiversity certification on the native vegetation reform package (except for private native forestry). As a result once a PVP has been approved, landholders do not require a separate licence under the TSC Act.
	Environmental Planning and Assessment Amendment (Infrastructure and Other Planning Reform) Act 2005 made	The EP&A Act was amended to introduce a new category of major projects to be approved under a new Part 3A (typically large government infrastructure projects, and large private developments). Projects coming under Part 3A did not require a species impact statement or OEH concurrence for development likely to significantly affect threatened species and communities.

Year	Event	
2007	Private Native Forestry Code of Practice (PNF Code) made and received biodiversity certification	Established a regulatory framework for the sustainable management of forests by ensuring that operations improve or maintain environmental outcomes. The PNF Code sets minimum operating standards for harvesting in private native forests. PNF Code receives biodiversity certification by order of the Minister, meaning that once a PVP has been approved, landholders do not require a separate licence under the TSC Act.
2008	Biodiversity Banking and Offsets (BioBanking) Scheme introduced	The Threatened Species Conservation (Biodiversity Banking) Regulation 2008 and the BioBanking Assessment Methodology came into effect at the same time. The biodiversity banking scheme was established in the TSC Act in 2006 to help address the loss of biodiversity and threatened species through the creation of a market in biodiversity credits providing incentives to protect biodiversity values.
2010	TSC Act amended	The TSC Act was amended to introduce new arrangements for granting biodiversity certification over land (rather than EPIs, which had been only used once since 2004)
2011	*Environmental Planning and Assessment Amendment (Part 3A Repeal) Act 2011* passed	The EP&A Act was amended to repeal Part 3A and the major projects category of development and replaced it with two new categories of development – State-significant development and State-significant infrastructure. Proposals for both new categories require the submission of a comprehensive environmental impact statement, but species impact statements and OEH concurrence for development likely to significantly affect threatened species and communities are still not required.
2013	Native Vegetation Regulation 2013 made	The regulation introduced new or expanded permitted activities to clear native vegetation without a PVP under an amended EOAM and the ability for the Minister to make orders (self-assessable codes) for certain types of low-risk clearing. Self-assessable codes will reduce red tape for landholders, allowing them to get on with managing their farms sustainably without the need to wait for government assessment and approval.
2014	*Local Land Services Act 2013* (LLS Act) commences	The LLS Act repealed the CMA Act and replaced Catchment Management Authorities with Local Land Services. PVP approval and extension/advisory functions continue unchanged.
	NSW Biodiversity Offsets Policy for Major Projects in NSW released for public consultation and finalised	The new policy aims to clarify, standardise and improve biodiversity offsetting for major project approvals for State-significant development and State-significant infrastructure under the EP&A Act.

Appendix B: Regulation of site-based based activities in New South Wales

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
Defences, exemptions and legislative exclusions						
	Exempt development (unless land is critical habitat or is part of a wilderness area)	Minimal environmental impact, e.g. new decks, garden sheds, carports, fences, window repairs and house painting.	s.76 EP&A Act	Self-assessment by landholder	No	N/A
	Clearing of native vegetation that is only regrowth (but not protected regrowth)	Regrowth is native vegetation that has regrown since 1 January 1983 in the Western Division and 1 January 1990 elsewhere (or since any date specified in a PVP). Regrowth does not include any native vegetation that has regrown following unlawful clearing of remnant native vegetation or following clearing of remnant native vegetation caused by bushfire, flood, drought or other natural cause.	s.19 NV Act	Self-assessment by landholder	No	N/A
	Certain clearing of native vegetation that comprises groundcover	Permitted if the vegetation comprises less than 50 per cent of indigenous species, and not less than 10 per cent of the area is covered with vegetation, and those percentages are calculated in accordance with the NV Regulation.	s.20 NV Act	Self-assessment by landholder	No	N/A

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
	Continuation of existing cultivation, grazing or rotational farming practices	Permitted if it does not involve the clearing of remnant native vegetation, and in the Western Division, if it does not involve the clearing of native vegetation comprising trees not less than 3 metres high of either river red gum, belah or white cypress pine.	s. 23 NV Act	Self-assessment by landholder	No	N/A
	Clearing of native vegetation for RAMAs (for examples of RAMAs see section 11 of the NV Act and NV Regulation)	Clearing of native vegetation for RAMAs must be to minimum extent necessary or as provided for in NV Regulation.	s.22 NV Act	Self-assessment by landholder	No	N/A
	Sustainable grazing	Sustainable grazing that is not likely to result in the substantial long-term decline in the structure and composition of native vegetation.	s.24 NV Act	Self-assessment by landholder	No	N/A
	Clearing native vegetation – other legislative exclusions	The NV Act does not apply to a number of types of clearing of native vegetation including (among others) clearing authorised or permitted under other legislation (e.g. mines, roads, emergency firefighting, plantations, rural water infrastructure)	s.25 NV Act	Self-assessment by landholder	No	N/A

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
	Clearing on land that is excluded from the operation of the NV Act	The NV Act does not apply to: land in urban areas, land reserved or acquired under the NPW Act and in other conservation areas, State forestry land, biodiversity certified land, land to which certain orders apply, land to which a State Heritage Register listing applies, Lord Howe Island and certain seniors housing.	s. 5 NV Act	Self-assessment by landholder	No	N/A
	Clearing native vegetation for the purpose of bushfire hazard reduction work where the work is carried out in accordance with a bush fire management plan, bushfire hazard reduction certificate and any relevant bushfire code (includes the establishment or maintenance of fire breaks and fire trails on land)	Conditional exemption from requirement for approval/consent/other authorisation under the EP&A Act, NV Act or TSC Act and liability for threatened species offences under the NP&W Act.	s. 100C *Rural Fires Act 1997*	Self-assessment by landholder/land manager	No	N/A

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
	Conditional clearing of certain vegetation by owner of land within a 10/50 vegetation clearing entitlement area, provided the clearing work is carried out in accordance with the 10/50 Vegetation Clearing Code of Practice.	Exemption from requirement for an approval, consent or other authorisation for the work made by the EP&A Act or the NV Act and liability for threatened species offences under the NP&W Act.	s. 100R *Rural Fires Act 1997*	Self-assessment by landholder	No	N/A
Complying development						
	Complying development, as determined under an environmental planning instrument, such as a Local Environment Plan	Low impact, e.g. extension to an existing house, a new two-storey house, a home business, strata subdivision	s. 76A EP&A Act	Local council / private certifier	No	N/A

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
Consents, approvals and licences						
Part 4 development approval (excluding SSD)	Development that is specified in an environmental planning instrument as requiring development consent	e.g. subdivisions, construction of buildings, change of use of a property.	Part 4 EP&A Act	Usually local council. Proposals for development on land that is, or is part of, critical habitat or development that is likely to significantly affect a threatened species, population or ecological community, or its habitat, require the concurrence of the Chief-Executive of OEH, unless the Minister is the consent authority, in which case he or she must consult with the Minister for the Environment.	Yes If application is in respect of designated development, an environmental impact statement must accompany the development application. If application is in respect of development on land that is, or is part of, critical habitat or is likely to significantly affect threatened species, populations or ecological communities, or their habitats, the application must be accompanied by a species impact statement.	Assessment of significance to determine if development is likely to significantly affect a threatened species, population or ecological community. In determining the development application the consent authority is to take into consideration matters including (among others) the likely impacts of that development, including environmental impacts and the public interest. For Part 4 development, the consent authority is not required to take into consideration the likely impact of the development on biodiversity values if the development is to be carried out on biodiversity-certified land or a biobanking statement has been issued in respect of the development.

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
Part 5 activities	Activities that do not require development consent under an environmental planning instrument.	e.g. construction of roads and sewerage works by local or State governments.	Part 5 EP&A Act	Determining authority (Minister or public authority). Proposals for activity on land that is, or is part of, critical habitat or is likely to significantly affect a threatened species, population or ecological community, or its habitat, where the determining authority is not a Minister, require the concurrence of the Chief-Executive of OEH. For activity in respect of land that is, or is part of, critical habitat or is likely to significantly affect threatened species, populations or ecological communities, or their habitats, and where determining authority is a Minister, he/she must consult with the Minister for the Environment.	Yes	Assessment of significance. Determining authority takes into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity. A determining authority is to consider (among others) the effect of the activity on critical habitat, threatened species, populations and ecological communities and their habitats, protected fauna and protected native plants. The determining authority is not required to consider the effect of an activity on biodiversity values if the activity is to be carried out on biodiversity-certified land or a biobanking statement has been issued in respect of the activity.
State-significant Development (SSD)	Development that is declared to be State-significant development (in a State Environmental Planning Policy or by the Minister by	e.g. coal mines, waste facilities, coal seam gas wells, and hospital facilities.	Part 4 Div 4.1 EP&A Act	Minister for Planning or delegate (typically the Planning Assessment Commission (PAC) or the Secretary of DP&E).	Yes. A development application for State-significant development must be accompanied by an EIS.	Heads of consideration supported by an EIS. In determining a development application for SSD, the determining authority is to take into consideration (among others) the likely impacts of

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
	order published in the NSW Government Gazette).					that development including environmental impacts and the public interest. The new Offsets Policy for Major Projects will provide guidance on how biodiversity considerations are dealt with.
State-significant infrastructure (SSI)	Infrastructure declared to be SSI in the State & Regional Development SEPP – usually infrastructure with social, economic or environmental significance.	e.g. major roads, railways and pipelines, major water supply systems.	Part 5.1 EP&A Act	Minister for Planning	Yes. EIS is required for approval to carry out SSI. Secretary of DP&E is to give a report on the SSI to the Minister, which includes (among other things) a copy of the proponent's EIS and any environmental assessment undertaken by the Secretary of DP&E).	Heads of consideration supported by an EIS. The Minister is to consider (among other things) the Secretary of DP&E's report on the infrastructure and the reports, advice and recommendations contained in the report, and any advice provided by the Minister having portfolio responsibility for the proponent and any findings or recommendations of the Planning Assessment Commission following a review in respect of the SSI. The new Offsets Policy for Major Projects will provide guidance on how biodiversity considerations are dealt with.

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
PVP	Broadscale clearing (other than for private native forestry)	Clearing of any remnant native vegetation or protected regrowth.	Part 4 NV Act	Local Land Services (delegated from Minister)	Yes	EOAM
Development consent to clear native vegetation (NV Act)	Broadscale clearing approved through development consent (noting none have ever been issued).	Clearing of any remnant native vegetation or protected regrowth.	s.12 NV Act, Part 4 EP&A Act	Minister for the Environment	Yes If the clearing of any native vegetation has the benefit of biodiversity certification under the TSC Act and also the benefit of biodiversity certification under the *Fisheries Management Act 1994* an application for development consent for clearing is not required to be accompanied by a species impact statement (SIS) or statements, and the Minister for the Environment is not required to consult with the Ministers administering the Fisheries Management Act.	EOAM The Minister for the Environment is not to grant development consent unless the clearing will improve or maintain environmental outcomes. Part 4 of the EP&A Act applies to the granting of development consent.

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
PVP (PNF)	Clearing of native vegetation for the purposes of private native forestry.	The management of native vegetation on privately owned land or Crown land that is not Crown-timber land for the purpose of obtaining timber products on a sustainable basis.	Part 5 NV Regulation	EPA by delegation	Yes	PNF Code of Practice – broadscale clearing for the purposes of private native forestry is, for the purpose of the NV Act, taken to be clearing that will improve or maintain environmental outcomes if it is carried out in accordance with the PNF Code of Practice.

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
Threatened Species Licence (TSL) to harm or pick threatened species, populations or ecological communities or damage habitat	Actions likely to result in harm to, or picking of, or to the habitat of a threatened species, population, or ecological community, or damage to critical habitat where a defence is not available.	e.g. removal of trees affecting grey-headed flying-fox.	s.91 TSC Act	Chief Executive of OEH	Yes If the action proposed to be taken under the authority of the licence is on land that is critical habitat, the application must be accompanied by a SIS. If the action proposed is not on land that is critical habitat, the application must include (among other things) details of any known records of threatened species or potential habitat for threatened species and an assessment of the likely nature and intensity of the effect of the action on the life cycle and habitat of the species. If Chief Executive (CE) OEH determines that an action proposed for a licence is likely to significantly affect threatened species, populations or ecological communities, or their habitats, the CE OEH must notify the applicant and if the application is to proceed, an SIS must be prepared.	CE OEH must take into account (among others) any SIS, any written submissions, factors in sections 10–15 of the TSC Act, any relevant recovery plan or threat abatement plan and principles of ESD.

Form of approval	Activity / class of development	Description	Enabling legislation	Decision-maker	Assessment of environmental and/or biodiversity impacts	Method for biodiversity impact assessment
TSL – terms set out in an IFOA	TSL for forestry operations covered by an IFOA under the Forestry Act.	An IFOA may set out the terms of any TSL. If the IFOA does so, any person carrying out forestry operations covered by the IFOA is taken to hold a licence in those terms under the TSC Act.	s. 69U Forestry Act	Minister for Environment and Minister for Primary Industries	Any TSL has effect, for all purposes, as a licence granted under the TSC Act.	The Ministers granting the IFOA may rely on the information in the relevant regional forest assessment for the purpose of determining the terms of any relevant licence. An SIS or other separate environmental assessment is not required to be obtained for that purpose.

Appendix C: Operation of the BioBanking Scheme

The Biodiversity Banking and Offsets Scheme (BioBanking) was established under the *Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006*. The BioBanking Scheme commenced in July 2008 when the BioBanking Assessment Methodology (BBAM) and BioBanking Regulation were published. It is a voluntary, market-based, mechanism that gives development proponents upfront certainty about their biodiversity obligations, and offers landowners payments for creating offsets and undertaking conservation management actions on their own land.

BioBanking provides an alternative assessment pathway to the established *Environmental Planning and Assessment Act 1979* assessment. Proponents are able to apply BioBanking's 'improve or maintain' test for impacts on biodiversity values, rather than using the assessment of significance and species impact statement requirements under the *Environmental Planning and Assessment Act 1979*. The consent authority is also not required to take into consideration the likely impact of the development on biodiversity values if a biobanking statement has been issued for a development.

BBAM assessment of potential development site (biobanking statement)

Under BioBanking, a developer undertakes an assessment of the impact or likely impact of management actions or proposed development on biodiversity values using the BBAM, established under section 127B of the *Threatened Species Conservation Act 1995*. The BBAM defines 'red flag' areas where developments cannot proceed, requires the mitigation of impacts where possible, and then quantifies any remaining loss in terms of biodiversity credits. These credits will be either ecosystem credits, or species credits matched to the project's predicted loss of biodiversity (threatened species, populations, ecological communities, or habitats). Applying the BBAM in this way will inform proponents of the credits they need to secure as offsets to meet their environmental obligations.

An application can then be lodged with OEH for a biobanking statement. OEH will check for compliance, then register the statement, specifying the on-site actions that must be carried out and the number and type of credits that must be secured before development commences.

Creation of credits (biobanking agreements)

BioBanking offers landowners the potential to create a revenue stream by protecting and enhancing biodiversity values on their land. The landowner applies the BBAM to an agreed portion of their land to identify specific biodiversity values. Their agreement to secure this land and undertake management actions to improve biodiversity values results in the generation of a certain number of biodiversity credits. The landowner can then submit their assessment and management plan to OEH. OEH will review the assessment, conduct a site visit and develop the biobanking agreement. The biobanking agreement is signed by the Minister and the landholder and is then registered on the property title by OEH. Once the biobanking agreement is signed, biodiversity credits are generated that the landowner can trade on the market.

Securing offsets and satisfying 'improve or maintain'

The proponent can seek to secure these credits on their own land, or purchase credits on the market in order to satisfy their environmental liabilities.

Assessments at the development site and the biobank site are both undertaken using the BBAM, so by securing credits in the correct number and class, a developer will meet the 'improve or maintain' standard. Due to the high environmental standard of 'improve or maintain' applied through BioBanking, a person cannot appeal to the Land and Environment Court under the *Environmental Planning and Assessment Act 1979* about a condition imposed by a consent authority that requires the conditions of the biobanking statement to be complied with.

Engagement with the BioBanking Scheme

Engagement with the BioBanking Scheme has increased over time. Scheme activity to October 2014 includes:

- 33 agreements have been approved, conserving approximately 5250 hectares of native vegetation and threatened species in perpetuity
- 13 biobanking statements have been issued for urban development covering approximately 98 hectares
- over 23,000 ecosystem credits and over 2000 species credits have been transferred or retired and over $32 million has been deposited into the BioBanking Trust Fund
- ecosystem credit prices have ranged from $1100 to $15,000 per credit excluding GST and species credit prices have ranged from $1 to $5691 per credit excluding GST
- over $4 million in management payments has been paid out to landowners from the BioBanking Trust Fund
- 100 landowners have formally expressed an interest in establishing a biobanking agreement, with the areas nominated totalling almost 45,000 hectares
- 99 people are trained and accredited as biobanking assessors.

Review of the BioBanking Scheme

OEH has conducted a statutory review of the BioBanking Scheme. The review identified the strengths and challenges of the BioBanking Scheme and evaluated ways it could be improved it to ensure it achieves credible environmental outcomes and is practical to use. The information gathered and issues raised by stakeholders throughout the public consultation period of the BioBanking review have been used in the development of the new Biodiversity Offsets Policy for Major Projects. The policy is being developed to clarify, standardise and improve biodiversity offsetting for major project approvals under the NSW planning system.

Given the links between the policy and the BioBanking Scheme, the NSW Government reviewed the BioBanking review in tandem with the development of the policy. This is to ensure that the BioBanking Scheme is an efficient and complementary scheme to the policy and key components of the two methodologies supporting these schemes are aligned.

Appendix D: PVPs issued to date under the Native Vegetation Act 2003

A Property Vegetation Plan (PVP) is a voluntary, legally binding agreement between a landholder and Local Land Services. Because PVPs are agreements that affect the land, it is essential they apply to the land despite any change of landholder, that is, that they 'run with the land'. In order to ensure that PVPs are binding on successors in title, an abstract of the PVP must be registered on the public register kept by the Land and Property Management Authority under the *Real Property Act 1900*. The public register is the central place where any person (e.g. prospective purchasers) can look to find out what interests affect the land.

Table 11 provides an overview of the PVPs issued to date that approve clearing / land management activities or secure any offsets associated with that clearing.

Table 11: PVPs approved between 2005 and 31 July 2014

PVP type	Description	Number of PVPs	Area (ha)
Broadscale clearing	• Any clearing that does not fit one of the categories below. • This type of clearing usually requires an offset.	165	8,336
Thinning	• Thinning of thickened wood vegetation to benchmark densities. • Does not require an offset.	39	5,882
Paddock trees	• Allows clearing of isolated trees in cultivation areas usually to facilitate the adoption of modern farming technology such as controlled traffic and minimum tillage techniques. • Usually requires an offset.	307 (66,248 trees)	6,620
Invasive native species (INS)	• Allows the management (including clearing) of areas affected by INS to restore a mosaic of vegetation types (including grasslands, grassy woodlands and shrubby woodlands) across the landscape • Does not allow a long-term intensification of land-use – i.e. from grazing to cropping.	503	3,921,957
Offset	• Offsets are areas managed for conservation that are designed to balance the impact of the clearing. • These PVPs secure the offset associated with the clearing in the two categories above.	427	61,412

The Native Vegetation Regulation 2013 now provides that the Minister for the Environment may by order declare the thinning of native vegetation on specified land and clearing of a paddock tree in a cultivation area to be a RAMA. Once the Ministerial orders are made, it is

likely that landholders will carry out thinning of native vegetation or clearing of paddock trees under this RAMA, and PVPs for these types of clearing will not always be required.

Continuing use PVPs

Continuing use PVPs provide landholders with certainty that existing land uses can continue. A continuing use PVP can be used to:

- identify native vegetation on the land as regrowth
- identify RAMAs that are to be carried out on the land
- identify practices as existing cultivation, grazing or rotational farming
- specify or change the date for the purposes of the definition of regrowth
- continue existing farming or other rural practices (but not so as to authorise clearing that involves land-use change).

Clearing covered by a continuing use PVP does not actually require a PVP under the *Native Vegetation Act 2003* (except clearing under a regrowth date change PVP). The PVP is available where the landholder would like greater security. For example, if a property is being sold a landholder may wish to provide a PVP identifying particular vegetation as regrowth because it may make the property more valuable.

Table 12 provides an overview of the continuing use PVPs issued to date.

Table 12: Continuing use PVPs approved between 2005 and 31 July 2014

PVP type	Description	Number of PVPs	Area (ha)
Continuation of Existing Farm Activities	• Confirms the farming activities that were used on the land at the commencement of the NV Act (December 2005). • These activities are allowed to continue (including clearing as necessary) even if the vegetation is made protected regrowth.	59	51,994
Identify RAMAs that may be carried out on the land	• Confirms the RAMAs that are permitted to be used on the land. • Clearing for RAMAs does not require any approval.	1	3
Regrowth Verification	• Confirms that the vegetation on the land is regrowth and may be cleared under s.19 of the NV Act (clearing of non-protected regrowth is permitted).	117	52,576
Regrowth Date Change	• Regrowth is any vegetation that has regrown (following lawful clearing) since 1 January 1990 or 1 January 1983 in the Western Division. • A regrowth date change PVP sets the date of the regrowth back to an earlier date based on existing rotational farming practices.	22	4,944

Appendix E: Threatened species licensing under the Threatened Species Conservation Act 1995

OEH applies the assessment of significance criteria when assessing a licence application made under section 91 of the *Threatened Species Conservation Act 1995*. This is the same assessment that is used for non-major projects under the *Environmental Planning and Assessment Act 1979*.

If the Chief Executive of OEH determines that the action is likely to significantly affect threatened entities or their habitats, then a species impact statement (SIS) must be prepared and the Chief Executive of OEH may issue a section 91 licence (if approved). If the action impacts on critical habitat, an SIS must be prepared to accompany the licence application. If the Chief Executive of OEH determines that the action is not likely to significantly affect threatened entities or their habitats, then the Chief Executive of OEH issues a certificate to this effect, under section 95(2) of the *Threatened Species Conservation Act 1995*.

Since 2005, there have been 248 applications for licences under the *Threatened Species Conservation Act 1995*. During this time, OEH has issued seven licences and 196 certificates. The certificates often include conditions that need to be complied with to ensure the activity will not significantly affect threatened species.

To date, activities that have been licenced include:

- trimming or removal of vegetation that is habitat to threatened species, such as grey-headed flying-foxes
- removal of trees that form part of an endangered ecological community due to their close proximity to a house
- relocation of a threatened species from a property.

Forestry Corporation of NSW also holds threatened species licences as part of broader approval to conduct forestry operations on Crown land.

Further information on the regulation of threatened species impacts of native forestry on Crown land is provided in Section 5.4 and Appendix L.

Appendix F: Approvals bilateral agreement with the Commonwealth of Australia

Under a MoU signed in September 2013, The State of New South Wales and the Commonwealth of Australia committed to having a comprehensive approvals bilateral agreement in place by September 2014. The effect of the agreement would be that, where a development proposal may significantly impact Matters of National Environmental Significance (MNES) and the approval is undertaken in accordance with an accredited NSW legislative process, the proponent does not need to obtain approval under the *Environment Protection and Biodiversity Conservation Act 1999*.

Two specific aims of the bilateral agreement are to 'ensure an efficient, timely and effective process for environmental assessment and approval of actions' and to 'minimise duplication in the environmental assessment and approval processes of the Commonwealth and NSW'.

Current status

The draft NSW Approval Bilateral Agreement was released for public exhibition by the Commonwealth on 14 May 2014, with submissions closing on 13 June 2014.

In order to facilitate the implementation of bilateral agreements, the Commonwealth introduced the *Environment Protection and Biodiversity Conservation Amendment (Bilateral Agreement Implementation) Bill 2014* into Federal Parliament on 14 May 2014. The Bill primarily amends the *Environment Protection and Biodiversity Conservation Act 1999* to allow states and territories to be accredited for approval decisions on large coal mining and coal seam gas developments that are likely to have a significant impact on a water resource (the 'water trigger'). The Bill is currently before the Senate and needs to be passed if the bilateral agreement is to include the water trigger.

Scope of the agreement

The bilateral agreement proposes to cover the following MNES:

- World Heritage properties
- National Heritage properties
- Ramsar wetlands
- threatened species and communities
- migratory species
- nuclear actions
- water trigger (note this is subject to the passing of the EPBC Amendment Bill).

The agreement proposes to accredit development approval processes under the NSW *Environmental Planning and Assessment Act 1979*, except:

- approvals undertaken by local government (a large proportion of Part 4 decisions that are not State-significant development)
- assessments under Part 5 of the *Environmental Planning and Assessment Act 1979* (assessments of environmental impacts by public authorities for those activities that do not require development consent).

In practice, the majority of decisions under the bilateral agreement are likely to be in relation to State-significant development, State-significant infrastructure and transitional Part 3A

projects (collectively referred to as ‘major projects’), as these are usually the larger projects in New South Wales and more likely to significantly impact MNES. The decision-maker for these projects is the Minister for Planning.

Development that significantly impacts a MNES and requires development consent from local government will still need Commonwealth approval. There is only likely to be a small number of these projects, as they are more often smaller projects.

Also to be accredited under the agreement are licences granted under the *Threatened Species Conservation Act 1995* and *Fisheries Management Act 1994* for actions with significant impacts on threatened species (these generally apply to actions that do not require consent under the *Environmental Planning and Assessment Act 1979*). In practice, the bilateral agreement is most likely to be applied to decisions under these processes relating to dispersal of flying-fox colonies, where the species is Commonwealth-listed, because this is where these processes most often apply to MNES.

Appendix G: Timeliness of assessments and approvals

Local Land Services – clearing PVPs

Local Land Services (LLS) is responsible for conducting assessments of site-based clearing proposals (using the EOAM) and approving PVPs along with associated advisory, extension and other related activities. There are currently no customer service standards that set out expectations for PVP approval times.

Data on LLS service delivery is available from the PVPs Agreements Data and Customer Service (PADACS) Database used to prepare monthly reports by OEH. Table 13 shows the time taken to address enquiries made through the PVP Service Centre during July 2014. This data shows that while a large proportion of PVP enquiries are closed within 24 hours, almost the same proportion take more than a week. These enquiries are most likely the ones that proceed to the PVP approval stage.

Table 13: Time taken by LLS to close PVP enquiries in July 2014

PVP enquiries closed within	24 hours	48 hours	1 week	Over 1 week
	39%	7%	18%	35%

In 2012, an internal report was prepared on *Native Vegetation Service Delivery in a New Operational Environment* (Department of Primary Industries, Catchment Management Authorities & OEH 2012). The report relied on surveys undertaken in 2010 and 2012 by Catchment Management Authority (CMA) staff on service delivery, including waiting times. This report provides the most recent analysis on waiting times experienced by landholders. Overall data on PVP service delivery is provided in Table 14.

Table 14: Overall delivery of PVPs 2010 and 2012

Average time (weeks) for CMA to approve a PVP from first contact to approved	**Waiting time (weeks) for CMA for an outcome to be determined**	**Average time (weeks) for CMA to approve a PVP (excluding awaiting further information or sign off from landholder)**	
2010	2012	2010	2012
42	14	28	1–4

This data shows that the average time taken to approve a PVP dropped significantly between 2010 and 2012. The report offered several reasons for this improvement including:

- improved staffing levels and skills
- improved time management
- introduction of new business systems
- adopting a team-based approach
- streamlined approaches for certain types of clearing.

The report noted that interpretation of Table 14 should be tempered by two considerations. Firstly, the waiting time for an outcome was asked in different ways in 2010 and 2012 (see columns 1 and 2) and it appears likely that CMAs interpreted the question inconsistently.

Secondly, the average time to approve a PVP was interpreted in different ways. In 2010, there was no consistently applied method to 'turn off the clock' when a landholder was considering the PVP. As such, the result for 2012 (column 3) is probably an over-estimate. The average time for a CMA to approve a PVP (excluding periods of waiting for extra information etc.) assumes the officer is working solely on this PVP and would be equivalent to 5 to 20 person days working continuously on the PVP.

The report also found considerable variation in the waiting times experienced across the State (Table 15). The report attributes the delays in some regions to a backlog of cases caused by a high demand for clearing approvals for land being developed for cropping.

Table 15: PVP service delivery in 2012

	Waiting time to first visit (weeks) 2010	Waiting time to first visit (weeks) 2012
Average	18	13
Range	1–8 (7 CMAs)	1–8 (8 CMAs)
	16–19 (2 CMAs)	10–16 (3 CMAs)
	39–75 (3 CMAs)	80 (1 CMA)

While acknowledging the move to establish LLS was aimed at improving the integration of extension services for landholders, the report found there was a risk to service delivery. The report states the loss of 40 per cent of permanent full-time equivalent positions and potentially all temporary *Native Vegetation Act 2003*-related positions created a high likelihood of significant impact on waiting times and waiting lists.

The 2013 Native Vegetation Regulation Review recommended that LLS enter into a service level agreement guaranteeing to:

- contact landholders within 15 working days of initial receipt of a draft PVP or self-assessable code inquiry
- make a determination within 40 working days of receiving a fully completed draft PVP that is to be assessed under the streamlined assessment process, except if additional information is required (Lane 2013).

Proposed streamlining of PVP process

An inter-agency working group is considering the feasibility of a number of improvements that could substantially improve the processing times for PVPs. These improvements could collectively halve the processing time for some PVP types. The options being considered include:

- streamlining the EOAM for common types of clearing where they are relatively low risk or the outcome is predictable
- registering all clearing PVPs on title
- changes to the format and content of PVPs to simplify and speed up the process
- recording field data directly into electronic devices such as iPads
- delegating the authority to approve some types of clearing PVPs to officer level in LLS
- streamlining the landholder signature process (e.g. one landholder to sign on behalf of all landholders rather than all landholders having to sign the final PVP).

If these options are shown to be feasible, they will be recommended to OEH and LLS for consideration.

Office of Environment and Heritage – planning assessments and concurrences

For non-major projects assessed under the *Environmental Planning and Assessment Act 1979*, the Chief Executive of OEH is required to provide concurrence to a consent authority (where the consent authority is not a Minister) where the development is expected to have a significant impact on threatened species. OEH also provides advice to applicants and consent authorities on environmental impacts of development applications.

In addition, while OEH has no formal legislated role, it also provides advice to the Department of Planning and Environment on the environmental impacts of major projects. This also includes matters other than threatened species and biodiversity such as Aboriginal cultural heritage.

Planning matters are referred to OEH for advice and/or concurrence at various stages of a project. Between January and June 2014, OEH completed around 650 reviews of planning matters. Over 90 per cent of these were completed within agreed time frames.

The largest proportion of planning matter reviews were associated with the assessment of major projects (Part 3A, SSD, SSI and major project modifications combined). Reviews of planning matters related to development applications assessed under Part 4 of the EP&A Act (excluding SSD) comprised the next largest group. These figures are considered to be indicative for preceding periods.

OEH engagement reflects areas of development intensity across New South Wales with the following areas demonstrating consistently high levels of referrals on biodiversity grounds:

- peri-urban areas in the greater Sydney metropolitan area
- Hunter Valley and Central Coast
- growth areas along the north and south coasts
- mining intensification in the Hunter Valley and Liverpool Plains.

NSW Environment Protection Authority – PNF PVPs

The time taken to process PNF PVP approvals varies depending on the complexity of the application.

The EPA receives an estimated average of 618 inquiries regarding PNF PVPs per year. People who make inquiries are issued with a PNF PVP information pack and a subset of these then proceed to obtaining a PNF PVP. Generally, PNF PVPs are approved within two to three weeks, and in some cases applications can be approved in a matter of hours. Since 2007, the EPA has approved an estimated average of 410 approvals per year.

Old-growth forest and rainforest assessments

The EPA provides landholders seeking to carry out PNF with a map which shows the mapped extent of rainforest and old-growth forest. These maps were developed during the regional forest assessments in the 1990s. If a landholder chooses to accept the mapped extent, then it must be excluded from harvesting.

Alternatively, the landholder can request a review of this mapping. This requires both a desktop and field-based assessment and takes longer to process, particularly on large or remote properties (for example, processing can take up to 10 months). Old-growth and rainforest assessments are carried out by OEH. The EPA is working to improve turnaround times for PVP applications involving old-growth and rainforest assessments.

BioBanking

Some stakeholders have concerns about the time taken to review and process biobanking statements and agreements. OEH data for the first 22 (of 29) biobanking agreements shows that:

- 50 per cent were approved within six months of application, with two months being the shortest period
- three (or about 13 per cent) took between six and 12 months
- four (about 18 per cent) took between one and two years
- four took over two years.

The main factors affecting approval times include:

- complexity of the site
- quality of the application, including completeness and accuracy of information
- need for other approvals including other interests such as mortgagors, petroleum or minerals licensees or approval from NSW National Parks and Wildlife Service to take an offset site as an addition to the park system
- commitment of the landholder to enter into the agreement (OEH has three completed agreements that have been with landholders for over 12 months awaiting their final signature).

Some delays have also been due to the infancy of the scheme and may be resolved as the scheme matures, along with the collective experience of both OEH and consultants. It is acknowledged, however, that for this scheme to be successful, it needs to be adequately resourced and operating as efficiently as possible.

OEH has undertaken an independent review to identify inefficiencies and deficiencies within the business processes in place for reviewing and approving biobanking statements and agreements. Actions are currently being undertaken to improve review and approval timeframes. This will include the development of a realistic service guarantee for biobanking agreements and statements. This service guarantee will set out expected timeframes for the review and approval of biobanking agreements and statements, along with the standards that applications will need to meet in order for these timeframes to be achieved.

Local government and Department of Planning and Environment

No data is available on the number of development applications received by local government or the Department of Planning and Environment that trigger an assessment of significance or species impact statements, or the application turnaround times.

Appendix H: Monitoring, compliance and enforcement

Implementation of an appropriate monitoring, compliance and enforcement program is a critical part of any regulatory framework. Monitoring, compliance and enforcement programs:

- encourage and support compliance by using education to prevent non-compliance and avoid harm to the environment
- provide guidance and assistance to those willing to comply
- apply a range of regulatory measures provided by law to those who choose not to comply.

Enforcement of planning approvals

Under the *Environmental Planning and Assessment Act 1979*, it is an offence not to comply with the terms of a consent or any conditions attached to it. Maximum penalties vary depend on whether the proceedings were brought in the Land and Environment Court ($1,100,000 and a daily penalty up to $110,000) or in a Local Court ($110,000).

No data is available on the number of prosecutions for non-compliance with the terms of a development consent related to the biodiversity, threatened species, and soil, land and water impacts of site-based activities.

Monitoring and enforcing compliance with the Native Vegetation Act 2003

As outlined in the *Native Vegetation Report Card 2011–13* (OEH 2013), OEH, in partnership with LLS and the EPA, manages the implementation of the *Native Vegetation Act 2003* and Native Vegetation Regulation 2013.

OEH has primary responsibility for compliance assurance under the *Native Vegetation Act 2003* in relation to broadscale clearing, while (since 2012) the EPA regulates the logging of native forests on private lands. OEH and the EPA seek to ensure that appropriate regulatory action is taken where deliberate and harmful breaches occur. This approach lets landholders get on with the business of managing their land, while protecting the natural resources and environment upon which sustainable agriculture and forestry are based.

OEH and the EPA use satellite images and aerial photography, as well as public notification and field reconnaissance, to monitor native vegetation clearing. These reports are initially checked to determine if there is any documented explanation for the change, such as clearing within State forests, or clearing under an approved PVP. Monitoring since 2008 has demonstrated that the majority of clearing is lawful activity.

The remaining reports of clearing are assessed for their potential risk to the environment and the regulatory system, and investigated accordingly. Investigations typically involve the examination of aerial photographic images, site inspections, and interviews with the landholders and other relevant parties. In many instances, these investigations determine that clearing is lawful, such as clearing of regrowth as defined in the *Native Vegetation Act 2003*, or clearing for RAMAs.

In those instances where unlawful clearing is identified, an appropriate response is determined based on factors such as the severity of the impact, culpability and any mitigating circumstances. Enforcement actions are necessary to ensure a level playing field, penalising those who choose not to comply with the legislation and act as a

deterrent to future breaches. Remediation of environmental harm is also a priority. Remedial directions are issued, after consultation with landholders, to ensure that harm caused by illegal clearing is addressed.

In addition to risk-based case-by-case investigations, the EPA and OEH also maintain an active compliance program aimed at identifying emerging compliance issues and use targeted and strategic communications, often working with partner organisations, to respond to patterns of non-compliance.

Monitoring native vegetation clearing – remote surveillance

OEH's monitoring activities include high-resolution satellite imagery, aerial surveys and photography and surveillance flights to detect changes in native vegetation and land use in targeted areas.

This information is regularly analysed to detect land surface changes at a small scale and identify activities that may be unlawfully clearing native vegetation. It can also be used to detect activities that may affect vegetation supporting threatened species. Remote surveillance also helps OEH to focus its compliance efforts in areas and on issues that represent the highest risk to conservation outcomes.

As shown in Table 16, OEH used NASA Landsat5 monitoring from 2008 to 2011 to detect areas of land with unexplained clearing. (Unexplained clearing comprises a combination of legal clearing for RAMAs, clearing of non-protected regrowth, clearing under various legislative exclusions and illegal clearing. It is detected after accounting for known legal clearing such as clearing under a PVP).

OEH is now using SPOT5 satellite imagery to detect unexplained clearing from 2011 onwards. SPOT5 has a resolution of 5 metres and can detect woody vegetation with a crown cover of 5 per cent (instead of 20 per cent with Landsat5). The higher resolution of the SPOT5 imagery has required OEH to adjust its analysis techniques, delaying availability of monitoring data after 2011–12 until later in 2014. To enable ongoing capture and processing of SPOT5 imagery, $5.7 million has been allocated for three years from 2014 to 2017.

The number of properties detected each year from satellite monitoring with unexplained clearing greater than 1 hectare is shown in Table 16. Based on the total number of rural properties in New South Wales, OEH believes that, on average, greater than 95 per cent of rural landholders are not clearing greater than one hectare of woody native vegetation in any year without lawful approval, exemption or exclusion.

Table 16: Number of properties detected via satellite with more than 1 hectare of unexplained clearing

Financial year	No. properties with unexplained agricultural clearing >1 hectare
2008–09	1,107
2009–10	1,364
2010–11	694

Satellite technology detects woody vegetation change only, and so has limited use in detecting clearing of native grasslands.

Monitoring native vegetation clearing – community reports

OEH and the EPA receive reports of alleged breaches of legislation from the whole community including members of the public, industry, local councils and other government agencies. Breaches of regulatory requirements may also be detected through self-reports from the regulated community and by officers from other regulatory authorities during their own activities or as part of joint activities with OEH and the EPA.

The Environment Line call centre handles general inquiries about environmental issues and takes reports of pollution and environmental incidents for OEH and the EPA. OEH and the EPA assess all reports from the community to determine an appropriate response to the matter. Environment Line reports are also used collectively to help OEH understand community concerns and analyse where to focus proactive compliance efforts. Information on the number of calls to Environment Line in recent years alleging non-compliance with the *Native Vegetation Act 2003* (including private native forestry) is provided in Appendix I.

OEH and the EPA provide feedback to callers reporting alleged breaches when requested. Information is provided to the extent that is legally permissible for confidentiality and privacy reasons and in a manner that will not compromise investigation and enforcement actions.

OEH and EPA compliance activity

Compliance and enforcement actions are most effective when they raise environmental awareness and encourage behavioural change. These changes in attitudes and behaviour both improve compliance rates and secure long-term environmental improvements (NSW EPA 2013).

OEH and the EPA escalate their regulatory response according to the risk to the environment and human health, the seriousness of the non-compliance, the apparent attitude to compliance, and the compliance history and frequency of issues arising.

When an actual or potential non-compliance has been detected, OEH or EPA takes action to either prevent or to correct the non-compliance. OEH and EPA use a range of tools and approaches to respond to non-compliance such as advisory letters, official cautions and regulatory measures provided in legislation to enforce required standards. Box 2 sets out issues associated with the use of remedial directions.

A summary of OEH compliance activities between 2006–07 and 2013–14 is provided at Table 17, and EPA compliance activities between 2007–08 and 2013–14 at Table 18. The data presented is not an indication of actual levels of non-compliance with the *Native Vegetation Act 2003*.

These tables show a difference in the profile and number of regulatory actions taken by OEH and EPA. These differences reflect the diversity in their operating environments and the nature of the clearing. For example, LLS is responsible for approving PVPs that are enforced by OEH. This means that OEH can only become aware of the breach after the PVP has been granted and the clearing has occurred. On the other hand, the EPA regulates landholders throughout the whole process, from granting approval onwards. As such, compliance issues often are noticed and addressed earlier in the process of regulation.

In addition, private native forestry does not involve land-use change and in most cases of non-compliance, forest structure is retained and the environmental impacts are smaller. OEH

regulates more serious types of environmental harm caused by clearing that results in land-use change.

Table 17: OEH compliance activities under the *Native Vegetation Act 2003* between 2006–07 and 2013–14

Year	Advisory letter	Warning letter	Stop work order	Penalty notice	Remedial directions	Area to be remediated (ha)	Prosecution (successful conviction)
2006–07	37	39	-	7	20	-	2
2007–08	26	40	-	4	7	-	2
2008–09	94	78	-	13	6	-	5
2009–10	119	76	0	21	39	2,122	11
2010–11	158	106	0	32	32	3,095	2
2011–12	141	94	2	12	17	910	5
2012–13	117	39	0	10	10	850	2
2013–14	77	51	0	11	2	127	2

Table 18: EPA PNF compliance activities under the *Native Vegetation Act 2003* between 2007–08 and 2013–14

Year	Advisory letter	Warning letter	Corrective action request	Official caution	Penalty notice	Prosecution (successful conviction)
2007–08	3	-	-	-	-	-
2008–09	5	3	2	-	-	-
2009–10	6	11	8	-	2	-
2010–11	6	12	9	-	8	-
2011–12	13	5	2	-	1	1
2012–13	36	11	12	2	-	-
2013–14	31	3	2	1	1	-

Box 2

Issues with the use of remedial directions

A direction to carry out remediation work is an effective way of quickly addressing damage caused. However, there are a number of issues associated with the use of remedial directions:

- They are issued to 'a person' under the *National Parks and Wildlife Act 1974* (for threatened species conservation matters) and to 'a landholder' or 'person having control or management of the clearing' under the *Native Vegetation Act 2003* and do not travel with the title when the property is sold – this can affect the durability of the conservation outcome achieved through directions.
- Significant resources are required to determine whether they should be issued – for example, section 38(1)(a) of the *Native Vegetation Act 2003* requires that OEH be satisfied that a contravention of the Act has occurred before a direction is issued. The prospects of effective remediation diminish the more time there is between the impacting activity and the commencement of remedial works.
- Directions may not be effective – Court judgments suggest that directions can only include positive directions, not a prohibitive requirement. As such, directions to 'exclude stock' are not valid and have to be achieved by prescriptive (and often costly) requirements such as fencing.
- They are not flexible enough – the legislative framework does not currently allow directions that specify the outcomes to be achieved. Such directions would allow the method for achieving the outcome (and associated costs) to be determined by the landholder as the expert land manager.

Prosecutions

Prosecutions for clearing offences under the *Native Vegetation Act 2003* can be brought by OEH or the EPA in the Local Court or the Land and Environment Court for more serious offences. The Local Court can impose a maximum penalty of $11,000 including any daily penalty and the Land and Environment Court can impose a maximum penalty of $1,100,000. A full list of offences under the *Native Vegetation Act 2003* is provided at Appendix I.

Appendix J provides a list of prosecutions brought by OEH and its predecessors in the Land and Environment Court under the *Native Vegetation Act 2003*, the fines issued and area of land unlawfully cleared.

The *Native Vegetation Act 2003* does not require the Court to index fines to the area of land unlawfully cleared. The primary factor the Court considers when determining the sentence is the objective gravity or seriousness of the offence including:

- the nature of the offence
- the maximum penalty for the offence
- the objective harmfulness of the defendant's actions
- the defendant's state of mind in committing the offence
- the reasons for committing the offence
- the foreseeability of the risk of harm to the environment
- the practical measures available to avoid harm to the environment

- the defendant's control over the causes of harm to the environment.

The Court also takes into account any personal or mitigating factors present including:

- any prior criminal record
- any plea of guilty
- any contrition and remorse
- good character, if appropriate
- any cooperation with, and assistance to, the regulatory authorities
- financial means to pay.

Between 2009 and 2013, a total of 22 successful prosecutions were brought by OEH under the *Native Vegetation Act 2003* in the Land and Environment Court. Financial penalties imposed by the Court ranged from $5,000 to $200,000. The median penalty amount was $53,000. This does not include not a $400,000 penalty for illegal clearing imposed by the Court in 2009 which is currently under appeal.

The EPA has had one successful prosecution (from one) for illegal clearing of 29 mature trees in which the Kempsey Local Court imposed a $4,500 penalty.

The *Native Vegetation Act 2003* also provides for civil enforcement proceedings in the Land and Environment Court to remedy or restrain a breach of the *Native Vegetation Act 2003*. The *Native Vegetation Act 2003* provides open standing, meaning that anyone can commence such proceedings.

Issues associated with bringing prosecutions under the Native Vegetation Act 2003

Prosecutions for offences under the *Native Vegetation Act 2003* can be a highly resource-intensive and uncertain regulatory tool partly because:

- the evidentiary requirements are difficult to meet, including the number and complexity of exemptions and exclusions which the prosecutors need to counter in a prosecution, the need to prove a plant species is native, proving originality of aerial photographs and satellite imagery evidence
- the Act contains loose definitions around key concepts such as 'regrowth', 'protected regrowth', 'groundcover' and 'sustainable grazing'
- the two-year statutory limitation period is short given the evidentiary requirements
- the *National Parks and Wildlife Act 1974* includes provision for the Court to make orders after a successful prosecution, but the *Native Vegetation Act 2003* only provides for financial penalties to be imposed which do not necessarily provide a sufficient deterrent.

Use of penalty notices

As an alternative to prosecution, the issue of a penalty notice (PN) may also address less serious breaches of the *Native Vegetation Act 2003*. If served with a PN by OEH or the EPA, the recipient can elect to have the matter heard in Court.

PNs are a useful regulatory tool for minor offences, enabling timely response action. However, the PN amounts are commonly insufficient for anything more than a minor breach relative to the commercial benefits of non-compliance. This can give rise to a perverse incentive to illegally clear more land to offset the commercial risk of a PN.

Monitoring and enforcing compliance with the Threatened Species Conservation Act 1995

Offences and penalties relating to threatened species, populations and ecological communities protected under the *Threatened Species Conservation Act 1995* are found in the *National Parks and Wildlife Act 1974*. The *National Parks and Wildlife Act 1974* also contains offences related to licensing and harming of fauna other than threatened species. A full list of offences under the *National Parks and Wildlife Act 1974* is provided at Appendix I.

OEH also receives reports of alleged breaches of the *Threatened Species Conservation Act 1995* through Environment Line. More information on the number of calls made to Environment Line in recent years alleging non-compliance with the *Threatened Species Conservation Act 1995* is provided in Appendix I.

Civil proceedings can be heard in the Land and Environment Court for orders or remedies to restrain breaches of the *National Parks and Wildlife Act 1974* or the *Threatened Species Conservation Act 1995*. Between 2003 and 2013, OEH has brought 42 successful prosecutions in the Land and Environment Court for threatened species offences. Penalties imposed by the Court ranged from $600 to $130,000. The median penalty amount was $34,653.

Other court-imposed sentencing options under *National Parks and Wildlife Act 1974* include community service orders, orders to restore damage to habitat, orders that the offender publicise the offence and orders that the offender carry out an environmental project. Other examples of alternative regulatory tools that can be used by OEH under the *Threatened Species Conservation Act 1995* are outlined in Appendix I.

Continuous improvement

Ongoing evaluation of the effectiveness of compliance approaches is an important component of any regulatory system. This evaluation helps ensure that ineffective compliance approaches are identified and improved.

Box 3 provides an example of how the EPA evaluates its regulatory processes to improve and adapt compliance approaches for PNF.

Box 3

EPA PNF compliance strategy

The EPA's PNF Compliance Strategy 2013–16 provides a transparent framework for regulating the environmental impacts of forestry operations on private property. The objectives of the Strategy are to help ensure:

- the objects of environmental and related forestry legislation are understood and met
- voluntary compliance is encouraged and promoted, including through effective stakeholder engagement
- the focus of compliance effort is on key environmental priorities
- the PNF regulatory framework is applied consistently throughout New South Wales.

To achieve these objectives, the EPA publishes an annual list of key environmental compliance priorities on its website. All priorities are determined within a risk-based framework and are annually reviewed based on operational staff intelligence, analysis of compliance and enforcement data, and issues of stakeholder concern.

More generally, the EPA Forestry Section tracks the implementation of the PNF Code and related regulation and, where issues are identified, ensures these are considered during the formal regulatory reviews. For example, after the most recent remake of the Native Vegetation Regulation in 2013 changes from the previous Native Vegetation Regulation 2005 were made to:

- expand the definition of PNF to include additional types of Crown leases that were previously excluded
- address a loophole relating to the definition of protected regrowth for the purposes of PNF
- in the Northern PNF Code area, improve the way in which logging on steep slopes is managed during the wetter summer months.

Appendix I: Compliance mechanisms under the Native Vegetation Act 2003 and Threatened Species Conservation Act 1995

Monitoring native vegetation clearing – community reports

Table 19 shows the number of calls made to Environment Line in recent years alleging non-compliance with the *Native Vegetation Act 2003* (including PNF). The number of calls does not reflect actual levels of non-compliance. Over 95 per cent of calls made related to agricultural clearing.

Table 19: Calls to Environment Line about alleged breaches of the *Native Vegetation Act 2003*

Financial year	NV calls	PNF calls	Total calls
2012–13	409	14	423
2013–14	396	16	412

Table 20 shows the number of calls made to Environment Line in recent years alleging non-compliance with the *Native Vegetation Act 2003*. Again, the number of calls does not necessarily reflect actual levels of non-compliance.

Table 20: Calls to Environment Line about alleged breaches of the *Threatened Species Conservation Act 1995*

Financial year	Number of calls
2006–07	157
2007–08	120
2008–09	91
2009–10	151
2010–11	188
2011–12	158
2012–13	125

Offences and alternative regulatory tools

Offences relating to the harming of threatened species, populations or ecological communities and the picking of threatened species, populations or ecological communities are found in Part 8A of the *National Parks and Wildlife Act 1974*. Offences under the *Native Vegetation Act 2003* are found in Part 5 of the *Native Vegetation Act 2003* (Table 21). Table 22 sets out the alternative regulatory tools available to regulators enforcing the *Native Vegetation Act 2003*, *Threatened Species Conservation Act 1995* and the *National Parks and Wildlife Act 1974*.

Table 21: Relevant offences under the *National Parks and Wildlife Act 1974* and the *Native Vegetation Act 2003*

NB: 1 penalty unit = $110.

Offence	Act	Maximum penalty
Harm or pick threatened species, endangered populations or endangered ecological communities	s. 118A NPW Act	For species presumed extinct, any critically endangered species or any endangered species, population or ecological community – 2,000 penalty units or imprisonment for two years or both, and, an additional 100 penalty units in respect of each animal that is harmed (for an animal of any species presumed extinct, any critically endangered species or any endangered species, population or ecological community). For vulnerable species – 500 penalty units or imprisonment for one year or both, and an additional 100 penalty units in respect of each whole plant affected.
Buy, sell or possess or control any animal or plant that is of, or is part of, a threatened species or an endangered population	s. 118B NPW Act	For species presumed extinct, any critically endangered species or any endangered species or endangered population – 2,000 penalty units or imprisonment for two years or both. For vulnerable species – 500 penalty units or imprisonment for one year or both.
Damage to critical habitat	s. 118C NPW Act	2,000 penalty units or imprisonment for two years or both.
Damage to habitat of a threatened species, an endangered population or an endangered ecological community if the person knows the habitat concerned is habitat of that kind	s. 118D NPW Act	1,000 penalty units or imprisonment for one year or both.
Contravention of the terms of an interim protection order, or cause or permit another person to contravene the terms of an interim protection order	s. 91G NPW Act	For corporations – 10,000 penalty units and, in the case of a continuing offence, a further penalty of 1,000 penalty units for each day the offence continues. For individuals – 1,000 penalty units and, in the case of a continuing offence, a further penalty of 100 penalty units for each day the offence continues.
Contravene a stop work order or cause another person to contravene a stop work order	s. 91AA(6) NPW Act	For corporations – 10,000 penalty units and, in the case of a continuing offence, a further penalty of 1,000 penalty units for each day the offence continues. For individuals – 1,000 penalty units and, in the case of a continuing offence, a further penalty of 100 penalty units for each day the offence continues.

Offence	Act	Maximum penalty
Contravene a remediation direction or cause another person to contravene a stop work order (without reasonable excuse)	s. 91Q NPW Act	For corporations – 2,000 penalty units and 200 penalty units for each day the offence continues. For individuals – 1,000 penalty units and 100 penalty units for each day the offence continues.
Pick or possess a protected native plant	s. 117 NPW Act	100 penalty units and an additional 10 penalty units for each whole plant affected, or six months imprisonment, or both.
Carry out or authorise prohibited clearing	s. 12 NV Act	10,000 penalty units and a further daily penalty of up to 1,000 penalty units.

Table 22: Alternative regulatory tools available under the *Threatened Species Conservation Act 1995*, the *National Parks and Wildlife Act 1974* and the *Native Vegetation Act 2003*

Action	*Threatened Species Conservation Act 1995* or *National Parks and Wildlife Act 1974*	*Native Vegetation Act 2003*
Stop work orders	Issued where Chief Executive (CE) OEH is of the opinion that any action is being, or is about to be, carried out that is likely to result in harm to a threatened species, population or ecological community, picking of a threatened species, population or ecological community, damage to critical habitat or damage to habitats of threatened species, populations or ecological communities (s. 114 TSC Act).	Issued if CE OEH is of the opinion that a person is contravening, or is about to contravene, the NV Act (s. 37).
Interim protection orders	The Minister, on CE OEH's recommendation, may make an interim protection order in respect of an area of land on which the CE OEH intends to exercise any of his/her powers under the NPW Act or the TSC Act relating to fauna, native plants, threatened species, populations or ecological communities or critical habitat of endangered populations or ecological communities, or that is critical habitat or the habit of a threatened species, population or ecological community (s. 91B NPW Act).	N/A
Remediation directions	CE OEH may direct a person to carry out specified remediation work in a specific manner and within a specific time if the CE OEH is satisfied that any critical habitat, or	CE OEH may direct a landholder to carry out specified work in a specified manner and within a specified time if satisfied that any native vegetation has

Action	*Threatened Species Conservation Act 1995* or *National Parks and Wildlife Act 1974*	*Native Vegetation Act 2003*
	habitat of threatened species, an endangered population or an EEC, or any plant or animal that is of, or is part of, a threatened species, an endangered population or an EEC, has been damaged in or as a result of the commission of an offence under the NPW Act (s. 91K NPW Act).	been cleared in contravention of the NV Act, or that the clearing of native vegetation has caused, or is likely to cause, on or in the vicinity of the land, any soil erosion, land degradation or siltation of any river or lake or any adverse effect on the environment (s. 38 NV Act).

Appendix J: Native vegetation prosecutions for illegal clearing

This appendix is limited to prosecutions for illegal clearing under the *Native Vegetation Act 2003* only and does not cover prosecutions under the predecessor legislation, the *Native Vegetation Conservation Act 1997* (repealed).

NSW Land and Environment Court prosecutions

Region	Result	Year	Penalty	Area of land clearing
SOUTH WEST	Convicted	2009	$22,000	21 ha
SOUTH WEST	Convicted	2009	$22,000	21 ha
ARMIDALE	Convicted	2009	~~$400,000~~	486 ha. (NSW Court of Criminal Appeal remitted matter back to Land and Environment Court to be re-sentenced. Awaiting judgment on the re-sentencing.)
SOUTH WEST	Convicted	2009	$22,000	21 ha
HUNTER	Convicted	2009	$5,000	12 ha.
DUBBO	Convicted	2009	$160,000	215 ha
BATHURST	Convicted	2010	$5,000	29 ha (60% thinned)
HUNTER	Convicted	2010	$0	12 ha
HUNTER	Convicted	2010	$100,000	10 ha
SOUTH EAST	Convicted	2010	$30,150	22 ha
NORTH COAST	Convicted	2011	$200,000	38 ha
SOUTH EAST	Convicted	2011	$200,000	23 ha
ARMIDALE	Convicted	2012	$40,000	32.48 ha

Region	Result	Year	Penalty	Area of land clearing
SOUTH WEST	Convicted	2012	$120,000	65 ha
ARMIDALE	Convicted	2012	~~$80,040~~ $66,000	239 ha. Appealed sentence to the NSW Court of Criminal Appeal which lowered the penalty from $80,040 to $66,000 in 2014.
ILLAWARRA	Convicted	2012	$80,000	7.3 ha
ARMIDALE	Convicted	2013	$67,500	89 ha
BATHURST	Convicted	2013	$112,000	60.06 ha

Local Court prosecutions

NB: The area cleared is not available for Local Court prosecutions.

Region	Court	Result	Year	Penalty
ARMIDALE	Gilgranda Local Court	Convicted	2008	$1,000
DUBBO	Dubbo Local Court	Convicted	2009	$0
ARMIDALE	Moree Local Court	Acquitted	2009	$0
FORESTRY – PNF matter (EPA)	Grafton Local Court	Convicted	2010	$5,000
ARMIDALE	Inverell Local Court	Convicted	2010	$1,500
NORTH COAST	Kempsey Local Court	Convicted	2011	$4,500

Appendix K: Costs of the current legislative framework to proponents and landholders

Limited data is available to assess the costs of the current legislative framework for proponents There is difficulty in measuring opportunity costs and also distinguishing between the private and public benefits of biodiversity conservation.

Environmental Planning and Assessment Act 1979

The regulatory impact statement (RIS) for the introduction of the Biodiversity Certification Methodology (Ag Econ Consulting 2010) estimated the cost to developers for biodiversity assessment as part of an *Environmental Planning and Assessment Act 1979* development application as:

- $5,000 for an assessment of significance
- $75,000 for a species impact statement (SIS)
- $40,000 in additional assessment and legal costs if the development application is contentious.

These estimates do not include land holding costs the developer incurs while a SIS is prepared.

Native vegetation

There are no direct costs incurred by landholders for clearing applications and approvals under the *Native Vegetation Act 2003*. LLS incurs all application, mapping and environmental assessment costs during the PVP assessment.

Indirect landholder costs are more difficult to quantify. The Productivity Commission report *Impacts of Native Vegetation and Biodiversity Regulations* (2004) identified several areas where native vegetation regulation would impact on-farm costs by:

- restricting available land
- restricting the adoption of new technology
- increasing the costs of managing existing native vegetation
- impacting property values
- imposing compliance costs.

More recently, the RIS for the 2013 Review of the Native Vegetation Regulation (Arche Consulting 2013) found that a reduction in delays associated with the introduction of self-assessable codes would save agricultural businesses $15,000 per year. This figure can be taken as a proxy for the annual savings for landholders due to the introduction of the self-assessable codes in November 2014, excluding the presently unquantified opportunity costs of development.

Appendix L: Regulation of native forestry on Crown land

Native forestry operations on Crown land (including state forests) in New South Wales are approved under the provisions of the *Forestry Act 2012*. Under this Act native forestry operations are subject to regionally based Integrated Forestry Operations Approvals (IFOA) which permit forestry operations and set approval conditions.

In coastal New South Wales, all four IFOAs (Upper North East, Lower North East, Southern and Eden) (coastal IFOAs) were preceded by:

- comprehensive forest assessments
- Regional Forest Agreements with the Australian Government
- NSW Forest Agreements, which addressed many aspects of the environment including increases to the formal conservation reserve system and promotion of Ecologically Sustainable Forest Management (ESFM).

In Western New South Wales the Brigalow–Nandewar, Riverina Red Gum and South Western Cypress IFOAs were also preceded by assessments and NSW Government decisions including new conservation reserves.

The IFOAs incorporate licences under the *Threatened Species Conservation Act* [a threatened species licence (TSL)], *Protection of the Environment Operations Act 1997* and *Fisheries Management Act 1994*, and include general terms covering volumes permitted to be harvested, ESFM and forest management generally.

The IFOAs (including the threatened species licence) are jointly approved by the Ministers for the Environment and Primary Industries. Forestry operations covered by an IFOA are exempt from the provisions of the *Environmental Planning and Assessment Act 1979,* and the *National Parks and Wildlife Act 1974* and *Threatened Species Conservation Act 1995* have limited application in IFOA regions. The net impact of these provisions is that, although forestry operations on Crown land are subject to a TSL, standard assessment processes, such as the assessment of significance and species impact statements, do not apply and are not used to inform the decision of the Ministers to grant an IFOA.

Instead, the threatened species licence authorises operations that are likely to result in harm to threatened species. In practice, it seeks to protect threatened species by setting minimum standards to apply to species and their habitat. These include general (landscape) provisions to protect features, such as riparian areas, rainforest and old-growth forest, as well as species-specific provisions requiring pre-harvest survey and the application of protections where species are located.

The EPA regulates Forestry Corporation of NSW (FCNSW) compliance with the general terms, the environment protection licence and the threatened species licence (TSL) component of the IFOAs, and Department of Primary Industries – Fisheries NSW regulates FCNSW compliance with the fisheries licence. The TSL component of the IFOA is enforced through offence and penalty provisions established under the *National Parks and Wildlife Act 1974*.

The NSW Government is currently reviewing and remaking the coastal IFOAs to improve their efficiency, effectiveness, and enforceability. As part of the remake, the NSW Government is looking to increase the number and effectiveness of general (landscape) provisions operating at multiple scales in the forests, including setting limits on the scale of operations across time and space. As part of these changes, the NSW Government also proposes to reduce the requirements for species-specific surveys where these species can be shown to be catered for by landscape provisions. Additional information on the remake can be found at http://www.epa.nsw.gov.au/forestagreements/coastIFOAs.htm.

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