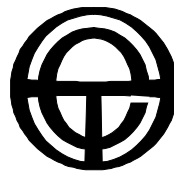


Submission on the Proposed Biodiversity Banking Scheme



February 2008



TOTAL ENVIRONMENT CENTRE

Contents

Executive summary

Part One: Scheme Overview

- 1.1 State of biodiversity conservation in NSW
- 1.2 Incentives for private biodiversity stewardship
- 1.3 Offsetting biodiversity
- 1.4 Relationship of biobanking with planning and native vegetation regimes
- 1.5 Consultation process
- Recommendations

Part Two: Draft Biobanking Assessment methodology

- 2.1 Potential benefits of the assessment methodology
- 2.2 General concerns about the use of offsets
- 2.3 Red flags
- 2.4 Red flag variations by the Director-General
- 2.5 Adequacy/accuracy of the underlying data
- 2.6 Assessing biodiversity values and predicting impacts
- 2.7 Offsetting rules
- 2.8 Monitoring and long term impacts
- 2.9 The pilot study
- Recommendations

Part Three: Draft Threatened Species Conservation (Biodiversity Banking) Regulation 2007

- 3.1 Additional clauses required: Red flag variation process
- 3.2 Comment on draft clauses
- 3.3 Additional issues raised by the Regulatory Impact Statement
- Recommendations

Part Four: Draft Compliance Assurance Strategy

- 4.1 Identifying the regulated community
- 4.2 Establishing program priorities
- 4.3 Promoting compliance
- 4.4 Monitoring compliance
- 4.5 Enforcement response to non-compliance
- 4.6 Roles and responsibilities of other agencies
- 4.7 Scheme accountability and evaluation
- Recommendations

Part Five: Summary of recommendations

Executive Summary

The Environmental Defenders Office (EDO) and Total Environment Centre (TEC) approach the issue of biobanking with scepticism. The history of offsets in New South Wales and Australia generally has not been a good one, with a strong tendency to inappropriate compensation that has not ‘maintained or improved the environment’; little follow-up and long term assurance; and in some cases, ultimate failure. Environment groups have generally opposed the use of offsets as they have gained the reputation as ‘greenwash’.

Biobanking is claimed to be a more scientific and coherent attempt at offsets but because it has emerged from this previously unconvincing background, it must be subjected to the most rigorous scrutiny – if it is to convince the community as to its utility. During the debate on biobanking, developers have been keen to point out that it must be usable by them (ie, maintain or improve revenue at the expense of the environment) for the system to be acceptable as a modern planning tool. However, the real test for its veracity and ongoing acceptability by the community is that it does not become marked as a facilitator for the destruction of important native vegetation, which in the non-rural situation has been much reduced. The government already has a reputation for a too-close relationship with developers. A biobanking system that does not significantly lift the bar on the role of native vegetation protection in non-rural settings will simply reinforce that view.

Additionally the current laws are ineffective largely due to the ongoing dominance of outdated planning principles practised under the EP&A Act, either where it intersects with threatened species laws; or where it has free reign. Biobanking could improve the situation, but its potential to address the significant and ongoing biodiversity losses is up for debate.

We strongly support providing incentives for biodiversity conservation on private land in NSW. However, biobanking is unlikely to be a complete major recipe under the development scenario; rather its methodology could have a widespread application to allocate stewardship payments drawn from other sources. The potential of developer initiated biobanking should not be exaggerated.

Offsets must be a last resort and all efforts to avoid and minimise impacts must be undertaken first. If offsets are a necessity (and environmentally acceptable) as part of a development approval, then a number of key principles apply. These principles relate to avoiding and minimising impacts first; offsets must be like for like, and offsets must be additional.

If biobanking and its methodology are likely to be used to weaken the processes under the *Native Vegetation Act 2003* and BioMetric, then environment groups will rightly reject the proposals. The current legal impediments to use by the rural lands sector must be maintained, and in fact, the best elements of the *Native Vegetation Act 2003* system imported into biobanking.

The perils of this interaction can be seen in the proposals to remove ‘red flags’, under the guise of a current definition of ‘viability’ (that avoids the ‘grey’ issues of small area protection), so that developers can remove irritating remnants. As pointed out by EDO and TEC small bush remnants in urban settings can have very significant environmental values. We support all efforts being made to retain them in recognition that land tenure change (public ownership) along with a management plan, can in fact maintain or improve their future prospects.

A potential benefit of biobanking is the development of a robust methodology that could be more extensively used for land use planning and strategic planning. If this potential is to be realised and be ecologically sound, then the ‘maintain or improve’ test must be rigorous, objective, and scientifically based. It must engender community confidence and afford credibility to the planning system, in an increasingly environmentally aware world.

The EDO and the TEC welcome the opportunity to comment on the documents on public exhibition relating to biodiversity banking. We acknowledge support from the Department of Environment and Climate Change (DECC) assisting our participation in the Ministerial Reference Group consultation process.

For the purpose of preparing this report, the EDO interviewed a number of ecological consultants from the EDO Scientific Expert Register, and sought feedback from environment and community groups.

This submission is structured in 5 parts. **Part One** addresses broad overarching issues in relation to biobanking. **Part Two** provides comment on the Draft Assessment Methodology. **Part Three** discusses the Draft Regulation and Regulatory Impact Statement. **Part Four** comments on the Draft Compliance Assurance Strategy; and **Part Five** provides a summary of recommendations.

Part One: Scheme Overview

1.1 State of threatened species conservation in NSW

Biodiversity is subject to a range of threats. Development in coastal and urban areas poses perhaps the greatest threat to the unique biodiversity of NSW. The current laws that are designed to regulate impacts on biodiversity are wide-ranging, resource-intensive, sometimes contradictory and often ineffective. This lack of effectiveness is largely due to the ongoing dominance of outdated planning principles practised under the EP&A Act, either where it intersects with threatened species laws; or where it has free reign. An analysis of the various threatened species, protected area, land use planning laws that affect biodiversity is contained in *The Status of Biodiversity Conservation in New South Wales and Recommendations for Reform*.¹ Biobanking is only one part of the regulatory scheme, and its potential to address the significant and ongoing biodiversity losses is up for debate.

1.2 Incentives for private stewardship

The EDO and TEC strongly support providing incentives for biodiversity conservation on private land in NSW. Providing sufficient income for landholders to manage land for biodiversity conservation, and also potentially carbon sequestration and other ecosystem services, is essential in combating land degradation.

1.3 Offsetting biodiversity

The EDO and TEC submit that there are inherent limitations of biodiversity offsets. The very nature of biodiversity means often it is not amenable to being offset. While there have been environmental gains from offsetting and trading projects in relation to salinity and certain nutrients, the same principles do not automatically translate to unique, unquantifiable and non-fungible aspects of biodiversity. Biodiversity offsets therefore, must be a last resort and all efforts to avoid and minimise impacts must be undertaken first. If offsets are a necessity (and environmentally acceptable) as part of a development approval, then a number of key principles apply. These principles relate to avoiding and minimising impacts first; offsets must be like for like, and offsets must be additional.

1.4 The relationship of Biobanking with planning and native vegetation regimes

The architecture and subsequent implementation of the biobanking scheme has implications for the planning system and for native vegetation management. The 'maintain or improve environmental outcomes' test now appears in a number of different Acts and is applied in different contexts (rural land clearing, bicertification, and urban development).

¹ Nature Conservation Council, November 2006, Available at <http://www.edo.org.au/edonsw/site/policy.php>.

It is absolutely essential that we do not end up with a lowest common denominator approach whereby the 'maintain or improve environmental outcomes test' is watered down. The rigorous land-use constraints currently imposed on rural landholders are consistent with the ban on broadscale land clearing imposed by the *Native Vegetation Act 2003*. The flexibilities currently being written into the biobanking methodology to accommodate urban developer interests have the capacity to undermine the integrity of the test more broadly. A potential benefit of biobanking is the development of a robust methodology that could be more extensively used for land use planning and strategic planning. If this potential is to be realised and be ecologically sound, then the 'maintain or improve' test must be rigorous, objective, and scientifically based.

The interaction of biobanking and current local planning controls is apparent when considering the fate of small urban bush remnants. Under current proposals 'small' areas of red light and other native vegetation can be deemed non-viable and thus open to offsets and subsequently cleared. This is not acceptable and ignores the fact that many small pockets of bush, including threatened communities, do survive in urban environments, often as local parks protected for their environmental (and recreational) values under the community land provisions of the Local Government Act. This can come about even though an area is broadly zoned as residential, because once a development application has been submitted and considered, additional development controls and precinct planning can be brought to bear. It is inappropriate for biobanking to signal the loss of an area at such an early stage. Biobanking should ensure the retention of such small areas and therefore link to the final development outcome.

1.5 Consultation process

The EDO and TEC have been involved in consultation on biobanking since the initial discussion paper. We have previously commented on:

- Preliminary identification of key issues relating to the biobanking assessment methodology - 30 November 2007
- Biobanking consultation – Key concern: variation of red flags - 21 November 2007
- Submission to the Joint Select Committee on the Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006 - 9 May 2007
- Submission on “BioBanking – A Biodiversity Offsets and Banking Scheme” Working Paper - 5 March 2006
- Biodiversity Certification and Banking in Coastal and Growth Areas - 13 September 2005.

These comments are available at <http://www.edo.org.au/edonsw/site/policy.php>.

The EDO and TEC have also made presentations on biobanking at a number of public fora including: Biodiversity on the Brink – NCC Forum and the Ecological Consultants of Australia Annual Conference.

We were unable to conduct workshops to obtain the views of rural and regional environment groups due to the public exhibition period and release of documents being over the Christmas period. We have sought feedback in separate discussions with environment groups and members of the community.

The EDO and TEC are both members of the Ministerial Reference Group for Biobanking (MRG). We have provided specific comment on various issues through the MRG process. During the course of the 8 MRG meetings so far we have brought to the attention of DECC various inaccuracies in the MRG Minutes on issues the MRG was stated to have ‘agreed’ on. The EDO and TEC have varied in opinion on a number of key issues with other members of the MRG. The membership of the MRG is weighted in favour of the development industry, and we were concerned about the mid-term informal DG appointment of an additional Urban Taskforce representative.

We note various meetings have been held with members of the DECC biobanking team over the last 12 months on general and specific aspects of biobanking, but we were unable to have a comprehensive meeting with the scientific team to discuss our full list of concerns with the methodology.

Key issues and Recommendations

- Avoid minimise first, apply the precautionary principle to offsetting.
- As the scheme is new and untested it is essential to ensure that environmental safeguards are in place, consistent with a precautionary approach
- Clarify the relationship with other regimes to ensure the ecological integrity of the maintain or improve test is retained.
- Maintain the MRG for the first 2 years.

Part Two: Draft Biobanking Assessment Methodology

These comments relate to the Draft Biobanking Assessment Methodology, the Report on the pilot of the Draft Biobanking Assessment Methodology, and the Peer Review of the Draft Biobanking Assessment Methodology. In preparing these comments, the EDO consulted a number of ecologists from the EDO Scientific Expert Register.

Our comments on the assessment methodology relate to:

1. Potential benefits of the assessment methodology
2. General concerns about the use of offsets
3. Red flags
4. Red flag variations by the Director-General
5. Adequacy/accuracy of the underlying data
6. Assessing biodiversity values and predicting impacts
7. Offsetting rules
8. Monitoring and long-term research, and
9. The pilot study.

2.1 Potential benefits of the assessment methodology

The EDO and TEC recognise that the current threatened species assessment process has many problems and is failing to adequately conserve biodiversity in NSW. We are of the view that a well-designed, scientifically robust assessment methodology has the potential to greatly improve the threatened species assessment process in NSW.

However, the potential benefits of the methodology depend on how it is applied under the BioBanking scheme (some of these details are not yet publicly available (for example, the Operations Manual)). Also, we have serious concerns about the red light variation process (see below) and the environmental contributions process, which we believe undermine the ecological integrity of the methodology and are likely to negate these potential benefits.

In the context of the current threatened species assessment process, the potential benefits of the assessment methodology are that it:

- standardises the assessment process and improves scientific objectivity, consistency, and transparency in the process;
- greatly improves the amount of ecological data available for assessments through establishment of the biodiversity databases (although we have concerns regarding data adequacy - see below);
- requires consideration of a number of biodiversity attributes often not considered in the assessment process;
- significantly improves the process for determining the adequacy of offsets;
- improves consideration of the cumulative impacts of developments; and

- potentially reduces the scope for a developer to ‘shop around’ for a consultant.

2.2 General concerns about the use of offsets

The assessment methodology relies largely on the use of offsets to ensure a development improves or maintains biodiversity values, although offsets are not able to be used in all circumstances.

We are concerned about the widespread use of offsets as a mechanism to protect biodiversity. We have outlined our general concerns about offsets in previous submissions (please refer to www.edo.org.au/edonsw/site/policy.php).

The use of offsets to meet a goal of ‘improve or maintain’ biodiversity values has significant limitations, which relate to:²

1. The gain in biodiversity values that can be achieved relative to the loss:
 - a. Offsets that involve the protection of existing good quality vegetation may result in a loss equivalent to the area impacted.
 - b. Offsets that involve the restoration of habitats are subject to significant scientific uncertainty in terms of the gains that can be achieved.
2. The difficulty in measuring the equivalency of any gain in biodiversity values relative to the loss:
 - a. Ecosystems are very complex and biodiversity values are difficult to quantify. No two patches of vegetation have equal biodiversity value.
 - b. Methodologies to quantify biodiversity values must necessarily be relatively simplistic and based on a number of significant assumptions.
3. The time-lag between losses in biodiversity values and gains: offsets almost always involve a short-term loss in exchange for a long-term gain.
4. The difficulty in ensuring compliance: offsets have a poor track record of compliance and considerable resources are required to ensure compliance.

Key issue and recommendation:

- Due to the inherent risk of biodiversity offsetting, it should only be done as a last resort, with all efforts made to avoid and minimise impacts at the development site first. This should be made clear in the Regulation.

² Gibbons, P. and Lindenmayer, D. (2007) ‘Offsets for land clearing: No net loss or the tail wagging the dog?’ *Ecological Management and Restoration* 8: 26-31.

2.3 Red flags

The red flag concept is vital to the ecological integrity of the assessment methodology. We strongly support the concept, which is designed to limit the widespread use of offsets in recognition of the significant limitations of using offsets to meet an 'improve or maintain biodiversity values' goal.

We generally support the red flag rules, although we have some concerns, including in relation to the adequacy of the data that underpins them (see below). The % cleared value for vegetation types is consistent with the targets in the *National Objectives and Targets for Biodiversity Conservation 2001-2005*,³ and the definition of 'low condition' vegetation is conservative and is consistent with the *Native Vegetation Act 2003*.

Our main concerns relating to the red flag rules are:

1. The red flag rules are not protective of vegetation types or TECs that exist largely in a degraded state. A vegetation type or TEC is able to be cleared down to zero in a CMA if it exists only in low condition or in 'low viability' patches. Many TECs are likely to exist largely in low condition or 'low viability' patches⁴ (for example, Lowland rainforest on floodplain in the NSW North Coast Bioregion - see below). We are concerned that the assessment methodology does not consider scarcity or conservation status irrespective of vegetation condition in such circumstances (ie. there is no 'safety net' for ecological communities that exist largely in a degraded state).
2. Vegetation that does not trigger a red flag, including low condition vegetation, may play an important functional role in maintaining species' populations and biodiversity at a landscape scale (for example, as a habitat or riparian corridor, or as a vegetation patch important to a metapopulation). In some CMAs or overcleared landscapes, there may be very little vegetation on private land that is not in low condition, and these patches play a critical role in the maintenance of biodiversity at a landscape scale.⁵ Also, vegetation in low condition is important for much biodiversity (for example, invertebrates, which make up 95% of biodiversity⁶, and many

³ Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.

⁴ See the NSW Scientific Committee Final Determinations at: www.nationalparks.nsw.gov.au/npws.nsf/Content/List+of+Scientific+Committee+determinations

⁵ Anne Kerle, (ecologist) pers comm. (30/1/08)

⁶ Franklin, J.F. (1993) 'Preserving biodiversity: species, ecosystems or landscapes?' *Ecological Applications* 3(2): 202-205; Dieter Hochuli, (ecologist) pers comm. (17/02/08); Mazerolle, M.J. and Villard, M. (1999) 'Patch characteristics and landscape context as predictors of species presence and abundance: A review' *Ecoscience* 6(1): 117-124; NSW Scientific Committee. Menippis fugitives (a beetle) population, Sutherland Shire - endangered population listing. Final determination. Available online at <http://www.nationalparks.nsw.gov.au/npws.nsf/Content/Menippus+fugitivus+a+beetle+population+Sutherland+Shire+endangered+population+listing> [Date accessed 21/01/07]

species of birds and mammals⁷). We are concerned that the assessment methodology does not provide a mechanism to consider the functional role of non-red flag vegetation, including low condition vegetation, in such circumstances.

3. We are unclear about how identified populations and threatened species that cannot withstand further loss within a CMA were determined (for example, what data was used, what criteria was used, what level of expert input was involved?). This information must be made publicly available to ensure transparency. Also, the level of knowledge on species abundances in many CMAs is very poor and many data gaps exist.⁸ Judgements on whether a species can withstand loss are vital to the ecological integrity of the assessment methodology, but without adequate data, it is not possible to make such judgements with a reasonable level of certainty. There is a need to acknowledge where data is poor and where further data collection is required
4. We are unclear whether species that are ‘naturally very rare’ include species with naturally long generation times. Such species should be included in this category because they are particularly vulnerable to loss due to their slow recovery, and there will be a much greater time lag between losses at the development site and gains at the biobank site.

Key issues and recommendations:

- The red flag rules do not protect of TECs that exist largely in degraded state. The assessment methodology should include a safety net for TECs that exist largely in a degraded state.
- Low condition vegetation may still play an important functional role, particularly in overcleared landscapes. We support the consideration of an additional red flag rule that accounts for the likely functional role of vegetation in the landscape.
- Information on how identified populations and threatened species that cannot withstand further loss within a CMA were determined must be made publicly available to ensure transparency.

⁷ Garden, J.G., McAlpine, C.A., Possingham, H.P. and Jones, D.N. (2007) ‘Habitat structure is more important than vegetation composition for local-level management of native terrestrial reptile and small mammal species living in urban remnants: A case study from Brisbane, Australia’. *Austral Ecology* 32: 669-685; Munro, N.T., Lindenmayer, D.B. and Fischer, J. (2007) ‘Faunal response to revegetation in agricultural areas of Australia: A review’ *Ecological Management and Restoration* 8(3):199-207

⁸ Anne Kerle (ecologist) pers comm. (30/1/08)

2.4 Variation of red flags by the Director-General

A major concern with the assessment methodology relates to the ability of the Director-General to determine that a development that gets a red flag may still improve or maintain biodiversity values if he/she is of the opinion that the assessment protocols have been met and the red flag is unreasonable and unnecessary.

We are of the view that the assessment protocols have significant potential to undermine the ecological integrity of the assessment methodology. The red flag rules are designed to limit the widespread use of offsets in recognition of the significant limitations of using offsets to meet an 'improve or maintain' goal.

Our concerns regarding the variation process are outlined in a letter to DECC, which can be found at: www.edo.org.au/edonsw/site/policy.php. In summary, our main concerns are:

1. The variation process establishes a parallel assessment process that leaves significant room for the Director-General to make subjective judgments on whether a development can improve or maintain biodiversity values. This undermines the scientific objectivity and transparency of the assessment methodology. Many applications for a biobanking statement would include an application to vary a red flag. This means that the Director-General and not the assessment methodology would be making a decision on whether a development can improve or maintain biodiversity values in many cases. This undermines the overarching goal of creating a consistent and objective methodology for determining biodiversity offsets.
2. Many threatened ecological communities (TECs), especially those that exist mainly in urban areas, are likely to meet the criteria in the assessment protocols and will therefore be regarded as being of low viability. Many TECs are listed as a result of their existence in fragmented patches within their former range and the degraded nature of many of these patches.⁹ This means the assessment methodology will be unprotective of many TECs. For example, Lowland rainforest on floodplain in the NSW North Coast Bioregion.¹⁰

Lowland rainforest on floodplain in the NSW North Coast Bioregion

This EEC was listed in 1999 and occurs entirely as a series of small, degraded areas. It is critically fragmented throughout its former range, with less than 1000ha in total left. Weed infestation is a problem in many of the fragments. The rarity of this EEC means that all

⁹ Mark Graham (ecologist), pers comm. (17/01/08)

¹⁰ NSW Scientific Committee, Lowland rainforest on floodplain in the NSW North Coast Bioregion – endangered ecological community listing, final determination. Available online at <http://www.nationalparks.nsw.gov.au/npws.nsf/Content/Lowland+Rainforest+on+Floodplain+in+the+New+South+Wales+North+Coast+Bioregion+endangered+ecological+community+listing> [Date accessed 21/01/08]; Mark Graham (ecologist), pers comm. (17/01/08)

remaining patches should be retained and restored, however, by applying the assessment protocol to determine viability, all the remaining patches would be able to be cleared.

3. The variation process is inconsistent with the variation process under the *Native Vegetation Conservation Act 2001* both in terms of the definition of low condition vegetation and the variation process itself. This creates a situation where the regulatory framework in rural areas is more protective of low quality vegetation than the framework in urban areas.¹¹ As noted, we support development of best practice assessment, and not a 'lowest common denominator' approach. The process for variation of biobanking red flags should therefore mirror the transparent process under the *Native Vegetation Regulation 2005*, whereby variation is a separate regulatory process to the assessment methodology. (This is discussed further in Part 3).
4. Support for variation is provided where the development is identified as being in a development area in a Regional Strategy. We have significant concerns about the process for determining areas suitable for development under a Regional Strategy (see example of South Moonee Forest and Kings Forest¹² below) and we do not support this variation criterion.

South Moonee Forest – Mid North Coast

South Moonee Forest, an area to the north of Coffs Harbour was identified by Coffs Harbour Council as an area to be conserved for its biodiversity values. The site is known to support 8 endangered ecological communities and 16 threatened species. Despite widespread community support for its conservation and Council's identification of the biodiversity values of the area, the Draft Mid-North Coast Regional Strategy has identified this area for development.

Kings Forest – Far North Coast

As a result of widespread development throughout the Tweed Coast in the last decade, many species have had their ranges significantly reduced. Kings Forest is a regional stronghold for many species such as the Long-nosed potaroo and the planigale. This area contains the only viable areas of native vegetation faunal communities across the Tweed Coast. Large parts of this area have been flagged for development in the Far North Coast Regional Strategy because of lobbying by the development industry.

Red flags have an important function, and it would be insufficient to simply rely on broad conservation areas as already identified in Regional Strategies. Not only were such decisions not based solely on ecological considerations, but relying on broad areas identified in strategies instead of using specific

¹¹ The current draft assessment protocols for variation of the EOAM to reclassify the condition of native vegetation under the *Native Vegetation Conservation Act 2001* may change this situation, reducing the protection for low condition vegetation in rural areas, however at this stage this comment still applies.

¹² Mark Graham (ecologist), pers comm. (17/01/08)

red flags, undermines the fundamental principle that biodiversity offsets must be like for like and additional.

DECC has recognised that is not sufficient to look at Regional Strategies alone. The recently gazetted DECC Threatened Species Assessment Guidelines state:

*“The revised factors [for the assessment of significance] maintain the earlier intent of the legislation but focus particularly on the likely impacts to the local rather than the regional environment. The reason for the shift to a local focus is that the long-term loss of biodiversity at all levels arises mainly from the accumulation of losses and depletions of populations at a local level. This is the broad principle underpinning the TSC Act, state and federal biodiversity strategies, and international agreements.”*¹³

5. The consideration of ecological viability is a key part of the assessment protocols. There are important limitations in the use of viability thresholds concepts including:

- Ecologists acknowledge that ecological thresholds such as patch size, vegetation cover, and connectivity are very poorly known.¹⁴ Some studies have been done in Western NSW on woodland birds,¹⁵ however thresholds for other species in different geographic regions are poorly understood.
- Viability is a species-specific consideration. Each species will perceive the landscape differently, and what constitutes a viable patch will be different for each species¹⁶. Some small, degraded patches still maintain ecologically viable populations of threatened species (e.g. *Menippus fugitivus*¹⁷ - see below). The assessment protocols must make clear that viability needs to be considered in terms of each species or TEC predicted to occur at a site. We note that the recently gazetted DECC Threatened Species Assessment Guidelines highlight the species specific and community specific nature of ecological thresholds: *“Critical thresholds of remnant size, and species and structural composition required to maintain ecological functioning will vary from ecological community to ecological community.”*¹⁸

¹³ DECC Threatened Species Assessment Guidelines 2008, *op cit*.

¹⁴ EDO Expert Register (pers comm.), Lindenmayer, D.B., Luck, G. (2005) ‘Synthesis: Thresholds in conservation and management’ *Biological Conservation* 124: 351-354

¹⁵ Major, R.E., Christie, F.J. and Gowing, G. (2001) ‘Influence of remnant and landscape attributes on Australian woodland bird communities’ *Biological Conservation* 102(1): 47-66; or if can’t find Driscoll pers comm..

¹⁶ Bestelmeyer, B.T., Miller, J.R. and Wiens, J.A. (2003) ‘Applying species diversity theory to land management’ *Ecological Applications* 13(6): 1750-1761; Mazerolle, M.J. and Villard, M. (1999) ‘Patch characteristics and landscape context as predictors of species presence and abundance: A review’ *Ecoscience* 6(1): 117-124

¹⁷ NSW Scientific Committee. Menippis fugitives (a beetle) population, Sutherland Shire – endangered population listing. Final determination. Available online at <http://www.nationalparks.nsw.gov.au/npws.nsf/Content/Menippus+fugitivus+a+a+beetle+population+Sutherland+Shire+endangered+population+listing> [Date accessed 21/01/07]

¹⁸ DECC (2008) Threatened species assessment guidelines: The assessment of significance.

- Viability must also be considered in terms of metapopulations. Small patches which may not maintain a viable population in isolation may be important for the persistence of a metapopulation, particularly in overcleared and fragmented landscapes such as urban areas.

Menippus fugitivus in the Sutherland Shire

This population of beetles exists entirely in one reserve within the Sutherland Shire. The reserve, Grays Point Reserve, is only 0.8 ha, and the beetle feeds solely on a stand of Native Celtis (10-15 trees) within this reserve. The population is thought to be approximately 500 individuals and is of high conservation significance as it is the only population in mainland NSW. The removal of even a few of the Native Celtis trees is identified as having a significant impact on the listed population. This example demonstrates the importance of scale for different species. This species depends on 10-15 trees in a very small patch of degraded vegetation. Under the current red flag variation rules this species would be able to be totally eliminated from NSW.

We note that the recently gazetted DECC Threatened Species Assessment Guidelines highlight the difficulty in determining the viability of a species or ecological community: *“Demonstrating that a population is not viable would require considerable effort and study. Therefore any known or presumed local population should be assumed viable unless the contrary can be conclusively demonstrated through analysis of local ecological information, records, references and knowledge of species’ behaviour and habitat or through a comprehensive on-site ecological study.”*¹⁹

6. We also strongly oppose support for a red flag variation being provided by a development contribution. As noted in our letter to the Minister (21st November 2007), the perception that a developer can “buy” their way out of environmental limitations will be unpalatable to the broader community.

Key issues and recommendations:

- The subjective nature of the assessment protocols undermines the scientific rigour of the assessment methodology. The variation process must therefore not be contained in the assessment methodology, but must be set out separately in the Regulation.
- The assessment protocols will further erode protection of TECs, especially those in urban areas, many of which are likely to meet the assessment protocols for low viability.
- Inclusion of a development in a Regional Strategy should not provide support for a red flag variation.
- Ecological viability is a species-specific consideration. This should be

¹⁹ DECC (2008) Threatened species assessment guidelines: The assessment of significance.

factored into the assessment protocols.

2.5 Accuracy/adequacy of the underlying data

The ecological integrity of the assessment methodology relies heavily on the accuracy/adequacy of the data that underlies it, which is contained in a number of biodiversity databases.

Our main concerns are:

1. We are unclear about how the biodiversity databases were developed (for example, what data was used, what criteria was used, what level of expert input was involved). This information must be made publicly available to ensure transparency.
2. We are unclear about the processes that will be put in place to ensure the continued assessment and updating of the biodiversity databases. It is important that a systematic monitoring process be put in place to update the databases regularly based on the best available scientific information (see below). We understand that the current process for updating the databases used under the EOAM is slow and not all available data is always incorporated.²⁰
3. We understand that the % cleared values in the Vegetation Types Database are not accurate in some cases. It is important that % cleared values are accurate, because this data is used to determine whether a development gets a red flag. Also, we are unclear about how vegetation types have been matched to TECs. This should be done in consultation with the NSW Scientific Committee.
4. We understand that the benchmark values in the Vegetation Benchmarks Database have been derived based on only limited data and that there were significant issues in defining benchmark values in some cases.²¹ It is important that the benchmark values are accurate because this data is used to determine site value, which is an important part of the calculation of biodiversity credits.
5. The Threatened Species Profile Database (TSPD) contains a considerable amount of threshold and other data such as the minimum vegetation condition, surrounding vegetation cover, patch size and TG value. There is very little empirical evidence in relation to such thresholds for most threatened species. It is important that this data is accurate because it is used to determine which threatened species require assessment at a site and how a threatened species will respond to management actions.

²⁰ Anne Kerle (ecologist), pers comm. (30/1/08)

²¹ Anne Kerle (ecologist), pers comm. (30/1/08)

Key issues and recommendations:

- The methods used to establish the biodiversity databases should be documented in detail and made publicly available.
- A systematic monitoring process should be put in place to ensure regular updating of the biodiversity databases based on the best available scientific information.
- The accuracy of the biodiversity databases in terms of % cleared values and benchmark values should be reviewed and data gaps identified.

2.6 Assessing biodiversity values and predicting impacts

2.6.1 Scoring site value and landscape value

The biodiversity attributes and weightings used in the assessment methodology to assess biodiversity value are based largely on the BioMetric assessment methodology. We are aware that ecologists from Forests NSW have recently tested the BioMetric assessment methodology in the field. We understand their study suggests that for some faunal groups, BioMetric does not always adequately predict the biodiversity value of a site and that the landscape scale components of the score may be more important than the site value score in predicting biodiversity value in some cases.²² We support further consideration of this study and any other relevant studies in considering ways to improve the assessment methodology. It is important to acknowledge any aspects of biodiversity that are unlikely to be adequately accounted for in the assessment methodology.

The assessment methodology combines the site value and landscape value scores (with a weighting) to obtain the total number of ecosystem credits required for a development. At a biobank site, ecosystem credits are created by improvements to site value and by any improvements to landscape value. The landscape value score will only improve at a biobank site if the vegetation is currently in low condition, but with management action would improve to moderate/good condition (depending on the site configuration). This means that in most cases credits will be generated at a biobank site from an increase in site value and not an increase in landscape value. Overall, this means that impacts on landscape value at the development site are able to be offset with improvements in vegetation condition at the biobank site, which may result in a landscape with fewer linkages, reduced connectivity and fewer large patches. We support further investigation of a mechanism to ensure that landscape value is not able to be offset with improvements in site value. BioMetric avoids this situation by requiring an offset to be equivalent in landscape value as the impacted area.

²² Weinberg AZ, Kavanagh RP, Law BS, Penman TD (2007) 'Testing biodiversity toolkits - How well do they predict vertebrate species richness?' NSW Department of Primary Industries, Sydney, Australia.

We support the approach taken to scoring adjacent remnant area, which says that a certain sized patch in an overcleared landscape has higher biodiversity value than the same sized patch in a less cleared landscape. However, the method gives the highest score (11 points) to any patch > 20 ha that occurs in a Mitchell landscape that is > 90% cleared. This means that a 21 ha patch gets the same score as a 200 ha patch in a landscape > 90% cleared. The biodiversity value of a 200 ha patch is clearly much greater than a 21 ha patch, particularly in an overcleared landscape.

2.6.2 Use of vegetation condition benchmarks

The assessment methodology uses vegetation condition benchmarks in determining the biodiversity values of a site.

The validity of assessing biodiversity values against benchmarks has been questioned by a number of scientists. In summary, the main concerns are:²³

1. Natural ecosystems are dynamic and not static and may never move consistently towards a prescribed end-point state. There is no scientific logic in choosing one state over another as the desired end-point.
2. The assumption is that optimal habitat conditions are obtained a long time after disturbance, which is not necessarily true. For many vegetation types, a range of successional stages are likely to provide optimal habitat.²⁴

This raises the following issues that require clarification:

- How is benchmark data determined where there are several climax communities for a vegetation type?
- How does the assessment methodology account for the importance of disturbance regimes in determining biodiversity values?
- Can the assessment methodology be applied to sites that have been recently disturbed (ie. by fire, etc)?

2.6.3 Assessing threatened species based on a habitat assessment approach

The assessment methodology largely assesses threatened species based on a habitat assessment approach and predicts presence or absence of species as a result of the habitat at a site. For ecosystem credit species, presence/absence is determined using

²³ McCarthy M. A., Parris, K.M., van der Ree, R., McDonnell, M.J., Burgman, M.A., Williams, N.S.G., McLean, N., Harper, M.J., Meyer, R., Hahs, A. and Coates, T. (2004) 'The habitat hectares approach to vegetation assessment: an evaluation and suggestions for improvement' *Ecological Management and Restoration* 5: 24-27; Chapman M. and Underwood A. (2000) 'The need for a practical scientific protocol to measure successful restoration' *Wetlands (Australia)* 19(1): 28-45; Bekessy, S.A., Wintle, B.A., Lindenmayer, D.B., McCarthy, M.A., Colyvan, M. and Possingham, H. (under review) 'The biodiversity bank cannot be a lending bank'.

²⁴ For example, The listed threatened species *Rhulingia* flourishes after disturbance including fire, but with fire exclusion and limited disturbance in areas where it remains it has become rare (Anne Kerle (ecologist) pers. comm. (30/1/08)²⁵ Mark Graham (ecologist), pers comm. (17/01/08)

vegetation types as habitat surrogates and are predicted by identifying whether habitat features occur on the site.

The assessment methodology generally does not require consideration of habitat quality (for example, abundance of limiting resources), population sizes, or the viability of populations at a site (population size is only considered for species credit species measured by number of individuals).

This means that that habitat supporting a large and viable population can be offset with habitat supporting a small and unviable population or no population (ie. by a site containing potential habitat only). It also means that high quality habitat (likely to support larger populations) can be offset with low quality habitat (likely to support smaller or no populations).

Under the assessment methodology, this situation applies to both ecosystem credit species and species credit species, including those species credit species that are measured by number of individuals. In theory, a development that impacts 50 individuals of a species credit species can be offset at biobank sites containing only 1 individual, although a large number of biobank sites would be required in such cases.

We support further consideration of ways for the assessment methodology to consider species presence (for example, signs of occupation such as scats) and habitat quality (for example, abundance of limiting resources) for ecosystem credit species. For example, the BioMetric assessment methodology requires assessment of habitat features for all species predicted to occur at a clearing site. An offset site must contain a similar abundance of habitat features or be predicted to cause an improvement in habitat features to a similar level to the clearing site for the offset to be regarded as suitable. Such an approach better accounts for habitat quality and minimizes the risk of offsetting high quality habitat with low quality habitat.

2.6.4 Allocation of species as ecosystem or species credit species

The method and criteria used to categorise a species as either an ecosystem credit species or a species credit species needs to be made publicly available and subject to expert review and continuous updating as ecological information improves. We submit that threatened species which have different habitat requirements for different parts of their life cycle should be classified as species credit species, in order to ensure that offsets are like for like (see also sections 2.7.2 and 2.9(6))

2.6.5 Potential habitat for species credit species

The assessment methodology does not assess potential habitat for species credit species in cases where the occurrence of a species at a site is discounted by undertaking a threatened species survey or an expert report (potential habitat for ecosystem credit species is assessed using habitat surrogates (vegetation types)).

It is important to assess potential habitat because threatened species are often difficult to detect, and a site may be used by a species only periodically or occasionally, or be important in maintaining a metapopulation, or may provide important future habitat for a species even if it does not currently use the site. There are a number of species that only periodically or occasionally use sites, for example, the Swift Parrot and Regent Honeyeater.²⁵

Swift Parrot and Regent Honeyeater

Both are highly vagrant, nomadic nectarivores. Because of flowering and fruiting patterns of native vegetation, they may only appear at a particular site once every 5-10 years. When the landscape was intact, these species could reliably depend on the presence of food trees. As patches containing suitable feed tree species have been cleared the populations of these species have been drastically reduced.

Potential habitat is also important in terms of metapopulation dynamics and a site which is currently unoccupied may still be important in maintaining a metapopulation²⁶. This is consistent with the definition of habitat under the TSC Act is ‘an area or areas occupied, or periodically or occasionally occupied, by a species...’. We also note that the DECC Threatened Species Assessment Guidelines highlight the importance of currently unoccupied habitat to the survival of threatened species: “*The recovery of threatened species relies on them having access to suitable habitat to move into as numbers increase.*”²⁷

2.6.6 Filtering process used when considering threatened species

It is very important that the thresholds associated with the threatened species filters in the assessment methodology (for example, surrounding vegetation cover, vegetation condition, patch size) are conservative estimates that reflect the current lack of knowledge in this area.²⁸

Also, the assessment methodology must include a mechanism for a consultant to consider any threatened species (including ecosystem credit species and species credit species) incidentally found at a site that were not predicted to occur by the filtering process. This should include requirements to report the occurrence to ensure the Threatened Species Profile Database can be updated and to re-consider whether the development should get a red flag because of the discovery.

At South Moonee Forest populations of species which require large, well connected forests have been detected at the site. This is contrary to the prediction by many ecologists that this area is not large enough to support viable populations. There are viable populations of the Yellow Bellied Glider and the Spotted Tail Quoll persisting in this patch of forest which would probably not have been considered suitable using the filtering process proposed.

²⁶ Don Driscoll (ecologist) pers comm. (Jan 2008)

²⁷ DECC Threatened Species Guidelines 2008, *op cit.*

²⁸ Mark Graham (ecologist), pers comm. (17/01/08)

2.6.7 Survey methodology and effort

The assessment methodology allows the occurrence of a species credit species at a site to be discounted by undertaking a threatened species survey or an expert report in accordance with the Operations Manual. If a species is discounted from a development site, no biodiversity credits are required to offset impacts.

We are concerned that inadequate survey methodology and effort may result in falsely discounting the occurrence of a species credit species at a site. This is a particularly important issue for BioBanking because there may be more incentive for a developer to discount the presence of a threatened species at a site than under the current threatened species assessment process.

The Operations Manual must clearly state the survey methodology and effort required before the presence of a species can be discounted from a site. This should be based on current guidelines (for example, draft DEC Guidelines for Threatened Biodiversity Survey and Assessment) and further expert consideration for each species, based on previous detection probability studies where available.

Some examples of threatened species that are not readily detectable and illustrate the necessity of species specific survey guidelines are the Green Thighed Frog, Green and Golden Bell Frog on the North Coast and Giant Dragonfly²⁹.

Green Thighed Frog

The Green Thighed Frog is a dry forest dependent species that lives in understorey. Breeding activity is reliant on wet events and it is only readily detectable for 1 week to 1 month every 4-7 years.

Green and Golden Bell Frog on the North Coast

The Green and Golden Bell Frog has a slightly different ecology on the North Coast to other areas of its range. In this area it is only readily detectable on a 2-5 year time frame when it responds to heavy rains.

Giant Dragonfly

This species has been found in areas which have previously been extensively surveyed without detection of the species. The ecology of the species is such that it lives in a larval stage below wetland areas for 10-30 years, before emerging for 1-3 weeks in the middle of summer to breed. This makes the detection of this species particularly difficult.

We understand a PhD thesis is currently being undertaken on this issue in relation to flora under the supervision of staff from the RMIT University and the University of Melbourne, which is likely to be relevant to the assessment methodology.

²⁹ Mark Graham (ecologist), pers comm. (17/01/08)

2.6.8 Expert reports

The assessment methodology allows an expert report to be prepared in place of a threatened species survey in many circumstances to discount the presence of a threatened species at a site.

Our main concerns are:

1. We are unclear about the level of assessment required for an expert report. We are concerned that an expert report leaves significant room for subjective judgment on the likely presence of a threatened species at a site and that the level of assessment required may not be adequate to ensure a reasonable level of certainty in discounting the presence of a species at a site.
2. The assessment methodology requires an expert report to provide an estimate of the number of individuals to be impacted at a site if a species credit species is predicted to occur. It allows an estimate to be made without a threatened species survey based on the density of individuals in nearby populations. We are concerned about this approach because it is very difficult to make such an estimate with a reasonable level of certainty given the significant knowledge gaps for many threatened species³⁰.

2.6.9 Accreditation of experts

We support an accreditation process that accredits experts on a species by species basis, so that judgements on species are made only by experts with the appropriate knowledge. We are of the view that this would minimise the risks associated with falsely discounting the presence of a threatened species at a site and in determining the number of individuals and area of habitat for a species credit species at a site.

2.6.10 Indirect impacts

The assessment methodology does not assess indirect impacts of a development on the biodiversity values of adjacent vegetation, or provide clear guidance on how indirect impacts may be assessed under the methodology. Indirect impacts may be significant component of the total impacts of a development. Examples of indirect impacts not clearly addressed in the methodology include: edge effects, habitat degradation due to urban runoff, new roads that cause road kill or increased predation by feral animals. A possible way to address this would be to include a specified buffer distance³¹ around the edge of the development site for which credits must also be retired.

2.6.11 Predicting the benefits of management actions

³⁰ Mark Graham (ecologist), pers comm. (17/01/08)

³¹ Studies by Judy and Peter Smith in the Blue Mountains have indicated that edge effects extend a minimum of 60m into bushland from the edge of residential developments.

The assessment methodology uses management actions to offset the impacts of a development, which are predicted to improve biodiversity values at a biobank site.

Our main concerns are:

1. There is very little available data that quantifies the benefits of management actions. We are concerned that the predicted gains in biodiversity values due to management actions may not be equivalent to the loss of biodiversity values due to the impacts of a development. Restoration of habitats does not have a good record of success with key elements of biodiversity often unable to be recreated.³²
2. Species may respond to management actions differently depending on the current site condition. Under the assessment methodology the species response to management actions is the same regardless of the current condition of the site.
3. We are unclear about the monitoring that will be undertaken to confirm the predicted benefits of management actions. A systematic independent monitoring program must be implemented to test key predictions/assumptions in the assessment methodology (see 2.8).

2.6.12 Users of the assessment methodology

The assessment methodology involves some subjective judgments. We are concerned that different users of the methodology will obtain different results in terms of determining the biodiversity values at a site and that a training/accreditation program may not be enough to adequately address this issue.

A PhD thesis is currently being undertaken on this issue, under the supervision of staff from the University of Melbourne and DECC. We understand that 10 users applied the BioMetric assessment methodology on the same 20 sites in Cumberland Plain Woodland, with substantial variation amongst users observed (average coefficients of variation were about 15%). We support consideration of any recommendations that come out of this thesis in relation to how this variation could be addressed.

Key issues and recommendations:

- An additional offset rule should be investigated to ensure that landscape

³² Bekessy, S.A., Wintle, B.A., Lindenmayer, D.B., McCarthy, M.A., Colyvan, M. and Possingham, H. (under review) 'The biodiversity bank cannot be a lending bank'; Cunningham, R.B., Lindenmayer, D.B, Crane, M. Michael, D. and McGregor, C.(2007) 'Reptile and arboreal marsupial responses to replanted vegetation in agricultural landscapes' *Ecological Applications* 17: 609-619; Hynes, L.N., McDonnell, M.J. and Williams, N.S.G. (2004) 'Measuring the success of urban riparian revegetation projects using remnant vegetation as a reference community' *Ecological Management and Restoration* 5: 205-209

value is not able to be offset by improvements in site value.

- Clarification is required on how the assessment methodology accounts for the importance of different disturbance regimes in determining biodiversity value, and if/how the methodology can be applied to recently disturbed sites.
- We support further consideration of ways for the assessment methodology to consider species presence and habitat quality for ecosystem credit species to minimise the risk of offsetting large viable populations with small or unviable populations.
- The method and criteria used to categorise a species as either an ecosystem credit species or a species credit species should be made publicly available and subject to expert review and continuous updating.
- A mechanism to assess potential habitat for species credit species should be incorporated into the assessment methodology.
- A mechanism to include consideration of threatened species not predicted by the filtering process should be incorporated into the assessment methodology.
- The Operations Manual should clearly state the survey methodology and effort required to assess threatened species based on relevant guidelines and detection probability studies. We would welcome the opportunity to provide further input to the Operations Manual when it is drafted.
- Clarification is required on what expert reports entail, and the level of assessment required by the expert.
- We support an accreditation process that accredits experts on a species by species basis.
- The assessment methodology should provide clear guidance on how indirect impacts are to be assessed.
- Further consideration should be given to incorporating different responses of threatened species to management actions depending on current site condition.
- A systematic monitoring program should be implemented to confirm the predicted benefits of management actions.

2.7 Offsetting rules

2.7.1 *The location of a biobank site relative to a development site*

The assessment methodology has offsetting rules that determine where a biobank site(s) can be located relative to the development site. The two key factors determining this are the distributions of the threatened species and the scarcity of the vegetation types to be impacted at the development site.

Our main concerns are:

1. The assessment methodology does not adequately address the conservation of genetic diversity and it does not require the impacts of a development to

be offset within an appropriate bioregional scale (for example, a CMA or an IBRA bioregion). For example, the methodology may allow impacts on a threatened species occurring at one end of its range to be offset by improvements to the same threatened species occurring at the other end of its range.

2. We support the consideration of an additional offsetting rule that requires the consideration of the known or likely genetic diversity of a species in order to determine the appropriate location of an offset site (for example, consideration of factors such as the dispersal capacity of a species, the isolation of a population, etc). We note that the DECC Threatened Species Assessment Guidelines note that the dispersal and genetic exchange mechanisms of individual species should be considered.³³
3. The assessment methodology treats ecosystem credit species and species credit species differently, which is not an ecologically valid approach. The location of biobank site(s) to offset the impacts on a species credit species is limited only by where that species is known to occur. However, the location of biobank site(s) to offset the impacts on an ecosystem credit species is often limited to a much greater extent by a number of other factors such as the occurrence of the whole suite of ecosystem credit species that are presumed to occur in the vegetation type.

2.7.2 Ensuring offsets fulfil same functional role

The 'like for like' principle is a key principle in relation to the use of offsets. It is essential to ensure that biodiversity values are not systematically degraded over time through individual and cumulative impacts.

The current offset rules do not ensure that habitats with particular functions for a species are offset with habitats that provide that same function. For example, if a development impacts breeding habitat for a particular species, then there will be limited ecological benefit of offsetting this with feeding habitat, unless the availability of feeding habitat and not breeding habitat is a limiting factor in the species' survival.

The assessment methodology, through an additional offset rule, should ensure that if habitat with a particular function is impacted, then this can only be offset with habitat that also fulfils that function. Offsets with habitat that fulfils another function should only be allowed if the availability of that type of habitat has been identified as the limiting factor in the survival of the species.

We are concerned that without such a limitation on the offsets, essential components of habitats for some threatened species will be systematically degraded or destroyed.

³³ DECC Threatened Species Assessment Guidelines 2008, *op cit*.

2.7.3 *The long-term viability of a biobank site*

The assessment methodology does not require consideration of the long-term viability of a biobank site. For example, a site does not need to meet any minimum vegetation condition or surrounding vegetation cover to be eligible as a biobank site.

We are concerned that this may mean the predicted gains in biodiversity values will not be achieved in perpetuity. It is likely that the lower the condition of a site, the higher the risk that it will not respond well to management actions. Also, the approach is inconsistent because long-term viability is considered at the development site. We note that s 127B(3) of the TSC Act provides that the Minister must have regard to the long-term viability of a biobank site in developing the assessment methodology.

We support a requirement in the assessment methodology for DECC to consider the likely long-term viability of a site in determining the eligibility of a site as a biobank site.

(Note: the issue of addressing certain urban remnant patches as bushland parks with conservation tenure and management plans is appropriately dealt with at the first stage of avoiding and minimising impacts of a development).

2.7.4 *Incentives to offset within certain locations*

The BioBanking scheme provides a significant opportunity to direct investment in biodiversity management into the most environmentally optimal areas. However, the assessment methodology does not contain any mechanism to facilitate the location of biobank sites in a strategic way to ensure offsetting achieves the best possible biodiversity outcomes. For example, locating biobank sites strategically to increase the size of vegetation patches, or create or improve habitat corridors and ‘stepping stones’, or create buffers around sensitive areas, would make a greater contribution to the protection of biodiversity at a landscape scale.³⁴

The BioBanking scheme also provides the opportunity to ensure offsetting is undertaken in a way that is consistent with actions to minimise the impacts of climate change on biodiversity. While we recognise the specific actions required for most vulnerable species are not yet well understood, we strongly support consideration of using the BioBanking scheme to facilitate strategic offsetting in accordance with relevant climate change action plans in the future.

Key issues and recommendations:

- We support an additional offset rule that requires consideration of the

³⁴ Fischer, J., Lindenmayer, D. B. and Manning A. D. (2006) ‘Biodiversity, ecosystem function, and resilience: ten guiding principles for commodity production landscapes’ *Frontiers in Ecology and the Environment* 4(2): 80-86.

known or likely genetic diversity of a threatened species.

- We support an additional offset rule that says that an offset must fulfil the same functional role for a threatened species as that which has been impacted.
- We support a requirement in the assessment methodology for DECC to consider the long term viability of a biobank site in determining the eligibility of a site.
- We support a mechanism in the assessment methodology to facilitate the strategic locating of biobank sites, including in consideration of climate change impacts.

2.8 Monitoring and long-term research

A systematic independent monitoring program undertaken by appropriately qualified ecologists must be implemented to test the key predictions/assumptions in the assessment methodology. This is particularly important because it is unlikely that such predictions/assumptions will be adequately tested merely by operating the methodology. For example, in most cases a consultant applying the methodology will not know whether the methodology has accurately predicted the presence of a threatened species at a site.

Key issues and recommendations:

- Key aspects of the assessment methodology that must be monitored include:
 - The predictability of ecosystem credit species based on habitat surrogates (vegetation types).
 - The predictability of species credit species based on habitat features and geographic attributes.
 - The response of site value to management actions.
 - The response of threatened species to management actions.
- Longer-term research that should be undertaken includes:
 - Determining the detection probabilities for species credit species to update and inform the Operations Manual.
 - Undertaking uncertainty analysis on the assessment methodology. This would allow incorporation of an ‘uncertainty buffer’ into the methodology,³⁵ which would increase confidence in the methodology’s predictions.

2.9 Pilot study

³⁵ Bekessy, S.A., Wintle, B.A., Lindenmayer, D.B., McCarthy, M.A., Colyvan, M. and Possingham, H.P. (under review) ‘The biodiversity bank cannot be a lending bank’

A number of issues were raised through the pilot study that have not been fully addressed in the draft methodology. These are:

1. Indirect impacts of developments.
 - a. The inability of the assessment methodology and the credit calculator to incorporate off-site or indirect impacts from the development site was highlighted in the pilot study. This has not been addressed in the assessment methodology. Further comments at 2.6.10.
2. Viability of biobank sites.
 - a. In the pilot study, small areas of development sites that were given a red flag were then assumed to be biobank sites, and credits calculated from these areas to offset the impacts of development on the remainder of the site. There are significant problems with this approach, as the viability of this biobank site, surrounded by development, is not considered. See 2.7.3 for further comments on the viability of Biobank sites.
3. Threatened species that were not predicted by the filtering process
 - a. The pilot study indicated that the calculator would be amended to allow for species that had been found, but were not predicted by the filtering process, to be added at the biobank site. It is important that this also occurs at the development site. Further comments on this are at 2.6.6.
 - b. There also needs to be a procedure in place for the TSPD to be updated with this information when threatened species are detected in vegetation types or associated with habitat features that they were not predicted to.
4. Importance of up to date and local data
 - a. We support the use of verified local and up to date data, as it is integral to the effective operation of the scheme. Procedures and adequate resources to update the databases will be essential.
5. Survey effort required to determine site condition score for vegetation zones
 - a. The case studies showed how many plots were surveyed in each vegetation zone to determine the site condition score for each zone. The greatest area per plot was in Case Study 1, in the Yellow box/grey box/red gum vegetation type where there was one plot per 61 ha. This survey effort is inadequate to obtain an accurate measurement of site value and the Operations Manual should prescribe the survey effort required. It is recommended that as a minimum, the survey effort in the draft DEC Threatened Biodiversity Survey and Assessment Guidelines are followed.
6. Ensuring offsets fulfil same functional role

- a. In the list of species credit threatened species from the pilot sites, breeding habitat for the Large-footed myotis is identified. This indicates that species credit species will, for some species at least, specify the functional role of the habitat and require credits to be obtained with the same functional role. There is no mention of the mechanism for this in the assessment methodology, however we support the inclusion of a mechanism to require this. See 2.7.2 for further comments on this issue.

Part Three: Draft Threatened Species Conservation (Biodiversity Banking) Regulation 2007

As noted by the *Regulatory Impact Statement for the proposed Threatened Species Conservation (Biodiversity Banking) Regulation 2007* (the RIS), the main objectives of the Regulation are: to increase the administrative consistency, efficiency and transparency of the biobanking scheme; and to provide a mechanism for recovering some of the costs associated with running the scheme” (page 3).

The EDO and TEC agree with the recommendation of the RIS that a Regulation is required to operationalise the scheme (if it proceeds), however the draft Regulation fails to address certain key issues.

3.1 Additional clauses

Our primary concern relates to what is omitted from the draft Regulation, rather than what is included.

Red Flag variation process

We strongly recommend that any process to vary red flags be included in the Regulation, rather than in the assessment methodology. The inclusion of a variation process within the methodology itself (involving consideration of non-scientific criteria such as consistency with regional plans, and the payment of developer contributions to support a variation) has the potential to seriously undermine the scientific integrity of the assessment methodology. The consideration of non-scientific criteria (which we oppose), and the exercise of discretion to override a red flag must be done in a completely transparent and accountable manner (if a variation process is included). This is best achieved by setting out a clear separate process in the Regulation. This is absolutely essential for transparency, accountability, legitimacy of the scheme and integrity of the scientific methodology. There is a precedent for separating the bureaucratic discretion from the scientific tool provided by the *Native Vegetation Regulation 2005*.

3.2 Comment on current clauses

Our comments relating to specific clauses currently included in the draft Regulation are set out in the table below.

<i>Clause</i>	<i>Comment</i>
Part 2 - Biobanking assessment methodology	
<i>Clause 4</i>	<i>Review of biobanking assessment methodology</i> - The EDO and TEC support the 2 year review process, including public consultation, for biobanking (Option 2, Page 18 RIS). We support the MRG having an ongoing role monitoring the implementation of the scheme and the practical application of the assessment methodology. Regarding subclause (5) - the public report should include responses to issues

	raised in submissions
Part 3 - Biobanking agreements	
<i>Clause 5</i>	<p><i>Land excluded from being designated as biobank site</i></p> <p>The EDO and TEC support the Regulation setting out clear rules for excluding land from becoming biobank sites (Option 2: RIS, page 15). This is relevant to achieving the principle of additionality. However, it is essential that the rules do not preclude important urban remnants.</p> <p>Clauses 5(1)(a) and (b) provide an option to refuse a biobank site based on previous, current or proposed land use on the site or adjacent area. This is a practical approach in terms of securing the offset in the long term, but has potentially significant consequences for small urban patches of remnant vegetation.</p> <p>We are concerned that the operation of clause 5(1)(b) would mean no small urban patches could be biobank sites due to “inconsistent uses of surrounding land” (page 14, RIS). We understand that such small remnants in urban areas may be resource intensive to manage as biobank sites, but if they constitute vegetation types that are only found in urban patches (such as Cumberland Plain woodland types), this should be taken into account. Alternatively, the regulation should provide an option for such areas to be set aside as bushland parks with appropriate tenure and management planning. For further discussion about the value of urban remnants and their viability, please refer to our comments under Part 2 of this submission relating to the assessment methodology.</p> <p>The EDO and TEC support the exclusion of lands that are already being managed for biodiversity conservation from being available as biobank sites (clauses 5(1)(c) (d) (f) (g)). For the scheme to achieve improved environmental outcomes it is essential that biobank sites conserve additional biodiversity, and not simply manage sites where there is an existing obligation to manage. However, the RIS notes that sites may become biobank sites “where funding arrangements have concluded, or where government activities have ceased” (page 13). We support ongoing management for such sites, but biobanking is new and untested, and should not replace government funded conservation projects until proven to guarantee environmental outcomes. The transition of previously managed sites to biobank sites should be examined as part of the 2 year review.</p> <p>It is also noted in the RIS that once established , Government funding may be granted to a biobank site at the discretion of the funder (page 13). We support biobank managers receiving incentive funding, however, additional funding by Government must not subsidise/distort developers paying the full cost for their credits to offset their permanent biodiversity impacts.</p>

	<p>We support clause 5(1)(e) which excludes land offset under the <i>Native Vegetation Regulation 2005</i> from becoming a biobank site. (For further comment supporting the exclusion of native vegetation offsets under the NV Act 2003 from biobanking see: <i>Submission to the Joint Select Committee on the Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006</i> - 9 May 2007 available at: http://www.edo.org.au/edonsw/site/policy.php).</p> <p>The EDO and TEC support the exclusion of crown land, national parks and publicly owned land (clause 5(1)(h)(i) and (j)) from being biobanking sites, due to the additionality principle as discussed above. Management of publicly owned land should be comprehensively funded by Government. Furthermore, an important part of the scheme is to encourage private landholders to create biobanking sites and receive payment for conservation and stewardship. If credits from Crown land or government managed sites flooded the biobanking market, this will disadvantage smaller private site owners. The RIS notes “in developing the criteria for land that is unsuitable as a biobank site, consideration was given to providing private landowners equitable access to the scheme and providing a level playing field in the market for the provision of biodiversity credits” (page 13). In this context we are concerned about clause 5(2)(c).</p> <p>Clause 5(2)(a) and (b) provide that land under a voluntary conservation agreement or a nature conservation trust may be eligible to become a biobank site. We support good land managers who have contributed to biodiversity conservation, however this issue needs to be clearly regulated to ensure no ‘double dipping’ and that the principle of additionality is satisfied.</p>
<p><i>Clause 9</i></p>	<p><i>Fit and proper person criteria</i></p> <p>The criteria set out in clause 9 to establish that a biobank owner is a fit and proper person are necessary and we support criteria relating to previous environmental offences or offences relating to fraud and dishonesty. Noting that the Minister can disregard matters however, we support the intent of ensuring that biobank managers will undertake their obligations. We are however concerned that the clause may deter a private landholder from considering biobanking in circumstances such as a drought-affected farmer, demonstrating financial capacity to comply with obligations (clause 9(2)(m)) which may be contingent on selling credits and receiving management payments in the future.</p> <p>The RIS notes the test is similar to the current test for holders of environment protection licences under the <i>POEO Act 1997</i> (page 16). There are different contexts. The parallel of licencing to do environmental harm is more relevant to developers than those trying to do conservation work.</p>

	An equity issue also arises as the draft Regulation does not have any similar criteria only the demand side. An unconscionable developer is free to benefit from the streamlined biobanking process, with the only criteria being that they choose to purchase credits.
<i>Clause 10</i>	<i>Variation of biobanking agreement</i> Section 127ZZB and clause 10 do not state that varied agreements will be put on the public register as soon as the variation is approved. This should be rectified.
<i>Clause 11</i>	<i>Termination of biobanking agreement</i> Once terminated it is assumed that the agreement will be deleted from the public register. For the purpose of the 2 year review and any ongoing analysis by the MRG it would be good for DECC to keep a record of any terminated agreements and the reasons for termination.
<i>Clause 12</i>	<i>Annual contribution by owners of biobank site</i> Clause 12 requires payment of an annual fee of \$1100 (11 fee units) to DECC. As noted above, it is essential that the scheme does not set up disincentives for private landholders to participate in the scheme. The flat rate would have a larger impact on owners of small sites compared with the larger sites. The fee should be relative to the scale of site or management payments, for example, the annual fee must not exceed 5% of annual management payments.
Part 4 - Biodiversity credits	
<i>Clause 15</i>	<i>Cost recovery—contribution by holders of biodiversity credits under section 127ZZ</i> Clause 15 (2) provides that a contribution of \$100000 (100 fee units) is payable regardless of the number of credits to be retired, unless exempted as compliant with requirements of a biobanking statement. We support the ability of DECC to waive a fee for retiring credits where a philanthropic organization has purchased credits.
Part 5 - Biobanking statements	
<i>Clause 16</i>	<i>Additional grounds for refusal of application for biobanking statement</i> The EDO and TEC support the additional grounds for refusal.
<i>Clause 17</i>	<i>Cost recovery—contribution by applicants under section 127ZZ</i> Clause 17 requires an applicant for a biobanking statement to pay a contribution of \$100000 (100 fee units) unless exempted. As with the other clauses relating to cost recovery (for example, clause 15(4)), the reasons for waiving the fee (clause 17(4)) are not fully articulated. Exercise of discretion to waive fees must be transparent and accountable.
<i>Clause 18</i>	<i>Modification of biobanking statement</i> Similar to our above comments relating to varying biobanking agreements, the modification of biobanking statements must be done in a transparent manner, and detail collected on how and why modifications were made collated for the 2 year review. For example, it would be useful to track whether statement modifications occur due to reducing impacts at the development site or through additional

	studies supporting variation of red flags.
Part 6 - Payments to Fund on first transfer of biodiversity credits	
<i>Clause 21</i>	<i>Discount rates</i> Clause 21(3) refers to “different factors” for applying a discount rate but it is not stated what the factors are.
Part 7 - Biobanking Trust Fund The EDO and TEC support clear regulatory provisions relating to the trust fund arrangements (option 2, RIS page 21) rather than upfront payments of full sale proceeds (option 1) or individual financial plans for each biobank site (option 3).	
<i>Clause 23</i>	<i>Payment of management payments from Fund</i> The biobanking scheme must ensure adequate financial provision is made for land management in perpetuity (although varied to a residual level if only basic management is eventually required). The impacts on biodiversity at development sites are permanent, and therefore the offset sites must be managed in perpetuity. The financial arrangements should reflect this (and not, for example, be based on fixed proportion of credit sales or cost estimations for a 75 year period: RIS, page 19). Data on costings of management actions should be collated by the Department for analysis during the 2 year review.
<i>Clause 24</i>	<i>Separate accounts to be kept in relation to each biobank site</i> Clause 24(2) refers to money held in biobanking accounts being invested in a common pool. In relation to investment, as previously recommended, the EDO and TEC support ethical investment of biobanking funds, consistent with the purported conservation ethic of biobanking. In relation to distribution of funds, the clause states “or in such other manner as the Minister directs.” This discretion must be exercised transparently and accountably with clear reasons for distribution when based on factors other than contribution amount. Data on the distribution will also be vital for the 2 year review.
<i>Clause 26</i>	<i>Payments from biobank site account that has an operational deficit</i> What happens if a biobank owner does not agree to a direction for reduced payment (clause 26(1)(c))?
<i>Clause 27</i>	<i>Payments from biobank site account that has an operational surplus</i> EDO and TEC support additional payments to biobank site owners where there is a surplus, provided that the biobank site owner has fulfilled all their management obligations.
<i>Clause 28</i>	<i>Payments from biobank site account that has insufficient funds to cover payment</i> Significant concerns were raised by NSWFA during the MRG meetings concerning private landholders taking the liability for failure of the trust fund. The impacts on biodiversity at a development site will generally be permanent and therefore offsets must be managed in perpetuity. It is essential that there is a contingency plan should the Trust Fund fail, to ensure that biodiversity values at biobank sites do not deteriorate (as this would defeat the purpose of offsetting).
<i>Clause 30</i>	<i>Biobank sites that become national parks or other reserves</i> We support a mechanism to provide final payments from the fund as

	an incentive to hand over a biobank site to national park. DECC must then ensure that there are adequate funds and ongoing management arrangements in perpetuity for the site once it becomes national park.
<i>Clause 31</i>	<i>Annual report of Fund Manager</i> The Regulation should stipulate that once tabled in Parliament, the report should be made available on the DECC website.
<i>Clause 32</i>	<i>Quarterly report of Fund Manager</i> The quarterly report should be made public.
<i>Clause 35</i>	<i>Committees</i> The Regulation should stipulate that if an Advisory Committee is established for the Trust Fund, then criteria relating to expertise and independence of committee members must be met. Specifications relating to conflicts of interest, fit and proper person, terms, and remuneration should also be included where relevant.
Part 8 Registers	
<i>Clause 37</i>	<i>Register of biobank sites</i> The EDO and TEC support the additional information requirements for the public register for biobank sites.
<i>Clause 38</i>	<i>Register of biodiversity credits</i> The EDO and TEC support the additional information requirements for the public register for biodiversity credits. We support the register including details of previous credit holders.
<i>Clause 39</i>	<i>Register of biobanking statements</i> The EDO and TEC support the additional information requirements for the public register for biobanking statements, such as status of statements – allowing public accountability of whether requirements have been met once developments commence (as noted RIS page 28).
<i>Clause 40</i>	<i>Information not to be disclosed on registers</i> Non-disclosure of the location of certain threatened species, populations and ecological communities which may be part of biobank sites is consistent with the Act and therefore supported. However in relation to biobanking statements, it is important to retain information about any critical habitat, threatened species, populations or communities impacted or set aside at development sites.
<i>Clause 41</i>	<i>Arrangements for public access generally</i> Add “consistent with provisions of the <i>Privacy and Personal Information Protection Act 1998</i> .” The provision that information must be used only for purposes relating to the register must not prevent information being used for enforcement purposes.

3.3 Additional issues raised by the RIS

3.3.1 “Comparison of development costs between current process and biobanking” (page 8, RIS) and “Biobanking for developers – an alternative pathway for biodiversity assessment” (page 10)

The RIS is critical of the current assessment process: “current negotiations often focus on avoiding small unviable remnants of native vegetation. These areas are then retained adjoining the development, reducing the lot yield...” The RIS states “Biobanking could reduce the cost per lot for land supply in metropolitan areas significantly due to efficiency in locating offsets and time saved. In some cases there may be a reduction of up to 10% compared with current costs” (page 9). In a study provided to the MRG by EcoTrades, the primary cost savings for a developer using biobanking compared with the existing assessment process was due to: 1) the increased lot yield and 2) time saved in negotiating offsets. A consequence of designing a scheme that will increase lot yields in areas of high development pressure, where there are often only small fragments of bush remaining, is inconsistent with the goal of “addressing the decline in native habitat” (page 5 RIS) and “help address the loss of biodiversity values” (page 4). The increased lot yield function is inconsistent with the principle that the first step must be to avoid and minimise impacts before offsets are considered.

3.3.2 Use of the assessment methodology for planning processes and rezoning

The RIS alludes to the fact that the biobanking assessment tool may prove useful for identifying areas of high conservation value for other planning processes such as rezonings. The EDO and TEC are supportive of the development of a rigorous and robust assessment methodology which could be used consistently in NSW to improve planning processes. The tool could prove useful for local councils when preparing LEPs and for CMAs in determining strategic incentive funding. However this highlights that it is essential that the tool is based on science and avoids red flag variations, in order to not contaminate good environmental planning. The contentious biocertification of the Growth Centres SEPP is a good example of why a robust, scientifically rigorous and consistent methodology could be beneficial in broader land use planning, and that the lack of such a methodology is problematic.

3.3.3 Other uses of biodiversity credits (page 10)

The EDO and TEC would support measures to encourage government or philanthropic organisations purchasing biodiversity credits. Such credits could complement the protected areas network, and could provide biolinks and refugia to assist vulnerable species adapt to climate change impacts.

3.3.4 Scheme administration costs and fees (page 22)

It is appropriate that fees for biobank statements will subsidise the cost of establishing a biobank site (RIS page 25).

The RIS sets out an annual fee by biobank site owners to cover the cost of ongoing compliance assurance “estimated at approximately \$1,100 per biobank site assuming a site inspection once every three years and a comprehensive site audit once every ten years (page 26 RIS). The estimates for participation are relatively low – in the

first 2 years of the scheme it would be appropriate to have site visits of all biobank sites (not just 3 yearly). This is discussed further in Part 4.

Reducing costs for landholders by enabling site assessments and management plans to be obtained from CMAs or DECC is also supported (page 26). Minimising upfront costs is important to encourage participation. (We note that this will have training and resource implications for CMAs which will need to be covered).

The 4 options for cost recovery set out in the RIS (page 27) include option 4 “cost recovery entirely through fees on developers participating in biobanking”. (Current estimate landholders pay \$3850 and developers pay \$10,700 – page 27). Option 4, which would require only a nominal fee for landholders, and costs of biobank site assessment etc covered by developers (page 28), would create a greater incentive for private landholders to consider participating in private land biodiversity stewardship and generate more credits. Notwithstanding that additional costs may deter developer participation in the scheme, there is an equity argument that those who profit from impacting and clearing biodiversity should provide the lion’s share of funding to conserve biodiversity. If a developer is to benefit from time and cost savings (and greater lot yield) anticipated under biobanking compared with the current system, then it is appropriate that they fund adequate credit generation. Resourcing for DECC to manage threatened species has been inadequate over recent years (evidenced by the need to develop a Priority Action List etc). Biobanking should not impose additional costs that would divert DECC resources away from essential conservation functions (such as recovery planning).

Key issues and Recommendations:

- Include the process for varying red flags in the Regulation, not the methodology.
- Amend the current clauses as per recommendations in Table 1.

Part Four: Draft Compliance Assurance Strategy

The EDO and TEC support the objectives of the Draft Strategy as set out on page 1, however we are concerned about the weak language, brevity and lack of clear process set out in the draft Strategy.

Our comments on the 5 elements in the Draft Strategy are set out below.

4.1 Identifying the regulated community (Draft Strategy 5.1)

Compliance relating to developer participants

The draft Strategy states a role of compliance is to “protect the interests of those seeking to secure conservation outcomes through the purchase of credits” (page 2). This vague wording sounds like the compliance scheme is there to protect the interests of developers.

Compliance relating to biobank site owners

The ‘fit and proper’ person test for biobank site owners is discussed in Part 3 above.

Compliance relating to accredited experts.

More detail is needed in relation to compliance with terms of accreditation for experts. DECC should clearly stipulate accreditation criteria, conditions and auditing of accredited experts. EDO previously commented on compliance aspects of expert accreditation, for example, imposing a points system. Our previous comments “Accreditation Scheme for Individuals Involved in Threatened Species and Biodiversity Survey and Assessment – Draft for Comment” (7 June 2006) are available at: <http://www.edo.org.au/edonsw/site/policy.php>.

As noted above, EDO and TEC strongly support the 3 registers public established (which track biobanking agreements, biobanking statements, and biobanking credits). However for completeness, there should also be a public register of accredited consultants with information on the status of their accreditation.

4.2 Establishing program priorities (Draft Strategy 5.2)

The Draft Strategy states “The priorities of DECC’s compliance assurance program will be set to reflect trends, patterns and issues of concern and to target areas that present the highest risk of biodiversity loss, taking into consideration...

- Issues which represent the greatest ecological harm
- The most effective use of resources to achieve the best biodiversity conservation outcomes
- Community concern.” (page3-4)

This section is vague and it is unclear exactly what compliance priorities will be. For example, does community concern mean rural landholder concerns, developer concerns, or concerns of the general public?

4.3 Promoting compliance (Draft Strategy 5.3)

The EDO and TEC support the provision of clear information to site owners and statement holders about their biobanking obligations. In addition to encouraging compliance, this information must also clearly set out consequences of failing to comply. Exchange of information between participants in the scheme is beneficial, and is a fundamental part of scheme development. However, such measures alone do not constitute an effective compliance policy.

4.4 Monitoring compliance (Draft Strategy 5.4)

Public notifications

We welcome the acknowledgement of the important role of public notification of non-compliance (page 5), however there is no detail in the Draft Strategy as to the process by which notifications will be responded to. The Strategy should set out clear feedback loops.

Compliance responsibilities

The RIS discusses the role of management payments from the trust fund as playing a primary role in compliance, and that the funding mechanism will lead to cost savings through avoided enforcement activities at biobank sites (RIS page 21). We support the withholding of payments until management actions are carried out.

Inspections

We strongly support a comprehensive inspection program, particularly in the first 2 years of biobanking, to assess the accuracy of self-reporting by biobank site owners. It is indicated that inspection may lead to an audit being recommended (page 5). We support the breadth of circumstances in which an inspection may be undertaken (page 5), and request that information on what stages of the process inspections were carried out to be collated for the 2 year review.

Compliance audits

We strongly support compliance auditing as the biobanking scheme is new and untested, and it is necessary to gather data on outcomes for the 2 year review. We support consistency with DECC's *Compliance Audit Handbook*, and a clear process for monitoring follow up actions (page 5).

Where there is an indication of possible non-compliance a desk-top audit may not be sufficient. The implementation of the *Compliance Strategy* for Native Vegetation has not provided the community with confidence that notifications of possible breaches will be properly addressed. We have become aware of instances of serious clearing where no site visits were undertaken due to staffing, geographical isolation etc. In such cases, a desk top audit is not sufficient.

It is not clear whether during the focussed audits will there be any requirement for an auditor to report back to DECC on any potential non-compliances observed

outside of the focus area? This may be relevant if the auditor is not a DECC officer, but is for example, a CMA officer.

Investigations

We support the use of DECC's *Prosecution Guidelines* in relation to investigations. Previous legal actions relating to threatened species offences for example, have been hindered by evidentiary problems, so it is essential that there are rigorous processes in place for the collection of evidence.

4.5 Enforcement response to non-compliance (Draft Strategy 5.5)

The Draft Strategy states “the significance of non-compliance relates to the risk non-compliance poses” (page 6)? ‘Risk’ is not clearly defined.

In relation to the risk factors for consideration:

- what is severity? How many individuals of a population?
- Potential for recovery of a species or community should not necessarily excuse a breach
- Wilful intent is usually relevant to what type of offence (ie – strict liability etc), rather than the decision whether to take action
- History of non-compliance is important
- Whether breach is ongoing is important
- Further guidance should be given to define mitigating factors – obviously a bushfire could effect management actions through no fault of the site owner, but ‘unforeseen events’ is very broad? Is the financial situation of a landholder a mitigating factor? Furthermore, mitigating factors are usually relevant to sentencing and not to the initial taking of compliance action.
- The ‘risk to the scheme’s overall credibility’ is also open to interpretation – for example developers and landholders may have different ideas about what is a credible scheme.

4.6 Roles and responsibilities of other agencies (6)

The Draft Strategy refers to training, information and a help desk to support CMAs and consent authorities involved in implementation (page 3). In relation to the role of CMAs, clarification is needed regarding whether CMAs have an obligation to report potential breaches to DECC, and whether the role of CMAs to “verify the landholder’s performance” (page 7) is the same as the audits discussed above?

CMAs already have the role of negotiating PVPs under the *NV Act 2003* and of negotiating landholder agreements for incentive payments (for example for doing biodiversity conservation work in line with CAP expenditure priorities). The latter may be an easier and more attractive option for a landholder. The EDO has had feedback that many landholders prefer CMA arrangements for funding that avoid

having to use the PVP Developer.³⁶ Will CMAs have a role of encouraging landholders to create biobank sites? There will be significant resourcing implications for CMAs to have an effective role – for example, training in application of the tool and the potential need for additional on-ground officers.

4.7 Scheme accountability and evaluation (7)

Throughout this submission we have identified issues that need to be tracked for analysis at the 2 year review stage. In relation to the review, the Draft Strategy states that the review may consider:

- The extent to which the scheme is achieving its goal of maintaining or improving biodiversity conservation,
- The cost-effectiveness of the scheme, and
- The compatibility of the scheme with other government outcomes including those under the State Plan, such as housing affordability and economic development.

We are concerned about the 3rd ground for review. Biobanking must, first and foremost, be about conserving biodiversity. Introducing socio-economic considerations has the potential to undermine the scientific integrity of the scheme – as has been evidenced by the Growth Centres SEPP biocertification process.

Key issues and recommendations:

- Provide further detail on compliance obligations for accredited experts.
- Maintain a public register of accredited experts.
- Clarify priorities of the Strategy in relation to “community concern.”
- Ensure that information to biobank site owners includes clear information on consequences of non-compliance.
- Provide detail on the process for responding to public notifications.
- Collate information on inspections and audits for the 2 year review.
- Provide further detail on follow-up monitoring post-audit.
- Clarify obligations to report potential non-compliance following inspections.
- Clarify the ‘risk’ factors for consideration in relation to enforcement response (for example, further detail regarding mitigating factors, and scheme ‘credibility’).
- Clarify the role of CMA officers.

³⁶ Feedback at Rural landholders Private Conservation Workshop in Lismore, 2007.

Part Five: Summary of Recommendations

Part 2: Recommendations relating to the Scheme overview

- Avoid minimise first, apply the precautionary principle to offsetting.
- As the scheme is new and untested it is essential to ensure that environmental safeguards are in place, consistent with a precautionary approach
- Clarify the relationship with other regimes to ensure the ecological integrity of the maintain or improve test is retained.
- Maintain the MRG for the first 2 years.

Part 3: Recommendations relating to the Draft Assessment Methodology

- The red flag rules do not protect of TECs that exist largely in degraded state. The assessment methodology should include a safety net for TECs that exist largely in a degraded state.
- Low condition vegetation may still play an important functional role, particularly in overcleared landscapes. We support the consideration of an additional red flag rule that accounts for the likely functional role of vegetation in the landscape.
- Information on how identified populations and threatened species that cannot withstand further loss within a CMA were determined must be made publicly available to ensure transparency.
- The subjective nature of the assessment protocols undermines the scientific rigour of the assessment methodology. The variation process must therefore not be contained in the assessment methodology, but must be set out separately in the Regulation.
- The assessment protocols will further erode protection of TECs, especially those in urban areas, many of which are likely to meet the assessment protocols for low viability.
- Inclusion of a development in a Regional Strategy should not provide support for a red flag variation.
- Ecological viability is a species-specific consideration. This should be factored into the assessment protocols.
- The methods used to establish the biodiversity databases should be documented in detail and made publicly available.
- A systematic monitoring process should be put in place to ensure regular updating of the biodiversity databases based on the best available scientific information.
- The accuracy of the biodiversity databases in terms of % cleared values and benchmark values should be reviewed and data gaps identified.
- An additional offset rule should be investigated to ensure that landscape value is not able to be offset by improvements in site value.
- Clarification is required on how the assessment methodology accounts for the importance of different disturbance regimes in determining biodiversity

value, and if/how the methodology can be applied to recently disturbed sites.

- We support further consideration of ways for the assessment methodology to consider species presence and habitat quality for ecosystem credit species to minimise the risk of offsetting large viable populations with small or unviable populations.
- The method and criteria used to categorise a species as either an ecosystem credit species or a species credit species should be made publicly available and subject to expert review and continuous updating.
- A mechanism to assess potential habitat for species credit species should be incorporated into the assessment methodology.
- A mechanism to include consideration of threatened species not predicted by the filtering process should be incorporated into the assessment methodology.
- The Operations Manual should clearly state the survey methodology and effort required to assess threatened species based on relevant guidelines and detection probability studies. We would welcome the opportunity to provide further input to the Operations Manual when it is drafted.
- Clarification is required on what expert reports entail, and the level of assessment required by the expert.
- We support an accreditation process that accredits experts on a species by species basis.
- The assessment methodology should provide clear guidance on how indirect impacts are to be assessed.
- Further consideration should be given to incorporating different responses of threatened species to management actions depending on current site condition.
- A systematic monitoring program should be implemented to confirm the predicted benefits of management actions.
- We support an additional offset rule that requires consideration of the known or likely genetic diversity of a threatened species.
- We support an additional offset rule that says that an offset must fulfil the same functional role for a threatened species as that which has been impacted.
- We support a requirement in the assessment methodology for DECC to consider the long term viability of a biobank site in determining the eligibility of a site.
- We support a mechanism in the assessment methodology to facilitate the strategic locating of biobank sites, including in consideration of climate change impacts.
- Key aspects of the assessment methodology that must be monitored include:
 - The predictability of ecosystem credit species based on habitat surrogates (vegetation types).
 - The predictability of species credit species based on habitat features and geographic attributes.
 - The response of site value to management actions.

- The response of threatened species to management actions.
- Longer-term research that should be undertaken includes:
 - Determining the detection probabilities for species credit species to update and inform the Operations Manual.
 - Undertaking uncertainty analysis on the assessment methodology. This would allow incorporation of an ‘uncertainty buffer’ into the methodology, which would increase confidence in the methodology’s predictions.

Part 4: Recommendations relating to the Draft Regulation

- Due to the inherent risk of biodiversity offsetting, it should only be done as a last resort, with all efforts made to avoid and minimise impacts at the development site first. This should be made clear in the Regulation.
- Include the process for varying red flags in the Regulation, not the methodology.
- Amend the current clauses as per recommendations in Table 1.

Part 5: Recommendations relating to the Draft Compliance Strategy

- Provide further detail on compliance obligations for accredited experts.
- Maintain a public register of accredited experts.
- Clarify priorities of the Strategy in relation to “community concern.”
- Ensure that information to biobank site owners includes clear information on consequences of non-compliance.
- Provide detail on the process for responding to public notifications.
- Collate information on inspections and audits for the 2 year review.
- Provide further detail on follow-up monitoring post-audit.
- Clarify obligations to report potential non-compliance following inspections.
- Clarify the ‘risk’ factors for consideration in relation to enforcement response (for example, further detail regarding mitigating factors, and scheme ‘credibility’).
- Clarify the role of CMA officers.

For further information please contact rachel.walmsley@edo.org.au.