Conserving and Restoring Biodiversity in NSW

A submission to the Independent Biodiversity Legislation Review Panel
September 2014

Nature Conservation Council
The voice for nature in NSW

Total Environment Centre
for the future

THE WILDERNESS SOCIETY

Table of Contents

Executive Summary

The protection of biodiversity is important in its own right; however, it is also fundamental for maintaining healthy ecosystem services and, subsequently, our way of life.

Biodiversity provides ecosystem services such as oxygen, the recycling of nutrients, control of pests and diseases, pollination of crops, regulation of water quality, and exercise of climate controls. It can also provide genetic resources and opportunities for improved food and medicine production, renewable resources, such as fuel, and building materials and clothing; and deliver concrete agricultural sustainability benefits particularly in marginal areas prone to soil loss.

Over the last 200 years NSW has experienced a marked decline in biodiversity with over 100 plant and animal species becoming extinct. There are currently over 989 species of plants and animals, 49 populations and 107 ecological communities threatened with extinction in NSW.

The review of biodiversity laws in NSW is timely because there is an urgent need to strengthen them. The outcome of this review will have critical implications for biodiversity in NSW. Strengthening our biodiversity laws would be an integral step in stopping and reversing biodiversity loss. Weakening the laws will accelerate the loss of species and the benefits that biodiversity provides.

We are deeply concerned by the extraordinarily short time frame over which the review of biodiversity legislation is being conducted (three months from release of the issues paper to presentation of an interim report to the Minister). The time provided is grossly inadequate for addressing such an important and complicated task.

We call on the NSW Government to extend the review process in order to allow the Independent Panel sufficient time to gather evidence, evaluate information and provide a detailed and comprehensive response. We also call on the Government to make the findings of the Independent Panel's report publically available.

We also note that the Biodiversity Legislation Review should have regard to other current Government review processes including the review of the planning system and the review of Crown land management. The Crown lands estate has diverse environmental, social and cultural values, and contains significant remnants of relatively undisturbed natural landscapes in rural, coastal and urban areas that when properly managed contribute enormously to the conservation of native vegetation, wildlife habitat and connectivity, and biodiversity in NSW.

This extensive submission has been prepared by the Nature Conservation Council of NSW, Total Environment Centre, National Parks Association of NSW, and the Wilderness Society in collaboration with our members and supporters, many of whom made their own individual submissions to the Issues Paper.

It contains:

- Introduction and Criteria For Best Practice Biodiversity Conservation Management
- Response to the key themes of the Issues Paper
- Key Recommendations
- Appendix 1: Stakeholder Survey for Biodiversity Legislation Review
- Appendix 2: International frameworks for biodiversity protection
- Appendix 3: Processes for assessing biodiversity impacts under the *Environmental Planning and Assessment Act 1979*

As part of our engagement with members and supporters we commissioned an online survey that was completed by 1427 respondents. The survey covered several subjects, including biodiversity conservation goals, effectiveness of existing legislation, personal experiences, legislation, information provisions, and landowner views. An analysis of survey results is presented in Appendix 1.

The submission should be considered in conjunction with the report of EDO NSW *A legal assessment of NSW biodiversity legislation - A report prepared for the Independent Biodiversity Legislation Review Panel* which was prepared to complement the work of our groups and contribute to our analysis on the conservation and restoration of biodiversity in NSW.

Key Recommendations

RECOMMENDATION 1.1: Introduce an aspirational goal to maintain and improve biodiversity in NSW. Require that all planning, development and resource management decisions include an assessment of their effects on achieving this goal and include an assessment of progress in NSW State of the Environment and Natural Resources Commission Reports.

RECOMMENDATION 1.2: Amend the objects of biodiversity legislation and the *Environmental Planning and Assessment Act 1979* to include maintaining and improving biodiversity.

RECOMMENDATION 1.3: Extend the operation of the *Native Vegetation Act 2003* (NV Act) to include high conservation value regrowth vegetation.

RECOMMENDATION 1.4: Apply the 'maintain or improve' methodology of the NV Act Tool to all development assessments.

RECOMMENDATION 1.5 Amend the objects of biodiversity legislation and the *Environmental Planning and Assessment Act 1979* to respond to the challenge posed by climate change by accommodating range shifts by native species.

RECOMMENDATION 1.6: Maintain the protections in the *Threatened Species Conservation Act 1995*, *Native Vegetation Act 2003*, *Nature Conservation Trust Act 2001* and *National Parks and Wildlife Act 1974* and associated administrative arrangements.

RECOMMENDATION 2.1: Consideration of the 'costs' to landowners of protecting ecosystem services and biodiversity should be balanced by considering the benefits that accrue directly to landowners by maximising the productivity and value of their land. Any additional payments to landowners should discount speculative views about increased (short term) income but rather focus on whether a property is better managed for the long term.

RECOMMENDATION 2.2: Maintain and enhance tax exemptions and rate concessions for entering into binding conservation agreements.

RECOMMENDATION 2.3: The Nature Conservation Trust be given responsibility for coordinating a new package of buy outs and stewardship payments.

RECOMMENDATION 2.4: Investment priorities for biodiversity conservation should be driven by scientific data and aim to stop and reverse biodiversity decline.

RECOMMENDATION 2.5: Conservation programs should be monitored and evaluated against the state-wide targets for natural resource management. Local targets should be developed by LLS which are consistent with the state-wide targets.

RECOMMENDATION 2.6: Trade-offs should be assessed using the 'improve or maintain' principle for conserving biodiversity as expressed in an objective and scientifically based methodology supplemented by on-site inspections.

RECOMMENDATION 2.7: Retain the 'improve or maintain' and 'red-lights' approach under the EOAM. Reverse recent weakening of the *Native Vegetation Regulation 2005.*

RECOMMENDATION 2.8: Biodiversity legislation to recognise fire as an important driver in biodiversity conservation and identify sustainable fire management as a means to enhance biodiversity outcomes.

RECOMMENDATION 2.9: Relevant legislation to take into account the inability of many private landholders to operationally undertake fire management works, particularly those involving the implementation of prescribed burns, by providing certainty of support.

RECOMMENDATION 2.10: Establish a system of support for managers of lands set aside under conservation agreements to be able to readily access environmental assessment and operational assistance where proactive fire management actions are required.

RECOMMENDATION 3.1: The objects of the EPA Act should prioritise the protection and restoration of biodiversity. In particular:

- The objects of the EPA Act should be amended to refer specifically to the protection of biodiversity and ecological integrity including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats.

- The objects of the planning system should include a clear commitment to maintain or improve environment outcomes, including biodiversity (as per Recommendations 1.2, 1.3 and 1.4 above)

RECOMMENDATION 3.2: Any planned reform of the NSW planning system must ensure that it provides for the protection of biodiversity and ecological integrity, and a clear commitment to ecologically sustainable development.

RECOMMENDATION 3.3: Amend Part 3 of the EPA Act in order to establish the clear legislative requirements with respect to the making of planning instruments (both local environment plans and state environmental planning policies), and regional strategies.

For each of the following processes:

- making of local environment plans
- making of state environmental planning policies
- making of regional strategies

There must be legislative requirements:

- to carry out robust baseline studies of environmental and NRM values prior to preparing planning instruments or regional strategies
- to seek the concurrence of relevant expert agencies
- to undertake strategic environmental assessment of planning proposals (for all planning instruments and regional strategies), including assessment of, amongst other things, impacts on biodiversity and ecosystem function
- to consider existing strategic documents, including for example, regional conservation plans and Catchment Action Plans (CAPs)
- to identify competing and complementary land uses and values in order to:

    - identify of high level protection zones, being sensitive areas of NSW where certain kinds of development (such as mining) are prohibited, based on an assessment of environmental, water supply, social and agricultural-value criteria and risk and recognition that 'management of impacts and monitoring' is not a sufficient risk avoidance strategy.
    - develop a land use matrix that provides for appropriate environmental protection zones.
    - identify of areas to which prescribed controls would apply (for example, coastal protection zones).
    - prescribe caps on certain types of development to manage cumulative impacts.
- for planning instruments (including regional strategic plans) to achieve prescribed environmental thresholds (such as a rigorous 'improve or maintain' test).
- for genuine and meaningful community engagement.
- to report on and review strategic plans and environmental planning instruments at regular intervals.

RECOMMENDATION 3.4: Changes that have weakened standards should be repealed. Tools designed to achieve improved biodiversity outcomes at a landscape scale must include comprehensive and objective assessment processes underpinned by credible and accurate scientific information. It is vital that the methodology is a robust, objective and scientifically credible tool, as it the methodology that will determine whether a proposal 'maintains or improves' biodiversity values.

RECOMMENDATION 3.5: Strategic plans must be required to identify land that has been declared critical habitat and prohibit all development that would have a detrimental impact on critical habitat.

RECOMMENDATION 3.6: Strategic regional land use plans should be prepared in accordance with a legislative framework for strategic planning that is underpinned by robust environmental assessment and community engagement (see Recommendation 3.3).

RECOMMENDATION 3.7: There should be clear minimum review periods for all strategic plans that are appropriate to the significance and intended period of application of the plan or instrument.

RECOMMENDATION 4.1: The prohibition on complying development in environmentally sensitive areas should be reinstated (similar to the former section 76A(6) of the EPA Act).

RECOMMENDATION 4.2: Only development that is genuinely low impact development should be able to be carried out as exempt and complying development.

RECOMMENDATION 4.3: The planning system adopts an objective decision making process that ensures environmental standards are met at the approval stage, for example:

- requiring development to meet threshold tests (such as a rigorous 'improve or maintain' test) for key environmental values such as biodiversity, native vegetation, catchment health and water quality, energy and water use, climate change and pollution, and
- prescribing mandatory standards in codes or guidelines that reflect best practice (for example, BASIX, which requires certain development to meet standards for energy

and water use). Other areas in which regulation by mandatory codes may be suitable include:

- coastal development,
- climate change adaptation, and
- building and operational standards.

RECOMMENDATION 4.4: Provisions that require consultation with or the concurrence of the Director-General of the Department of Environment, Climate Change and Water or Minster for the Environment should apply to state significant development.

RECOMMENDATION 4.5: The requirement to obtain authorisation to clear native vegetation or State protected land under the *Native Vegetation Act 2003* should apply to state significant development.

RECOMMENDATION 4.6: Part 5 biodiversity assessment requirements should be improved, having regard to the level of independent oversight, pre-approval transparency, public scrutiny, local involvement, cumulative impact assessment, and sufficient application of the '7-part test' to identify biodiversity impacts (s 5A, EPA Act). Rigorous assessment is particularly important where it is known or likely that there is substantial or significant biodiversity or habitat present, on or around the site.

RECOMMENDATION 5.1: Increase detection and enforcement to combat illegal collection of native species from the wild. Focus efforts on species and areas known or suspected to be that target of illegal activities.

RECOMMENDATION 5.2: Increase resources for pre- and post-border risk assessment to identify high risk species and invasion pathways; and prioritise control efforts to achieve maximum biodiversity benefits.

RECOMMENDATION 5.3: Prohibit the importation and sale in NSW of plant species known or suspected to constitute an invasive risk.

RECOMMENDATION 5.4: The Biodiversity Legislation Review should consider the recently proposed framework for biosecurity legislation in NSW which recommends legislative tools and powers required to manage pests, diseases weeds and contaminants in NSW. The framework should be used to form the basis of the NSW Biosecurity Act, which will support the nationally agreed principle that biosecurity is a shared responsibility.

RECOMMENDATION 5.5: Increase detection and enforcement activities to combat illegal importation, possession and release of exotic species in NSW.

RECOMMENDATION 5.6: Maintain current provisions of the *National Parks and Wildlife Act 1974* controlling the destruction, collection from the wild, captive husbandry and trade of native animals.

RECOMMENDATION 5.7: Retain and *strengthen* protection of native vegetation and habitat under the *Native Vegetation Act 2003, Threatened Species Conservation Act 1995* and *Environmental Planning and Assessment Act 1979.* Buy out grandfathered clearing approvals and limit exemptions. Increase resources for compliance activities and prosecution of illegal clearing and other development.

RECOMMENDATION 5.8: Current protections for marine mammals should be supported with improved compliance and enforcement.

RECOMMENDATION 6.1: Extend the timeframe for the Biodiversity Legislation Review to enable data to be compiled on the value of ecosystem services in NSW.

RECOMMENDATION 6.2: Retain all current sources of biodiversity data.

RECOMMENDATION 6.3: Improve collection of data on the conservation values of private land.

RECOMMENDATION 6.4: Require the NSW Natural Resources Commission to collect and publish data on the value of clean air, water, health soils, pollination, nutrient cycling and climate conservation services provided by healthy biodiversity.

RECOMMENDATION 6.5: Improve resources for the collection, accuracy and publication of biodiversity data. Create a 'one-stop shop' webpage approach detailing all available sources of data and direct links to them.

RECOMMENDATION 6.6: Retain the ability of any member of the public make nominations for listing under the *Threatened Species Conservation Act 1995*. Preserve the independence of the NSW Scientific Committee. Maintain scientific information as the only criteria to be used in making determinations. Retain listing of endangered ecological communities and threatened populations.

RECOMMENDATION 6.7: Address shortcomings of the listing process by providing resources to better identify threatened invertebrates and fungi; include aquatic and marine species; create automatic 'cross linking' between state and federal lists; and include assessment of the threat of climate change in making determinations.

RECOMMENDATION 6.8: Make development of recovery plans within 4 years of listing mandatory. The NSW Threatened Species Priority Action Statement should be used to determine priorities for developing detailed, multi-species plans region-wide plans, and single species plans.

RECOMMENDATION 6.9: Maintain national and state listing process. Develop automatic 'cross linking' mechanisms.

RECOMMENDATION 6.10: Critical habitat determinations should be based solely on scientific information and include likely future habitat for threatened species.

RECOMMENDATION 6.11: Increase support for collection of private conservation data and 'citizen science' programs. Provide funding support to foster collaborations between amateur societies, volunteer rescue organisations, research institutions and government agencies.

Introduction

The protection of biodiversity is important in its own right; however, it is also fundamental for maintaining healthy ecosystem services and, subsequently, our way of life.

Biodiversity provides ecosystem services such as oxygen, the recycling of nutrients, control of pests and diseases, pollination of crops, regulation of water quality, and exercise of climate controls[1]. It can also provide genetic resources and opportunities for improved food and medicine production, renewable resources, such as fuel, and building materials and clothing[2]; and deliver concrete agricultural sustainability benefits particularly in marginal areas prone to soil loss.

This is reflected in the preamble of the Convention of Biological Diversity which recognises the "*intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components*"[3].

Over the last 200 years NSW has experienced a marked decline in biodiversity with over 100 plant and animal species becoming extinct[4]. There are currently over 989 species of plants and animals, 49 populations and 107 ecological communities threatened with extinction in NSW[5]. Between 2009 and 2012 an additional 35 species were listed as threatened[6]. At present a total of 45 key threatening processes, predominantly the result of human activities, have been identified as contributing to biodiversity decline[7, 8].

Land clearing and habitat loss is the single biggest cause of biodiversity loss in NSW[9, 10]. Protecting habitat and controlling land clearing is therefore essential if further losses of biodiversity and the services that healthy ecosystems provide are to be avoided.

The NSW Government is currently reviewing the *Threatened Species Conservation Act 1995*, *Native Vegetation Act 2003*, *Nature Conservation Trust Act 2001* and parts of the *National Parks and Wildlife Act 1974* in response to demands by farming, mining and developer groups for less regulation and greater freedom to clear vegetation. The outcome of this review will have critical implications for biodiversity in NSW. These Acts have played crucial roles in the protection of biodiversity in NSW by improving the knowledge about biodiversity; the independent listing of threatened species; creation of an objective test of

---

[1] EDO and Nature Conservation Council (2006) *The Status of Biodiversity Conservation in New South Wales and recommendations for reform,* citing "Biological Diversity Advisory Committee, A National Strategy for the Conservation of Australia's Biological Diversity – Draft for Public Comment, AGPS, 1993 in Gerry Bate, 2006, Environmental Law in Australia, 6th Edition, Lexis Nexis, Butterworths Australia.

[2] Ibid.

[3] United Nations (1992) *Convention on Biological Diversity*. See www.cbd.int/; Australia became a party to the Convention on Biological Diversity in June 1993.

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

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

[6] Ibid.

[7] Ibid.

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

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

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

environmental impacts and use of the 'maintain and improve' test; with the NVA in particular leading to over 4 million hectares of native vegetation on farmland protected or under improved management with more than 950 property vegetation plans.

However the continuing loss of biodiversity demonstrates that much more needs to be done. The review of biodiversity laws is timely because there is an urgent need to strengthen them. We urge the Independent Panel to recommend that all current protections and environmental assessment processes encompassed by these Acts are retained and strengthened with additional measures proposed in this submission. We are aware of interest in a single integrated land use or biodiversity act, but caution that in assembling a new act there are risks that current protections could be compromised during the political and drafting process (as occurred with the process to develop a new planning act).

We are deeply concerned by the extraordinarily short time frame over which the review of biodiversity legislation is being conducted (three months from release of the issues paper to presentation of an interim report to the Minister). The time provided is grossly inadequate for addressing such an important and complicated task.

We call on the NSW Government to extend the review process in order to allow the Independent Panel sufficient time to gather evidence, evaluate information and provide a detailed and comprehensive response. We also call on the Government to make the findings of the Independent Panel's report publically available.

We also note that the Biodiversity Legislation Review should have regard to other current Government review processes including the review of the planning system and the review of Crown land management. The Crown lands estate has diverse environmental, social and cultural values, and contains significant remnants of relatively undisturbed natural landscapes in rural, coastal and urban areas that when properly managed contribute enormously to the conservation of native vegetation, wildlife habitat and connectivity, and biodiversity in NSW.[11]

This submission provides detailed responses to the questions raised in each of the 'Theme' of the discussion paper. In preparing this submission we consulted with 1427 individuals, who identified as landowners, farmers, people who work on the land, conservationists, bushwalkers, landcare volunteers and others (**Appendix 1**).

The questions raised by the issues paper deal with critical elements of biodiversity management and its interaction with development. However, we believe that any biodiversity conservation framework should also adhere to a set of fundamental principles (**Table 1**). We urge the Independent Panel to adopt these principles in addition to the specific recommendations provided in this submission.

[11] See, for example, our groups' various submissions to the Crown Lands Review, available at www.nature.org.au/campaigns/crown-lands-review/

Table 1. Criteria for Best Practice Biodiversity Conservation Management in Development Decisions

PRINCIPLE	PURPOSE
Maintain or improve biodiversity	Guiding principle in relation to development decisions; inclusion of red lights; application to offsets (like for like, extra risk-based premium)
Account for legacy losses to inform what can or can't be removed and restoration targets	Ensure policy recognises that the biodiversity resources are under pressure, it's not a clean slate
Objective assessment	Bring to bear best available credible information supplemented by site survey for development assessment and apply accepted and transparent impact assessment techniques. Accreditation and independent appointment of consultants.
Consistency	Avoid accusations of favouritism and subjectivity harming credibility of decision process. Apply to all development.
Apply proven conservation principles to impact assessment and offset options	Species population, extent and survival dynamics are fully accounted for
Availability of regional, state and national contexts	Inform rarity and resilience of one or more populations setting of priorities and targets through species listings, recovery and landscape plans (e.g. Catchment Management Plans)
Assess connectivity values	Avoid creation of islands and account for climate change
Independent and objective baseline data	For threatened species listings process. Accreditation and independent appointment of consultants.
Allow response by proponent and the community to data and impact assessment and options	Engage the stakeholders to inform the decision process and allow possible negotiation between stakeholders.
Publication of reasons	To assist transparency
Independent oversight and audit of plan making and decisions	Review of progress, quality and consistency
Financial review of need for and best use of resources	Maximise impact with limited resources but also state claim for what is adequate and additional resources
Apply ESD test	Assess impacts by ESD principles
Financial incentives	While recognising that intensification or change of land use do not (legally) attract compensation - develop more financial tools to assist in restoration and improved management
Longevity and assurance of protection and offsets	Improving the biodiversity protection baseline so that positive advances are made and can be built upon
Appropriate expertise and information resources in government	Ensure capacity of government to properly assess proposals

Theme 1: Objects and principles for biodiversity conservation

Should there be an aspirational goal for biodiversity conservation?

An aspirational goal for biodiversity conservation should be established to underpin conservation legislation in NSW. Such a goal should not merely seek to maintain biodiversity at current levels, but should ensure that legislation is designed to provide optimum circumstances for native flora and fauna populations indigenous to NSW to be well represented.

To achieve this, an aspirational goal should include the following features:

- Maintain and improve biodiversity in NSW
- Establish healthy and viable populations of all flora, fauna and ecological communities indigenous to NSW across the state.
- Where viable, flora and fauna that has become extinct in NSW but remains extant within Australia should be re-introduced.

This goal would be comparable to the objective of the Victorian *Flora and Fauna Guarantee Act 1998* to guarantee that all of Victoria's flora and fauna 'can survive and flourish and retain their potential for evolutionary development in the wild'[12]. In addition, the goal of seeking to restore previously lost biodiversity should be entrenched in legislation and policy. This would be comparable to the strategy contained in *Victoria's Native Vegetation Management - a Framework for Action.* Where it is stated: *A reversal, across the entire landscape, of the long term decline in the extent and quality of native vegetation, leading to a Net Gain*[13].

We note that these two goals have also framed the work of the Natural Resources Commission and Catchment Management Plans.

The recommendations included in this submission are aligned with this aspirational goal. They offer benefits not only to biodiversity but also to the community of NSW. Ecosystem services from which the community benefits, such as clean air, water, productive soil, pollination, nutrient cycling and climate conservation are dependent on the maintenance of biodiversity[14].

An aspirational goal for maintaining and improving biodiversity is thus also an aspirational goal for maintaining and improving the health, lifestyle and prosperity of NSW communities.

Any aspirational goal for biodiversity conservation would be meaningless unless it is supported by relevant legislation and resources and unless progress against this goal is measured and reported. To this end planning and conservation legislation should require that planning and resource management decisions are accompanied by an assessment of their effect on the achievement of this goal. Local Land Services Boards should be required

---

[12] *Flora and Fauna Guarantee Act 1988 (Vic)*, s4. See also *Threatened Species Protection Act* 1995 section 62, Schedule 1, Clause 3(a)

[13] DNRE (undated) *Victoria's Native Vegetation Management - a Framework for Action.* http://www.spiffa.org/uploads/2/6/7/5/2675656/nativevegetationmanagement-aframeworkforaction.pdf Accessed 18 September 2014.

[14] EPA (2000) Op. cit.

to (continue to) have plans accredited by the Natural Resources Commission which include targets for restoration. NSW State of the Environment Reports should include an assessment of whether or not progress toward the aspirational goal is being achieved. The assessment criteria would include the level of clearing; adequacy of offsets over time and progressive fate of threatened species.

Of 1348 survey respondents, 93% believed that the goal of biodiversity legislation should be to improve biodiversity, reflecting strong support for an aspirational goal.

RECOMMENDATION 1.1: Introduce an aspirational goal to maintain and improve biodiversity in NSW. Require that all planning, development and resource management decisions include an assessment of their effects on achieving this goal and include an assessment of progress in NSW State of the Environment and Natural Resources Commission Reports.

Given the available evidence about the state of the environment, are the existing legislative objects still valid? Do the current objects align with international and national frameworks, agreements, laws and obligations? If not, what objects are required?

The existing legislative objects are vital for the conservation of biodiversity in NSW and should be retained. However, with biodiversity continuing to decline, it is clear that the existing objects are insufficient and should be augmented.

Consistent with the aspirational goal recommended above, the objects of biodiversity legislation and the *Environmental Planning and Assessment Act 1979* should be amended to enshrine the principle of maintaining and improving biodiversity.

There are two crucial elements to maintaining and improving biodiversity:

1. Ensuring that planning approvals and natural resource management decisions have no negative impact on biodiversity.
2. Restoring degraded ecosystems, reintroducing species and assisting the recovery of threatened species, populations and ecological communities.

Both these elements are encompassed in the objects of the NSW *Native Vegetation Act 2003* to:

- Prevent broadscale clearing unless it improves or maintains environmental outcomes.
- Protect native vegetation of high conservation value having regard to its contribution to such matters as water quality, biodiversity or the prevention of salinity or land degradation.
- Improve the condition of existing native vegetation, particularly where it has high conservation value
- Encourage the revegetation of land, and rehabilitation of land, with appropriate native vegetation.

Examination of international frameworks for biodiversity conservation (**Appendix 2**) indicates that ‘no net loss’, ‘maintain or improve’ and restoration/reintroduction of threatened species and communities are consistent features. The *Native Vegetation Act 2003* thus represents a modern and forward looking approach to biodiversity conservation

that is consistent with international practice. It should be used as a model for improving other biodiversity and planning legislation in NSW.

The native vegetation assessment tools (NV Act Tool) under the *Native Vegetation Act 2003* provide a useful model for enacting these objects. This approach should be extended to all development (extractive industries, forestry, urban development and all agriculture) not just agricultural development affecting remnant native vegetation.

A deficiency of the current *Native Vegetation Act 2003* is the exemption of most regrowth vegetation. Regrowth vegetation may have conservation significance and habitat value equal to that of remnant vegetation. Recent research from the Queensland Brigalow Belt has revealed regrowth vegetation supported reptile communities with equivalent diversity and composition to remnant woodlands[15].

RECOMMENDATION 1.2: Amend the objects of biodiversity legislation and the *Environmental Planning and Assessment Act 1979* to include maintaining and improving biodiversity.

RECOMMENDATION 1.3: Extend the operation of the *Native Vegetation Act 2003* (NV Act) to include high conservation value regrowth vegetation.

RECOMMENDATION 1.4: Apply the 'maintain or improve' methodology of the NV Act Tool **to all development assessments.**

Existing biodiversity laws do not adequately address the challenges posed by climate change. Large numbers of species face the loss of suitable habitat due to temperature changes[16]. In response to this many species will need to shift their present ranges in order to survive. Identifying and preserving habitat to provide 'climate refugia' for such species will be vital to minimising the impact of climate change on biodiversity[17]. This will require expansion of current protected areas to ensure that sufficient intact habitat is available to accommodate range shifts. The objects of biodiversity legislation should be amended to allow for the accommodation of range shifts in response to climate change.

RECOMMENDATION 1.5 Amend the objects of biodiversity legislation and the *Environmental Planning and Assessment Act 1979* to respond to the challenge posed by climate change by accommodating range shifts by native species.

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

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

[17] Reside, A.E., VanDerWal, J., Philips, B.L., Shoo, L.P., Rosauer, D.F., Anderson, B.J., Welbergen, J.A., Moritz, C., Ferrier, S., Harwood, T.D., Mackey, B., Hugh, S., Williams, Y.M., & Williams, S.E., (2013) *Climate changes refugia for terrestrial biodiversity: Defining areas that promote species persistence and ecosystem resilience in the face of global climate change*, National Climate Change Adaptation Research facility, Gold Coast.

To what extent are the current objects being met?

Continued biodiversity decline indicates that success in meeting the current objects of biodiversity legislation has been limited. Chief contributors to this decline include previous and ongoing land clearing for agriculture; habitat destruction due to forestry, extractive industries and urban development; the impacts of invasive species and introduced pathogens[18] [19]. A continuing issue has been the failure to objectively assess the offset and management measures associated with development decisions. Thus it is entirely possible that despite the science behind the decisions, that actual implementation is still allowing serious biodiversity decline.

The failure to address the impacts of development represents the failure of planning and resource management decisions to adequately consider biodiversity conservation. See responses to Themes 3 and 4 for recommendations to better integrate biodiversity conservation into planning decisions. See responses to Themes 2, 5 and 6 for recommendations for improving the content of biodiversity legislation as well as conservation actions and management of threats such as invasive species and pathogens.

Could the objects of the current laws be simplified and integrated? If so, how?

The *Threatened Species Conservation Act 1995*, *Native Vegetation Act 2003*, *Nature Conservation Trust Act 2001* and *National Parks and Wildlife Act 1974* perform separate but complementary functions.

There is a serious risk that 'simplifying and integrating' the objects of the Acts or replacing the four Acts with a single consolidated Act would result in loss of important detail and weakening of biodiversity protection. Additionally, administrative arrangements have been developed that should not be significantly disrupted as rearrangement will interrupt effective programs and policies. For example the regulatory work of the Department of Environment and the LLS implementation of programs and community engagement creating a commonsense separation.

RECOMMENDATION 1.6: Maintain the protections in the *Threatened Species Conservation Act 1995*, *Native Vegetation Act 2003*, *Nature Conservation Trust Act 2001* and *National Parks and Wildlife Act 1974* and associated administrative arrangements.

[18] Coutts-Smith, A.J. & Downey, P.O. (2006) Op. cit.
[19] EPA (2012) Op. cit.

Theme 2: Conservation Action

Is the current system effective in encouraging landowners to generate public benefits from their land and rewarding them as environmental stewards? Or are current mechanisms too focused on requiring private landowners to protect ecosystem services and biodiversity at their own cost?

We believe that this question is too narrowly focused and fails to acknowledge the benefits that biodiversity provides to landowners.

Agricultural productivity is highly dependent on the maintenance of ecosystem services provided by healthy biodiversity. These include clean air, water, healthy soils, pollination and nutrient cycling[20]. Protecting biodiversity thus protects the productivity and value of agricultural land.

The conservation of native vegetation under the *Native Vegetation Act 2003* provides a case in point. Clearing native vegetation exposes soils to increased risk of erosion and salinisation. Many soil types throughout NSW are particularly vulnerable to degradation due to being old, heavily weathered, infertile, and subject to a high level of climatic variability[21].

Land clearing since European settlement has been responsible for significantly increased soil erosion in NSW because removing ground cover vegetation damages soil structure and allows loss of soil particles[22]. Significantly, areas subject to the highest rates of clearing prior to the introduction of the *Native Vegetation Act 2003* equate to those with the greatest vulnerability to erosion[23].

Soil salinisation is a serious threat to land and water resources in NSW and is the major cause of land degradation in the Murray-Darling Basin. Soil salinisation reduces agricultural productivity and promotes erosion by impairing plant growth[24].

Land clearing is also the major cause of soil salinisation in NSW. Intact native vegetation absorbs rainwater entering the soil and allows small amounts to enter groundwater (groundwater recharge). When native vegetation is cleared the rate of groundwater recharge is increased and water tables begin to rise. In areas with saline groundwater and soils this carries salt to the surface resulting in increased soil salinity[25].

By curtailing land clearing the *Native Vegetation Act 2003* has thus made a major contribution to preserving the value and productivity of agricultural land as well as avoiding costs in combating soil erosion and salinisation. When the north west of the state is in the grip of a severe drought with much soil exposed after previous land clearing – the question must be asked as to why we would allow more land clearing. This part of the state is subject to frequent drought and is clearly 'marginal' for agricultural production.

[20] EPA (2012) Op. cit.
[21] EPA (2006) *NSW State of the Environment Report 2006*, Environmental Protection Authority, Sydney.
[22] EPA (2000) Op. cit.
[23] EPA (2006) Op. cit.
[24] EPA (2000) Op. cit.
[25] Ibid.

Forests and woodlands mitigate global warming by absorbing and retaining greenhouse gasses. By protecting native vegetation, land clearing laws have made an important contribution to greenhouse gas abatement efforts. They were the primary reason Australia was able to meet its Kyoto Protocol commitments. Australian agricultural and natural systems are highly vulnerable to climate change[26]. Organisations are increasingly considering forest establishment and management to help reduce the build-up of greenhouse gases in the atmosphere[27]. It makes little sense to reduce protections to existing native vegetation, only to then have to undertake revegetation of extensive areas that is both expensive and takes a substantial period of time, for the purpose of absorbing greenhouse gases.

Land clearing also has important implications for climate at regional and national scales. Intact vegetation and moist soils in forests and woodlands absorb more solar energy than areas cleared for pastures and crops[28]. Cleared agricultural landscapes are associated with reduced exchange of moisture to the atmosphere, less cloud cover and reduced rainfall[29, 30].

Land clearing has significantly reduced the moderating influence of native vegetation on extreme El Niño events and is strongly connected with more severe and prolonged droughts in eastern Australia. The result has been more dry and hot days and reduced rainfall[31, 32].

The *Native Vegetation Act 2003* has thus played a vital role in protecting the value of agriculture by contributing to efforts to combat climate change and protecting agricultural systems from more severe droughts and extreme temperatures. The act thus serves the common interest of landowners by preserving the systems on which their livelihoods depend.

Furthermore, by allowing the management of over 3.9 million hectares of invasive native scrub (INS) under INS PVPs[33], the Act has unquestionably improved the value of agricultural land in NSW. While there are ecological questions about the need to clear INS (given it is likely to be an initial pioneer revegetation stage after excessive clearing and grazing), it was recognised that improved INS management with a quicker return to grassland/woodland mosaic had both environmental and economic benefits. It is emphasised that without the

---

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

[27] CSIRO (2011) *Greenhouse gas and carbon management in forests*. http://www.csiro.au/Outcomes/Climate/forests-and-carbon-management.aspx

[28] McAlpine *et* al., (2014) Op. Cit.

[29] Ibid.

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

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

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

[33] OEH (2014b) *Public register of approved clearing PVPs and development applications.* http://www.environment.nsw.gov.au/vegetation/approvedclearing.htm. Accessed 13 September 2014.

Native Vegetation Act, such a large area would not have come under such active management.

It is also important to note that the Act simply restricts *changes* to land use such as removal of remnant native vegetation from currently vegetated areas. It does not prohibit existing land use. In this respect the Act is effectively a form of environmental protection zoning, analogous to that which operates under Local Environment Plans (LEPs) throughout NSW. There are no provisions for compensation under environmental planning zones for restrictions on changing land use, just as there are no provisions for publicly harnessing windfall gains due to changing land use.

RECOMMENDATION 2.1: Consideration of the 'costs' to landowners of protecting ecosystem services and biodiversity should be balanced by considering the benefits that accrue directly to landowners by maximising the productivity and value of their land. Any additional payments to landowners should discount speculative views about increased (short term) income but rather focus on whether a property is better managed for the long term.

Are there elements of the current system for private land conservation that raise impediments (for example, the binding nature of agreements and potential loss of production) for individuals who want to manage their land for conservation? If so what are they? What incentives might be effective, efficient and equitable in promoting biodiversity conservation on private land?

We do not believe that current private land conservation arrangements raise impediments for individuals wishing to manage their land for conservation. Landowners who do not wish to enter into binding arrangements may instead enter into non-binding arrangements such as the Land for Wildlife program and the Wildlife Land Trust[34].

In the case of binding agreements, such as agreements with the Nature Conservation Trust and Conservation Agreements, tax exemptions and rate concessions are available[35]. These should be maintained and enhanced.

Property Vegetation Plans (PVPs) include binding agreements to manage native vegetation and ensure that any clearing maintains or improves environmental outcomes. PVPs provide security to landowners while protecting remnant vegetation. With over 950 PVPs approved in NSW[36] there do not appear to be any disincentives for landowners to enter into PVP arrangements.

Additionally the requirement under the NV Act to provide an offset on the property where the clearing is proposed means there are no demands for extra cash to purchase offsets elsewhere. There have been demands from the farming lobby to allow multi-farm arrangements where clearing and offsets can be exchanged. Changes were made to the legislation to allow this, but the difficultly of contractual arrangements between farmers has been a serious practical impediment.

[34] EDO (2011) *A guide to private conservation in NSW*. Environmental Defenders Office.
[35] Ibid.
[36] OEH (2014b) Op. cit.

We acknowledge the recent Biodiversity Offsets Policy for Major Projects released by the NSW government as a possible route by which some farmers may gain additional payments. However we also highlight that the capacity of the Policy to be undermined by discounting (e.g., for red light sites or allowing mine rehabilitation) could reduce potential available funds. Our concerns with the Policy are outlined in more detail in response to Theme 4 of the Issues Paper. We note that the Policy is to be kept under review during the transition period.

Our survey showed strong support for increased incentives for landowners to conserve biodiversity (71% of 876 respondents).

RECOMMENDATION 2.2: Maintain and enhance tax exemptions and rate concessions for entering into binding conservation agreements.

What should be the role of organisations and bodies, such as the Nature Conservation Trust in facilitating and managing private land conservation through mechanisms such as conservation and biobanking agreements?

The natural resource management reforms of which the, *Native Vegetation Act* 2003 formed part, included funding for buy outs of land or stewardship payments where conservation actions rendered land unsuitable for agriculture[37]. We suggest that the Nature Conservation Trust be given responsibility for coordinating a new package of buy outs and stewardship payments.

RECOMMENDATION 2.3: The Nature Conservation Trust be given responsibility for coordinating a new package of buy outs and stewardship payments.

How should the government determine priorities for its investment in biodiversity conservation while enabling and encouraging others (e.g. community groups) to contribute their own biodiversity priorities?

The underlying principle for determining investment in biodiversity conservation should be to stop and reverse biodiversity decline in NSW. In particular land use change that imperils biodiversity should be prohibited.

We have significant concerns about adopting the 'species triage' approach to determining biodiversity conservation priorities. Decisions on investing in biodiversity conservation should be based on scientific data to ensure the maximum return on investment. We are concerned that there is inadequate scientific information on which to base 'triage' decisions. Furthermore, economic, social and political considerations should not circumvent scientific knowledge i.e. the underlying principle should be biodiversity benefits rather than economic or political gain.

[37] The Ministerial Reference Group Native Vegetation Reforms Implementation Program (2005) *Report to the Minister on the progress with the NSW Government's natural resource management reforms*.

The NSW government should encourage community organisations by supporting their activities. Importantly, this should include not supporting land use change that results in loss of biodiversity.

RECOMMENDATION 2.4: Investment priorities for biodiversity conservation should be driven by scientific data and aim to stop and reverse biodiversity decline.

How can the effectiveness of conservation programs be monitored and evaluated?

Conservation programs should be monitored and evaluated against the state-wide targets for natural resource management[38]. These targets should be incorporated into catchment plans and adapted by Local Land Services (LLS) Boards with numerical targets for each catchment[39].

See also our response to Theme 6 for recommendations on other types of data that should be collected to assess the effectiveness and benefits of conservation actions.

RECOMMENDATION 2.5: Conservation programs should be monitored and evaluated against the state-wide targets for natural resource management. Local targets should be developed by LLS which are consistent with the state-wide targets.

How should any trade-offs be assessed?

The *Native Vegetation Act* 2003 provides a model for dealing with trade-offs. Specifically the 'improve or maintain' test under the *Environmental Outcomes Methodology* allows clearing to occur if it improves or maintains environmental outcomes. The benefits of the methodology is that it delivers consistency informed by on the ground inspection. It brings to bear all available knowledge and integrates it with local information and negotiation with the landowner. This eliminates the subjectivity that bedevilled previous clearing consent processes and creates greater credibility for the decisions. It is an environment protection zoning system, 'case by case', recognising that it is not possible to prior map every hectare of the state.

We submit that the 'improve or maintain' methodology be extended to all aspects of planning and natural resource management assessment (this is also highlighted in our response to Theme 4).

RECOMMENDATION 2.6: Trade-offs should be assessed using the 'improve or maintain' principle for conserving biodiversity as expressed in an objective and scientifically based methodology supplemented by on-site inspections.

[38] NRC (2014) *The standard and targets*, http://www.nrc.nsw.gov.au/content/documents/Standard%20and%20targets%20-%20The%20Standard%20and%20targets.pdf Natural Resources Commission. Accessed 13 September 2014.
[39] It is noted that the now repealed *Catchment Management Authorities Act* 2003 required to catchment management authorities, in preparing draft Catchment Action Plans, to have regard to the need for the plan to comply with any State-wide natural resource management standards and to promote any such State-wide targets, ss 20(2)(c).

To what extent is the system forward looking or dealing with legacy impacts?

The system, by necessity is both forward looking and addressing legacy impacts. The *Native Vegetation Act 2003* implemented a model proposed by the Wentworth Group of Scientists to deal with impacts of broadscale clearing. The objectives were to end broadscale clearing of remnant vegetation and protected regrowth; use property management plans (PVPs) to assist farmers in managing their properties while protecting native vegetation; provide funding support to farmers to conserve vegetation; and increase scientific input into vegetation management[40]. While dealing with legacy impacts the Act was thus designed to provide ongoing management of native vegetation in NSW.

A key feature of the Act is the requirement that removal of vegetation will only be permitted if it satisfies an 'improve or maintain' test under the *Environmental Outcomes Methodology* (EOAM). As discussed in our response to Theme 1, 'maintain or improve' provisions are a consistent feature of international conservation frameworks (**Appendix 2**). The *Native Vegetation Act 2003* thus represents a modern and forward looking approach to biodiversity conservation that is consistent with international practice.

A key strength of the EOAM is the identification of 'red lights' that will not satisfy the 'improve or maintain test'. In this respect the EOAM is a forward looking instrument as it prevents clearing that will significantly erode biodiversity.

It is significant that an independent scientific review of the PVP Developer tool used for producing PVPs described the tool as a world class decision tool at the leading edge of environmental science[41].

The strengths and forward looking nature of the *Native Vegetation Act 2003* and PVP system are compromised by exemptions and recent changes to the *Native Vegetation Regulation 2005*.

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

A major change is that chain-clearing and blade ploughing will now be permitted as methods of clearing 'invasive native scrub'. This is contrary to the recommendations of the Native Vegetation Regulation Review[42] which was commissioned by the government and concluded that chain clearing and blade ploughing should not be permitted under self-assessment codes. These methods are highly destructive to ground cover vegetation and cause significant soil disturbance.

[40] Wentworth Group (2003) *A New Model for Landscape Conservation in New South Wales: Wentworth Group of Concerned Scientists Report to Premier Carr*, CSIRO, Canberra.
[41] The Ministerial Reference Group Native Vegetation Reforms Implementation Program (2005) Op. cit.
[42] Lane, J. (2013) Native Vegetation Regulation Review Facilitator's Final Report. Minister for the Environment, Sydney.

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

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

For further information, see our submissions on the draft *Native Vegetation Regulation 2012* and the draft Self-Assessable Codes:

- EDO Submission on the review of the Native Vegetation Regulation 2012. Download PDF.
- NCC, NPA, TEC and Colong Foundation for Wilderness Submission to the draft Native Vegetation Regulation 2012. Download PDF.
- EDO Submission on the Draft Landholder Guides and Draft Orders to implement self-assessable codes under the Native Vegetation Regulation 2013. Download PDF.
- NCC/TEC/NPA/TWS/WWF Submission on the Native Vegetation Draft Self-Assessable Codes of Practice. Download PDF.

Due to how existing legislation has been drafted the use of fire has not previously been well addressed. Although some limited reference is made to fire and its management, the main reason for its inclusion is to protect biodiversity from its deleterious impacts. However, with the resourcing and funding that is allocated to understand and try to minimise the impacts of fire, it should be recognised in future legislation as a significant driver in moulding ecosystem change.

Under biobanking agreements *(Threatened Species Conservation Act 1995)* and Property Vegetation Plans *(Native Vegetation Act 2003)* fire management activities can be included as management actions. These may relate to ensuring works are undertaken so that an area is not inappropriately subject to fire, or it may require that prescribed burns are put in place for the benefit of biodiversity. However, due to the uncoordinated nature of legislation, there is may be no administrative or operational assistance to assess and undertake the necessary fire management works, much of which comes under the jurisdiction of the *Rural Fires Act 1997*. A system to provide support for managers of lands set aside under conservation agreements is required.

RECOMMENDATION 2.7: Retain the 'improve or maintain' and 'red-lights' approach under the EOAM. Reverse recent weakening of the *Native Vegetation Regulation 2005.*

RECOMMENDATION 2.8: Biodiversity legislation to recognise fire as an important driver in biodiversity conservation and identify sustainable fire management as a means to enhance biodiversity outcomes.

RECOMMENDATION 2.9: Relevant legislation to take into account the inability of many private landholders to operationally undertake fire management works, particularly those involving the implementation of prescribed burns, by providing certainty of support.

RECOMMENDATION 2.10: Establish a system of support for managers of lands set aside under conservation agreements to be able to readily access environmental assessment and operational assistance where proactive fire management actions are required.

To what extent does current practice (rather than the legislation) determine outcomes?

This question suggests that despite the aims of legislation, that actual practice can undermine or only partially achieve stated goals. This can certainly be the case.

In our view there are four influencing factors:

1. The adequacy of funding for threatened species recovery programs which to date has been poor.
2. Limits placed on the ambit of legislation by excluding various areas of activity such as mining or failing to recognise the need to constrain the impact of excluded legislation, for example the new 10:50 clearing rule for bushfire protection overrides protection of littoral rainforest under State Environmental Planning Policy 26 - Littoral Rainforests?
3. Failure of compliance policies either through lack of funding (for staff and monitoring) and administrative support, weak penalties or vague unenforceable terms, or political direction to 'go easy'. Such failure can embolden those who wish to remove habitat and assess the risk of being found out or prosecuted or fined sufficiently, as worth their investment.
4. The skills of and support given to those implementing the legislation. For example while the establishment of Catchment Management Authorities began with adequate funding and appropriate skill representation – it is an open question as to whether the new Local Land Services will perform to their standard.

Conservation, Planning and Development

Biodiversity conservation is intrinsically linked with land use planning and development approval. This is because actions that may affect biodiversity are regulated, either directly or indirectly, through the planning system. Conversely, effective land use planning has the potential to support the achievement of environmental outcomes including the conservation of biodiversity.

While we recognise that this Review is not looking at the NSW planning system *per se,* the Review must consider how biodiversity is dealt with in the planning system and the interaction between planning laws and biodiversity laws.

In our view, biodiversity laws in NSW have failed to meet their objectives in part due to poor interaction with planning laws, and the fact that, in some instances, planning laws have been able to override important biodiversity provisions. Further, the conservation of biodiversity, and land use planning and development, are often siloed into different legal frameworks and different Government agencies, with poor integration between the two. This continues to contribute to hampering the achievement of environmental outcomes, including the conservation of biodiversity.

Across government, there is a clear unbalanced emphasis on short term economic growth, with the planning framework facilitating development, providing mechanisms for overcoming environment protection legislation and removing important checks and balances.

For example:

- Changes to the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries)* 2007 **(Mining SEPP**) in 2013 have made the economic significance of the resource the principal consideration for decision makers[43].
- Concurrence and approval requirements have been removed for state significant development and infrastructure[44].
- The gateway system in the Strategic Regional Land Use Policy has been weakened so that the scientific committee no longer has the power to say "no"[45].
- Third party merit appeal rights to the Land and Environment Court have been restricted[46].

---

[43] See clause 12AA of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries)* 2007. It is noted that clause 12AA was inserted into the Mining SEPP following the successful Court of Appeal decision in Bulga Milbrodale Progress Association Inc. ats Warkworth Mining Limited & Ors in which the Court of Appeal upheld the Land and Environment Court decision that the economic benefits of the coal mine did not outweigh the significant impacts on Bulga residents and the destruction of rare forests containing endangered plants and animal species.

[44] Section 79B(2A), EPA Act

[45] See the NSW Government's Strategic Regional Land Use Policy at www.planning.nsw.gov.au/en-au/planningyourregion/strategicregionallanduse.aspx; see also EDO NSW (December 2012) *Submission on draft amendments to give effect to the 'Gateway' process under the Strategic Regional Land Use Policy (amendments to the Mining SEPP & Environmental Planning & Assessment Regulation)*. Download PDF.

[46] See s23F, EPA Act

- The range of development that can be carried out as 'complying development', without merit assessment of impacts or development approval, has been expanded[47].
- The new Biodiversity Offsetting Policy for Major Projects does not meet best practice offsetting principles[48].

The recent NSW Planning System review[49] provided an opportunity to reconcile this imbalance and improve integration between planning laws and biodiversity laws. However, the Government's *Planning Bill* 2013, which proposed to remove the principles of ecologically sustainable development from the planning system and weaken environment protections, failed to address the imbalance[50].

Until the Government moves away from a position of economic growth at all costs, properly implements ecologically sustainable development and is firmly committed to achieving no net biodiversity loss for NSW, we will continue to see a decline in biodiversity.

Further, it is noted that the focus of the EPA Act in terms of biodiversity protection is on threatened species and ecological endangered communities. We note that there is a general objective of "*protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats*" that would allow consideration of the broad impact of development on biodiversity[51]. Beyond that the focus of the EPA Act tends to be on assessing the impacts of development on threatened species, populations or ecological communities, or their habitats[52].

In both instances however, there is no priority given to biodiversity, which is a failure to recognise the legacy of habitat removal and the urgent need give priority to protecting biodiversity if further losses of biodiversity and the services that healthy ecosystems provide are to be avoided.

[47] The most recent changes to *State Environment Planning Policy (Exempt and Complying Development Codes)* 2008 came into force on 22 February 2014.
[48] Our concerns with the Biodiversity Offsetting Policy for Major Projects are set out later in this submission. The Policy can be found at www.environment.nsw.gov.au/biodivoffsets/bioffsetspol.htm.
[49] In July 2011 the NSW Government began a comprehensive review of the state's planning system. More information is available at www.planning.nsw.gov.au/enus/policyandlegislation/planningforourfuture.aspx
[50] See, for example:
- *Submission on A New Planning System for New South Wales–WHITE PAPER,* EDO NSW, June 2013, download here.
- *Charting a new course: Delivering a planning system that protects the environment and empowers local communities Submission on the White Paper - A New Planning System for NSW*, NCC/TEC June 2013. Download here.

[51] Section 5(a)(vi), EPA Act
[52] The EPA Act creates additional requirements for development or activities that are likely to have a significant effect on threatened species, populations or ecological communities, or their habitats, or development that is likely to have an adverse effect on critical habitat.

RECOMMENDATION 3.1: The objects of the EPA Act should prioritise the protection and restoration of biodiversity. In particular:

- **The objects of the EPA Act should be amended to refer specifically to the protection of biodiversity and ecological integrity including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats.**

- **The objects of the planning system should include a clear commitment to maintain or improve environment outcomes, including biodiversity (as per Recommendations 1.2, 1.3 and 1.4 above)**

RECOMMENDATION 3.2: Any planned reform of the NSW planning system must ensure that it provides for the protection of biodiversity and ecological integrity, and a clear commitment to ecologically sustainable development.

Interaction between *EPA Act* and *TSC Act*

The *Threatened Species Conservation Act* 1995 does not operate in isolation to protect threatened species. Rather, it sets up a process for the identification and listing of threatened species, and then operates in conjunction with the *Environment Planning Assessment Act* 1979 to assess and manage impacts of planning and development on threatened species.

It should be noted that, with the exception of National Parks and Wilderness Areas, there are no circumstances in which development that impacts on biodiversity or threatened species or ecologically endangered communities is prohibited outright. Rather the EPA Act provides a legal framework in which all impacts of development are considered and impacts managed accordingly. Unfortunately, history has shown us that economic interests often win out over environmental interests, and as such development is often allowed to proceed despite significant impacts on biodiversity and without adequate mitigation of impacts.

Interaction between EPA Act and NV Act

The *Native Vegetation Act* 2003 prohibits rural land owners from clearing land unless they have obtained development consent or have obtained a property vegetation plan. The NV Act also requires Part 4 of the EPA Act to apply to the granting of a vegetation clearing development consent for activities covered by the NVA.[53] In both instances, clearing is required to 'improve or maintain' certain environment outcomes, including biodiversity[54]. The **Environmental Outcomes Assessment Methodology** (EOAM) is applied to determine whether clearing will improve or maintain environmental outcomes. We recommend that the improved approach of the NV Act should be applied to other activities covered by the EP&A Act to create greater consistency and the standard of planning (see Recommendation 2.6 above).

[53] Section 14, NV Act
[54] See s14(3) and s29(2), NV Act

Theme 3: Conservation in Land Use Planning

How effective are current arrangements at ensuring biodiversity values are identified early and properly considered in strategic planning systems? How can they be improved?

While the EPA Act requires planning instruments to be made, the legislative framework is focused on the administrative process of plan making, and does not include robust requirements that would ensure biodiversity values are identified early and properly considered in strategic planning systems.

The general requirements for making an environmental planning instrument are set out in Part 3 of the EPA Act. Section 26 outlines the content that may be contained in local environment plans[55], while the provisions for making state environmental planning policies are set out in section 37[56].

While these sections outline what may be included in the respective planning instruments there are no provisions that mandate the types of preliminary environmental assessments or mandatory considerations for making planning instruments. For example, local councils are not required consider threatened species listings when preparing a Local Environment Plan, or to meet certain requirements with respect to the protection of biodiversity (such as "maintain or improve"). The failure of the planning system to mandate a robust framework for effective strategic assessment and strategic planning means that opportunities for identifying and protecting biodiversity values are lost.

[55] Section 26 of the EPA Act provides:

Without affecting the generality of section 24 or any other provision of this Act, an environmental planning instrument may make provision for or with respect to any of the following:

- *(a) protecting, improving or utilising, to the best advantage, the environment,*
- *(b) controlling (whether by the imposing of development standards or otherwise) development,*
- *(c) reserving land for use for the purposes of open space, a public place or public reserve within the meaning of the Local Government Act 1993, a national park or other land reserved or dedicated under the National Parks and Wildlife Act 1974, a public cemetery, a public hospital, a public railway, a public school or any other purpose that is prescribed as a public purpose for the purposes of this section,*
- *(d) providing, maintaining and retaining, and regulating any matter relating to, affordable housing,*
- *(e) protecting or preserving trees or vegetation,*
- *(e1) protecting and conserving native animals and plants, including threatened species, populations and ecological communities, and their habitats,*
- *(f) controlling any act, matter or thing for or with respect to which provision may be made under paragraph (a) or (e),*
- *(g) controlling advertising,*
- *(h) such other matters as are authorised or required to be included in the environmental planning instrument by this or any other Act.*

(1A) An environmental planning instrument may also make provision for or with respect to protecting and conserving vulnerable ecological communities.

[56] Section 37 of the EPA Act provides:

(1) The Governor may make environmental planning instruments for the purpose of environmental planning by the State. Any such instrument may be called a State environmental planning policy (or SEPP).

(2) Without limiting subsection (1), an environmental planning instrument may be made by the Governor to make provision with respect to any matter that, in the opinion of the Minister, is of State or regional environmental planning significance.

In 2012, the Nature Conservation Council of NSW, Total Environment Centre and EDO NSW published *Our Environment, Our Communities - Integrating environmental outcomes and community engagement in the NSW planning system*[57].

Part 1.4 of that report outlines key elements for integrating environmental considerations into strategic planning processes. These key elements should apply to the making of all environmental planning policies (e.g. local environment plans, state environmental planning policies or their equivalents), and also regional strategies[58].

The framework for strategic planning recommended in that report would improve the ability of the planning system to identify and protect biodiversity outcomes in strategic planning processes.

EXTRACT– Part 1.4 *Our Environment, Our Communities - Integrating environmental outcomes and community engagement in the NSW planning system*

"1.4 Key elements for integrating environmental considerations into strategic planning processes

….

A whole-of-Government approach to strategic and land use planning

A whole-of-Government approach is required to effectively integrate environmental considerations into strategic and land use planning processes. Planning systems should not be concerned solely with development. Rather, consideration must be given to the complete range of interests that need to be managed for the future, including transport, infrastructure, resources, environment, public health and community. In the context of integrating environmental considerations into strategic planning, the NSW Local Government and Shires Association identifies nine agencies that are responsible for the environment and NRM in NSW.[59] Further, it is recognised that regional agencies (such as catchment management authorities) "provide an invaluable source of data and expertise, particularly to assist in translating the natural resource science into workable planning schemes".[60] It is therefore important that a framework for strategic planning facilitates interagency collaboration.

There are various suggestions as to how this could be achieved, for example:

---

[57] Nature Conservation Council of NSW, Total Environment Centre and EDO NSW (2012) *Our Environment, Our Communities - Integrating environmental outcomes and community engagement in the NSW planning system.* Available at www.nature.org.au/media/1170/our_environment_our_communities_0.pdf

[58] Currently, there is no statutory framework for the preparation of regional strategic plans in NSW. We recommend that the new planning system set out a statutory framework for the preparation of regional strategic plans. Environmental assessment at the regional level can help to identify significant habitat corridors, assess land use capacity and potential cumulative impacts and plan for climate change adaption and mitigation.

[59] P and A Walsh Consulting Pty Ltd; Centre for Local Government UTS; Gibbs Consulting Pty Ltd (2009) *Integrating Natural Resource Management into Local Government Operations - Volume 2: Land Use Planning,* pp8-10. Download PDF. The following agencies are identified as having a role in NRM in NSW: Natural Resources Commission, Department of Environment and Climate Change (now the Office of Environment and Heritage), Catchment Management Authorities, Department of Planning (now the Department of Planning and Infrastructure), Department of Primary Industries, Department of Water and Energy (now the NSW Office of Water and the Division of Minerals and Energy within Industry & Investment NSW), Department of Lands (now abolished and functions split between Department of Finance and Services and Department of Primary Industries), Sydney Catchment Authority and Rural Fire Service.

[60] Local Government Association of Queensland (2007) *Integrating Natural Resource Management into Planning Schemes materials - A guideline for Queensland Local Governments,* p 16.Download PDF.

- *establish a centralised agency to manage strategic planning and interagency collaboration between agencies and with local councils (see, for example, the activities of the Western Australian Planning Commission)*[61]*,*
- *require (through legislative provisions) the relevant planning authority to seek the concurrence of prescribed agencies,*
- *develop agreements (for example, through memoranda of understanding) between agencies to clarify the expectations and role of each agency in addressing environmental issues in strategic planning processes,*[62]
- *establish working groups, with agency representatives.*[63]

Carrying out of baseline studies and strategic environmental assessment

Best practice strategic and land use planning must be underpinned by scientific, factual and up-to-date data. It is impossible to effectively develop long term strategic plans without a clear understanding of the existing state of the environment and an assessment of the impacts of planned future growth and development.

Strategic environmental assessment aims to provide for a high level of protection of the environment and contributes to the integration of environmental considerations in the preparation and adoption of plans and programs with a view to promoting sustainable development.[64] *This outcome is achieved through setting minimum requirements for environmental assessment processes alongside plan preparation, including:*

- *an assessment of the existing state of the environment,*
- *identification of the likely environmental impacts of the development envisaged in a plan (including cumulative impacts), and the consideration of reasonable alternatives,*
- *consultation on an environmental report on the plan at the same time as on the plan itself, and*
- *ongoing monitoring of the significant effects of implementation of the plan.*[65]

---

[61] For more information visit the website of the Western Australian Planning Commission: http://www.planning.wa.gov.au/

[62] *Directions Paper on the Integration of NRM into Land Use Planning*, Published by the Western Australia Planning Commission as part of the EnviroPlanning project initiated in late 2005 through a partnership between the Western Australian Planning Commission, the former Department for Planning and Infrastructure, and the Western Australia Local Government Association (WALGA) with the aim of improving the integration of NRM into land use, planning across the State. Available at: http://www.planning.wa.gov.au/dop_pub_pdf/NRM_report.pdf

[63] For example, NRM Senior Officer Groups have been used to ensure interagency coordination during the recent review of Catchment Action Plans; The LGSA suggests establishing Planning Forum Meetings to coordinate engagement with agencies and key stakeholders, above no 18, p20.

[64] See for example, Sadler, B. and R. Verheem (1996) *Strategic Environmental Assessment: Status, Challenges and Future Directions*, Ministry of Housing, Spatial Planning and the Environment, The Netherlands. See also UNECE *Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context*(commonly referred to as the SEA Protocol) (available at: http://live.unece.org/env/eia/sea_protocol.html)

[65] See also the Hawke report, which makes recommendations as to the framework for strategic assessment, Hawke, A. (2009), "*Report of the Independent Review of the Environment Protection and Biodiversity Conservation Act 1999*", October 2009, see in particular 3.43 – 3.50 . In summary, such a framework should:

- require an assessment of the extent to which a plan, policy or program:
  - protects the environment
  - promotes ESD
  - promotes the conservation of biodiversity
  - provides for the protection of heritage

The current planning system does not provide a clear and mandatory framework for strategic environmental assessment. In the past, draft LEPs were required to be accompanied by a local environmental study, however this varied in practice and was not required for amendments to LEPs. More recent changes to the Act have left the issue of environmental assessment almost entirely at the discretion of the Minister.[66] *There is no specific environmental assessment required for making a SEPP, although there are consultation (not concurrence) requirements with respect to threatened species.*

In order to effectively integrate environmental considerations into the planning system, there must be a mandatory requirement to undertake environmental assessment as part of the strategic planning framework.

Sharing of data across sectors

Strategic planning would benefit from a centralised system of information in order to collate, share and publish data across sectors in ways that promote accuracy, transparency and evidence-based decision making.

An extensive set of data already exists in NSW and Australia that can be utilised to support strategic and land use planning processes, including carrying out baseline studies. For example, the Spatial exchange (SIX) is set up as the official source of spatial data for NSW.[67] *Other information sources could include:*

- *information accumulated by catchment management authorities, particularly as part of their work in preparing regional catchment action plans,*
- *information held by the various divisions of the Office of Environment and Heritage, with respect to water, threatened species, endangered ecological communities and coastal processes,*
- *statistics and projections held by transport and infrastructure agencies,*
- *state and federal State of the Environment Reports,*
- *statistics and projection from the Australian Bureau of Statistics.*

According to the federal State of the Environment (SoE) report (2011), "Australia is positioned for a revolution in environmental monitoring and reporting".[68] *The challenge is to create and use systems that allow efficient access to environmental information. The SoE report notes a range of new technical and policy innovations to address these challenges.*

- set minimum standards of acceptable environmental impacts (including and assessment of cumulative impacts)and
- set of higher level considerations, for example for any subsequent development approval

[66] See, for example, EDO factsheet, 'LEPs and SEPPs', 2.1.3a, available at http://www.edo.org.au/edonsw/site/factsh/fs02_1_3a.php.

[67] See https://six.nsw.gov.au/wps/portal/. Other information sources could include:

- information accumulated by catchment management authorities, particularly as part of their work in preparing regional catchment action plans.
- information held by the various divisions of the Office of Environment and Heritage, with respect to water, threatened species, endangered ecological communities
- statistics and projections held by transport and infrastructure agencies.
- state and Federal State of the Environment Reports
- statistics and projection from the Australian Bureau of Statistics

[68] Australian Government (2011), *State of the Environment 'Future reporting'*. Available at: http://www.environment.gov.au/soe/2011/report/future-reporting.html

These include more intelligent monitoring, increased standardisation and data-sharing, better data management and modelling, and national benchmarks for environmental and sustainability indicators.

An improved system for monitoring and reporting of environmental quality and NRM data would also assist with establishing a baseline for measuring progress towards, and achievement of, specified outcomes.[69]

In developing an effective framework for strategic planning there is an opportunity to develop processes and systems that allow efficient use of and access to environmental information. This could also be an impetus to review how the Government deals with information generally, and how information systems can support an improved 'whole-of-Government' approach to governing in NSW.

Integration of environmental policy and legislation

In order to further ensure a whole-of-Government approach to strategic and land use planning, strategic plans and planning instruments should attempt to align with other Government strategies, or else there is a risk of the planning system undermining work being done by other areas of Government.

The NSW Natural Resources Commission has found that because NRM policy is not sufficiently integrated into the planning system, it is difficult for CMAs to effectively implement Catchment Action Plans (CAPs).[70] *LEPs and planning policies can often undermine initiatives in CAPs, as there is no legal requirement to consider CAPs when making LEPs or when assessing development applications.*

The importance of linking NRM plans with planning processes is recognised in the Integrating Natural Resource Management in Planning Scheme – A guideline for Queensland local governments[71]*. The guidelines recognise that "regional NRM plans can assist local government planning processes by providing the science to support the identification of values that require protection, the threats affecting them and the means by which they may be best protected" and suggest that planning schemes should be built around NRM policy.*[72]

In order to better integrate environmental considerations, the NSW planning system must require planning instruments to be developed having regard to or in conjunction with key environmental and NRM policies. For example, the new planning system should include:

- *a legislative requirement to consider Catchment Action Plans when preparing planning instruments and strategies,*

---

[69] See, for example, COAG RC, (2011) *Review of capital city strategic planning systems*, Available at: http://www.coagreformcouncil.gov.au/agenda/cities.cfm

[70] Natural Resources Commission (2008) *Progress Report on Effective Implementation of Catchment Action Plans*, Available at:http://www.nrc.nsw.gov.au/content/documents/Progress%20report%20on%20effective%20implementation%20of%20CAPs.pdf

[71] Local Government Association of Queensland (2007) *Integrating Natural Resource Management into Planning Schemes materials - A guideline for Queensland Local Governments,* Available at: https://www.lgaq.asn.au/c/document_library/get_file?uuid=21fd58f8bad67e8435d933489732c3df&groupId=10136

[72] Ibid, page 13 and Chapter 4 – Opportunities for Integrating NRM in Planning Schemes

- *a legislative requirement to develop regional strategic plans together with regional conservation plans.*

Identification of competing land uses and values and mechanisms for achieving environmental outcomes

An effective strategic planning framework should identify competing land uses and values, and provide mechanisms for assigning appropriate land uses. Strategic environmental assessment, particularly at a regional level, can help to identify significant habitat corridors, assess land use capacity and potential cumulative impacts and plan for climate change adaption and mitigation. The outcomes of strategic environmental assessment can then inform plan making processes so that land is appropriately zoned for the most appropriate use. Mechanisms to achieve environmental outcomes that could be supported by planning instruments include:

- *Identification of high level protection zones, being sensitive areas of NSW where certain kinds of development (such as mining) are prohibited, based on an assessment of environmental, water supply, social and agricultural value criteria and risk; and recognition that 'management of impacts and monitoring' is not a sufficient risk avoidance strategy,*
- *Appropriate categories of zoning. For example, the Land Use Matrix supports the Standard Instrument (Local Environmental Plans) Order 2006 (the Standard Instrument) uses three categories of environment protection zones.*
- *Identification of areas to which prescribed controls would apply (for example, coastal protection zones),*
- *Model provisions to address NRM issues. For example, the Standard Instrument provides some model NRM provisions. These should be reviewed and improved in the context of developing a strategic planning framework in the new planning system.*[73]
- *Caps on certain types of development to manage cumulative impacts, for example pollution and carbon emissions,*
- *Requirement that planning instruments (including regional strategic plans) achieve prescribed environmental thresholds (such as a rigorous 'improve or maintain' test). For example, the Local Government and Shires Association suggest that consideration be given to initiating an "improve or maintain target for all significant natural resource features in strategic land use planning".*[74]

Appropriate statutory weight for and hierarchy between planning instruments

Strategic and land use planning should operate in a framework that ensures local land use planning is consistent with long term strategic planning. That is, local environmental plans must be required to be consistent with longer term strategic plans that aim to set the direction for future growth.[75] *This can be achieved through a legislative requirement that*

[73] For example, the model natural resource management clauses in Standard Instrument only require consideration and minimisation of environmental impacts, not avoidance of impacts. Model clauses should implement minimum mandatory standards.

[74] P and A Walsh Consulting Pty Ltd (2009) Op.cit.

[75] See, for example, the case of Ontario in the Grattan Institute's *Cities: Who Decides?* (J. Kelly, (2010) *Cities: Who Decides)?* pp 14 and 42. The Ontario government has developed a regional initiative for land use – '*Places to Grow*' – which establishes a legal framework for the Province's long-term growth, including Toronto, and requires municipalities to make their official plans consistent with the growth plan.

requires all local environmental plans to be consistent with regional strategic plans or a State plan (or the appropriate equivalent).

Currently there is no statutory framework for the preparation of regional strategic plans in NSW. Given the importance of strategic planning at a regional level, it is recommend that the new planning system set out a statutory framework for the preparation of regional strategic plans.

Community engagement in strategic and land use planning processes

Genuine and meaningful public participation in strategic and land use planning is imperative for assisting decision makers in identifying public interest concerns, utilising local knowledge and ensuring community 'buy-in'.

…".

RECOMMENDATION 3.3: Amend Part 3 of the EPA Act in order to establish the clear legislative requirements with respect to the making of planning instruments (both local environment plans and state environmental planning policies), and regional strategies.

For each of the following processes:

- **making of local environment plans**
- **making of state environmental planning policies**
- **making of regional strategies**

There must be legislative requirements:

- **to carry out robust baseline studies of environmental and NRM values prior to preparing planning instruments or regional strategies**
- **to seek the concurrence of relevant expert agencies**
- **to undertake strategic environmental assessment of planning proposals (for all planning instruments and regional strategies), including assessment of, amongst other things, impacts on biodiversity and ecosystem function**
- **to consider existing strategic documents, including for example, regional conservation plans and Catchment Action Plans (CAPs)**
- **to identify competing and complementary land uses and values in order to:**
    - **identify of high level protection zones, being sensitive areas of NSW where certain kinds of development (such as mining) are prohibited, based on an assessment of environmental, water supply, social and agricultural-value criteria and risk and recognition that 'management of impacts and monitoring' is not a sufficient risk avoidance strategy.**
    - **develop a land use matrix that provides for appropriate environmental protection zones.**
    - **identify of areas to which prescribed controls would apply (for example, coastal protection zones).**
    - **prescribe caps on certain types of development to manage cumulative impacts.**

- **for planning instruments (including regional strategic plans) to achieve prescribed environmental thresholds (such as a rigorous 'improve or maintain' test).**
- **for genuine and meaningful community engagement.**
- **to report on and review strategic plans and environmental planning instruments at regular intervals.**

How effective are current arrangements for delivering strategic outcomes for biodiversity and enhancing ecosystem services. How can they be improved?

In our view, the current arrangements for delivering strategic outcomes for biodiversity and enhancing ecosystem services have been ineffective. As outlined above, we recommend that there is a robust legal framework for strategic planning to support strategic outcomes for biodiversity and enhancing ecosystem services.

Below we look at a number of case studies that show how strategic planning has failed to protect biodiversity.

CASE STUDY: Biodiversity certification

Biodiversity certification allows for an assessment of the impacts of future development on biodiversity as part of the strategic planning process. The framework for biodiversity certification in NSW is set out in Part 7AA of the *Threatened Species Conservation Act* 1995. Planning authorities can apply to have biodiversity certification conferred over an area of land by applying to the Minister for Planning with a biodiversity certification application and Biodiversity Certification Strategy.

The Biodiversity Conservation Strategy is required to outline the conservation measures that will improve or maintain biodiversity values in accordance with the Biodiversity Certification Assessment Methodology.

After biodiversity certification is conferred on an area, development may proceed without the usual requirement under the Environmental Planning and Assessment Act 1979 for site-by-site threatened species assessment.

There are benefits of assessing impacts on biodiversity at this early stage; assessment at a landscape scale is useful because species and ecosystems function at a landscape scale and assessment of impacts of developments on a site by site basis does not adequately address cumulative impacts, which can only be effectively addressed through strategic conservation planning.

That being said, the process for biodiversity certification must be robust, based on best practice offsetting principles and deliver positive outcomes for the environment.

We note that early attempts to implement biodiversity certification, including with respect to the State Environmental Planning Policy (Sydney Regional Growth Centres) 2006 failed

because the Government's principles were too broad-brush and insufficient to deal with competing land use pressure[76].

The revised Biodiversity Certification Assessment Methodology was gazetted on 25 February 2011. We have a number of concerns with the revised methodology. For example:

- Allowing offsetting within a kingdom does not ensure like for like.
- Financial contributions can be used instead of actually offsetting (this has recently been taken a step further by the new Biodiversity Offsets Policy for Major Projects.
- Red flags can clearly be varied under the biocertification methodology and are not 'true' red flags that effectively redirect development away from critical areas.
- The definition of 'low condition' has been changed to mean that more vegetation will be classified as low condition and therefore amenable to offsetting.

RECOMMENDATION 3.4: Changes that have weakened standards should be repealed. Tools designed to achieve improved biodiversity outcomes at a landscape scale must include comprehensive and objective assessment processes underpinned by credible and accurate scientific information. It is vital that the methodology is a robust, objective and scientifically credible tool, as it the methodology that will determine whether a proposal 'maintains or improves' biodiversity values.

CASE STUDY: Failure of EPA Act to protect critical habitat

Section 37 of the TSC Act provides that "*the whole or any part or parts of the area or areas of land comprising the habitat of an endangered species, population or ecological community or critically endangered species or ecological community that is critical to the survival of the species, population or ecological community* ***is eligible to be declared under this Part to be the critical habitat*** *of the species, population or ecological community*".

There are currently only four critical habitat declarations under the *Threatened Species Conservation Act:*

- Gould's Petrel - critical habitat declaration
- Little penguin population in Sydney's North Harbour - critical habitat declaration -
- Mitchell's Rainforest Snail in Stotts Island Nature Reserve - critical habitat declaration
- Wollemi Pine - critical habitat declaration

It is noted that certain habitat of the Grey Nurse Shark is listed as critical habitat under Part 7A of the *Fisheries Management Act* 1994[77].

[76] Robinson, David (2011) *Biodiversity Banking in NSW: A Critique*, Australasian Journal of Natural Resources Law and Policy (Vol. 14, No.2, 2011)
[77] See www.dpi.nsw.gov.au/__data/assets/pdf_file/0003/381315/Grey-nurse-shark-critical-habitat.pdf

The effect of any such declaration creates additional procedural requirements for that land (in particular, the preparation of a species impact statement and concurrence of the Director-General of the Department of Environment, Climate Change and Water or Minster for the Environment is required) but does not guarantee protection of that habitat.

Development that impacts on critical habitat can be approved following the consideration and balancing of all impacts of a development proposal. For example, shortly after the declaration of Critical Habitat for the Endangered population of Little Penguins, the National Parks and Wildlife Service advised Manly Council that a development application for a multi-unit residential development including an underground car park within the declared habitat area could proceed.

RECOMMENDATION 3.5: Strategic plans must be required to identify land that has been declared critical habitat and prohibit all development that would have a detrimental impact on critical habitat.

CASE STUDY: Strategic Regional Land Use Plans

In 2012, the NSW Government introduced a strategic regional land use process to better manage the potential conflicts arising from the proximity of mining and coal seam gas (CSG) activity to our high quality agricultural land, in some parts of the State.

The process involved identifying and mapping valuable residential and agricultural land across the state in order to protect it from the impacts of mining and coal seam gas operations. The mapping process also provided an opportunity to identify and map areas of high conservation value, including biodiversity hotspots, for protection against mining and coal seam gas operations.

Areas of high conservation were identified and mapped during the initial drafting stages, but these areas were removed from the final maps, essentially removing important protection for biodiversity rich areas such a forests, woodlands and rivers.

The Government's decision to remove high conservation areas at the last minute reflected significant influence from the mining and gas industry and the Government's lack of commitment to biodiversity conservation. It was also contrary to the Government's pre-election statement that agricultural land and other sensitive areas exist in NSW where mining and coal seam gas extraction should not occur[78].

[78]NSW Liberals & Nationals *Strategic Regional Land Use - Triple bottom line assessment to protect our regions,* Download PDF.

RECOMMENDATION 3.6: Strategic regional land use plans should be prepared in accordance with a legislative framework for strategic planning that is underpinned by robust environmental assessment and community engagement (see Recommendation 3.3).

How should the effectiveness of strategic planning approaches be monitored and evaluated?

Strategic plans should include clear objective and key performance indicators. Currently the EPA Act requires authorities to ensure planning instruments are kept 'under regular and periodic review 'and the Minister has powers to make orders for staged repeal and review of environmental planning instruments[79].

RECOMMENDATION 3.7: There should be clear minimum review periods for all strategic plans that are appropriate to the significance and intended period of application of the plan or instrument.

[79] Sections 73 and 33B, EPA Act

Theme 4: Conservation and Development Assessment

Part 4 of the *Environment Planning and Assessment Act* 1979 deals with the application, assessment and approval of development activities and it is within this framework that the impacts of proposed development applications, including impacts on biodiversity, are assessed.

Table A and **Table B** in **Appendix 3** provide a general overview of the varying and competing processes for assessing the impacts of development on biodiversity. It shows that there are different processes depending on:

- the type of development proposed,
- whether the development is likely to significantly affect threatened species, populations or ecological communities, or their habitats,
- whether the development is proposed to occur on critical habitat,
- biodiversity offsetting options available and utilised.

Because the planning system is not the focus of this Review, we will not elaborate further on the overall framework for development assessment and determination[80]. Rather, this submission will focus on some of the weaknesses of the planning system when it comes to the conservation of biodiversity and interaction with biodiversity laws.

EXEMPT AND COMPLYING DEVELOPMENT

The EPA Act provides that certain development can be carried out without development consent (exempt development)[81]. The EPA Act also provides that certain development can be carried out without development if it complies with prescribed standards (complying development)[82]. In both instances there is no requirement to undertake an assessment of the impacts of the proposed development on biodiversity.

Historically, only low impact development has been identified under the EPA Act as exempt or complying development. More recently however, the Government has expanded the range of development types that can be carried out as complying development. For example, following changes to the *State Environmental Planning Policy (Exempt and Complying Development Codes)* 2008 (**Exempt and Complying SEPP**) in 2013, the following types of development can now be carried out as complying development: new industrial

[80] Our various organisations prepared numerous submissions and reports during the Planning System Review. For further information on our concerns with the planning system, particularly in terms of achieving environmental outcomes, please consider:

- EDO NSW J2013) *Submission on A New Planning System for New South Wales–WHITE PAPER,* June 2013. Download PDF.
- NCC/TEC (2013) *Charting a new course: Delivering a planning system that protects the environment and empowers local communities Submission on the White Paper - A New Planning System for NSW*. Download PDF.
- NCC, EDO and TEC (2012) *Planning for Ecological Sustainable Development - Opportunities for improved environmental outcomes and enhanced community involvement in the planning system.* Download PDF.

[81] s 76(2), EPA Act

[82] s 76A(5)

buildings up to 20,000m², additions to commercial office or business premises of 2,500m², new single and two storey dwelling houses up to a height of 8.5m,

Our organisations have opposed the expansion of complying development for a number of reasons[83].

With respect to the assessment and management of impacts on biodiversity, we note in particular:

- Previous restrictions that prohibited complying development in environmentally sensitive areas have been removed (the former section 76A(6) of the EP&A Act).

  We note that the Exempt and Complying Development SEPP does include some limitations on what can constitute complying development[84]. For example the General Housing Code and Rural Housing Code and the Commercial and Industrial (New Buildings and Additions) Code do not apply in within an ecologically sensitive area, environmentally sensitive land, or within a protected area. However, these restrictions only apply to certain complying development codes and are policy only, meaning they could be changed at any time.

- There are no clear requirements to consider the impacts of biodiversity when making a State Environmental Planning Policy or determining what development types will be listed as complying development[85].

RECOMMENDATION 4.1: The prohibition on complying development in environmentally sensitive areas should be reinstated (similar to the former section 76A(6) of the EPA Act).

RECOMMENDATION 4.2: Only development that is genuinely low impact development should be able to be carried out as exempt and complying development.

[83] For example:
- The use of a uniform code for complying development across the State can be problematic, as local government areas in NSW vary greatly in terms of their locality, diversity, social pressures and environmental sensitivity. It is therefore not always appropriate to define exempt and complying development in a uniform manner across NSW. Some developments which may be considered 'minor' in a highly developed urban area may have significant impacts in areas of environmental sensitivity such as waterways, lakes, coastal, forest, heath, woodlands and wetlands.
- Code based assessment does not provide a mechanism for assessing the cumulative impacts of a myriad of 'minor' developments, which, when considered in isolation, have minimal environmental impacts, but when considered on the whole, lead to "death by a thousand cuts" for the environment.
- It is inappropriate to remove community consultation processes and appeal rights for a potentially large number of development applications. This is inconsistent with commitments in the *NSW 2021* State Plan to increase opportunities for people to look after their own neighbourhoods and environments (Goal 23) and restore confidence and integrity in the planning system (Goal 29).

[84] See clause 1.19 , Exempt and Complying SEPP

[85] Note general recommendations of EDO to making of codes.

DEVELOPMENT THAT REQUIRES CONSENT UNDER PART 4 OF THE EPA ACT (except State Significant Development)

The broad framework for development assessment and determination under Part 4 of the EPA Act involves:

- **Development Application:** Certain development applications will be required to be accompanied by prescribed assessment reports, for example:
    - Designated development must be accompanied by an Environment Impact Assessment.
    - Development on land that is, or is a part of, critical habitat or is likely to significantly affect threatened species, populations or ecological communities, or their habitats is to be accompanied by a Species Impact Statement.

- **Assessment:** Development that requires consent must be assessed having regard to the criteria listed in s79C. Impacts of development on biodiversity can be addressed through biodiversity offsetting under the TSC Act. In those cases, the consent authority does not have to consider the impacts of the proposed development on biodiversity if the proponent has a biobanking statement.

- **Determination:** Applications under Part 4 (except SSD) will be determined by the consent authority. In some instances, consultation with, or the concurrence of the Director-General of the Department of Environment, Climate Change and Water Minister administering the *Threatened Species Conservation Act* 1995 will be required.

Our submission highlights our key concerns with the development assessment and determination process, as it relates to the conservation of biodiversity and interaction with biodiversity laws:

- **7 part test**

Section 78A(8)(b) of the EPA Act provides that if a development application is in respect of development on land that is, or is a part of, critical habitat or is likely to significantly affect threatened species, populations or ecological communities, or their habitats—a species impact statement prepared in accordance with Division 2 of Part 6 of the *Threatened Species Conservation Act* 1995.

Section 5A of the EPA outlines factors that must be taken into account in determining whether development is likely to significantly affect threatened species, populations or ecological communities, or their habitats. This is known as the 7 part test.

The Australian Network of Environmental Defender's Offices note the problems with the 7 part test[86]:

> *There are significant problems with the current assessment of biodiversity in NSW, particularly the assessment of whether a development will have a significant impact –the '7 part test'. Indeed, the test is often not undertaken where required, and are applied inconsistently across Local Government Areas in NSW.*[87]
> *The consequence of this is that developments are often proceeding without a proper assessment of threatened species and in the absence of an SIS where one should have been required.*
> *A key issue is the failure of consent authorities to undertake the 7 part test, often based on an arbitrary decision that the test is not required. This is to some extent due to the fact that the Act does not state that the test is mandatory, nor who should prepare it.*[88]
>
> *Moreover, often when the test is undertaken, it is done incorrectly, leading to a finding that no significant impact will ensue when this is not in fact the case.*
>
> *Further issues relate to the lack of an auditing or oversight framework of 7 part tests and SISs, the lack of appropriate resources and skills within local government to conduct assessments and issues relating to the integrity and accountability of ecological consultants who are commissioned to undertake threatened species assessments.*

- **Matters for consideration under s79C**

Development that requires consent must be assessed having regard to the criteria listed in s79C.

Section 79C of the EPA Act provides:

> *In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:*
>
> *(a) the provisions of:*
> *(i) any environmental planning instrument, and*
> *(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and*
> *(e) any development control plan, and*

[86] Australian Network of Environmental Defender' Offices (2014) *An Assessment of the Adequacy of Threatened Species and Planning Laws in all Jurisdictions of Australia.* Download PDF.
[87] Douglas, S (1999), "*Local Government and the Threatened Species Conservation Act –The Greatest Potential; the Weakest Link*' (1999) 6(2) The Australasian Journal of Natural Resources Law and Policy, 135-149.
[88] Ibid, at p 137.

(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

(v) any coastal zone management plan (within the meaning of the Coastal Protection Act 1979*), that apply to the land to which the development application relates,*

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) the suitability of the site for the development,

(d) any submissions made in accordance with this Act or the regulations,

(e) the public interest.

It is noted that while there is no specific requirement to consider the impacts of development in biodiversity, impacts on biodiversity are able to be considered under the broad matters of consideration s79C(b) – (e), as appropriate.

We note however, that the discretionary model of s79C means that there are often trade-offs between the various impacts and environmental considerations often lose out to economic considerations.

During the recent Planning System Review, a number of our organisations proposed introducing an objective decision making process to replace the merits based assessment in s79C of the EPA Act.

The proposed process would draw on the model in the NV Act to introduce a 'maintain or improve' test for certain environmental values underpinned by a scientific methodology (as recommended in response to Theme 2).

EXTRACT– Part 1.5.1 *Our Environment, Our Communities - Integrating environmental outcomes and community engagement in the NSW planning system*

"1.5.1 An objective decision making framework for development assessment

While there is a general recognition that planning processes need to be improved, the efficacy of the planning system should not be judged solely on its ability to achieve assessment processing timeframes or development approval rates. More fundamental to the planning system's effectiveness is its ability to produce ecologically sustainable outcomes. Fast approvals that deliver poor quality, high risk or unsustainable development are not in the public interest. As the Productivity Commission noted in its benchmarking report on Australian Planning Systems:

> *"…a combination of several benchmarks is often needed to reflect system performance. For example, while longer development approval times may seem to be less efficient, if they reflect more effective community engagement or integrated*

referrals, the end result may be greater community support and preferred overall outcome".[89]

As identified above, the EP&A Act is heavy with discretionary decision making processes that have historically led to environmental considerations losing out to development and economic interests.[90] *These discretionary processes have also contributed to inefficiencies in the system as a result of uncertainty and lack of transparency*

The new planning legislation must seek to redress this with robust, objective decision making tools that ensure environmental standards are met at the approval stage, for example:

- *requiring development to meet threshold tests (such as a rigorous 'improve or maintain' test) for key environmental values such as biodiversity, native vegetation, catchment health and water quality, energy and water use, climate change and pollution, and*
- *prescribing mandatory standards in codes or guidelines that reflect best practice (for example, BASIX, which requires certain development to meet standards for energy and water use*[91]*). Other areas in which regulation by mandatory codes may be suitable include:*
    - *coastal development,*
    - *climate change adaptation,*[92] *and*
    - *building and operational standards.*[93]

Once these objective standards are met, a more subjective, values-based approach can be used for assessing matters such as the suitability of the site, form and design, and it is appropriate for the decision-maker to consider aesthetic and other planning considerations, such as overshadowing, bulk, and set-backs.[94]

This two-stage approach is consistent with an overarching objective of achieving ecologically sustainable development and ensures that development is undertaken within the physical capacity of the environment. Further, this objective approach has the benefit of reducing

---

[89] Productivity Commission (2007) *Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments* Vol. 1, p xxviii.

[90] For example, section 79C of the EP&A Act prescribes matters for consideration by the decision maker in determining a development application. Section 79C does not prescribe how the matter is to be considered by the decision maker (for example, it does not prescribe weight to be given to each matter, or any level of satisfaction that the decision maker must reach in considering a certain matter)

[91] While we generally support the BASIX system as a method for achieving energy and water reduction targets for house and units, we recognise the following shortcomings:

- It only requires a 50% reduction for energy and water use in new houses and small blocks of units, and a weaker 20% for multi-unit housing.
- It does not allow LEPs or DCPs to impose improved standards for energy or water consumption.
- Auditing and monitoring can be improved, to ensure that commitments made in a BASIX certificate continue to met.

[92] See, for example, the draft Australian Standard for Climate Change Adaptation for Settlements and Infrastructure, available at http://www.asbec.asn.au/files/DR_AS_5334_Draft_Adaptation_Standard_8Sept2011.pdf

[93] For example, most industries would have some type of Code or Best Practice Guidelines in place for development or operations. The planning system should facilitate integration with industry standards by requiring industry codes to be put in place and development to be compliant with such codes.

[94] Regulation of these planning consideration would take place through local development control plans

uncertainty, ensuring that decisions are transparent and that decision makers are accountable, and helping to restore the community's confidence in the planning system.[95]

This proposed model would operate in place of the existing evaluation framework under s 79C. A new provision would provide that the decision maker must ensure that certain environmental criteria are met. These criteria could ultimately be part of a single methodology covering biodiversity, native vegetation, catchment health and water quality, energy and water use, climate change and pollution. In the meantime, suitably strengthened existing methodologies – such as BASIX, SEPP 65[96] *and those applying to biobanking and native vegetation – could operate as proxies while the single methodology is developed.*[97]

The proposed model could be supported by an ePlanning system. For example, the proposed ePlanning framework set out in the National ePlanning Strategy proposes that "decision rules (are) integrated into application lodgment to automate low risk applications and identify critical issues relating to higher risk applications".[98]

Objective decision making processes are already being used in NSW to ensure that proposed development satisfies prescribed criteria. For example:

- *The Native Vegetation Act 2003 (NV Act) establishes an 'improve or maintain environmental outcomes' test with respect to broadscale clearing of native vegetation on rural land. The NV Act adopts an Environmental Outcomes Assessment Methodology that underpins any approvals and property vegetation planning under the NV Act.*[99] *The tool requires an objective assessment to determine if prescribed environmental indicators are improved or maintained.*[100] *The application of the assessment tool is mandatory and is based on objective scientific criteria. It has helped overcome problems associated with subjectivity and inconsistent decision making under the previous regime.*

- *The State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*[101] *provides that a consent authority must not grant consent to the carrying out of development under Part 4 of the Act on land in the Sydney drinking water catchment unless it is satisfied that the carrying out of the proposed development would have a*

[95] In a similar vein, and consistent with the desire for more objectivity is ICAC's recommendation that the NSW Government ensures that discretionary planning decisions are made subject to mandated sets of criteria that are robust and objective – see Independent Commission Against Corruption (2012) *Anti-Corruption Safeguards And The NSW Planning System* Independent Commission Against Corruption February 2012

[96] State Environmental Planning Policy 65 (SEPP 65) relates to design quality for residential flat development.

[97] The development of this methodology is obviously an issue of some complexity and would need to be done in close consultation with the community, developers and agencies within Government.

[98] See page 12 of the National ePlanning Strategy. Available at http://www.eplanningau.com/wp-content/uploadsold/2011/07/National-ePlanning-Strategy-2011.pdf

[99] See the *Native Vegetation Regulation* 2005 and the *Environment Outcome Assessment Methodology* available at http://www.environment.nsw.gov.au/resources/vegetation/110157eoam.pdf

[100] The *Environmental Outcome Assessment Methodology* applies the 'improve or maintain' test with respect to water quality, salinity, biodiversity and land degradation (soil).

[101] *State Environmental Planning Policy (Sydney Drinking Water Catchment)* 2011 satisfies section 34B(2) of the EP&A Act which requires provision to be made in a State Environmental Planning Policy requiring a consent authority to refuse to grant consent to a development application relating to any part of the Sydney drinking water catchment unless the consent authority is satisfied that the carrying out of the proposed development would have a neutral or beneficial effect on the quality of water.

neutral or beneficial effect on water quality.[102] *The SEPP is underpinned by the methodology prescribed in the Neutral or Beneficial Effect on Water Quality Assessment Guideline prepared by the Sydney Catchment Authority.*[103]

- *The Building Sustainability Index (BASIX) methodology requires proponents to meet certain energy and water targets in order to obtain a BASIX certificate. The consent authority can then rely on the BASIX certificate for that aspect of the development.*[104]

It is noted that in Western Australia, the Environmental Protection Authority has proposed a 'net environmental benefit' standard in its discussion of biodiversity offsets, stating that 'this policy position recognises that the environment has been significantly compromised in the past and that halting and reversing the decline of the environment is now a priority'.[105] *A similar test has been proposed in Victoria*[106]*".*

We note that biobanking scheme (e.g. the biobanking scheme discussed below) could be incorporated into this broad methodology.

RECOMMENDATION 4.3: **The planning system adopts an objective decision making process that ensures environmental standards are met at the approval stage, for example:**

- **requiring development to meet threshold tests (such as a rigorous 'improve or maintain' test) for key environmental values such as biodiversity, native vegetation, catchment health and water quality, energy and water use, climate change and pollution, and**
- **prescribing mandatory standards in codes or guidelines that reflect best practice (for example, BASIX, which requires certain development to meet standards for energy and water use). Other areas in which regulation by mandatory codes may be suitable include:**
  - **coastal development,**
  - **climate change adaptation, and**
  - **building and operational standards.**

- **Biobanking**

Part 7A of the *Threatened Species Conservation Act* 1995 has established a biobanking scheme, which provides a voluntary alternative to the current threatened species assessment process outlined above.

The Biobanking scheme establishes a market based process for creating and trading in biodiversity credits. A key element of the scheme is the ***BioBanking Assessment***

---

[102] See clause 10 of *State Environmental Planning Policy (Sydney Drinking Water Catchment)* 2011.
[103] Available at: http://www.sca.nsw.gov.au/__data/assets/pdf_file/0007/4300/NorBE-Assessment-Guideline.pdf
[104] See our general concerns about BASIX below.
[105] See Environmental Protection Authority Western Australia (January 2006) *Environmental Offsets, Position Statement No 9,* available at http://www.epa.wa.gov.au/docs/1863_PS9.pdf. It is noted that Position Statement No 9 has been withdrawn following the introduction of the Western Australia *Environmental Offsets Guidelines* in August 2014 (which does not adopt the 'net environmental benefit test).
[106] Environment Protection Authority Victoria, *Discussion Paper: Environmental Offsets* (June 2008), available at http://epanote2.epa.vic.gov.au/EPA/Publications.nsf/2f1c2625731746aa4a256ce90001cbb5/cfa2d441a0e31fb7ca2574670004b739/$FILE/1202.3.pdf

Methodology, an assessment tool that quantifies biodiversity for the purpose of the scheme.

The process allows a proponent of development that will impact on biodiversity to purchase biodiversity credits to offsets the impacts. A proponent who participates in the scheme will be issued with a biobanking statement.

Once a biobanking statement has been issued then:

- The development is taken as not likely to have a significant impact on threatened species under Part 4 or 5 of the Environmental Planning and Assessment Act 1979 (NSW)[107].

- The consent or determining authority is not required to consider the impacts of the development on biodiversity (e.g. under s.79C or s. 111 of the Environmental Planning and Assessment Act 1979 (NSW))[108].

- The consent or determining authority must include the conditions contained in a biobanking statement in the conditions of approval for the development[109].

- The authority can impose additional conditions on the development, but these cannot be inconsistent with the conditions in a statement. Also, the authority may still refuse consent[110].

We note that the Biobanking scheme has criticised for failing to provide an adequate framework for offsetting the impacts of development in biodiversity[111].

Specifically, we note the following concerns:

- Provisions allowing indirect offsets for biodiversity conservation more broadly, do not meet the legislative test of maintaining or improving biodiversity values.
- Provisions that allow for variation of red flag areas can results in the specific impacts of a development not actually being precisely offset.
- While the tool contains mechanisms to vary results and allow offsets that are not ecologically equivalent, a strict maintain or improve biodiversity values' test cannot be met.

- **Determination**

The concurrence of the Director General, Department of Environment, Climate Change and Water[112] or Minister administering the Threatened Species Conservation Act 1995 is required in certain circumstances as set out in section 79B of the EPA Act[113].

---

[107] Threatened Species Conservation Act 1995 (NSW), ss. 127ZO(1), 127ZP(1), Schedule 7
[108] Threatened Species Conservation Act 1995 (NSW), ss. 127ZO(1), 27ZP(1)
[109] Threatened Species Conservation Act 1995 (NSW), ss. 127ZO(2), 27ZP(2)
[110] Threatened Species Conservation Act 1995 (NSW), ss. 127ZO(2) 127ZP(2).
[111] See for example, *Submission on the review of the NSW Biodiversity Banking and Offsets Scheme*, EDO NSW, July 2012 Download PDF; Robinson, David (2011) *Biodiversity Banking in NSW: A Critique*, Australasian Journal of Natural Resources Law and Policy (Vol. 14, No.2, 2011);
[112] References to the Director General, Department of Environment, Climate Change and Water are taken to mean Chief Executive - Office of Environment and Heritage

As outlined below, we are concerned that these concurrence requirements have been overridden in the case of state significant development.

STATE SIGNIFICANT DEVELOPMENT

Division 4.1 Part 4 of the EPA Act creates a specific assessment and approval project for State Significant Development. While most of the elements of the process are the same as for general Part 4 approval, there are some specific provisions that apply to State significant development.

We outline our key concerns below:

- ***Environmental approval and concurrence provisions do not apply to State Significant Development***

The concurrence requirements that are triggered generally under Part 4 (see above) do not apply to State significant development unless the requirement of an environmental planning

---

[113] *(3) Development consent cannot be granted for:*
(a) development on land that is, or is a part of, critical habitat, or
(b) development that is likely to significantly affect a threatened species, population, or ecological community, or its habitat,
without the concurrence of the Director-General of the Department of Environment, Climate Change and Water or, if a Minister is the consent authority, unless the Minister has consulted with the Minister administering the Threatened Species Conservation Act 1995.
Note. *The development is taken not to significantly affect threatened species, populations or ecological communities, or their habitats if:*
(a) the development is to be carried out on biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995*), or*
(b) a biobanking statement has been issued in respect of the development under Part 7A of the Threatened Species Conservation Act 1995.
(4) Despite subsection (3), if the Minister administering the Threatened Species Conservation Act 1995 *considers that it is appropriate, that Minister may:*
(a) elect to act in place of the Director-General of the Department of Environment, Climate Change and Water for the purposes of that subsection, or
(b) review and amend any recommendations that that Director-General proposes to make, or any advice that that Director-General proposes to offer, for the purposes of that subsection.
(5) In deciding whether or not concurrence should be granted under subsection (3), the Director-General of the Department of Environment, Climate Change and Water or the Minister administering the Threatened Species Conservation Act 1995 *must take the following matters into consideration:*
(a) any species impact statement that accompanied the development application,
(b) any assessment report prepared by the consent authority,
(c) any submissions received concerning the development application,
(d) any relevant recovery plan or threat abatement plan,
(e) whether the development proposed is likely to reduce the long-term viability of the species, population or ecological community in the region,
(f) whether the development is likely to accelerate the extinction of the species, population or ecological community or place it at risk of extinction,
(g) the principles of ecologically sustainable development,
(h) the likely social and economic consequences of granting or of not granting concurrence.
(6) The Minister administering the Threatened Species Conservation Act 1995 *must provide the Minister who is the consent authority with any recommendations made by the Director-General of the Department of Environment, Climate Change and Water concerning determination of a development application relating to development referred to in subsection (3) and, if that Minister does not accept any one or more of the recommendations, that Minister must include in the determination the recommendations not accepted and that Minister's reasons for not accepting them.*
(7) A copy of the reasons referred to in subsection (6) must be available for public inspection, during ordinary office hours, at the head office of the National Parks and Wildlife Service.

instrument for consultation or concurrence specifies that it applies to State significant development[114].

Additionally, certain environmental approvals, do are not required for State significant development, including an authorisation referred to in section 12 of the *Native Vegetation Act 2003* to clear native vegetation or State protected land[115].

We have significant concerns with removing important environmental approvals and consultation and concurrence provisions for state significant development and consider that this leads to poorer outcomes for the environment.

Specifically:

- Provisions that override environmental approvals for public priority infrastructure, State infrastructure development and State Significant Development are contrary to the proposition that development that is likely to have the most impact should be subject to the most detailed scrutiny.

- Environmental approvals are often subject to prescribed assessment criteria. By overriding environmental approvals, assessment of development impacts may not be subject to the same level of scrutiny as intended by those permits and approvals. To ensure no weakening of environmental protection, the consent authority must ensure its level of assessment matches that required in the relevant environmental protection legislation.

- Centralising the assessment of environmental approvals in the Department of Planning and Infrastructure is contrary to a whole-of-government approach to planning, and fails to draw on the expertise of specialised government agencies.

RECOMMENDATION 4.4: Provisions that require consultation with or the concurrence of the Director-General of the Department of Environment, Climate Change and Water or Minster for the Environment should apply to state significant development.

RECOMMENDATION 4.5: The requirement to obtain authorisation to clear native vegetation or State protected land under the *Native Vegetation Act 2003* should apply to state significant development.

- ***Biodiversity Offsets Policy for Major Projects***

In early September the Government announced its final Biodiversity Offsets Policy for Major Projects. It is unclear of the distinction and interaction of the Biodiversity Offset Policy for Major Projects with the existing BioBanking Scheme under Part 7A of the *Threatened Species Conservation Act 1995*.

[114] Section 79B(2A), EPA Act
[115] Section 89J, EPA Act

While the Government has made a number of changes to the policy following public consultation (e.g. removing the 'discounting provisions'), we still have significant concerns with the final policy:

- Failure to deliver on commitment to achieve 'net positive' biodiversity outcomes: The draft policy does not set out a clear environmental outcome standard that is consistent with government's public commitment to apply a 'net positive' standard[116]. The draft policy does not have a clear objective to protect biodiversity, and is primarily focused on providing guidance and practical offset solutions to proponents.

- Failure to identify and protect 'red flag' areas, including areas of high conservation value: While the policy adopts the 'avoid, mitigate and offset' hierarchy, which provides that offsetting is a 'last resort' in circumstances where impacts cannot be avoided or minimised, the policy fails to recognise that in some instances, such as in the case of areas of high conservation value, offsetting is not appropriate.

- Weakening the 'like for like' requirement: The policy fundamentally departs from the principle that offsets should be targeted towards the conservation values being lost ('like for like' offsetting).

- Multiple pathways to offsetting, including supplementary measures and mine site rehabilitation: The policy provides multiple pathways to approval, including supplementary measures and mine site rehabilitation, which do not provide credible offset solutions. The creation of a biodiversity offset fund will permit the destruction of biodiversity values before any appropriate offsets have been identified and secured. Biodiversity offsets should be identified and secured before development commences.

- Inadequacy of information: The Policy will use a number of existing databases including the Threatened Species Profile Database and Vegetation Benchmarks Database. We note the significant concerns of the NSW Scientific Committee on the inadequacies of these databases[117].

- Monitoring and enforcement: The draft policy does not require appropriate monitoring and evaluation procedures, particularly in order to determine whether environmental outcomes are being achieved and whether the framework has been successful on delivering a net-positive outcome for biodiversity.

[116] Media Release, *Boost for Biodiversity, New fund to support the environment*, Robyn Parker MP, Minister for the Environment and Minister for Heritage, 20 July 2013, www.environment.nsw.gov.au/resources/MinMedia/MinMedia13072001.pdf

[117] NSW Scientific Committee, *Submission on Biodiversity Banking and Offsets Scheme Review* (2012)

Our concerns are set out in more detail in our submissions on the draft policy:

- Submission on the Draft NSW Biodiversity Offsets Policy for Major Projects, EDO NSW, May 2014, Download PDF.

- Submission on the draft NSW Biodiversity Offsets Policy for Major Projects NCC/TEC, May 2014, Download PDF.

While we recognise there have been some changes in the final Biodiversity Offsetting Policy for Major Projects, we consider that the full scope of our concerns have not been adequately addressed and are still relevant.

DEVELOPMENT THAT REQUIRES APPROVAL UNDER PART 5 OF THE EPA ACT

Part 5 of the EPA Act deals with the application, assessment and approval of activities undertaken by state authorities (other than State Significant Infrastructure), as well as some *private* development types that have been exempted from Part 4 consent requirements. Part 5 includes some specific provisions for the assessment of environmental impacts, including impacts on biodiversity. Our key concerns with Part 5 are outlined below:

- The Review of Environmental Factors (**REF**) process which informs Part 5 assessments (state and private) lacks sufficient rigour, public input, or transparency pre-approval (unlike an EIS);

- Where Part 5 developments are 'self-assessed' by the agency proposing them, there is little or no independent scrutiny of whether biodiversity impacts are being properly assessed;

- While in theory an REF should trigger an in-depth EIS where biodiversity and environmental impacts are significant, we understand that few REFs ever identify a need for an EIS.

- Application of the '7-part test' to identify threatened species impacts is limited under Part 5.

Although Part 5 development does not require development consent from a local council or Minister (as in Part 4), the determining authority must still assess the environmental impacts (s 111, EPA Act)[118]. In practice, impacts are identified by a small-scale 'Review of Environmental Factors' (REF), conducted by or on behalf of the development proponent (whether state or private). The REF is then considered by the determining authority (who may also be the proponent, for public works).

The determining authority is legally required to take into account general and specific factors when considering the environmental impacts of a Part 5 activity[119]. Relevant factors

[118] When an activity is assessed under Part 5, the decision-maker must "examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity" (s 111, EPA Act). This requirement has been interpreted in the context of what is reasonably practicable (*Drummoyne MC v Roads and Traffic Authority* (1989) 67 LGRA 155, at 158 .

[119] See list of factors (a)-(n) under the *Environmental Planning and Assessment Regulation 2000,* cl. 228.

include any impact on local ecosystems or protected fauna habitat; any local reduction of environmental quality; any endangering of any animal or plant species; and any cumulative effect with existing or future activities. However, we query whether REFs are fit for this purpose, given their limited depth, and lack of sufficient oversight, transparency or local input.

As noted, Part 5 development is often 'self-assessed', approved, and carried out by state agencies. It also includes some private development that does not require consent[120]. In theory, an REF should trigger an EIS (and/or a Species Impact Statement (**SIS**)) where environmental and biodiversity impacts are significant (ss 112-114, EPA Act). However, as REFs are prepared by the proponent, there is understandable public concern that the information they contain may be designed to achieve a positive outcome for the proponent. While we are not privy to departmental statistics, we understand that in practice, few REFs identify a need for an EIS for Part 5 activities[121].

There are also no legal requirements to undertake consultation or publicly advertise a Part 5 activity prior to a decision being made. The REFs are only published after the activity has been approved. The public is not entitled to comment on the REF (indeed, the public is not entitled to see the REF until after a decision has been made). There is therefore no opportunity for public scrutiny which may notify the decision-maker of important inaccuracies or omissions (although errors have been discovered[122]). The lack of independent oversight and public input on REFs is of particular concern where there may be significant biodiversity in the area, and impacts warrant further consideration. However, case law suggests that use of the '7-part test' to identify impacts under Part 5 is limited[123].

Overall, while we acknowledge that the level of assessment should reflect the activity's significance, we note the reliability of Part 5 biodiversity assessments, and the validity of approvals, suffer from a lack of independent oversight, adequate rigour, transparency, public scrutiny and local involvement.

RECOMMENDATION 4.6: Part 5 biodiversity assessment requirements should be improved, having regard to the level of independent oversight, pre-approval transparency, public scrutiny, local involvement, cumulative impact assessment, and sufficient application of the '7-part test' to identify biodiversity impacts (s 5A, EPA Act). Rigorous assessment is particularly important where it is known or likely that there is substantial or significant biodiversity or habitat present, on or around the site.

---

[120] E.g. mineral and small-scale CSG exploration (prescribed in the *Mining SEPP 2007*), assessed by the NSW Department of Trade & Investment (Resources and Energy Division or Office of Coal Seam Gas).

[121] For example, EDO NSW research in 2011 could not find a single instance of an EIS required for CSG exploration (rules in the Mining SEPP 2007 have since changed to require most, but not all, CSG exploration to be classed as State Significant Development which requires an EIS). See EDO NSW (2011) *Ticking the Box: Flaws in the Environmental Assessment of Coal Seam Gas Exploration Activities* Download PDF.

[122] See CSG case studies in EDO NSW (2011) *Ticking the Box* (2011) Download PDF.

[123] *Fullerton Cove Residents Action Group Incorporated v Dart Energy Ltd (No 2)* [2013] NSWLEC 38. Relevantly, the Court found there was no failure to consider biodiversity impacts here, as the Department had 'general regard' to the 7-part test for threatened species (under s 5A of the Act) in assessing the proponent's REF.

RESPONSE TO ISSUES PAPER QUESTIONS

To what extent has the current framework created inconsistent assessment processes, environmental standards, offset practices and duplicative rules? What can be done to harmonise processes?

As outlined above, there are a range of mechanisms in place for assessing the impacts of development on biodiversity - see **Table A** and **B** in **Appendix 3**. This has created inconsistent processes and varying environmental standards.

In particular, we note that:

- The biobanking scheme created by the TSC Act has had poor uptake due to proponent's favouring the 'easier' 7-part test in the EPA Act.
- The development assessment and approval process for state significant development overrides important environmental checks and balances and specific requirements of biodiversity and conservation law.
- The recent Biodiversity Offset Policy for Major Development has been strongly criticised for not providing adequate protection for biodiversity, and it is unclear why an additional biodiversity offset scheme has been created rather than use the EAOM under the NVA.

We have made a number of recommendations (above) about how these concerns can be addressed.

Can we have a single, integrated approach to the approval of all forms of development, including agricultural development that is proportionate to the risks involved? If yes, should one methodology or a harmonised methodology) be used to assess all impacts? Does a need remain for some differences in assessment approaches?

We consider that there is scope for the planning system to adopt a single integrated process for the assessment and determination of development proposals. We submit that it would need to be underpinned by an objective decision making framework and scientific methodology, similar to the *Environmental Outcomes Assessment Methodology* (EOAM) under the NV Act.

Our proposed model for an objective decision making framework for development assessment is outlined above (see above EXTRACT– Part 1.5.1 *Our Environment, Our Communities - Integrating environmental outcomes and community engagement in the NSW planning system*)

We also note the various schemes in place for biodiversity offsetting. We consider there to be scope to have one single scheme that meets best practice biodiversity offsetting principles. Broadly, we are concerned that there are multiple offsetting frameworks in place and that the current frameworks do not meet best practice for biodiversity offsetting, in particular we are concerned that the existing models do not adopt:

- a robust a scientific assessment approach that maintains or improves biodiversity outcomes;
- a strict like-for-like approach to offset impacts on specific species and communities;
- a prohibition on the use of offsets in 'red-flag' areas that are too valuable to be destroyed and offset;
- legal protection for offset areas in perpetuity.

There are numerous biodiversity offsetting regimes around the world which are based on various ecological and regulatory principles. A number of these are outlined below:

- **Conservation International**

Conservation International has worked in partnership with government agencies, companies, scientists and environmental organisations from around the globe to develop the **Business and Biodiversity Offsets Program**[124]**.** This included the development of the following *Principles for Biodiversity Offsetting*:

1. **No net loss**: A biodiversity offset should be designed and implemented to achieve *in situ*, measurable conservation outcomes that can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.
2. **Additional conservation outcomes**: A biodiversity offset should achieve conservation outcomes above and beyond results that would have occurred if the offset had not taken place. Offset design and implementation should avoid displacing activities harmful to biodiversity to other locations.
3. **Adherence to the mitigation hierarchy**: A biodiversity offset is a commitment to compensate for significant residual adverse impacts on biodiversity identified after appropriate avoidance, minimization and on-site rehabilitation measures have been taken according to the mitigation hierarchy.
4. **Limits to what can be offset**: There are situations where residual impacts cannot be fully compensated for by a biodiversity offset because of the irreplaceability or vulnerability of the biodiversity affected.
5. **Landscape context**: A biodiversity offset should be designed and implemented in a landscape context to achieve the expected measurable conservation outcomes taking into account available information on the full range of biological, social and cultural values of biodiversity and supporting an ecosystem approach.
6. **Stakeholder participation**: In areas affected by the project and by the biodiversity offset, the effective participation of stakeholders should be ensured in decision-making about biodiversity offsets, including their evaluation, selection, design, implementation and monitoring.
7. **Equity**: A biodiversity offset should be designed and implemented in an equitable manner, which means the sharing among stakeholders of the rights and responsibilities, risks and rewards associated with a project and offset in a fair and balanced way, respecting legal and customary arrangements.

[124] www.conservation.org/sites/celb/fmg/articles/Pages/070199_business_biodiversity_offset_program.aspx

8. **Long-term outcomes**: The design and implementation of a biodiversity offset should be based on an adaptive management approach, incorporating monitoring and evaluation, with the objective of securing outcomes that last at least as long as the project's impacts and preferably in perpetuity.
9. **Transparency**: The design and implementation of a biodiversity offset, and communication of its results to the public, should be undertaken in a transparent and timely manner.
10. **Science and traditional knowledge**: The design and implementation of a biodiversity offset should be a documented process informed by sound science, including an appropriate consideration of traditional knowledge.

- **Environment Outcomes Assessment Methodology under the Native Vegetation Act**

The *Environment Outcomes Assessment Methodology* which governs the use of offsets under the *Native Vegetation Act 2003* includes the following principles:

1. *the benefits of the offset persist for at least the duration of the negative impact of the proposed clearing ;*
2. *the benefits from any offset will improve or maintain environmental outcomes for each environmental value;*
3. *the offset vegetation is of equal or greater regional conservation significance as the site proposed for clearing;*
4. *management actions are likely to be deliverable and enforceable;*
5. *permanent conservation measures are given greater value than other management actions;*
6. *benefits of offset are assessed using the same methodologies used to assess impacts of the proposed clearing;*
7. *the offset is additional to actions or works carried out using public funds or to fulfill regulatory obligations; and*
8. *only benefits from the management action or permanent conservation action may comprise the offset.*

These principles are implemented by a consistently applied assessment methodology, which aims to provide clear, predictable environmental outcomes and ensure equitable treatment of landholders.

- **OEH offset principles**

The NSW Government has previously published the following biodiversity offsetting principles:

1. *impacts must be avoided first by using prevention and mitigation measures.*
2. *all regulatory requirements must be met.*
3. *offsets must never reward ongoing poor performance.*
4. *offsets will complement other government programs.*
5. *offsets must be underpinned by sound ecological principles.*
6. *offsets should aim to result in a net improvement in biodiversity over time.*

7. *offsets must be enduring - they must offset the impact of the development for the period that the impact occurs.*
8. *offsets should be agreed prior to the impact occurring.*
9. *offsets must be quantifiable - the impacts and benefits must be reliably estimated.*
10. *offsets must be targeted.*
11. *offsets must be located appropriately.*
12. *offsets must be supplementary.*
13. *offsets and their actions must be enforceable through development consent conditions, licence conditions, conservation agreements or a contract.* [125]

In our view, the draft policy represents a significant and unacceptable departure from established offsetting principles, including principles previously adopted by the NSW Government.

What are the advantages and disadvantages of the different biodiversity assessment methodologies? Are the rules transparent and consistent? Is the way data is used to underpin decisions transparent? Do the assessment methodologies appropriately accommodate social and economic values?

Our substantial submission (above) highlights the advantages and disadvantages of the differing biodiversity assessment methodologies and offset schemes including:

- 7 part test under section 5A of the EPA Act
- Broad matters for consideration under s79 of the EPA Act
- Biodiversity Certification Assessment Methodology
- BioBanking Assessment Methodology under the *Threatened Species Conservation Act* 1995
- Biodiversity Offsets Policy for Major Projects
- Environmental Outcomes Assessment Methodology under the *Native Vegetation Act* 2003

Does the regulatory system adequately protect listed threatened species, populations and ecological communities? Is there utility in specifically protecting these entities through the regulatory system?

We do not consider that the current regulatory system adequately protects listed threatened species, population and ecological communities.

[125] Office of Environment and Heritage, *Principles for the use of biodiversity offsets in NSW*, www.environment.nsw.gov.au/biocertification/offsets.htm

Our comments above highlight that:

- The current regulatory system does not adequately protect threatened species, populations and ecological communities. Rather than protecting species absolutely, the planning framework creates additional procedural steps for dealing with development that will impact on threatened species populations and ecological communities. We submit that the strategic planning process should identify and map 'no-go' zones.
- While it is important to protect threatened species, populations and ecological communities, this should not be the sole focus of legislation, including planning legislation. There should a broad objective to protect biodiversity.
- If the Government is committed to 'no net loss' of biodiversity then it should legislate this. As outlined above, we recommend that the 'maintain or improve' model (in the *Native Vegetation Act* 2005) be adopted in the planning framework and applied to a range of environment values, including biodiversity.

We strongly recommend that the Panel consider the 2014 ANEDO report *Protect the laws that protect the places you love: An assessment of the adequacy of threatened species & planning laws in all jurisdictions of Australia*[126]. Download PDF.

Are there other models (international or Australian) that regulate activities impacting on biodiversity that may be relevant to NSW?

We have outlined a number of international examples and alternative models for regulating activities that impact on biodiversity - see **Appendix 2**.

To what extent has the current regulatory system resulted in lost development opportunities and/or prevented innovative land management practices?

Our survey shows that of the 240 people landowners asked, only 5% indicated that they had lost a development opportunity in the last ten years because of the current legislation on biodiversity conservation (see **Appendix 1** - Question 40).This suggests that the regulatory system is not impacting significantly on development opportunities.

Further it is noted that despite the regulatory system agricultural production in NSW has continued to grow. For example, a 2012 NSW Parliamentary Report found that "*the value of agricultural production in NSW has shown an upwards trend during the period 1990 to 2011. The gross value of agricultural production in NSW for the year ending June 2011 was approximately $14.5 billion. This amounted to an increase of 24% on the previous year*"[127].

This question gets to the heart of the fundamental conflict between biodiversity conservation and a 'growth at all costs' mentality. If we really are serious about stopping the

[126] Australian Network of Environmental Defender's Offices (2014), Op.cit.
[127] Wales, N. (2012), *Agriculture in NSW (July 2012) Statistical Indicators 4/12,* NSW Parliamentary Research Service. Download PDF.

biodiversity decline then we have to recognise and plan for some lost development opportunities. It would also be useful to also consider this question in the converse - to what extent have development opportunities and/or poor land management practices led to losses in biodiversity?

Some impacts cannot be offset. What are they? Are these appropriately addressed in approval systems? What is the relevance of social and economic benefits of projects in considering these impacts?

We agree that not all impacts can be offset, and recognise that the current planning framework has failed to provide adequate protection in these circumstances.

In particular we note that:

- The planning system fails to provide absolute protection for critical habitat
- Strategic Regional Land Use Maps have failed to identify and protect high conservation areas
- Biodiversity offsetting schemes do not meet best practice. In particular the failure to require strict "like for like" offsetting has resulted in approvals where impacts have not been or cannot be adequately offset.
- We are strongly opposed to the provisions in the Mining SEPP that makes the economic significance of a resource as the primary consideration for decision makers, above social and environmental considerations.

How can offsets be more strategically located?

We do not consider the location of offsets to be a primary consideration. Rather, offsets should be identified having regard to fundamental principles of offsetting, as outlined above. In particular, offsets must adhere to the "like for like" principle.

We recognise that OEH is working on a trial BIOmap project to identify priority investment areas where the protection and management of native vegetation can contribute the greatest benefit to biodiversity. We understand that there is potential for this mapping to be used in conjunction with the NSW Biodiversity Offset Fund for Major Projects. Again we emphasise that any offsetting policy must be consistent with best practice principles, including the "like for like" principle.

Are there areas currently regulated that would be better left to self-regulatory codes of practice or accreditation schemes?

No, in our experience, self-regulatory codes of practice or accreditation schemes do not deliver positive environmental outcomes. A recent example of how inadvertent impacts can be caused by the introduction of a poorly designed self-assessable code is the Rural Fire Service 10/50 vegetation clearing Code of Practice. Developed to allow vegetation clearing to reduce the risk of bush fire, due to an approach that lacked strategy and with no stakeholder consultation, this code overrides biodiversity legislation including the *Native*

Vegetation Act 2003, *Threatened Species Conservation Act 1995* and *National Parks and Wildlife Act 1974*. It overrides State Environmental Planning Policies (SEPP14 Coastal Wetlands, SEPP 26 Littoral Rainforests and SEPP 44 Koala Habitat) and local planning instruments such as Development Control Plans and Tree Preservation Orders, and other protection measures used by Councils such as covenants. Its introduction contradicts all previous bush fire planning that is evidence based and has allowed environmental damage to occur under the guise of bush fire protection, but which collected data shows is actually for other purposes.

For further information, please consider our recent submissions 10/50 Vegetation Clearing Code of Practice:

- EDO Submission on Draft 10/50 Vegetation Clearing Code of Practice. Download PDF.

- NCC Submission to Draft 10/50 Vegetation Clearing Code of Practice. Download PDF.

Our submissions on the draft Native Vegetation Self-Assessable Codes of Practice also highlight our broad concerns with self-regulatory schemes:

- EDO Submission on the Draft Landholder Guides and Draft Orders to implement self-assessable codes under the Native Vegetation Regulation 2013. Download PDF.

- NCC/TEC/NPA/TWS/WWF Submission on the Native Vegetation Draft Self-Assessable Codes of Practice. Download PDF.

Theme 5: Wildlife management

Have the threats to biodiversity posed by: (a) people taking plants and animals from the wild, (b) feral animals and weeds; and (c) illegally imported species been effectively managed?

The *National Parks and Wildlife Act 1974* includes significant penalties for the unauthorised collection of native plants and animals from the wild. It also includes a licensing regime for keeping and trading captive bred native animals; movement of native animals across state borders; and research into native plants and animals.

In the absence of detailed data on the illegal collection of plants and animals from the wild it is difficult to determine the precise extent to which illegal collection is a threat to biodiversity. Nevertheless, Illegal collection is a serious threat, particularly where it acts in concert with other threats to increase extinction risk. For example the Broad-headed Snake (*Hoplocephalus bungaroides*) is threatened by illegal collection but also by removal of bushrock and hollow bearing trees from sandstone escarpment areas[128].

For species not presently at risk of extinction, illegal collection is unlikely on its own to constitute an extinction risk. It may; however, have significant negative impacts on biodiversity at a local scale.

Better managing the collection of plants and animals from the wild is essentially a question of providing sufficient resources for monitoring and enforcement activities. In particular, better monitoring of habitat areas for species known to be collected illegally or areas where illegal collection is known or suspected to occur.

RECOMMENDATION 5.1: Increase detection and enforcement to combat illegal collection of native species from the wild. Focus efforts on species and areas known or suspected to be that target of illegal activities.

The threat posed by invasive plants and animals has not been effectively managed. This is evidenced by invasive species constituting the second greatest threat to biodiversity in NSW after habitat loss[129]. More resources are required to assess the threats posed by invasive species. Assessment of threats allows prioritisation of resources and control activities toward those species posing the greatest threats[130]. This should include improved pre-border and post-border risk assessment.

Pre-border risk seeks to identify and avoid the introduction of exotic species with invasive potential. Approval or rejection import permission should be consistent with precautionary principle i.e. importation should not be permitted unless species have been thoroughly assessed for their invasive risk. Resources should be devoted to identifying high risk species/species groups and high risk pathways of introduction. Recently developed

[128] OEH (2012) *Broad-headed Snake – profile*, http://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10413. Office of Environment & Heritage. Accessed 12 September 2014.
[129] Coutts-Smith, A.J. & Downey, P.O. (2006) Op. cit.
[130] Johnson, S. (2009) *NSW Weed Risk Management System. Background information*, Industry & Investment NSW, Orange.

techniques for analysing large data sets offer an efficient means of assessing and prioritising risks[131] [132].

Controlling the importation of exotic species is largely a matter within Federal Government jurisdiction. Nevertheless the opportunity exists for the NSW government to devote resources to identifying species and invasion pathways that pose a high risk for biodiversity in NSW and advocating that the Federal Government minimises these risks. This would be consistent with the recommendation of the NSW Natural Resources Commission for NSW to adopt a 'permitted list' approach to require risk assessment of proposed plant introductions and restrict entry to low risk species[133].

Post-border risk assessment identifies the risks posed by already naturalised exotic species. It allows resources to be directed to controlling exotic species that pose the highest risk of invasive spread and negative impacts. This is particularly valuable for new and emerging species where directing control efforts toward highest risk species offers the greatest benefits for native biodiversity and agriculture[134] [135]. For example a recent assessment of the risks posed by 146 potential weeds of conservation lands in NSW has been used to determine management priorities and maximise conservation benefits[136].

RECOMMENDATION 5.2: Increase resources for pre- and post-border risk assessment to identify high risk species and invasion pathways; and prioritise control efforts to achieve maximum biodiversity benefits.

Despite the clear threat weeds pose to biodiversity, importation and sale of many plant species known or suspected to be invasive remains permitted[137] [138].

RECOMMENDATION 5.3: Prohibit the importation and sale in NSW of plant species known or suspected to constitute an invasive risk.

Consideration of biosecurity risks to native species should also include the threat posed by imported pathogens. Amphibian Chytrid Fungus has contributed to widespread amphibian declines throughout NSW and Australia. Myrtle Rust and *Phytophthora cinnamomi* pose serious threats to native flora in NSW. The reptile diseases ophidian paramyxovirus (OPMV)

---

[131] Morin, L., Paini, D.R. & Randall, R.P. (2013) Can Global Weed Assemblages Be Used to Predict Future Weeds, *Plos One*, 8.

[132] Worner, S.P., Gevrey, M, Eschen, R., Kenis, M., Paini, D., Singh, S., Suiter, K. & Watts, M. J. (2013) Prioritizing the risk of plant pests by clustering methods; self-organising maps, k-means and hierarchical clustering, *Neobiota*, 18, 83-102.

[133] Booth, C & Cox, A. (2014) At the mercy of weeds, feral animals and other invaders, *Nature NSW*, 58, 30-31.

[134] Auld, B.A. & Johnson, S.B. (2014) Online Weed Risk Management Database for New and Emerging Weeds. *Proceedings of the 19th Australasian Weeds Conference*, CAWS.

[135] Blood, K. & James, R. (2014) The New Invasive Plants and Animal (NIPAA) project: managing invasive plants at the early stage of invasion on public land in Victoria. *Proceedings of the 19th Australasian Weeds Conference*, CAWS.

[136] Hamilton, M.A., Cherry, H., Martin, L.J., Turner, P.T., & Johnson, S.B. (2014) Using Weed Risk Assessments to inform on-ground action for new and emerging weeds in New South Wales. *Proceedings of the 19th Australasian Weeds Conference*, CAWS.

[137] Groves, R.H., Boden, R. & Lonsdale, W.M. 2005. *Jumping the Garden Fence: Invasive Garden Plants in Australia and their environmental and agricultural impacts.* CSIRO report prepared for WWF-Australia. WWF-Australia, Sydney.

[138] Phillips, M.L. (2013) *Plant life history and the naturalisation to invasion pathway*. PhD Thesis, University of Technology Sydney.

and inclusion body disease (IBD) have both been detected in captive reptiles in NSW[139] and could have devastating impacts should they spread to wild populations[140].

Ongoing research and control efforts are need to limit the spread and impact of these pathogens. Stronger vigilance is also needed to minimise the risks of introducing new pathogens.

RECOMMENDATION 5.4: The Biodiversity Legislation Review should consider the recently proposed framework for biosecurity legislation in NSW which recommends legislative tools and powers required to manage pests, diseases weeds and contaminants in NSW. The framework should be used to form the basis of the NSW Biosecurity Act, which will support the nationally agreed principle that biosecurity is a shared responsibility.

Illegally imported species represent a dual threat to native species. Illegally imported species may naturalise and ultimately become invasive and displace native species. They may also act as vectors for the introduction of pathogens harmful to native species. For example, reptile diseases OPMV and IBD are not endemic to Australia and are likely to have been introduced as result of increased illegal importation of reptiles in recent years[141]. Illegal release of captive reptiles (both native and exotic) poses a high risk of introducing these diseases to wild populations.

The release of exotic species legally imported into Australia also represents a significant threat biodiversity. For example naturalised populations of the Smooth Newt (*Lissotriton vulgaris*) have been recorded In Victoria. This species is native to Europe and was legally imported and traded in Victoria until 1997. Naturalised populations are thus likely to be derived from the escape or release of captive animals. The Smooth Newt represents a significant threat to native fauna due to risk of competition with native amphibians for food and habitat; predation on native invertebrates as well as the eggs and larva of native fish and amphibians; spread of pathogens; and the effects of toxic skin secretions on native predators[142, 143]

Existing NSW and Commonwealth laws provide serious criminal penalties for illegal importation and possession of exotic species, as well as the illegal release of captive animals into the wild. Addressing the threat posed by illegal importation of exotic species is thus a question of resourcing and enforcement. We acknowledge that enforcement of import restrictions is largely a matter outside the jurisdiction of the NSW Government. Nevertheless, additional resources should be devoted to detecting the importation, possession and release of exotic species in NSW.

RECOMMENDATION 5.5: Increase detection and enforcement activities to combat illegal importation, possession and release of exotic species in NSW.

---

[139] NSW Department of Environment and Conservation (2004). *Hygiene protocol for the control of disease in captive snakes.* NSW Department of Environment and Conservation, Hurstville.
[140] Ibid.
[141] Ibid.
[142] Tingley, R., Weeks, A.R., Smart, A.S., van Rooyen, A.R., Woolnough, A.P. & McCarthy, M.A. (In press) European newts establish in Australia, marking the arrival of a new amphibian order, *Biological Invasions*.
[143] DEPI (2014) *Smooth newt*, http://www.depi.vic.gov.au/agriculture-and-food/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/smooth-newt. Department of Environment and Primary Industries, Victoria. Accessed 12 September 2014.

Has the NPW Act and the supporting policy framework led to a positive change in the welfare of native animals (captive and free-living)? What role if any should the government have in ensuring the welfare of individual native animals – particularly where there are already stand-alone welfare laws such as the Prevention of Cruelty to Animals Act 1979?

By controlling the destruction, collection from the wild, captive husbandry and trade of native animals the *National Parks and Wildlife Act 1974* offers considerable benefits for both native and free-living captive animals.

RECOMMENDATION 5.6: Maintain current provisions of the *National Parks and Wildlife Act 1974* controlling the destruction, collection from the wild, captive husbandry and trade of native animals.

By far the most important role that that government can play in protecting the welfare of individual animals is by protecting the habitat on which they depend and addressing threats to their ongoing survival.

Clearing native vegetation causes death to native animals through injury, starvation and competition with individuals of the same and other species for reduced resources. It also causes degradation of remaining habitat through weed invasion, isolation and fragmentation[144]. By controlling broadscale land clearing in NSW the *Native Vegetation Act 2003* is estimated to have prevented the death of 53,000 native mammals each year since the Act came into effect[145]. Despite this success about 15,730 hectares of remnant bushland is still cleared annually in NSW for conversion to agriculture or development resulting in the deaths of over 320,000 mammals in NSW each year[146]. This continued clearing is due to continued exercise of grandfathered approvals under the previous ineffective legislation, exemptions under current legislation and illegal clearing, although it is unknown which of these categories contribute the most[147]. Clearly, grandfathered approvals need to be bought out, exemptions re-examined and illegal clearing reduced by aggressive compliance action.

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

[144] Taylor, M.F.J. & Dickman, C.R. (2014) *NSW clearing ban saves native animals*. WWF-Australia, Sydney.
[145] Ibid.
[146] Ibid.
[147] Ibid.

RECOMMENDATION 5.7: Retain and *strengthen* protection of native vegetation and habitat under the *Native Vegetation Act 2003, Threatened Species Conservation Act 1995* and *Environmental Planning and Assessment Act 1979.* Buy out grandfathered clearing approvals and limit exemptions. Increase resources for compliance activities and prosecution of illegal clearing and other development.

Are the provisions for marine mammals effective?

Current provisions for marine mammals in NSW are appropriate and provide a high level of protection. There are, however, problems with non-compliance. In particular, vessels and individuals encroaching upon regulated distances and causing disruption and stress to marine mammals.

A recent study of the Sydney whale watching industry showed that commercial operator compliance varied from 36.8% to 95.8%, depending on the whale watching regulation considered[148]. At present, there is little or no enforcement of the whale watching regulations and the only penalties that apply to commercial operators doing the wrong thing are those that apply more broadly.

RECOMMENDATION 5.8: Current protections for marine mammals should be supported with improved compliance and enforcement.

Is there currently appropriate regulation for the sustainable use and trade of wildlife?

See comments above in relation to current licencing regimes. Present frameworks provide a regime for licencing the use and trade of wildlife. Improving management in this area is essentially a question of providing sufficient resources for monitoring and enforcement activities.

[148] Kessler and Harcourt (2013) Whale watching regulation compliance trends and the implications for management off Sydney, Australia *Marine Policy* 42: 14-19.

Theme 6: Information provisions

What information should be generated about the different kinds of value (for example monetary and intrinsic value) of biodiversity and other natural assets in NSW?

Debates about protecting biodiversity are often framed in terms of the 'cost' of protecting species and habitats. In doing so, they ignore the value of 'ecosystem services' provided by healthy ecosystems and biodiversity.

Equally, assessment of proposed development often focuses on likely environmental impacts and projected economic benefits of approval. Assessment is thus focused on a perceived 'trade-off' between protecting biodiversity and economic prosperity. The economic impact of eroding ecosystem services is rarely considered in development assessment. Development assessment is thus critically flawed and biased toward sacrificing biodiversity for improperly calculated economic gain.

Ecosystem services provided by healthy biodiversity include clean air, water, health soils, pollination and nutrient cycling[149]. These services support public health, agricultural productivity and industries reliant on healthy ecosystems such as tourism[150]. At a global scale the value of ecosystem has been estimated to be $US125 - 145 trillion per year. However; between 1997 and 2007 there has been an estimated loss of $US4.3 – 20.2 trillion in ecosystem services as a result of land use change[151].

In compiling this submission we were unable to find detailed data on the economic value of ecosystem services in NSW or cost in terms of services lost due to biodiversity decline. The debate about NSW biodiversity legislation, which led to the present review, has thus been based on incomplete information and flawed assumptions. We submit that any review of biodiversity legislation should include a full assessment of the value of ecosystem services provided by maintaining biodiversity in NSW. The review process should therefore be lengthened to enable this data to be collected and the legislation reviewed in proper context.

RECOMMENDATION 6.1: Extend the timeframe for the Biodiversity Legislation Review to enable data to be compiled on the value of ecosystem services in NSW.

What type, quality and frequency of data should be collected about biodiversity? Who should be responsible for such a system?

Data currently collected on biodiversity in NSW is vital and should be maintained; however the lack of detailed data on the value of protecting biodiversity in NSW is a serious

[149] EPA (2012) Op. cit.
[150] Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-Being: Synthesis*. Island Press, Washington, DC.
[151] Costanza, R., de Groot, R., Sutton, P., van der Ploeg, S., Anderson, S.J., Kubiszewski, I, Farber, S. & Turner, R.K. (2014) Changes in the global value of ecosystem services. *Global Environmental Change*, 26, 152-158.

deficiency. While the precise value of ecosystem services protected by NSW biodiversity legislation is difficult to quantify it is undoubtedly substantial.

The role of the *Native Vegetation Act 2003* in combatting major threats to agriculture and industry such as soil degradation and climate change is illustrative. As discussed in response to Theme 2, by curtailing land clearing the *Native Vegetation Act 2003* has made a major contribution to preserving the value and productivity of agricultural land as well as avoiding costs in combating soil erosion and salinisation. It has played a vital role in Australia's contribution to combatting climate change and protecting agricultural systems from more severe droughts and extreme temperatures.

Collecting data on the value of economic value of biodiversity would improve the quality of debate and decision making on planning and natural resource management. We suggest that the NSW Natural Resources Commission be responsible for coordinating the collection and publication of this data.

Our survey (**Appendix 1**) found strong support (78% of 938 respondents) for collecting data on the value of biodiversity. There was also strong support (80%) for collecting data on the conservation values of private land. With much of the current debate surrounding the operation of biodiversity legislation on private land, improved data in this area should be made a high priority.

RECOMMENDATION 6.2: Retain all current sources of biodiversity data.

RECOMMENDATION 6.3: Improve collection of data on the conservation values of private land.

RECOMMENDATION 6.4: Require the NSW Natural Resources Commission to collect and publish data on the value of clean air, water, health soils, pollination, nutrient cycling and climate conservation services provided by healthy biodiversity.

Is current data about biodiversity highly credible and readily accessible? If not, how can quality and access be improved?

There is a diverse array of biodiversity collected and published by government and non-government organisations in NSW. Resources such as vegetation mapping, BioNet, Atlas of Living Australia, PlantNet, threatened species profiles, Birdlife Australia etc provide vital, high data on NSW biodiversity.

With more than half of survey respondents indicating that they had accessed these resources (**Appendix 1**) their vital role in providing biodiversity data is clear. There is, however, scope for improvement and the diverse range of information sources may be creating difficulties in accessing data. While 41% of survey respondents who had accessed data (852 respondents) agreed or somewhat agreed that the data is readily accessible and 43% agreed or somewhat agreed that the data is highly credible the remainder either disagreed or neither agreed or disagreed.

Concerns expressed by respondents included variability in the accuracy of information (including GIS data), lack of fine-scale information needed to perform assessments of smaller areas and the need to perform multiple searches to find all necessary data. There are also delays in occurrence records being entered into relevant databases.

The need to restrict access to some sensitive data is acknowledged. For example, occurrence data for threatened species which are targeted for illegal collection such as the Broad-headed Snake (*Hoplocephalus bungaroides*). However there is scope for providing improved access to detailed information needed for small-scale environmental assessments.

Given the vital role of biodiversity data in determining conservation priorities and assessing the impacts of proposed developments, the shortcomings identified above should be rectified as a matter of urgency. Creating a single 'one-stop shop' website detailing all available sources of biodiversity data and providing links to them would improve access to biodiversity data.

RECOMMENDATION 6.5: Improve resources for the collection, accuracy and publication of biodiversity data. Create a 'one-stop shop' webpage approach detailing all available sources of data and direct links to them.

How effective is the threatened species listing process (including the listing of key threatening processes) in guiding subsequent conservation action?

The *Threatened Species Conservation Act 1995* has played a vital role in protecting threatened species in NSW. Despite this contribution biodiversity continues to decline. This may be attributed to shortcomings of the Act and the failure of the planning legislation to provide adequate protection for species, populations and ecological communities listed as threatened under the *Threatened Species Conservation Act*.

Recommendations for better integrating threatened species protection into planning decisions are provided in our responses to Themes 3 and 4. Below are recommendations for improving the effectiveness of the *Threatened Species Conservation Act*.

A review of threatened species laws throughout Australia[152] identified the strengths and weaknesses of the NSW *Threatened Species Conservation Act 1995.* Significantly the review found that the NSW Act (and all equivalent Acts in other Australian jurisdictions) did not meet the requirements of best practice threatened species legislation.

Strengths of the Act identified in the review include:

- The ability of any member of the public to make a nomination for listing. This ensures the role of the community in identifying promoting biodiversity. Removal of this community role may result in nomination of species being influenced by political and economic interests.

[152] ANEDO (2014) Op. cit.

- The independence of the NSW Scientific Committee in making listing decisions and taking into account scientific considerations when making determinations. While social and economic factors may be considered in subsequent planning decisions determinations of threat status should be based solely on scientific information. Removing this requirement would expose listing decisions to interference and destroy the credibility of the listing process.
- Listing of endangered ecological communities which protects multiple species and the integrity of ecosystems.

A further strength is the ability to list individual populations as threatened with extinction even if the species is otherwise secure throughout NSW[153]. This feature is unique to NSW Commonwealth and other states' legislation do not recognize threatened populations[154].

Threatened population listing is crucial because individual populations may play vital roles in the functioning of ecosystems at a local scale. Extinction of these populations may have cascading effects on ecosystem function and biodiversity. Furthermore, threatened populations may represent biologically distinct taxa such as unique species, sub-species and races that have not yet been described due to limitations of knowledge. If threatened populations are viewed as expendable because of a species' overall secure status the result could be extinction of unique taxa before they have been formally described. As knowledge increases and molecular techniques are applied to taxonomy, the number of previously 'cryptic' taxa being described continues to climb. For example, in 1992 there were 951 reptile and amphibian species described in Australia[155]. By 2014 this number had risen to 1218[156].

The recognition that individual populations may constitute biologically distinct taxa is consistent with the concept of Evolutionary Significant Units (ESUs) under the United States *Endangered Species Act of 1973*. Under the Act a sub-species, race or population may be listed as an endangered ESU even if the species is otherwise secure overall[157].

RECOMMENDATION 6.6: Retain the ability of any member of the public make nominations for listing under the *Threatened Species Conservation Act 1995*. Preserve the independence of the NSW Scientific Committee. Maintain scientific information as the only criteria to be used in making determinations. Retain listing of endangered ecological communities and threatened populations.

Weaknesses of the *Threatened Species Conservation Act 1995* include[158]:

- Inadequate representation of invertebrates and fungi despite the fact that is likely that that many more are threatened with extinction than those currently listed[159]. This reflects lack of data and taxonomic clarity for these taxa.

[153] Ibid.
[154] Ibid.
[155] Cogger, H.G. (1992) *Reptiles and Amphibians of Australia,* 5th Ed. Reed, Sydney.
[156] Cogger, H.G. (2014) *Reptiles and Amphibians of Australia, 7*th Ed. CSIRO Publishing, Collingwood.
[157] *Endangered Species Act of 1973* http://www.nmfs.noaa.gov/pr/pdfs/laws/esa.pdf accessed 12 September 2014.
[158] ANEDO (2014) Op. cit.

- Separate processes for listing marine and aquatic fish, invertebrates and plants under the *Fisheries Management Act 1997*. This creates a conflict of interest with the Act, Minister and agency responsible for managing commercial and recreational harvesting also responsible for conservation.
- Lack of coordination with Commonwealth threatened species listings and the *Environment Protection and Biodiversity Conservation Act 1999*. Species listed as threatened at the Commonwealth level are not automatically listed under NSW legislation. Species endemic to NSW that are listed under the *Threatened Species Conservation Act 1995* are not automatically listed nationally. Creating direct 'cross listing' procedures would reduce duplication of effort and close gaps in state and national lists.
- Failure to adequately address the impacts of climate change. Listing decisions are based on current conservation status. Species that are currently secure but are likely to be threatened by climate change are not included. Identifying and listing these species would aid biodiversity conservation by allowing critical habitat needed to provide 'climate refugia' and accommodate range shifts to be protected.

The strengths and weakness of the listing process are reflected in the mixed views of survey respondents on its effectiveness. While 30% agreed to some extent that the process was effective, 35% did not and 36% neither agreed nor disagreed (**Appendix 1**).

RECOMMENDATION 6.7: Address shortcomings of the listing process by providing resources to better identify threatened invertebrates and fungi; include aquatic and marine species; create automatic 'cross linking' between state and federal lists; and include assessment of the threat of climate change in making determinations.

Should threatened species listing decisions be decoupled from decisions on conservation actions (including recovery planning) and regulatory processes?

We see no logical reason to divorce listing decisions from decisions on conservation actions and regulatory processes. On the contrary, the listing process provides vital information for informing conservation decisions.

A serious deficiency of current processes is that recovery plans are no longer mandatory for all listed species, populations and ecological communities[160]. Recovery plans are vital in identifying and addressing key threats to survival. They also identify critical habitat that must be preserved to prevent extinction. In the absence of a recovery plan listing a species, population or ecological community under the *Threatened Species Conservation Act 1995* simply catalogues its extinction risk.

We recognise the challenges posed by budgetary and resource limitations in developing comprehensive recovery plans. Where possible multi-species and region-wide plans should be developed to maximise efficiency and the number of species to benefit. There may also

[159] Possingham, H.P., Andelman, S.J., Burgman, M.A., Master, L.L. & Keith, D.A. (2002) Limits to the use of threatened species lists, *Trends in Ecology and Evolution*, 17, 503-507.
[160] ANEDO (1992) Op. cit.

be benefit in simplifying recovery plans for some species to focus more tightly on achievable recovery actions and outcomes[161]. As a minimum recovery plans should focus on stopping threatening processes and protecting critical habitat. The approach adopted in the 'Saving Our Species' project to identify 'site-managed', 'landscape-managed', 'iconic', 'data-deficient', 'partnership' and 'keep-watch species' [162] also offers benefits in determining the focus of recovery plans.

RECOMMENDATION 6.8: Make development of recovery plans within 4 years of listing mandatory. The NSW Threatened Species Priority Action Statement should be used to determine priorities for developing detailed, multi-species plans region-wide plans, and single species plans.

To what extent, if any, does having national and state lists of threatened species cause confusion, regulatory burden or duplication of conservation effort? How could national and state lists be rationalised?

We do not believe that having national and state threatened species lists causes undue confusion or duplication. Furthermore there is considerable value in considering threat status at both national and state level. As noted above in relation to threatened populations a threatened NSW population of a species which is secure at the national level may actually represent a biologically distinct taxon. Removing state listing for this species on the basis that it is secure nationally may in fact expose a unique taxon to increased extinction risk.

As noted above, there would be value in better aligning national and state lists with automatic cross-linking mechanisms. This would reduce duplication and close gaps between national and state lists.

RECOMMENDATION 6.9: Maintain national and state listing process. Develop automatic 'cross linking' mechanisms.

To what extent is the identification of critical habitat an effective tool for biodiversity conservation? Should we list critical habitat for more species where relevant and useful?

Critical habitat listing is a vital tool for identifying and protecting the habitat of threatened species; however it is rarely used with only four areas currently declared[163]

A major problem is the differences in listing processes for threatened species and critical habitat. Critical habitat determinations are made by the Minister and include social and economic factors. Political and economic considerations are thus able to usurp scientific information[164]. A further deficiency is the failure to include likely future habitat that species

[161] Ibid.
[162] OEH (2014c). *Saving our species*, http://www.environment.nsw.gov.au/savingourspecies/about.htm. Accessed 13 September 2014, Office of Environment and Heritage.
[163] ANEDO (2014) Op. cit.
[164] Ibid.

may require in order to adapt to climate change[165]. Interestingly, the Queensland *Nature Conservation Act 1992* provides for critical habitat to include "land that is considered essential for the conservation of protected wildlife, even though the area is not presently occupied by the wildlife"[166].

RECOMMENDATION 6.10: Critical habitat determinations should be based solely on scientific information and include likely future habitat for threatened species.

Should private conservation data be collected and if so how?

Private conservation data represents an underutilised source of information on biodiversity. Organisations such as Field Naturalist Clubs, National Parks Associations and amateur herpetological and ornithological societies conduct surveys and citizen science projects such as the 'National Koala Count' and 'Who's Living on my Land?'. Citizen science is a very important source of data about biodiversity. Data and insights gained through the efforts of citizen scientists can be as valuable as that obtained by scientists working in academia, natural history collections, government agencies and business. Harnessing the efforts of the thousands of people participating in citizen science will enhance the range and depth of data available to help inform land management planning on all tenures.

These projects offer a source of data on abundance and distribution of native species and a means of detecting range shifts in response to climate change. The large volunteer component of these programs allows them to be conducted over a range and scope that may be impractical or cost prohibitive for governments, universities etc. Citizen science projects thus provide a vital adjunct to professionally conducted research.

Data collected by volunteer wildlife rescue organisations may also provide important early detection of range shifts in response to climate change. It can also provide information on the wildlife displacement and mortality due to development and habitat disturbance as well as the impacts of pathogens and toxins. For example the Wildlife Information and Rescue Service (WIRES) was called upon to respond to the death and illness of hundreds of native birds exposed to pesticides near Dubbo in March 2014[167].

These important sources of data should be harnessed by providing increased support for citizen science projects and fostering collaborations between amateur and professional research.

RECOMMENDATION 6.11: Increase support for collection of private conservation data and 'citizen science' programs. Provide funding support to foster collaborations between amateur societies, volunteer rescue organisations, research institutions and government agencies.

[165] Ibid.
[166] Ibid.
[167] WIRES (2014) *More native birds exposed to lethal pesticides in Dubbo*. http://www.wires.org.au/media/media-centre/389-more-native-birds-exposed-to-lethal-pesticides-in-dubbo.html. Accessed 12 September 2014.

Appendix 1: Stakeholder Survey for Biodiversity Legislation Review

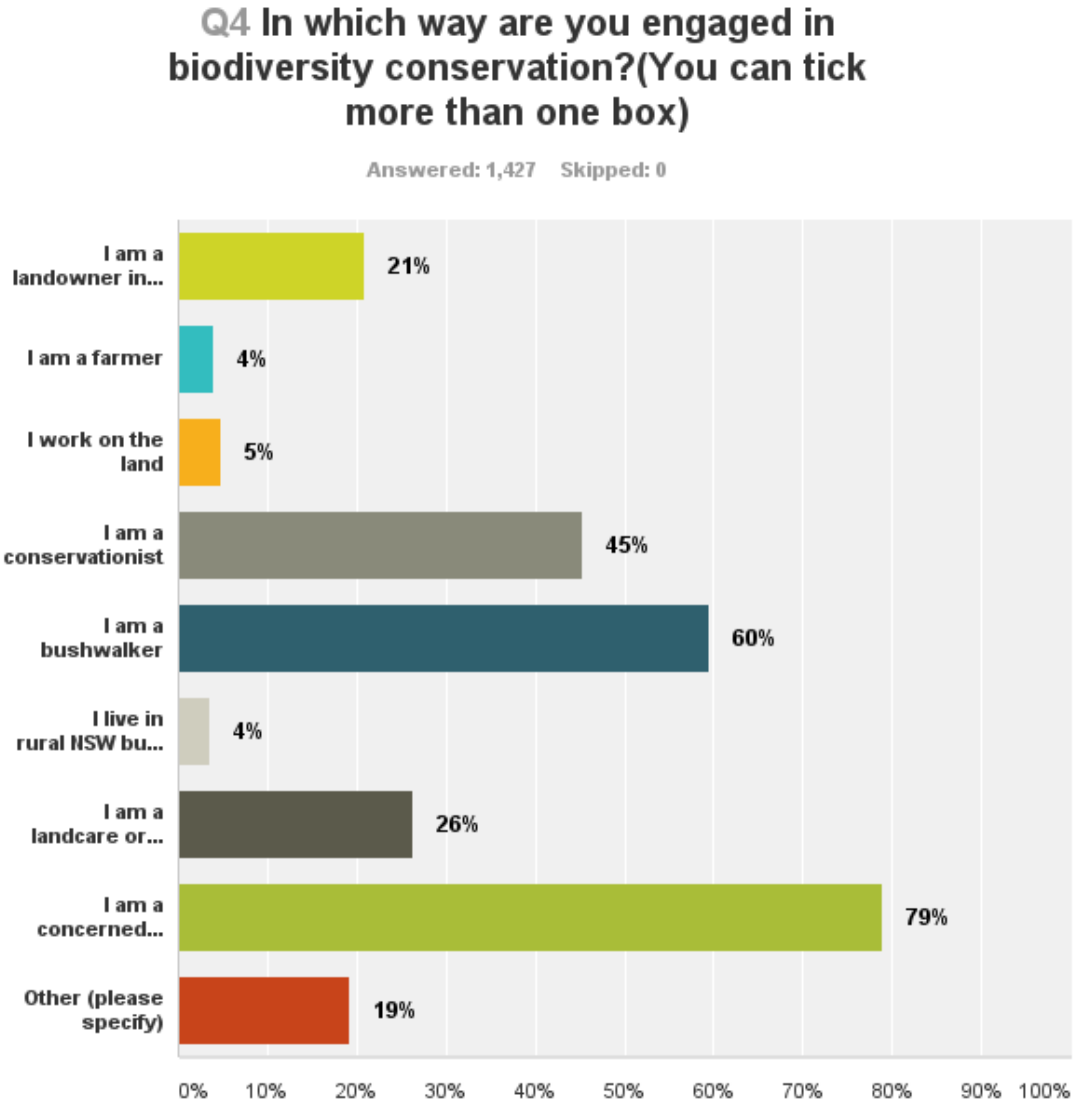
Survey Analysis

General information:

The survey covered several subjects, like introduction, general, legislation, information provision, desirables and solutions, experience and the last questions were for landowners only. The survey was available online from Wednesday 3 September 2014 until Sunday 14 September 2014. 1427 respondents provided their input. Respondents who answered that they had no experience with the biodiversity conservation legislation were automatically forwarded to the next subject. Not all the questions were compulsory and not all respondents filled out the survey completely.

74% of the respondents gave their postcode. It shows that 94.5% of these respondents are living in New South Wales.

Post code	%	Area
>2000	24.9%	NSW
>2100	13.5%	NSW
>2200	11.8%	NSW
>2300	6.0%	NSW
>2400	12.8%	NSW
>2500	14.6%	NSW
>2600 - 2618	1.3%	ACT
>2618	2%	NSW
>2700	7.1%	NSW
>2800	1.8%	NSW
>2900	0.4%	ACT
>3000	1.6%	Victoria
>4000	1.9%	Queensland
>5000	0.4%	South Australia

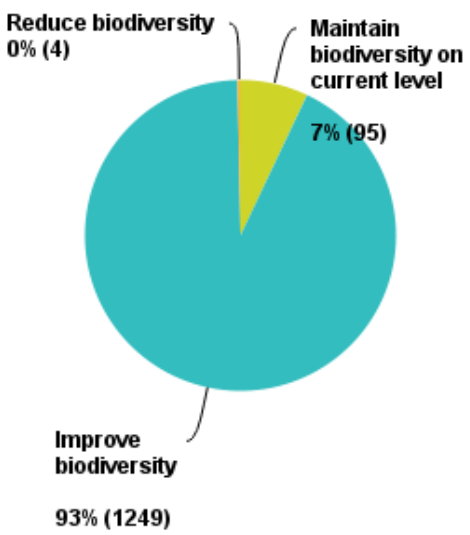


Other answers: respondents who are engaged in another way, the largest group is involved in wildlife protection 16%, others are WIRES members, hunters, ecologists etc

Answer Options	Response Percent
I am a landowner in regional NSW	21%
I am a farmers	4%
I work on the land	5%
I am a conservationist	45%
I am a bushwalker	60%
I live in rural NSW but am not engaged in any of the above	4%
I am a landcare or bush regeneration volunteer	26%
I am a concerned citizen	79%
Other	19%

Q5 Protecting biodiversity means looking after native animals and plants, and the places they live.What do you think the goal for biodiversity conservation should be?

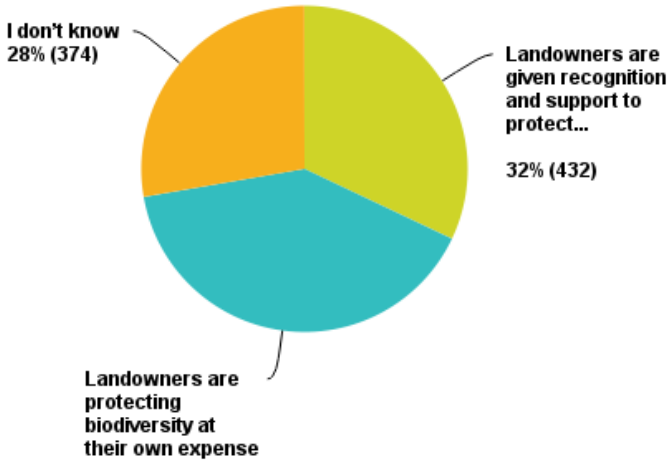
Answered: 1,348 Skipped: 79



From the 4 respondents who answered biodiversity conservation should be reduced, 2 are landowners. All 4 answered that landowners are protecting biodiversity at their own expense.

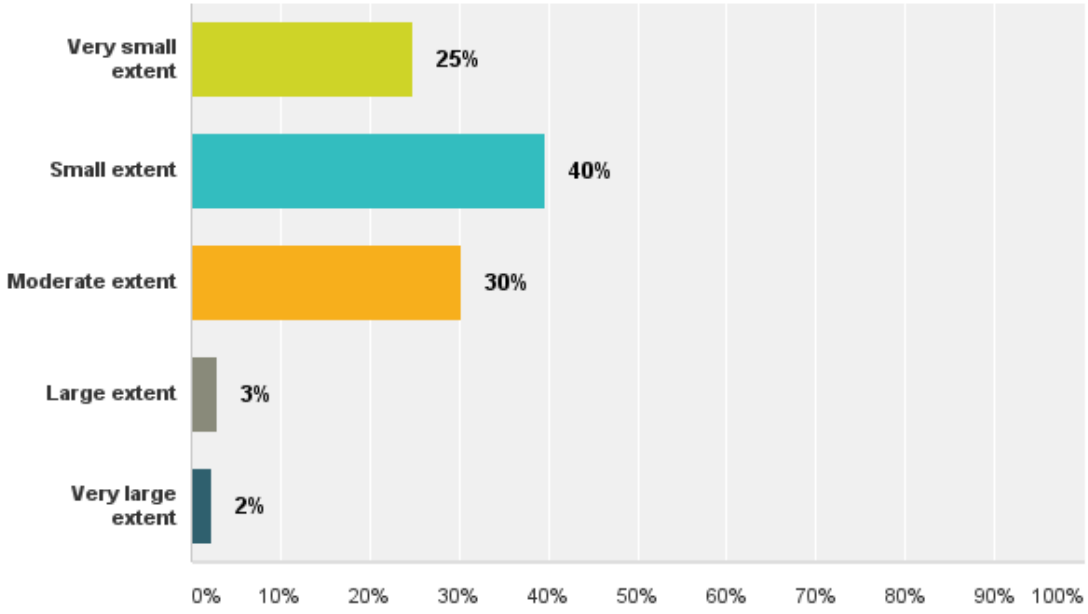
Q6 Which of the following statements is closest to your opinion?

Answered: 1,348 Skipped: 79



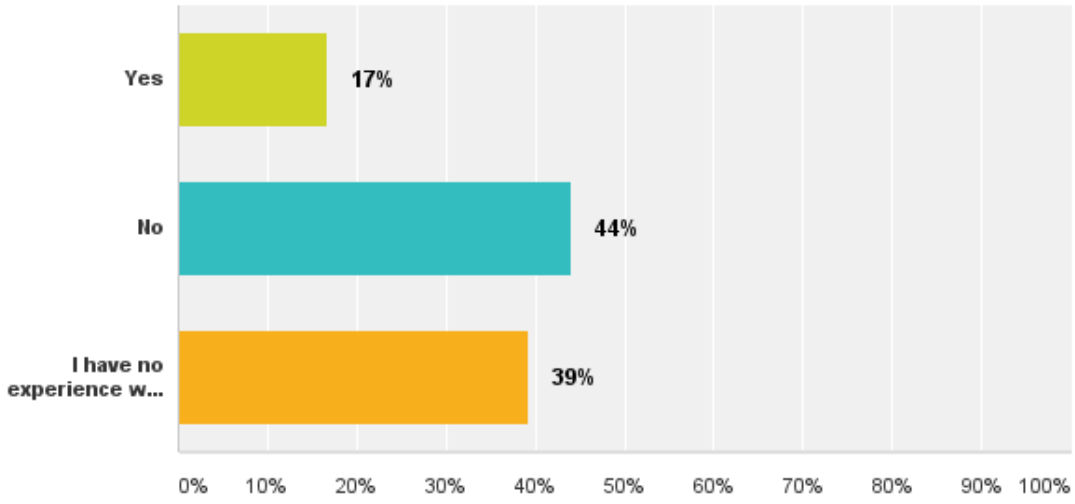
Q7 Objectives of current biodiversity conservation legislation are to improve nature conservation, prevent the extinction and promote the recovery of threatened species, prevent broadscale clearing of native vegetation.To what extent are the current objectives met in your opinion?

Answered: 1,348 Skipped: 79



Q8 Do you think the current framework is effective in general?

Answered: 1,330 Skipped: 97



Questions 9 and 10 are only answered by the respondents who think the current framework is effective in general.

Q9 Can you describe at least one positive experience with current biodiversity conservation legislation?

Answered: 124 Skipped: 1,303

20% Of the respondents gave answers related to the protection of land and 16% of the answers included the protection of threatened species. National parks were mentioned in 9% of the answers, while 10% of the respondents wrote about the protection or improvement of habitat.

A few experiences:

NSW Threatened Species Conservation Act in association with listing under the EPBC Act enabled the community to prevent destruction of part of the largest remnant of **Blue Gum High Forest at St Ives**. The loss of Blue Gum High Forest along the railway line Hornsby - Asquith led to a offset which protected 0.5 hectare of the final 1 hectare to be developed. The other was protected by purchase by Ku-ring-gai Council with financial assistance from the community and funds from the Commonwealth under the National Reserve System. The one hectare adjoins a nature reserve under NP& W Act and Browns Forest (Council reserve now with a conservation agreement protecting it.)

Hornsby Council's Biodiversity strategy has enabled to work with landowners and help them to manage their land to protect flora and fauna. It has resulted in increased observation of native animals in our area including echidnas, brush turkeys and similar previously unseen animals. It is clear their numbers are increasing and that is a good thing.

I have a **conservation covenant** on 40 hectares of native vegetation on my property through NSW Nature Conservation Trust which is recorded on my title deeds. This has connectivity to World Heritage areas in the Border Ranges and forms part of the Great Eastern Ranges wildlife corridor which helps biodiversity adapt to changing climate conditions. Native forest and Threatened Species of plants and animals on my property are currently protected through the Native Vegetation Act 2003, Threatened Species Conservation Act 1995 and Nature Conservation Trust Act 2001 so it is important to improve environmental protection of these acts and not water them down to make clearing and development approvals faster.

A farmer on a neighbouring property who ring-barked and poisoned large areas of trees on his property, and those of neighbours, as well as adjacent roadsides, was visited by an **inspector**, with the result that this behaviour immediately ceased before more damage could be inflicted.

A small park in **Duffy's Forest** was maintained with its endemic vegetation (Duffy's Forest EEC) rather than being cleared totally because council had an obligation to protect it under the legislation.

We have a **VCA** (Voluntary Conservation Agreement) on our property. This means our conservation aims for the land are now on the land title, which enhances the future for conservation on the property. It also benefits us with reduced council rates, and some tax deductibility for the devaluation of the land when we placed the VCA on the property.

Big Scrub Landcare, of which I am President, was instrumental in having **lowland subtropical rainforest listed as endangered** under NSW legislation and as critically endangered under the EPBC Act. This helped us to raise more than $2 million in grants and a larger amount in landholder contributions over the past 15 years to care for and conserve the rich biodiversity of 96 remnants of lowland subtropical rainforest.

Has **prevented inappropriate coastal developments** in Batemans Bay and Broulee NSW which threatened endangered bird and marsupial species.

Q 10 Do you have any suggestions to make conservation legislation even more effective?

Answered: 127 Skipped: 1,300

In the view of 26 of the 127 respondents (20%), the current biodiversity conservation law should be better enforced and infringements prosecuted. Especially after illegal land clearing. At least 8% brought forward that the awareness of biodiversity values should be improved for the public as well as the landholders and farmers using education programs.

A few experiences:

Incorporation of tough sanctions and **proactive prosecution** of offenders by authorities and third parties including individuals via a conciliation first step and followed by the courts if no outcome is achieved via the conciliation process (similar to disability discrimination processes).

I very rarely hear anything, unless it is a logging issue, and the terrible decision to allow 'hunters' into our National Parks, announced on the news with relation to the environment and its protection. I think if conservation legislation was **better understood**, became part of general news with updates etc then we the people would become more aware of how it does actually affect us and flora and fauna of today and in the future.

Avoid dependence on, or promotion of, biodiversity **offsetting** unless it will achieve genuine like-for-like and "no net loss" results (which would probably happen fairly rarely).

Legislation to **ensure riparian vegetation** along creeks and rivers is protected and regenerated and stock and cattle are not allowed free access to waterways and have other access to water for drinking. Taranaki Regional Council, New Zealand, has legislation in place to do this (Taranaki State of the Environment Report) with benefits to local dairy farmers and healthy waterways and ecosystems.

Traditional views of landowners are such that biodiversity is the enemy of farming practice. Sound scientific studies have now shown that conservation farming (as opposed to conventional practice) can actually bring great economic benefits to farmers in the long term. This is a confronting concept for many but needs to be **communicated** widely and change in public opinion will ensue. Landowners and farmers must realise that in the long term, preserving the natural value of their land, retaining native vegetation and native fauna, reducing use of chemical treatments, etc, will benefit the ecosystem and will also benefit the productivity of their land. If the legislation is forced upon them without sound understanding of the benefits it can bring to their own enterprise, it will always be treated with hostility.

Some degree of **simplification** would be useful. If new legislation could bring together private land conservation, public land conservation, land restoration, market based mechanisms for biodiversity protection and penalties for activities that destroy our biodiversity then I believe this process is worth pursuing.

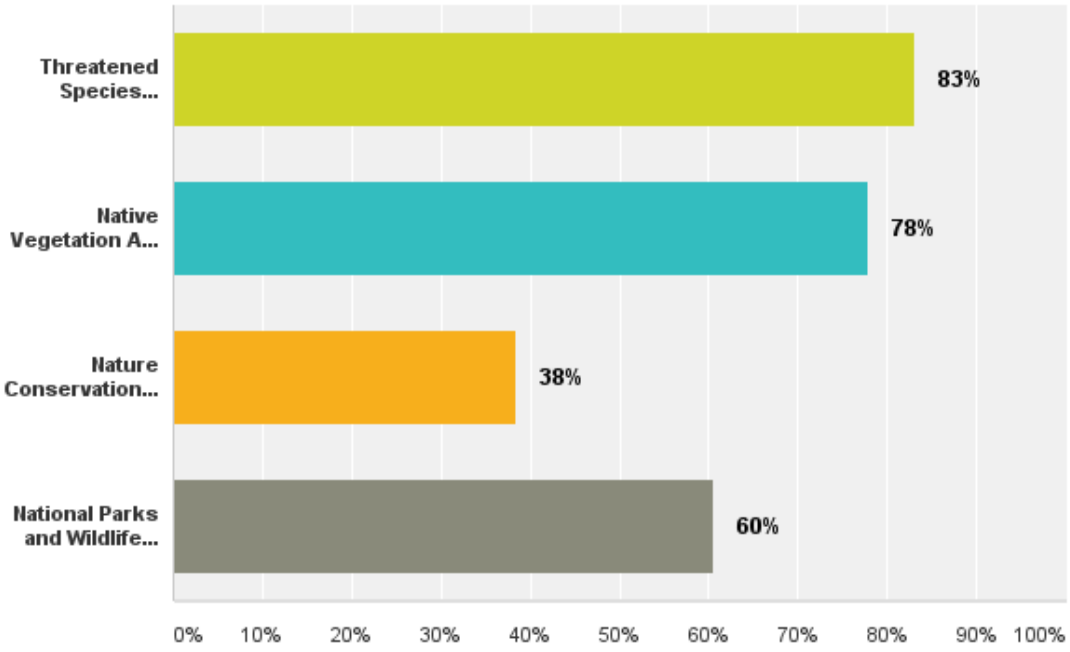
Famers and **landowners should be encouraged** to protect native vegetation on their property with the help of landcare and the Department of Primary Industries. They should be encouraged to increase their indigenous vegetation on their land to at least 20% in order to drought proof their land, improve their biodiversity, increase the fertility of their land and provide habitat for native animals and birds.

The practise of developers **arranging their own environmental impact assessments** must cease. These assessments must be done by independent bodies at arm's length from the process.

Questions 11, 12 and 13 are only answered by the respondents who think the current framework is not effective.

Q11 Please specify which (of the) Act(s) is not effective.(You can tick more than one box)

Answered: 448 Skipped: 979



Q12 Can you specify and explain which element(s) of the legislation do(es) not work?

Answered: 360 Skipped: 1,067

From the 360 respondents, 19% think that the legislation is not enforced well and there is lack of compliance. At least 15 respondents (4%) mention biobanking and offset legislation as an example of legislation that should be changed or taken out of the Native Vegetation Act.

One of the other subjects more often mentioned is the regulation of shooting (7%). People are rejecting against shooting in National Parks, others want clear regulation for the shooting to protect crop.

A few experiences:

The Threatened Species Conservation Act is undermined by **biobanking** which allows destruction of endangered ecological communities and habitats as well as death of threatened species and populations provided some protection of land occurs in exchange. This means that there is a net loss (often very significant) of endangered ecological communities and populations and habitats of threatened species. Recent changes to Government policy no longer require "like for like" conservation. This further undermines protection of some of the most endangered ecological communities and population, and habitats of threatened species as the land which could be conserved may protect less endangered ecological communities and habitats and threatened species and populations.

Biobanking is not working for Threatened Ecological Communities. You still lose 50% of the extant of the community that is being offset originally. Blue Gum High Forest is a classic example; there is hardly enough extant areas to offset when a patch is cleared. Or with Whitehaven Coal the 97% of the proposed offset does not match what is being cleared.

Offset areas should not be considered for sites containing threatened species, the areas are not afforded proper protection in perpetuity and not independently audited. The offset legislation doesn't prevent species becoming extinct.

ADI site (Australian Defence industries): On this land with endangered Cumberland woodland, live more than 170 species, including threatened species. Penrith Council planned the development of 5000 houses on this site. The **consultant, chosen by the Council**, was an entomologist and not a botanist. The outcome of the assessment conducted by the ecological consultant will suit the Council.

NP&WS Act :Failure to control feral pests and allowing **sporting shooters** access on pretext they will effectively help reduce feral animals when it is proven that only a long term comprehensive programme employing multiple methods over a wide area can work. Isolated shooting only scatters the pests over a wider area and cannot curb recovery of pest numbers.

Shooting in National parks is an abomination to both their sanctity and safety to users.

The current **SPOT5** (satellite) segmentation modelled **vegetation map** should not be used as a regulation under any new law because the mapping is highly unreliable. It is about 30-60% accurate and defined habitats for the region are missing and the map is not independently reviewed by a third party. Maguire et al (2012) already demonstrated another mapping method for the fine VCA types by using high resolution aerial imagery to map habitats accurately for planning and assessment.

What is currently missing are the resources to **enforce and maintain** the legislation. For example, species and communities are listed under the TSC Act, but only a few Recovery Plans are ever adequately developed, even fewer of these are funded so that actions are implemented, and follow-up monitoring of the success of recovery plans is almost non-existent. Much of the legislation becomes a "green-wash" exercise in providing the appearance of doing something to conserve biodiversity. I would add that staff in government agencies are genuinely trying to deal with this, but without adequate resources for staffing, almost zero research funding, and little provided in the way of funding for recovery plans, monitoring and enforcement, this is impossible.

Essentially the Native vegetation Act has a mandate to assist in the generation of income through working the land which may require the removal of vegetation. Conversely the TSC Act mandate is to retain biodiversity. The two acts do not have synergy and to give weigh to either essentially means the other act does not meet its objectives. The native vegetation act has **loop holes** in it where threatened species do not get protected through RAMA's. The disadvantage of the TSC Act is that it is enabled by the Environmental Planning and Assessment Act. It also has a subjective assessment of significance and this at times does not prove to be adequate in protecting important habitat and vegetation communities. The TSC Act also is potentially compromised through the planning process with Council and State Government making decisions on projects which at times is questionable about the true need versus the environment. Unfortunately the long term protection and outcomes of the environment seems to be the poor cousin of short term economic gains of development (and developer) leaving permanent and irreversible damage to ecosystems, corridors and fragmenting species.

Case study (1)

Xtrata Ravensworth coal mine expansion project in the Hunter Valley required $900,000 offset funds for Regent Honeyeater and Swift Parrot research/recovery programs and management of offsets (i.e. funding for Regent Honeyeater and Swift Parrot recovery actions in lieu of direct habitat offsets).

The provision of $900,000 funds was imposed as a condition of Federal approval for the Xtrata Ravensworth coal mine expansion project in the Hunter Valley.

The Environment Department (DSEWPaC) indicated that the funds should be directed to the implementation of actions in the Regent Honeyeater Recovery Plan, and would replace part of the next tranche of Recovery grants for the Recovery Team.

The company began discussions with BirdLife Australia to develop a plan to implement their offset conditions, but after more than a year stopped and switched to their consultant firm and ANU scientists to devise a new offset management plan. The Department advised revision of the new management plans and further consultation with members of the Recovery Team, but two years later no outcome has been announced, and there is no indication of funding being used for Regent Honeyeater recovery program actions. This shows the futility and failure of imposing biodiversity offsets conditions to protect threatened species and ecosystems from impacts of coalmines in the Hunter Valley.

There appears to be no way to enforce compliance with advice from DSEWPaC/Environment Department, or to investigate whether offset management plans comply with the EPBC Act, unless the Minister steps in.

Case study (2)

Koala populations are endangered by the clearing of windbreaks around Macademia orchards. The windbreaks, sometimes already planted in the 70's, include Tallowwood and Forest Red Gum, two species most preferred by the koalas in Lismore, Byron and Ballina area. Small colonies of koalas are living in these windbreaks and the windbreaks are also used to cross the largely agricultural landscape by transient animals. Koalas are now living in areas they didn't live before. In his report Dr Stephen Philips (Aspects of the ecology, distribution and abundance of koalas in the Lismore LGA, Biolink Ecological Consultants, Uki, 2011) considered that the koala populations have been expanding over at least two decades, due to their colonisation in windbreak trees around the Macademia orchards. Therefore the Friends of the Koalas wrote to the Director Environment Assessment & Compliance in October 2013 to consider that these clearing activities will only be allowed when undertaken in a more sustainable way from a koala management perspective, but haven't received a answer yet.

Case study (3)

In 2012-2013 an application was assessed for removal of a Cumberland Plain Woodland remnant at Camden. This remnant held the last Antechinus population for the entire Critically Endangered Ecological Community. The OEH was informed of this situation but did not consider the complete removal of this species from the ecological community to be a significant impact or to even warrant relocation of the animals. This species is now extinct in this Ecological Community and the genetic provenance necessary for reintroduction is gone. All ecosystem services provided by this species are now permanently lost. This is a classic example of the failure to consider ecological communities as anything but native plant associations.

Q13 Do you have any suggestions for improvement for this/these particular element(s)?

Answered: 329 Skipped: 1,098

Of all the 329 respondents, 22% used the word 'protection', showing that there is more work to do on biodiversity conservation. Enforcement of the legislation is one of the most important improvements to be made in the opinion of 13% of these respondents. 10% of the respondents think that more funds are needed to improve the biodiversity conservation. Funds for farmers to protect the biodiversity on their land, funds for local councils to do research, for OEH to enforce legislation and for volunteer groups working in the field protecting native species. More education is also mentioned by 10% of the respondents, to underpin the importance of biodiversity for all of us.

A few experiences:

The focus of new legislation should be to **protect** existing habitat and not simply justify removal of endangered and critically endangered habitat/vegetation if it is protected elsewhere. This is of particular importance in urban areas, where biodiversity is facing some of its biggest challenges with the new 10/50 fire legislation, etc. Focus also needs to be on regenerating land such that endangered and critically endangered habitat types are not isolated remnants, but connected to a larger system that will promote their long-term survival.

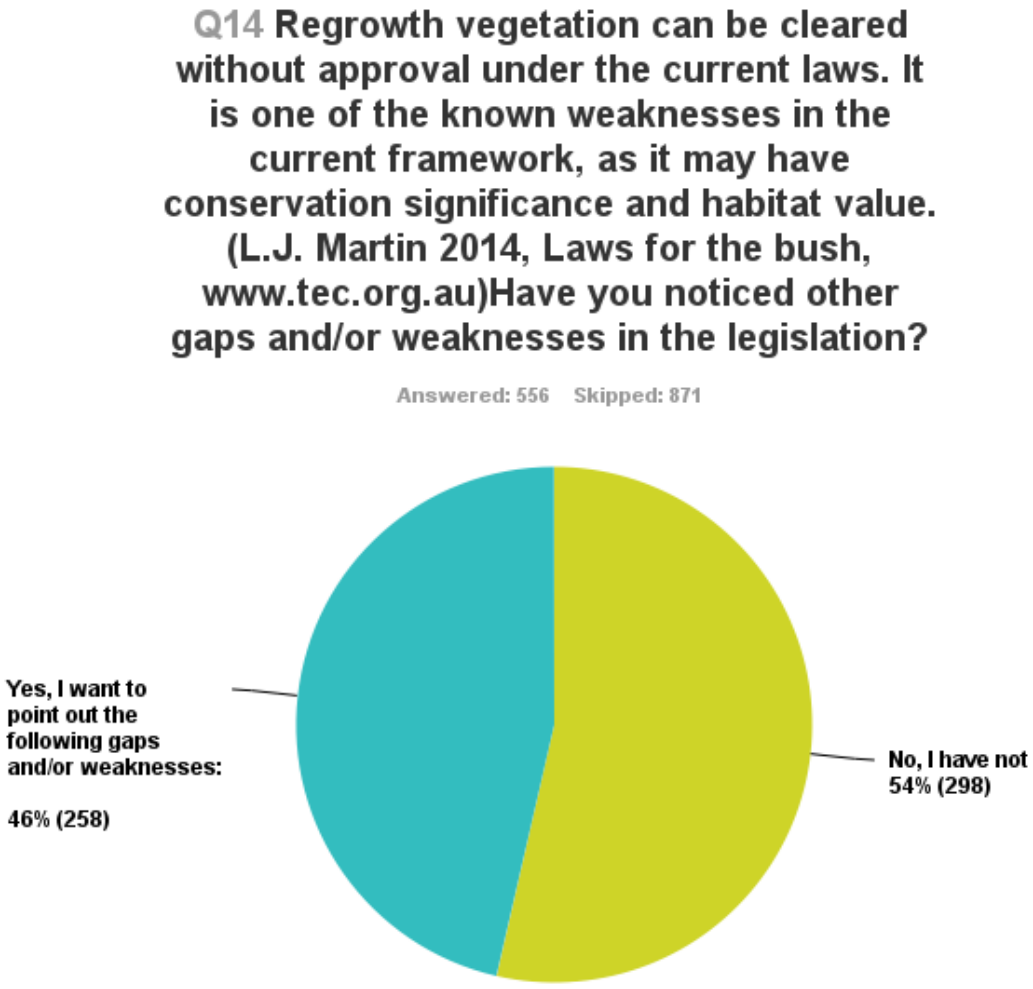
Planning laws in NSW need to be amended to ensure that it is compulsory for Councils to require developers to carry out threatened species impact studies, to have these reports independently assessed and, to ensure that recommendations on whether or not to approve the development, modify the development proposal are adhered to by Councils in their decision-making processes. Also, Council's need to **effectively enforce** any conditions on development proposals. National Parks and Wildlife Act: allocate more resources to the Office of Heritage and Environment so that the Act can be enforced.

Appoint a **Biodiversity Commissioner** similar to the NSW Water Commissioner and to the NSW Chief Scientist, to act as an independent ombudsman/overseer of implementation of biodiversity laws, particularly those for biodiversity offsetting for major State significant projects like Santos' CSG project in the Pilliga, Shenhua's Watermark coal mine near Gunnedah, Whitehaven's Maules Creek coal mine and questionable biodiversity offset proposals. The person appointed should be suitably qualified and should be charged with independently reviewing the scientific basis and integrity for a proponent's proposed offsets and advising Department of Planning on suitability/approvability or unsuitability of proponent's proposed offset, as purported to be done by PAC now.

Where complaints about illegal environmental incursions are received, State Government should have enough officers to follow up that Councils can demonstrate how they have enforced or imposed penalties as appropriate. Further **funding** is needed for NPWS so that they have resources to maintain their patches of territory and supervise how the Parks are used/abused. Better funding for threatened species protection. Better funding to deal with feral fauna problems - and exotic weeds. How can we protect our Koalas from extinction with ever-increasing encroachment on their habitat being pushed through? Will the remainder of Australia's distinctive but declining populations of flora AND fauna make it beyond the next couple of decades? Every current government seems to be pushing against this likelihood. It seems the rate of extinctions is increasing!!!!!

Long term legislative success will depend on **education** and culture; in this respect I think we really have to look to NZ and their successes in this area. A sincere appreciation of the value (both intrinsic and economic) for conserving resources is understood by all. People feel

protective of their native species and forestry, and the balance between open access and protection is struck very well. In this sense I think there needs to be a clearer message conveyed to Australians about legislation in this area; it's purpose is to preserve Australian biodiversity for future generations of Australians. I am honesty not sure that is broadly understood by the public.



Regarding to clearing, especially the legislation for clearing of land and along roads, fences and under powerlines has to be tightened, in the view of the 30% of the respondents. Several respondents (10%) think the RAMA's and the 10/50 rule give the landholders and home owners too much freedom for clearing. Biobanking and offsets are pointed out by 6% of the respondents. Also an accreditation for ecological consultants, right to enter land by compliance officers and less exemptions are mentioned.

A few experiences:

There is an obvious fragmenting of land and corridors under **RAMA's**. RAMA's can allow for corridors to be disrupted by clearing along the fence lines and in many cases can remove the threatened species in these areas.

The new **10/50 RFS code** appears to allow clearing of EEC's and Threatened species as the work can be carried out without getting an expert opinion on the classification of the Vegetation Community.

The RFS 10-50 Clearing Code - which is not about bush fire hazard (and intact only mentions the words "bush fire" in it once and has everything to do with clearing and development. This is a disastrous piece of legislation that ignores the NSW TS Act, places assessment into lay people's hands, disconnects the RFS from the public and their ability to offer other mitigation strategies.'

Following the model adopted by the Great Barrier Marine Park Authority for the management of the Great Barrier Reef, a **certain percentage** of every identifiable type of ecosystem should be preserved from human interference, especially where two or more ecosystems intersect. This is not encompassed by the present legislation.

The use of **ecological consultants** should be made independent. As it currently stands, the consultants are hired by development proponents which indicates a bias.

The largest developments with the most significant potential impacts must be subject to rigorous and comprehensive assessment, and not exempted from environmental or heritage assessment requirements. Safeguards must ensure that development in sensitive environmental and heritage areas is not **exempt** from proper **assessment**.

Biobanking provisions: recent example of T4 proponent Waratah Coal proposing an offset location in Tomago which had already been used **twice** before! Who is regulating this?

I believe that the current Biodiversity Offset Policy has in certain circumstances weakened biodiversity conservation. In the instance of critically endangered communities like Blue Gum High Forest there are no areas left for Biodiversity Credits. Large remnants of BGHF can be destroyed and Credits are used to preserve other endangered species, it must be **like for like**. If no offset is available, no removal should be accepted.

The legislation for biodiversity conservation legislation has eroded over the years by government and court. It's better now than it was before the Environmental Planning & Assessment Act and the Treathened Species Act, but we have to take care. Especially biobanking and offsets are a bad thing regarding the threatened species. **Like for like** is hard to achieve and it should be the last resort, because there is always a **net loss**. The stakeholders should make every effort to avoid offsets and don't take 'the easy way out'. The offset legislation could be improved by doing more research on the populations of species in the offset areas and find ways to strengthen the habitat of certain vulnerable or threatened species or contribute to connectivity.

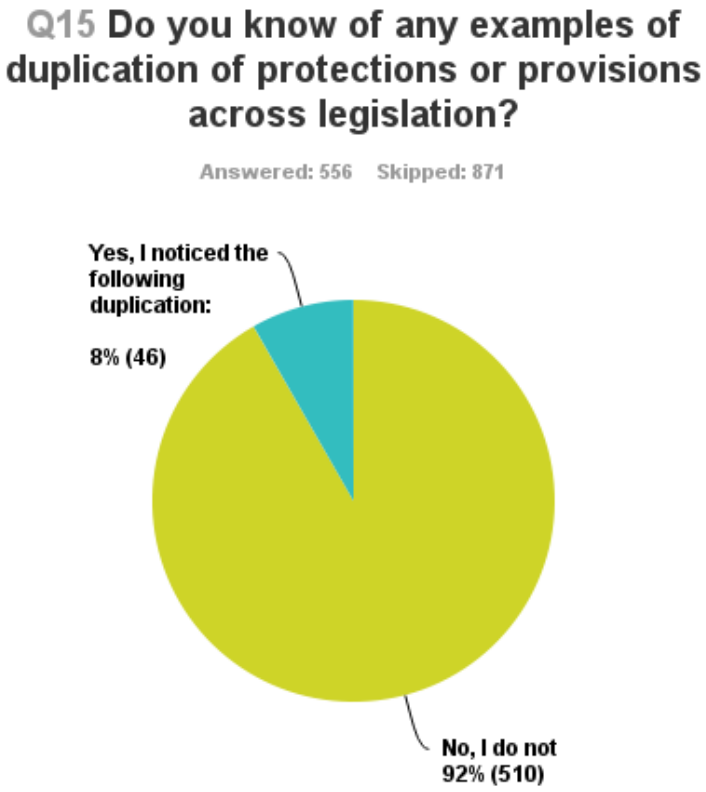
Under SEPP46 and NVC Act staff had **'right to enter'** cards. That is if an alleged breach was reported they had the legal right to enter a property to investigate any clearing activity, and it was illegal for a landholder to prevent their entry. This was removed with the introduction of of the NV Act so that if an alleged breach is reported compliance staff can only enter the property to investigate if invited by the landholder. The stupidity of this goes beyond words. Why would anyone illegally clearing invite compliance officers on to their property to investigate?

So called **common plant** and animal communities need protection too as they will become extinct if they are continually being cleared. Rather than concentrating on rare plant and animal communities , quality of the bush should be the main emphasis for the protection. The

more common plant communities in our present situation have the potential to become extinct before everything else.

Case study (4)
Clearing the bush by removing much of the shrubby understorey, creates open park lands. The open eucalypt woodland with a grassy ground cover is an ideal environment for the Manorina honeyeaters, especially the 'noisy miners'. The number of 'noisy miners' is increasing, forming more and more colonies, because humans are creating their favourite habitat. They rarely form colonies in areas with extensive shrub layer of sub-dominant trees, like feathery leafed wattle in which small birds can hide.
The 'noisy miners' take over an area of bushland, chasing and attacking small birds and prevent them from passing the land.

The landowner planted understorey of feathery leafed wattle himself 10 years ago, 8 years after a section of his land was removed from grazing. But the 'noisy miners' are still there, they don't relocate to other areas, while the small birds stay on the side of the land that hasn't been grazed and cleared.



Respondents have pointed out overlap and confusion between different Acts but also between State and Federal plans and legislation.

A few experiences:

Although I do not have the exact detail, clarity should be provided in legislation as to how covenanting under NCT Act and NPWS Act interact with **Biodiversity Offsets**. ie.
- can they be applied on the same parcel of land
- can landholders access funding for managing biodiversity on private land through multiple

streams
- how do each intersect with taxation and rates and
- is there a legislated hierarchy of protection between them?

Duplication of **assessment** of significance for part 5 & part 5.1 of EP&A Act. This should be one strong assessment asking the right questions about how the environment will be impacted.

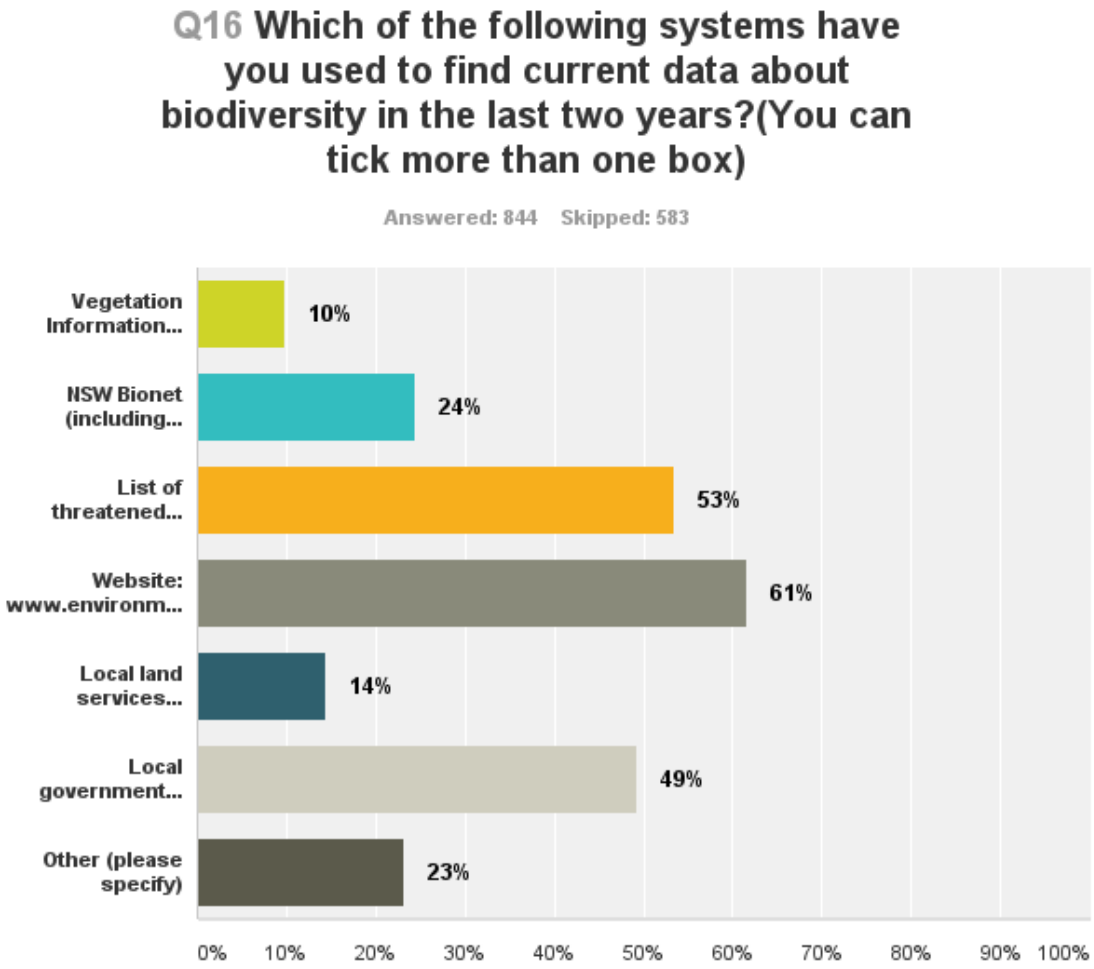
Environmental impact **assessment** may be duplicated in the EP&A Act and the Native Vegetation Act.

I think it is confusing to have some threatened species/ecological communities managed by the State government while others are the preserve of the Federal government. It is also confusing to have different **State and Federal Recovery Plans** and listing for the same species. I would rather see the environment managed at a national level by the Federal government.

There is confusion over when the **TSC** Act applies and when the **NV** Act permits the removal of threatened species etc.

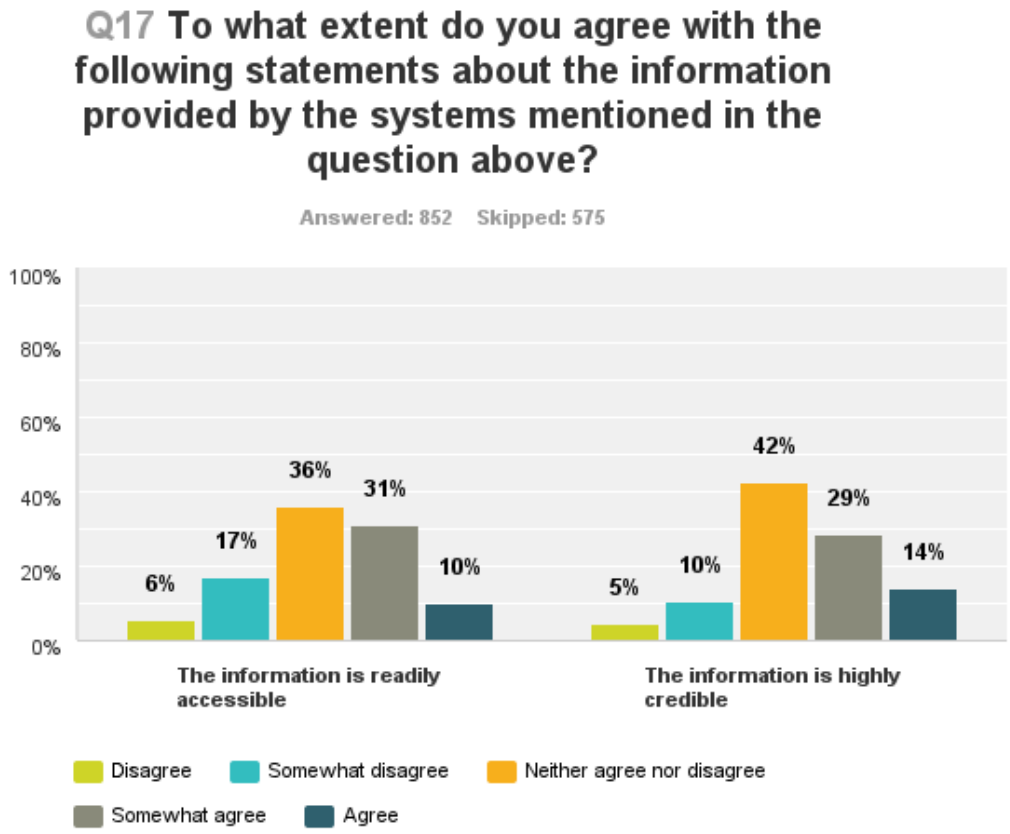
I know that **saltmarsh** is covered under Threatened Species Legislation as well as Fisheries legislation.

There may well be duplication but that is not the point as the **NSW legislation gives greater protection** and is more likely to be used and taken to court. Hence it must stay.



The respondents gave an overview of the available information on biodiversity conservation, such as newspapers, websites and legislation. The information systems mentioned more often are:

Atlas of Living Australia
Birdlfe Australia website
EPBC Act 1999
Plantnet
Websites, newsletters and journals of NGO's, like NPA and EDO
Websites and newsletters of local volunteer care groups



Although there is a lot of information available from different information systems, 19% of the respondents provided additional comment on the accessibility and credibility of the information. In their opinion the information provision can be improved.

A few experiences:

There are **massive gaps** in the available information on the NSW Atlas and the Atlas of Living Australia due to lack of survey effort beyond terrestrial vertebrates and plants. These groups alone are not adequate for providing useful and adequate information to inform conservation decisions. The level of "fuzziness" in the online public version of the Atlas of NSW Wildlife makes it difficult for public members to assess the presence/absence of critical species in defined areas. There is a lot of available information present in Universities and in the State Collections (eg. RGB Herbarium and Australian Museum) which could be better mobilised if funding was provided for digitisation. Additional funding for surveys of target groups beyond terrestrial and plants would also be of great assistance in providing better quality information. Much of the information is based on survey of reserve areas rather than private land.

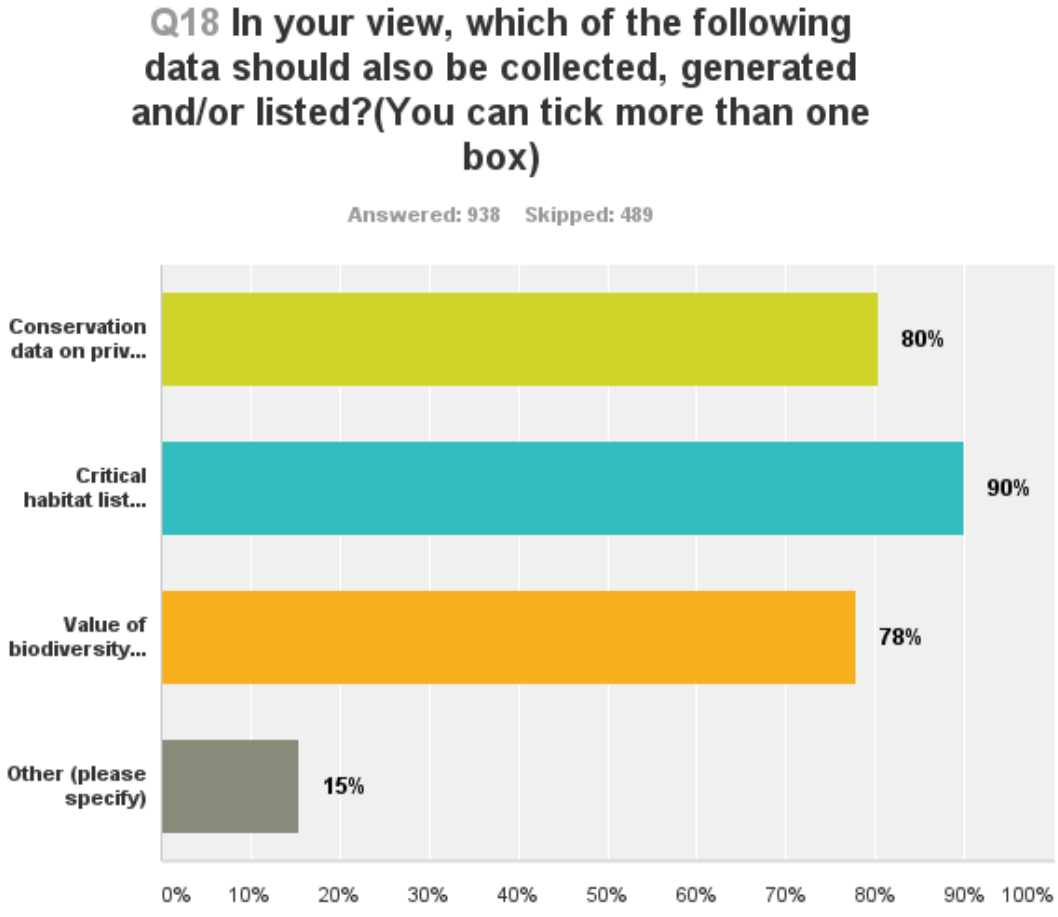
The information is often very **patchy**. This information is often used to make land management decisions. The lack of comprehensive or adequate information must be leading to decisions which are detrimental both to biodiversity conservation and to sustainable land management.

Outside the native vegetation act most biodiversity legislation information is **hard to find** and hard to know who to get information. I know I can go to the local land service for native vegetation act information but the other information from other legislation is harder to get, either information on web is insufficient or it is hard to know who to call for clarity.

Information accuracy and credibility variable. NSW atlas good but incomplete, Priority Action Statement which was intended to streamline the recovery planning is particularly inadequate. PAS actions are often generic, vague and do not address threats. Offer little assistance in assessing threats and with developing ameliorative measures. **Vegetation mapping is too broad scale** to be useful in smaller assessments, accuracy is questionable and is not necessarily a good surrogate for habitat mapping. There is no provision for vegetation mapping or survey results undertaken for developments, offset identification or property vegetation planning to fill gaps or enhance the overall mapping.

I have found **GIS** is sometimes inaccurate, and I have reported rare plants to NPWS years ago which have not been entered into the database
In my experience there are big data gaps. The modelling of threatened species occurrence is often based on the 'mapped' or modelled vegetation types in an area. However vegetation mapping can be very inaccurate and has not been ground truthed. As this flawed **mapping forms the basis** for the modelling of many species occurrence we are building greater flaws into our biodiversity conservation systems.

Some data is hard to find if you don't know **where to look**. Often need a combination of web applications to find answers (e.g. TEC mapping - you need six maps to find what data is available in your area. Then you need to access spatial online access and then you need a expensive GIS tool to see data. This then can be correlated with associated documents to find possible TEC).



From the respondents, 15 percent would like to have other or more data listed, such as data regarding species (23%), biodiversity (20%), different types of value (16%) and impact of actions for biodiversity (16%).

A few desirables:

The greatest source of threats to threatened species in each local area. We need a public **blacklist**, so we can focus efforts to reduce threats.

Impact of fire on biodiversity. When planned burns such as hazard reduction burns are done, extensive surveys should be done prior to and after the burn to assess impact and to improve the practice in terms of, for example, timing and frequency. Lists could show changes in species and habitat in the immediate, short and long-term.

The effects of burning on **under-story plants** and insects. How does this impact the food chain? How long does it take for microbial activity to return after burning? How long does it take to build soil levels particularly in sandy, coastal and poor soils? The effects of burning of soil health? How does a healthy under-story impact the health of plants in native animals?

Data regarding **species occurrence** should be collected particularly on fertile soils within over-cleared landscapes to better understand where and what species occur within our highly cleared agricultural landscapes. More information is also required for our Travelling Stock Reserves which have an important/critical landscape connectivity function but we actually know little about what species use them particularly in north western NSW.

Effectiveness of current methods of protecting biodiversity to learn how to improve what we can do.

Data on the soils and topography would be useful as many impacts on biodiversity are mediated by changed water balance associated with adjoining land use.

Biodiversity **corridors** and potential wildlife corridor mapping.

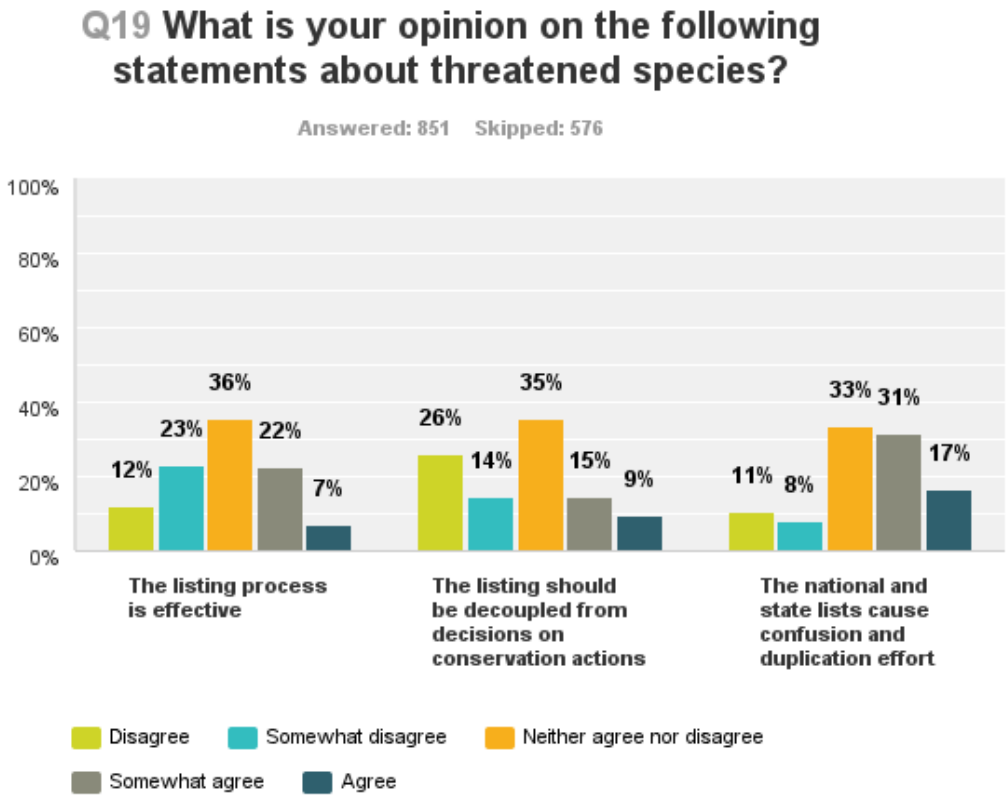
Reliable data from reputable organisations such as **bird clubs** would fill many knowledge gaps. Need a system to share these data with government biodiversity managers.

Extent to which biodiversity can or cannot be **replicated** once impediments are enforced or occur in the area.

Value of biodiversity is critically important in the context of what kind of **benefits** it can bring to individual farmers. There are many ways in which making the farm enterprise an intrinsic part of the local ecosystem can reduce labour and economic inputs, and these need to be researched and spelled out for those directly involved. Getting farmers involved directly, to share their experience with others, run workshops, etc will build trust and allow them to lead by example.

Value of **biodiversity lost** annually, such as monetary and intrinsic value - including for state forests.
But I do have some suspicions about giving a value to biodiversity as these figures could easily be twisted by unconscionable governments and companies.

Historical data. e.g. Information local **Aboriginal Groups** wish to share. Where possible data on the original flora and fauna to have a better understanding of what has been lost with a view to regenerating where possible. Also for future reference when necessary.



The opinions on the listing of threatened species are widespread. Some find the listing system effective, others think it's time consuming or causes duplication.

A few experiences:

While there are species and ecological communities which occur on both the Commonwealth and State threatened species lists I **don't believe this causes any significant duplication** of effort, and I've undertaken hundreds of assessments under the current legislative framework. Mitigation of impacts for a species/ecological community listed under the TSC Act will in most cases also mitigate impacts identified under the EPBC Act, so there is no increased impost on development. Although the assessment is repetitive I believe it provides important checks and balances, ie the development and its proposed mitigation is reviewed by two departments rather than one. Threatened species listing should be kept separate from government and continue to be undertaken by an independent and scientific committee. I don't see the advantage either way of decoupling listing from conservation actions. Unless its believed species aren't being listed because the conservation actions are deemed to prohibitive or too difficult.

It appears to me that the listing process can take a long time. It would therefore be prudent for a quick **interim listing** to be followed by a more in-depth confirmation or otherwise of the listing.

The listing process **ignores the international IUCN** lists. Dingo is a IUCN red listed threatened species. He is protected species in Victoria ACT and NT. Yet declared a pest in NSW. this ignores the science and wishes of the international community.

Listing individual species is inefficient because of the large amount of species (especially when considering invertebrates). It would better to recognise ecological communities or other bio geographic units and list and protect those. **National and state lists** do duplicate effort and it would be better if these were more coordinated BUT there is something to be said for

regional assessments for species that are relatively secure at a national scale could be highly threatened in a particular area.

The listing process is **ineffective** as it is not only species that are threatened, but populations. It is vital for species to have a variety of populations to maintain genetic diversity, however if 2 of 5 populations become threatened, this may not be enough to be placed on the list, even though the future of the species will be threatened genetically.

The OEH threatened species listing identifies any federal species when they are listed by both state and fed legislation, but there is a gap I that you still have to **search separately** for any federal species/communities that are not listed state by state (in NSW at least).

More efforts should be made to **align state and national lists**; but it is still valuable and useful to have both a national and a state list as species and ecological communities may be threatened at a state level even if they don't meet the criteria for listing at a national level. The status assessments in the recently released 'Action Plan for Australian Mammals' (Woinarski et al 2014) could and should be used to swiftly and easily **update** both the NSW and national lists where necessary, as the authors followed a rigorous process of assessing each species against the IUCN criteria.

Q20 If you could design the new conservation law in NSW, what would you like to be included?

Answered: 369 Skipped: 1,058

This question resulted in a long list of desirables for new conservation legislation in NSW. Strengthen legislation on land clearing is mentioned by 12 percent of the respondents. Others want to emphasize the protection of habitats in the law (17%) or would like to see better enforceable legislation with penalties (14%). More clearly written legislation without loop holes is also one of the desirables, as well as banning or reducing biobanking and offsets (7%). Respondents would also like to see more incentives paid to landholders for biodiversity protection (5%) and increase funding for (for example) education, National parks and research (6%).

A few answers:

There must be a clear legislative commitment to end broad-scale **land clearing** across NSW. The NSW government should commit to ‘no net loss’ of native vegetation. There must be a clear legislative commitment to improve environmental outcomes as the key test of clearing proposals. Maintaining the (declining) status quo is simply not good enough.

Recognition of corridors and key **habitats** for fauna and flora, leading to a requirement for protection of significant corridors and habitats. Stronger recognition and protection for significant trees/large/old hollow bearing trees.

Clear and appropriate **criteria** for identifying species, habitats and locations that are of critical importance in maintaining biodiversity. The criteria should be subject to peer review by appropriately qualified scientists. A clear and enforceable principle that where a matter of critical biodiversity conservation importance is identified, in any planning or other decisions affecting that matter the overriding considerations are to be protection or enhancement of national biodiversity and of the identified biodiversity qualities.

More **stringent rules**, independent monitoring and increased penalties that are actually applied.

Some real **enforceable penalty** for those who do not comply with conservation laws and regulations. The number of loop holes needs to be reduced so that the laws are able to achieve their objectives rather than play lip service to the objectives.

A ban on destroying Endangered ecological communities or habitat of Endangered species, except in genuine national interest. **No offsetting option** to be used in these cases. Commitment to achieving a complete/adequate/representative permanent reserve system within a reasonable time. Incentives to encourage biodiversity conservation for the long term on private land, including purchase or compensation in some cases. (May just need revamp of some current legislative provisions.). Biobanking only in cases where offsetting conditions of no net loss, like-for-like etc can truly be met.

More partnership and identified goals with landowners/farmers. Monetary **incentives** when identified goals are met - intrinsic value of conservation is monetized and farmers and landowners feel valued and supported by wider community for working toward conservation goals. Wider community are consulted as to whether they are happy to support farmers and landowners for being rewarded when conservation goals are met - eg levies etc. That landowners are encouraged with land care/councils to put a development/conservation plan forward (eg an area may be cleared on one part of the property for economic reasons, but another area is rehabilitated and improved for biodiversity and environmental outcomes) .

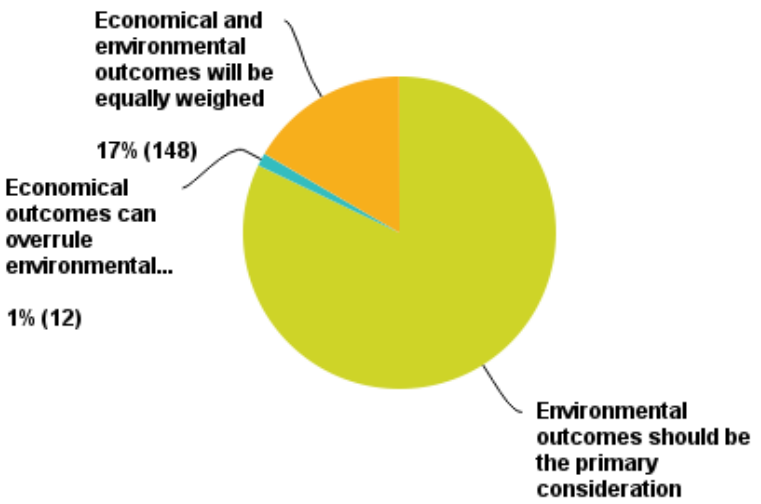
The assessments are not done properly, because the assessors don't have the knowledge, there is no description how to assess and there are 3 different agencies involved in the assessments:

OEH for the compliance and threatened species, LLS for the Native Vegetation Act and EPA for the Property Vegetation Plan. There should be **one strong authority**.

Landowners in marginal areas, with millions of hectares in NSW, should be offered the opportunity to manage their properties for biodiversity protection and be paid to do so. Many of those landowners currently receive special circumstances assistance backed up by social security payments. In exchange for removing livestock and committing to manage pest weeds and animals, those landowners could regain self respect and purpose at relatively little cost to the tax-payer. A win-win situation.

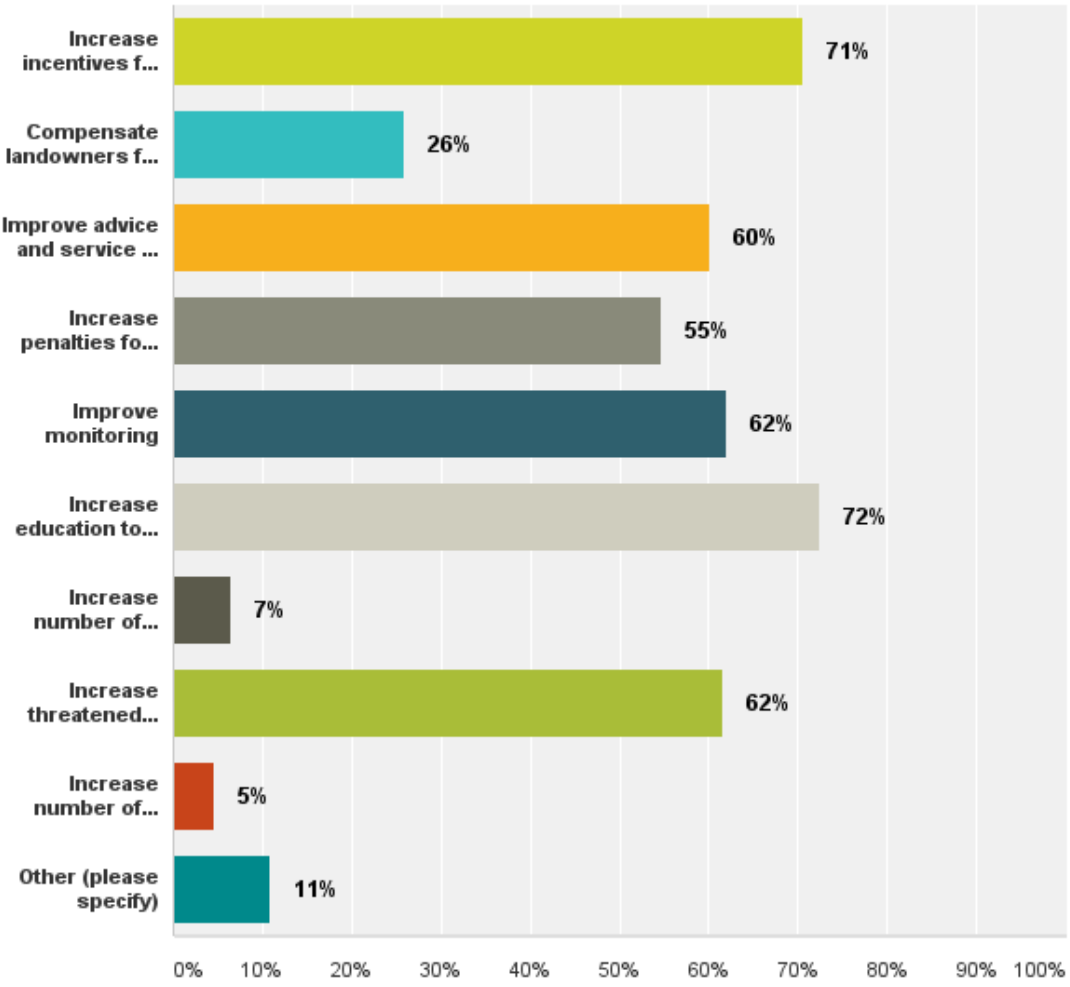
Q21 Within the current framework, consent for broadscale clearing is only granted when the clearing improves or maintains environmental outcomes. Do you think other factors are important to include?

Answered: 894 Skipped: 533



Q22 What should the government of NSW do differently to improve the conservation of biodiversity?Choose max. 3.

Answered: 876 Skipped: 551



Answer Options	Response Percent
Increase incentives for landowners	71%
Compensate landowners for loss of income	26%
Improve advice and service for landowners	60%
Increase penalties for infringement	55%
Improve monitoring	62%
Increase education to emphasize the value and create understanding	72%
Increase number of trade-offs	7%
Increase threatened species recovery programs	62%
Increase number of self-regulatory codes	5%
Other (please specify)	11%

A few examples of other actions to be taken by the government are:

Ensure that **developers** are held accountable, don't just try to blame farmers and landholders when it is developers who are the worst offenders and get away scot-free each time they destroy areas of significant fauna and flora populations.

The NSW government should **stop destroying endangered** and critically endangered habitat themselves through State Significant Infrastructure projects (eg, Epping to Thornleigh Third Track). A big long EIS does not simply justify such blatant destruction.

Effective **control of feral species**, including research into biological controls and very strict regulation of imported species

Empower the private conservation sector to play a greater role by creating a more level playing field with semi -gov bodies, not -for-profits, landcare etc which enjoy government funding support.

They should realistically look at the **management of Wilderness Areas and National Parks**. There is enormous scope for improvement. The public of NSW is funding this land with enormous amounts of money and they are losing biodiversity.

Buy back land with a high ecological value and add it to the National Parks estate and add Crown Land with a high ecological value to the National Parks Estate.

Understand the fundamental (and often long-term) **economic value of biodiversity** and include this in economic models that inform decision making. Environment is not adequately represented in current economic models, which is a fundamental flaw and unsustainable (both environmentally and economically).

Q23 Recently a self-regulatory code has been implemented, allowing clearing of trees and underlying vegetation on private and public land within a certain distance of a home without approval by the NSW Rural Fire Services. In which areas in the biodiversity conservation legislation would self-regulatory codes be suitable?

Answered: 416 Skipped: 1011

Some respondents gave examples for the sort of areas where the 10/50 rule would be appropriate. The question was meant to get their opinion on other areas than bushfire protection, so the results are not fully reliable.
35% of the respondents answered none, so no other areas in legislation are suitable for self-assessment. Others gave conditions for the use of the codes.
A few examples of the given conditions:
Only for **exotic weeds**, none for native vegetation unless with approval of local councils.
Only on predominantly cleared farmland or acreage.

Only where it is **accompanied by education** and motivation to protect the environment. The government should prevent landowners in metropolitan and urban areas from clearing trees and underlying vegetation. This should only be allowed in rural and semi-rural areas.

Self regulation is only effective if the property owners are **fully informed** about the consequences of too much clearing.

Where there are **no threatened species**. In these situations a viable plan to safe guard people, assets and threatened species must and can be devised.

When the stakeholders have shown a **real interest** in their environmental outcomes by setting aside significant areas for biodiversity protection.

Not for trade-offs.

Regulators/rangers can't be everywhere so self regulation will always be on the agenda. I would only say self regulation is suitable if it is backed up by **strong monitoring/inspection** measures.

Others gave reasons why self-regulation doesn't work in their opinion:
Self regulation does not work for conservation. People will always **abuse** self regulation to achieve their own agendas. Professional advice and permits and monitoring are the only way to achieve the desired outcome.

Self-regulation continually fails. No one monitors or follows up **complaints about breaches**.

Most people would **not be able to navigate** this with confidence without harm or risk to bio values.

Case study (5)
He attended the Local Land Services (LLS) field day on the landholder guidelines for self assessment for clearing paddock trees in cultivation areas. It was clear those draft guidelines were confusing and badly worded, even the LLS officers appeared not to fully understand them.

One clear restriction is that paddock trees larger than 80cm diameter, measured at breast height, cannot be cleared. While not mentioned in the Draft, we were told that large trees can, however, be cut down if they are dangerous which, given the propensity of senescent trees to drop dead limbs, would be easy to claim.
This is where it becomes really complex. "Paddock trees in cultivated areas may be cleared where they are more than 50 metres away from another living native tree that is larger than 25cm diameter at breast height (this size only applies to coastal zones, Tablelands and Western Slopes have smaller sizes). And then: "A clump of two or three paddock trees in a cultivation area may be cleared if they are within 50 metres of each other and more than 50 metres away from another living native tree that is greater than the sizes listed above (i.e 25cm)."

At this point in the field day presentation, despite being provided with tape measures, it was obvious that nobody had a clear understanding of what trees could be removed, and which could be retained. However to confuse participants even further, the Draft Guide then adds the need for the landowner to decide whether the tree that is being removed is a threatened species under the TSC Act. If it is, it must be retained.

The LLS botanist, brought in for the day to advise, was unable to identify the tree chosen as an example, beyond the fact that it was an Angophora. Given there are 12 Angophora (Apple) species growing in coastal NSW, 2 of which are listed as threatened, the inability of a botanist to correctly identify what was in fact a relatively common species, but impossible to tell with certainty without fruit being present, has alarm bells ringing. One suggested course of action to assist the landowner to identify potentially threatened trees, i.e. "consult LLS staff", is clearly not going to work.

Q24 How should the government determine priorities for its investment in biodiversity conservation?

Answered: 386 Skipped: 1,041

Many respondents think that government's priorities should be determined on the prevention of extinction of species and to conservation of habitats at high risk.
In the opinion of 12% of the respondents, government should base priorities on expert advice from conservationists, NGO's and scientists, but also have more experienced employees in its own organisation. About 4% wants a long-term approach for biodiversity conservation investments.

A few examples:

By **consultation** with relevant scientific organisations that are not connected with any commercial vested interests. Studies commissioned by commercial groups would have dubious levels of objectivity. Biodiversity conservation needs to be placed above all commercial interests. The justification of environmental degradation on economic grounds is no longer sustainable. Large mining projects and the like only benefit a small number of people and deprive the world of a natural resource protected for ever.

On a **scientific not electoral basis** - taking the advice of its own experts it has employed, in combination with the expertise and local knowledge that is out there in local communities, but often not sought or recognised.

By employing more people in its environment department who are **qualified** to do surveys. Consult with people who do volunteer work such as bush regeneration, land owners and local residents, National Parks officers, Land Care workers, Councils that have bushland areas.

Areas in greatest need i.e. those which are unique or which contain most threatened species should come first. Then areas which can be conserved with the most practical expenditure both in terms of purchase and management, and with due regard for consolidating areas adjacent to national parks etc., and most relevant to establishing and maintaining corridors. Sensible application of principles of ecology.

I think a focus should be on the shocking rate of **extinction** in Australia of its native flora and fauna. Actually implementing threatened species recovery programs would be a start - quite a number already exist, but never seem to receive the funding needed for implementation. Look for **long term** winning strategies, which rely on winning public support for its conservation activities, and spending money on what will be long term sustainable conservation. Climate change may be the big threat long term. The Australian Flora Foundation is funding research in this area.
Investment priorities should be collaborative and **cross-disciplinary**. Data gathering on the inter-relationships between economic and environmental values should be a major priority as this is what allows us to better inform all sectors of the public, along with research into the effectiveness and productivity of 'conservation farming' and what we can learn from indigenous Australian land management practices.

Q25 How do you think the effectiveness of conservation programs should be monitored and evaluated?

Answered: 377 Skipped: 1,050

In the view of 13% of the respondents there has to be an independent authority to monitor and evaluate the conservation programs. 6% of the respondents answered that the monitoring and evaluation should be more regular, while another 6 percent wants the monitoring and evaluation to be based on scientific principles. But also ways of monitoring are given, like aerial and satellite surveys and the use of mobile devices by volunteers and landowners.

A few examples:

Monitoring should be in conjunction with independent experts, and should be **reported widely** so that the public in general can be involved and supportive.

There is a need for **independent statuary authorities** that have the resources and expertise to effectively monitor and evaluate the implementation of conservation programmes, from proposal to completion including possible ongoing impacts, such an authority or authorities would ensure the provision of legislation were carried out.

With a set of **KPI's established by expert panel** and reviewed every 2 years. panel to include;
- academics
- government Ops staff
- consultants
- environmental NGOs.

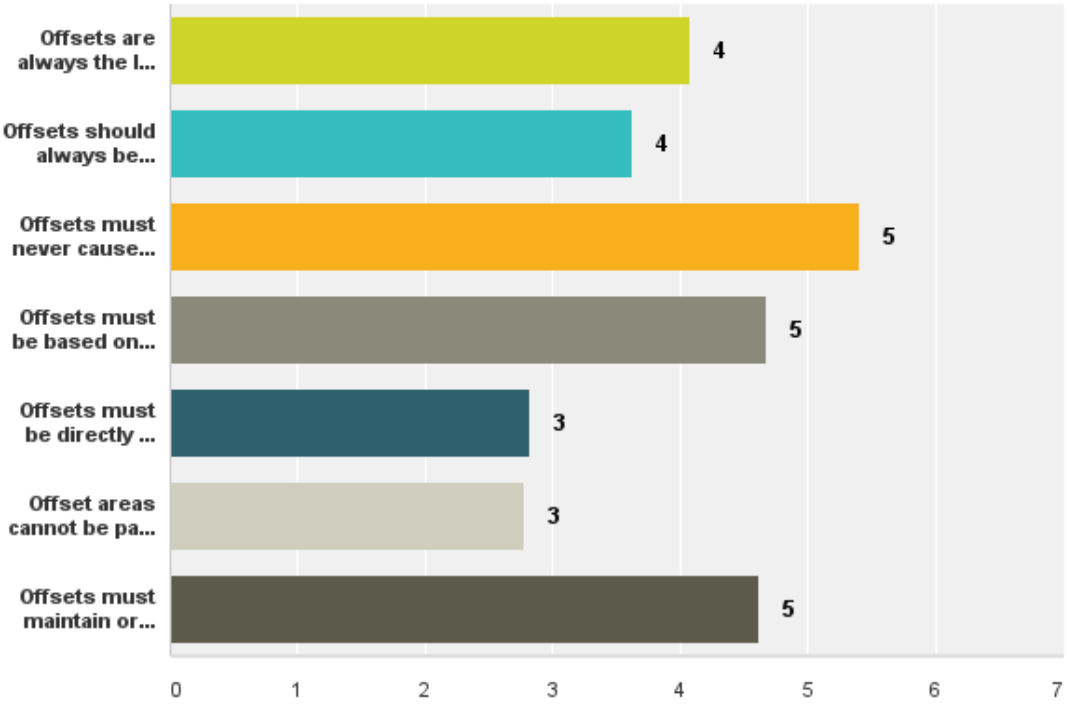
Regular monitoring including on site, aerial and satellite surveys of vegetation cover/clearing activities as well as widespread regular fauna and flora surveys.

Using sound **scientific principles** that effectively demonstrate change by comparing with non-conservation areas/species, based on rigorous ecological models, monitoring programs and experiments. These should be designed and managed by qualified scientists and should be published in the scientific literature so that data can be used elsewhere (increasing value for money).

We should be using **mobile devices** and applications to enable landowners, agency staff, contractors, land care volunteers, National park volunteers and specific user groups to record what they see (map), the work they do (including follow up), the time they spend and the outcomes so we can capture at a transaction level the investment and results in conservation programs to better evaluate techniques and program models. This should replace funding reporting. Having people collect data instead or write reports that are thrown out. Run environmental programs like a business to attract investment rather than a gift program.

Q26 Offsets are often made on an ad hoc basis. Please rank the following principles that should be part of a new conservation law (R. Walmsley 2014, Submission on the Draft NSW Biodiversity Offsets Policy for Major Projects, www.edonsw.org.au).

Answered: 659 Skipped: 768



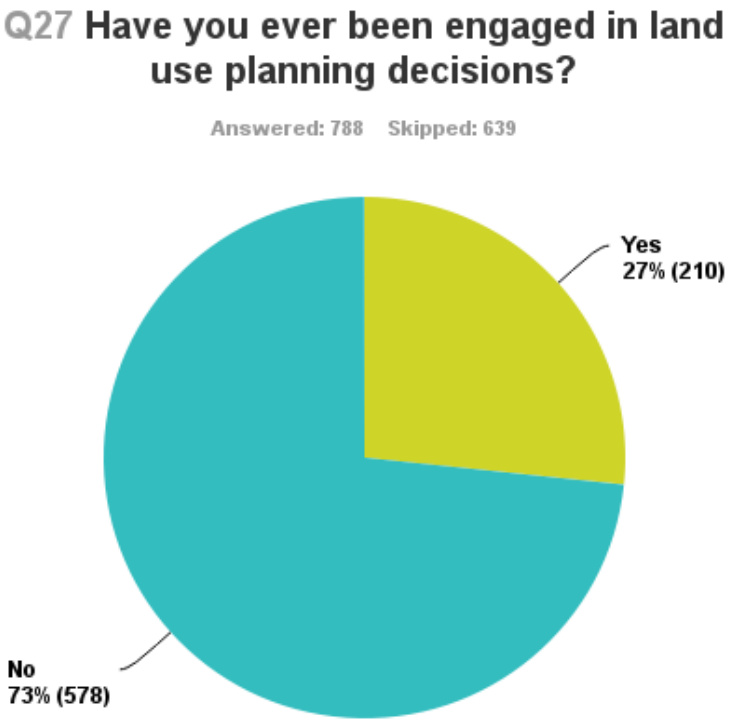
Answer Options	1	2	3	4	5	6	7
Offsets are always the last resort	23%	14%	8%	12%	10%	12%	21%
Offsets should always be like-for-like	6%	13%	12%	16%	24%	16%	13%
Offsets must never cause extinction	37%	19%	19%	10%	6%	5%	3%
Offsets must be based on ecological studies	9%	24%	25%	22%	11%	6%	3%
Offsets must be directly and cannot be exchanged with funds	3%	4%	6%	14%	27%	28%	19%
Offset areas cannot be part of an offset again	3%	5%	7%	14%	16%	28%	26%
Offsets must maintain or improve environmental outcomes	19%	21%	23%	11%	7%	5%	14%

37% of the respondents ranked 'the offsets must never cause extinction' highest, while 23% think that 'offsets are always the last resort' is the most important principle. 'Offset areas cannot be part of an offset again' had a low score, ranked lowest or on the sixth place by 54% of the respondents.

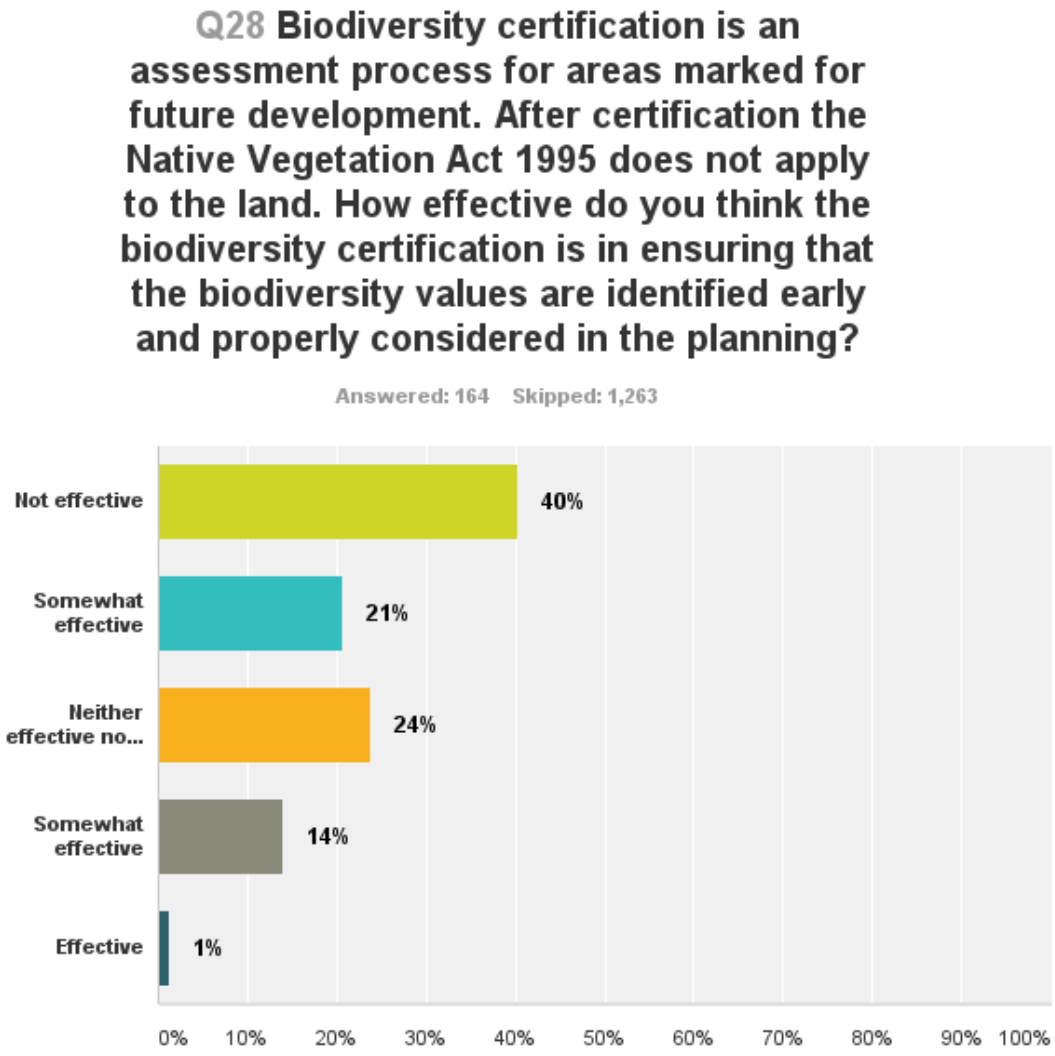
Case study (6)

Last year, the NSW Government exhibited a preliminary document concerning the Western Sydney Employment Area. When it mentioned areas proposed for conservation it included areas which were previous offsets for development in the SEPP 59 Employment Lands at Rastern Creek. No mention was made of this prior offset situation, instead, it was presented as an offset for this project. Someone more familiar with South-West Sydney suggested there were areas shown there which were also previous offsets.

The Dept of Planning & Environment is just concluding consultation on a project called Bio Mapping for Green Corridors on the Cumberland Plain. The corridors shown are to derive funding, including Biobanking, for conservation but some of the sections involve previous offsets and much of the land is already zoned to prevent development eg flood plain or environmental conservation.



The next two questions (Q28 and Q29) are only answered by respondents who have been engaged in land use planning decisions.



The answer possibilities contained twice 'somewhat effective', although the layout was probably clear enough to see that the answer after 'not effective' should be 'somewhat ineffective'. Only one respondent wrote a note about it.

A large majority of 61% of the respondents think that the biodiversity certification is not effective or at least somewhat ineffective. In addition, some respondents (39%) wrote critical remarks on biodiversity certification.

A few remarks:
Biodiversity values can change over time. the **time lag** between assessment and ultimate development is sometimes too great.

Having done quite a number of SEPP 44 assessments and flora surveys for development applications I am aware that the process is **seasonally/weather dependent**.
The development process is cumulative and adds up to death of the environment by a thousand cuts.

I believe we need more strategic landscape planning particularly to identify no go areas for development. The effectiveness of biodiversity certification in ensuring that biodiversity values are identified early and properly considered in planning critically hinges on **how well the**

assessment is carried out in the first instance. I don't believe we have sufficient soils, water and species data to be able to do this effectively from desktop and/or modelling. A recent example in the Hunter Valley is an area between Singleton and Muswellbrook which has been assessed by OEH with funds provided by mining companies as suitable for mining development without approvals for the next 30 years. This area has been assessed based on existing vegetation mapping which has significant errors because it used computer modelling with insufficient field data. Consequently, it fails to correctly identify vegetation communities including areas of endangered ecological communities. It also incorrectly identifies that suitable offsets for endangered ecological communities on fertile floodplain soils are available within the surrounding hill slopes. Consequently, should this assessment be given biodiversity certification then there will be significant biodiversity losses within this area.

It all depends on **how good the mapping is** that identifies the values and how serious the local or state government is in retaining those values. We now have legislation like the 10/50 Rule that can totally ruin any conservation outcomes of this process. We need conservation decisions to be reflected in Section 149 certificates, conservation covenants etc. We also need Councils to be resourced enough to be able to monitor outcomes over time. The system also needs to be transparent so that the community can police outcomes and report on them too.

The value placed upon hollow bearing trees remaining on largely cleared pasture is inadequate. This is a very important resource for a range of fauna which are likely to become locally extinct because this **unrecognised 'habitat type'** is not accounted for in the biocertification process. Often the largest concentration of hollow bearing trees is found on private farmland, and biocertification is not going to preserve this.

Case study (7)
Only a few months ago the NSW government approved the route of Stage 10 of the Woolgoolga to Ballina Pacific Highway Upgrade, which will traverse one of the eight conservation priority areas pointed out in the Far North Coast Regional Conservation Plan (2010): the Tuckean-Blackwell Range. Although one of the condition is that there will be viable koala populations for the next 50 years, the koalas are not likely to survive this highway upgrade.
The highway will divide two populations of koalas. Where they cross the area now, the new highway will be a barrier and the expectation is that the small eastern population will be gone within two generations and the larger group on the west will deteriorate and finally be extinct in 2035.

Q29 Can you provide any suggestions to improve the effectiveness of the biodiversity certification or other current agreements?

Answered: 64 Skipped: 1,363

In the opinion of 15% of the respondents, the effectiveness could be improved when the assessments are conducted by independent consultants. Others point out that the assessments should include proper fieldwork.

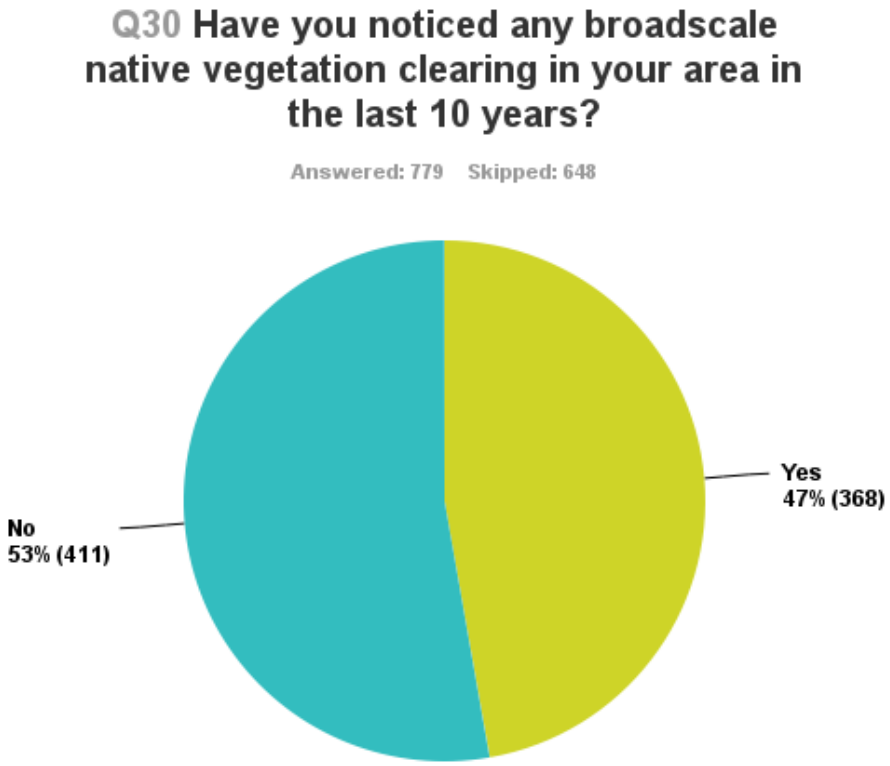
A few suggestions:

Needs state-wide **vegetation mapping and proper field studies**, not just desk-top assessment, as appears to have occurred with the Hunter Valley Biodiversity Strategy.

Planning processes should assess all land in a large area before offering BD certification. This should be carried out completely **independently**. All developers should contribute to a fund and no developer should have any access to the assessors. Once identified as of value, land should NEVER be available for development. Otherwise it's death by a thousand cuts.

Searches on the ground and **not just paper searches** ,The environmental officer is not to be employed chosen by the developer or the council. A judge outside the area to choose from a list so that there are no vested interests.

Make sure field botanists with **experience in recognising** the threatened species do the biodiversity certification and that fauna spotters survey at times when animals are likely to be seen rather than just office hours.



Additional comment was given by 360 respondents. Almost 10% of these respondents who noticed broadscale native vegetation clearing nearby in the last 10 years, think it was illegal. Others have more doubts or answered that the clearing was unfortunately legal.

Q31 Can you briefly describe the clearing? Please provide details about the type of clearing, the type of land (crown or public), to what extent, where, in which season and year.

Answered: 275 Skipped: 1,152

24% of the 275 respondents have noticed clearing of private land, while about 20% saw crown land cleared. Others didn´t make the differentiation.

A few examples from respondents who gave more details:

Adjacent to Kings Forest development in 2011 LEDA entered National Park estate and undertook clearing and excavation of 'a drain' called **Blacks Creek**. The company was fined $32 500 for this illegal clearing. In September 2012 LEDA was discovered to have illegally cleared and undertaken earthworks at their other Tweed Coast development site at Cobaki Lakes.

Almost total clearing for urban development. About 100 ha of **Cumberland Plain woodland**, over 1-2 years about 2011-12. On private land (ex-ADI).

Bayswood Vincentia new homes and adjacent area for shopping complex that it appears did not have authorized approval. Land cleared beforehand.

Clearing and logging on private land in the **Northern Rivers Area** of New South Wales usually through winter months during 2012.

Clearing by bulldozer. Adjacent to Evans River at **Evans Head**, next to 'Iron Gates site". Clearing within riparian zone. Cleared in May 2014. Included clearing of protected trees & areas under Native Title legislation. This matter was reported to the Dept of Environment & Heritage.

Clearing of critical, significant habitat for the **Northern Beaches Hospital** site (French's Forest). Winter 2014

Clearing old growth blackbutt forest and bangalow forest adjacent 7 mile beach **Gerroa** for sand mining on private land, and road reserve for road improvements. This year and over last 10 years

The clearing took place for housing development over a large section of land in **Lane Cove** .This area was rezoned by the department of planning from residential to high density. All the properties had mature trees that formed both habitat and a wild life corridor. These trees had previously been protected under our tree policy. Now they are gone.

State Forest Ben Bullen totally cleared for mining Last five years. Areas of unique vegetation.

Private property owner draining and then burning **Montane Peatlands** and Swamp Ecologic Community.

Old Growth forest logged by Forest corporation. Huge habitat loss even for threatened species

On private land, spring, near **Cobargo**, 10 or so ha cleared

Native forest logging on crown land, 4758 hectares were logged last year in the Southern region. This is illegal logging.
Logging of Mugga Ironbark for fence posts and firewood on a few ha of TSR/roadside Crown land near **Woodsreef**, Barraba district, in about 2010. It was reported and action taken by EPA.

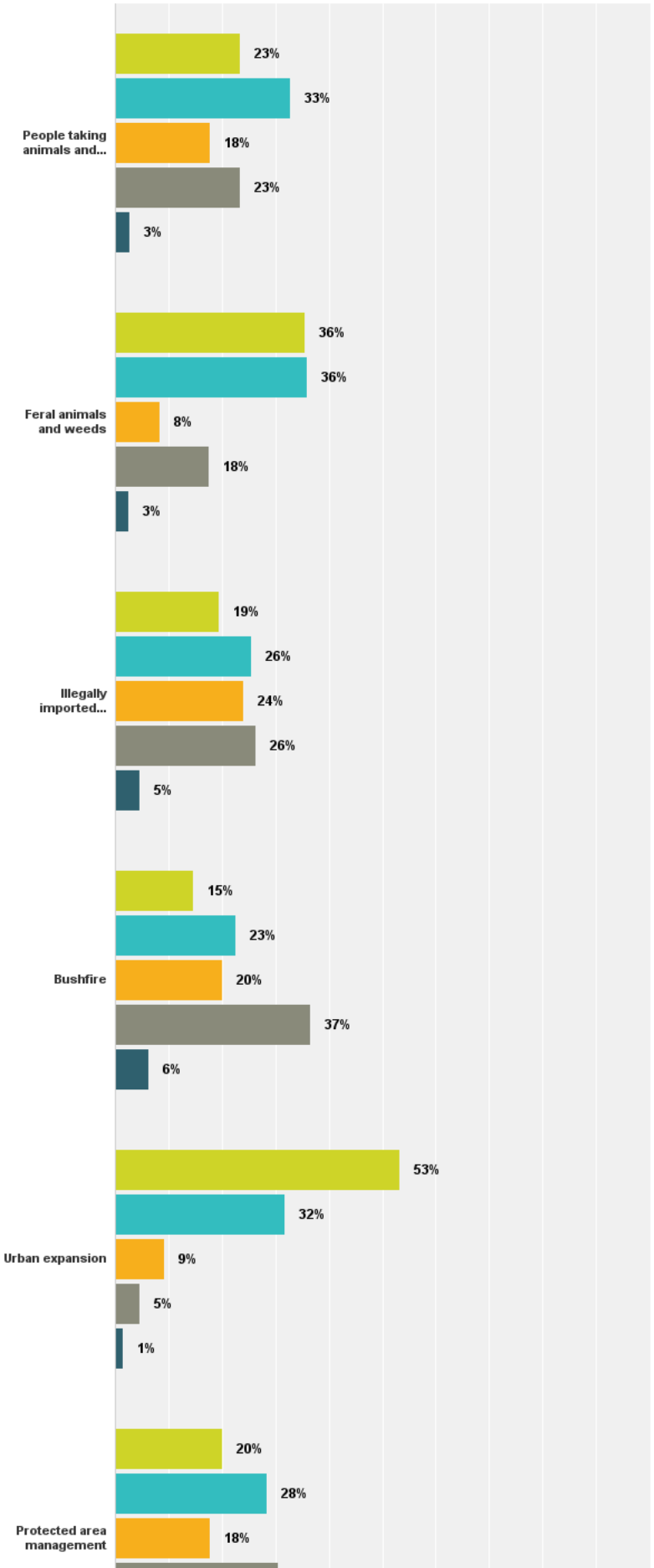
Case study (8)

Well known landholder west of Moree on the Western Plain already cleared 220.000 hectares of land. Later on he wanted to clear another 150 hectares of land with coolabah woodland to build a dam. The first request wasn't allowed. Then he came up with a revegetation plan. But he offered to plant spotted gum trees and harvest them later. This wasn't an acceptable offer. The landholder asked for a review of the assessment, but with the same result: no land clearing permitted. A short time later he cleared the land illegally and said the clearing was under the exemption. The officers didn't get permission to go on his land or take aerial photos to get proof. Unfortunately the landholder wasn't prosecuted, although the case was clear.

There are a few powerful landholders, they have a lot of influence. Staff gets abused by landholders and is fighting their own department and some people quit. Desirable for the new legislation is the return of the right to entry, as under the Vegetation Conservation Act. Now the officers have to be invited by the landholder to inspect his land.

Q32 How effectively are the following threats to biodiversity managed in your view?

Answered: 737 Skipped: 690



Respondents have the most concerns about the management of feral animals and weeds and urban expansion. Feral animals and weeds are not effectively managed in the view of 72% of the respondents, while the urban expansion is worrying most respondents. 85% of the respondents think that urban expansion is not managed effectively or somewhat ineffective.

A few experiences:
Urban expansion is criminal with the amount of bushland being destroyed. With the pressure on to increase the population and therefore increase housing needs, immigration must be stopped and/or people must live in areas where there is already housing in place. The **northern beaches of Sydney** is a classic example where the only place left to build more housing is to destroy the minimal vegetation left.

Urban expansion is putting both humans and native wildlife at risk of bushfire, dangerous interactions through vehicular incidents and reptile encounters in yards, and loss of diversity within the expansion with the influx of weed species, the clearing of land for development, and the recreation increase. Protected area management will require an integrated system of management which is adaptive, is aimed at increasing in size by using the adjoining properties and existing pathways to create corridors between remnant patches of habitat, thereby increasing the meta population and genetic diversity within the region. Island biogeography, such as we have created, cannot be allowed to continue, as it will ultimately fail. We require connectivity in our protected area management systems.

Management of **feral weed control** is mostly a local council responsibility and therefore somewhat patchy as many rural councils are increasingly pressed for funds. In my area, noxious weed inspections are not done on every property and I don't understand why (eg my small property with few weeds has been inspected twice in the past 8 years, yet my neighbour's very large holding hasn't ever been inspected in that time). I'm also aware that our council has dropped a number of species from its noxious weed list - they are now classed as 'environmental' weeds which apparently means they don't have to be removed! e.g. hawthorn, Patersons curse. I suspect the reason has something to do with their prevalence on roadsides (where council would be responsible for their control).

Feral pigs have trashed large swathes of land in our district this winter, including a lot of native grassland on my property. No government assistance is available for their control. Allowing amateur hunters onto one's property can be risky - many are 'cowboys', and even the trustworthy ones tend to hunt infrequently - not an efficient control measure.

Feral animals must be controlled but by well-researched methods eg. **biological control or genetic prevention of breeding**. If hunting is deemed necessary as part of a holistic plan it should only be by professionals with the most stringent regulations. Amateur hunting has been proven to be detrimental in several ways eg. by targetting the wrong species, by introducing species to new areas to ensure future hunting.
http://invasives.org.au/files/2014/02/fs_rechunt_NSWvfacts.pdf
One of the major ongoing threats to biodiversity is the practices of the plant **nursery industry**, which continues to import new species into Australia for well-meaning Aussies to plant in their gardens. Any plant that is being considered for importation into this country should be expected to undergo testing to ensure that it cannot become a weed species.

Fire-exclusion (Infrequent fire) from vegetation types that require regular fire is a major threat to biodiversity via habitat change and failure to stimulate critical life cycle stages. Irreversible habitat change (i.e. loss of grassland, sedgeland and heathland habitats to forests and transition of open forest habitats to rainforest is particularly rapid in higher rainfall areas along the coast). For example it has been estimated that approx. 46% of the flora species in Byron Shire are threatened by rapid habitat decline caused by long-term fire exclusion. I'm currently doing research on this with Southern Cross University

Continual 1080 baiting has had very negative effects on biodiversity. Until 2003, a family of dingoes lived on this mountain, but NO foxes, cats, or rabbits! When they were baited out of existence, the foxes and cats moved in and are now a serious problem to be addressed by ever more 1080 baiting.

Case study (9)

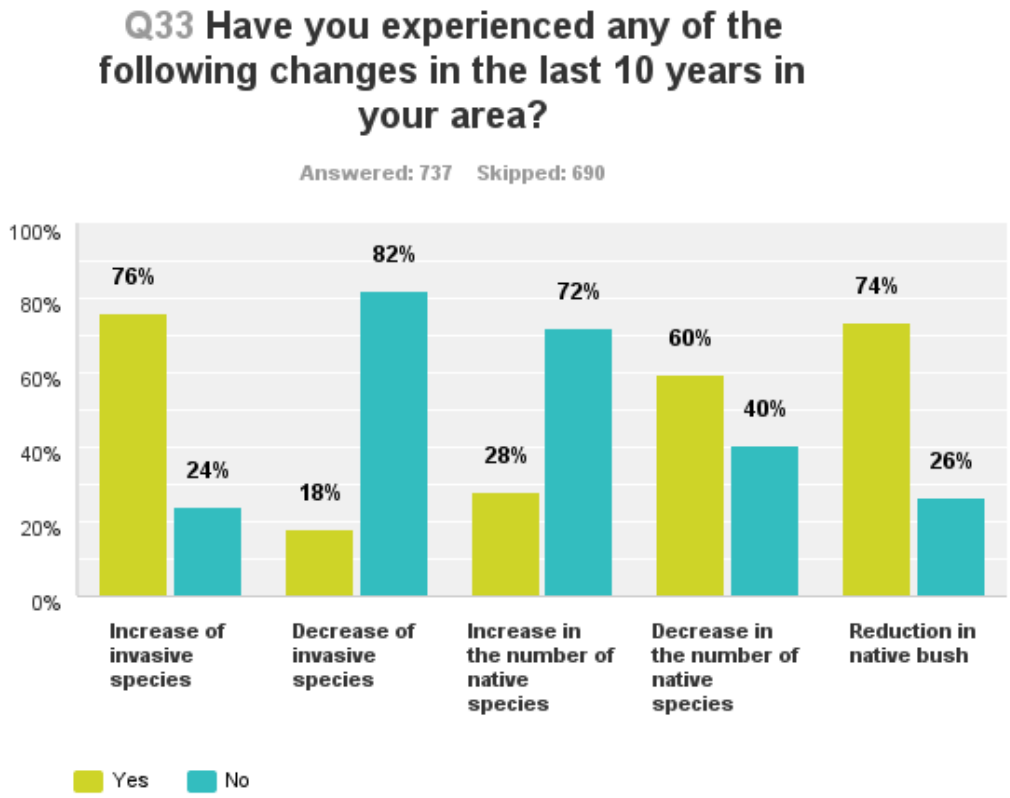
Olax angulata is a small shrub which was first discovered in scattered locations around the coastal hamlets of Minnie Water and Diggers Camp in the Clarence Valley. For many years this rare species was thought to be confined to that coastal area, much of which was within the Yuragir NP and was subsequently declared endangered. That however, did not prevent the National Parks and Wildlife Service constructing a new access road to a caravan park straight through the population.

Some years later, two of our botanists discovered a number of plants growing on a roadside a significant distance inland at Banyabba Nature Reserve (less than 10 plants). Subsequently National Parks staff reported another small population in the nearby Fortis Creek Nature Reserve. In 2011, our botanists working with the Land for Wildlife program discovered a healthy population of approx. 50 plants at 'The Pinacles' close to Forits Creek, firmly establishing that the species occurred naturally in this general area.

When determining how the species could best survive to 2100, the SOS program immediately discarded the coastal and Banyabba populations as being too hard, presumably given human population pressures on the coast and the proximity of the road at Banyabba, so opted to focus on the small Fortis Creek population, presumably because it would cost less to protect. The healthy Pinnacles population was immediately dismissed from any consideration, despite the owners'willingness to protect the plants, because it would require a financial contribution to the landowner.

Case study (10)

There is a lot of damage done by feral horses to the waterways in the Kosciuszko area, especially at the sources of the Murrambidgee, Snowy and Murray rivers. The trampling damages the structure of the waterways, the soil and vegetation. In her opinion, the control management of feral animals is not effective. As aerial shooting or helicopter musters are forbidden in NSW, the horses have to walk into yards where they are trapped, before taken to an abattoir to put down. But it is a passive way of control management and the number of horses coming into the yards are too low. ACT chose a different approach: they just shoot any feral horse crossing their border.



Additional comment was given by 248 respondents. At least 11 respondents (4%) sighted more brushturkeys in their area, while11 respondents (4%) noticed an increase in bandicoots. Several respondents mentioned the fox baiting programs as the cause of the increase in small native mammals and birds. They also observed an increase of noxious weeds such as African Love grass and Lantana and saw more Noisy miners.

A few examples:

Animal species on the **increase** in urban Sydney - Indian myner, ibis, feral pigeons, sulphur crested cockatoo, **noisy miner**, brush tail possum, rats, cockroaches, rainbow lorikeets,

Decrease in fox numbers in Budderoo NP, Barren Grounds NR and Kangaroo Valley as a consequence of baiting programs to assist Brush-tailed Rock Wallaby and Potoroo populations.

As a result of fox baiting in our area some species have increased, but others have still declined. For instance, we have lost small birds and reptiles such as **blue tongue lizards** and gained powerful owls and brush turkeys.

Coordinated fox baiting across the north shore councils of Sydney has had a **beneficial impact on small mammals and owls**, likewise fox baiting in the Cobar region where I have visited seems to have had a beneficial effect.

Fox baiting has removed the top predator of the area. This has led to **Lyre Birds and Wallabies** in the area which have not been seen before. It has also led to a population explosion **of Long Nosed Bandicoots, Brush Turkeys and Rabbits**. An alternative native predator is needed to restore balance.

A decrease in the numbers of some small **birds** including sparrows, white-plumed and New Holland honey eaters, but an increase in the numbers of parrots (rainbow lorikeets and cockatoos). An increase in the numbers of some wading birds (pied stilts, dotterals and godwits) which I never saw as a child.

African love grass and prickly pears/ tree pear are increasing.

Many myrtaceae species are affected by myrtle rust and some such as Rhodamnia rubescens seem to be unable to survive it. New weed species reach this region regularly and I often receive updates from colleagues about a new weed to watch out for eg **morning glory, coast spurge** etc.

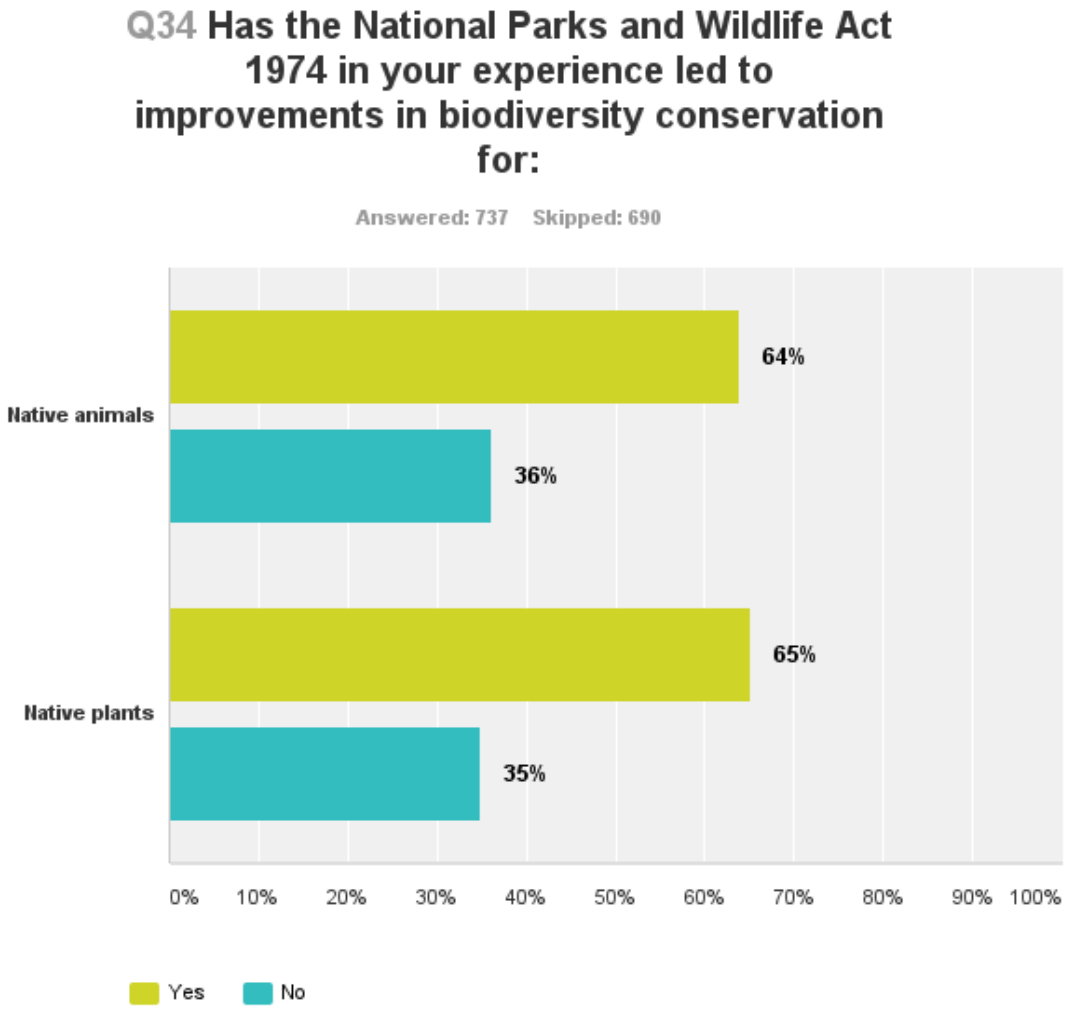
Around MacArthur there's been such massive destruction of native habitat that urban wildlife corridors are now full of birds & other native animals (koalas etc) that were not there only 5-10yrs ago! - eg we now have **Bellbirds** in Blairmount. We also have bellbirds and koalas in smiths creek behind Canberra Cres , Campbelltown which were not there when I lived there 10yrs ago.

Brush turkeys and **water dragons** are back. Small song birds are gone, as are small frogs and many native plants. Garden weeds are increasing, eg Spanish moss, Tillandsia usneoides

Cane toads are increasing.

In the last 10 years I have noticed weeds I have never seen before. I have lived in the same property for 36 years. One of these weeds has tubers and is difficult to eradicate. **Grevillea buxifolia has disappeared** from my property and in the bush opposite. Sydney peppermints and Angophora costata are dying, especially near power lines where trees are trimmed. The dying trees are mostly older trees. I have noticed 4 additional animals –**brush turkeys, bandicoots, crested haw and brown pigeon**. However, lots of other animals are declining or have disappeared, like brown marsh frog, ringtail possums, sugar gliders, larger skinks, eastern rosella, crimson rosella, black cockatoos as well as yellow tailed black cockatoos and magpies.

Couchy Creek Landcare comes with a **long list** of threatened species in their area: Rose crown fruit dove, Sooty owl, Wampoo fruit dove, Marbled frogmouth, Alberts lyre bird, Eastern little mastiv bat, Greater broad nosed bat, Fleays barred frog, Hairy quondong, Stephens banded snake, Ochrosia moorei and the Fine leaved tuckeroo.



At least 19 out of 202 respondents who gave additional comment, would have preferred the option 'I don't know'. Even when you take this group out of the positive group, the majority still thinks the Act led to improvements in biodiversity conservation for both native animals and plants. But several respondents are concerned about the funding.

A few comments:

The existence of the Act since 1974 has generated **significant positive outcomes** (including cultural change) that are too numerous to detail. One example is the regulation of human interaction/interference with cetaceans (National Parks & Wildlife Amendment (Marine Mammals) Regulation 2006.

National Parks have had their **funding cut** severely. They cannot adequately manage their estate with the current funding and staffing levels. Nevertheless the number of protected areas has increased substantially since 1974 and this has conserved many species and habitats that would otherwise have been lost.

But the effect has been minimal. With **insufficient resources** and instructions to spend the resources on non-conservation priorities, the NPWS cannot possibly do the job in a professional and productive manner. They are currently not even holding the line. Any

improvements in biodiversity conservation since 1974 has been achieved up to (say) year 2000. Since then it has been very depressing for conservation-minded people like myself.

In the broad sense, the Act has been **devalued by proposals for tourism**, access for horses, mountain-biking, threats of shooters being allowed into national parks, weakening of wilderness protection. For a long period, biodiversity conservation benefited from additions to the the np system, but the gains are being undermined by activities that place pressure on the continuing well being and survival of plants, animals, habitat and landscape.

The answer to this is not a simple yes or no. Often local **NPWS rangers** see it has more important to encourage the goodwill of the local population rather than protect the native flora and fauna. It therefore can vary considerably from area to area depending on whether the rangers see their job as protecting the wildlife or being mediators between the general public and the environment. Usually the environment comes of second best without some serious education programs.

Q35 Would you like to share good examples of biodiversity conservation? Please use the comment box below.

Answered: 188 Skipped: 1,239

188 Respondents shared their good examples of biodiversity conservation.

A few examples:

Creation of wetlands for the endangered **Green and Golden Bell Frog** at Sydney Olympic Park. The foresight to create a 1.6km corridor of 22 ponds has helped save the largest population left in NSW (and not a large one at that). Had developers had their way, the whole area would be apartments and the frog would be even more endangered.

Chinamans Beach within the Dirawong Reserve at Evans Head is an example of what a community based organisation can achieve. Run by a Reserve Trust committee appointed by the NSW Minister for Lands this group of volunteers has implemented policies which have lead to what many believe is a pristine coast line. In fact it is the result of a lot of hard work, hand pulling bitou and other weeds, with regular follow up to remove seedlings. The in ground seed-bank has done the rest. The current work started in approximately 2004.

Our local weeding group has seen the **return of tawny frogmouths** in remnant Bluegum High Forest.

Kuring-gai Council has **fenced rare native plants** off from the public in the Wildflower Garden. Hornsby Council has introduced gross pollutant traps and native plant sediment retention and purification gardens in catchments. Both councils support weeding groups.

Our own privately funded initiative www.sportsmancreek.org has over the last 5 years **identified 650 species** of fauna and flora on our 50 hectare conservation site. This has been done without any external funding or assistance.

Koala's were shot to near extinction during the Great Depression for their fur in our local area of Wedderburn, South of Sydney. A few remnants of the colony were recognised in the mid-1980's. Since then the local Campbelltown City Council in particular and the NSW State Government under SEPP-19 and SEPP-44, plus the declaration of the Dharawal State National Park under the National park and Wildlife Service Act 1974, in April 2012 have

assisted in allowing the colony to grow to an excess of 300 **koalas**. A success story by any measure.

Lord Howe Island Woodhen research and conservation actions over many years brought this endemic species back from imminent extinction.

The removal of weed, like **willows removed from catchment areas** and the removal of black berries and the noxious orange hawkweed. The group gets some support from local councils, but not from NSW government. A change in attitude is most needed, as some programs don't cost much.

Southern New England Landcare (SNELC) tree planting projects over the last twenty years and
Citizens Wildlife Corridors projects to identify and map vegetation corridors on private land and TSRs in the New England region

Tree planting and fencing off remnant patches of Mugga Ironbark by volunteer Birdlife Australia Armidale group to enhance habitat for **Regent Honeyeaters** in the Bundarra-Barraba-Kingstown district as part of the Regent Honeyeater Recovery program.

Dubbo Council has created a **local species garden in Elizabeth park** in the centre of town showcasing many local species. There have been attempts to include threatened species also. It is wonderful and helps people see and appreciate what we have.

Bonville treathened plant translocation project **translocated 17 Rusty Plum** (*Niemeyera whitei*). After 15 months 65% had survived, but half of these were in poor condition. The poor condition may be due to variation in the soil profile within the translocation area.

Case study (11)
The Friends of Durras raised money and bought land to add on the National Park at Lake Durras: 113.000 AUSD for 370 hectares of land. The land was under threat of development and zoned for urban expansion. It had old growth forest and one of the six gliding possum species had its habitat in the area. The group is a conservation advocacy group for south coastal lakes, which have an unusual ecology. You need healthy lakes for catchment, therefore it's important to protect the lake(s). The group is also involved in the protection of shore birds on the south coast. When there is a drought, a lot of birds come to the lakes in his area. There is a recovery program and volunteers are assisting during the nesting period with fencing of nesting, as nesting season starts in the long weekends and Christmas, when a lot of tourists come to the coast. Over a 100 volunteers are working on the protection program, over 400 hours a year, especially for the Hooded plover and the Pied Oystercatcher.

And some overseas examples:

Cost Rica's "Payments for Ecosystem Services"

Brazil's crack-down on illegal logging in the Amazon

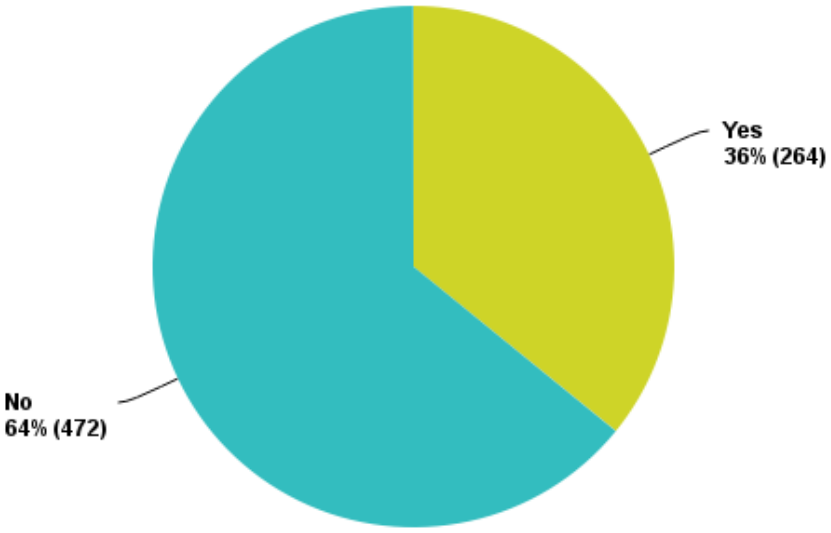
Rewilding of Wolves in Yellowstone National Park

Overseas they have the nature walk ways over highways, where animals can cross.

Palau government showing global leadership on shark conservation

Q36 There are some additional questions for landowners only.Are you a landowner?

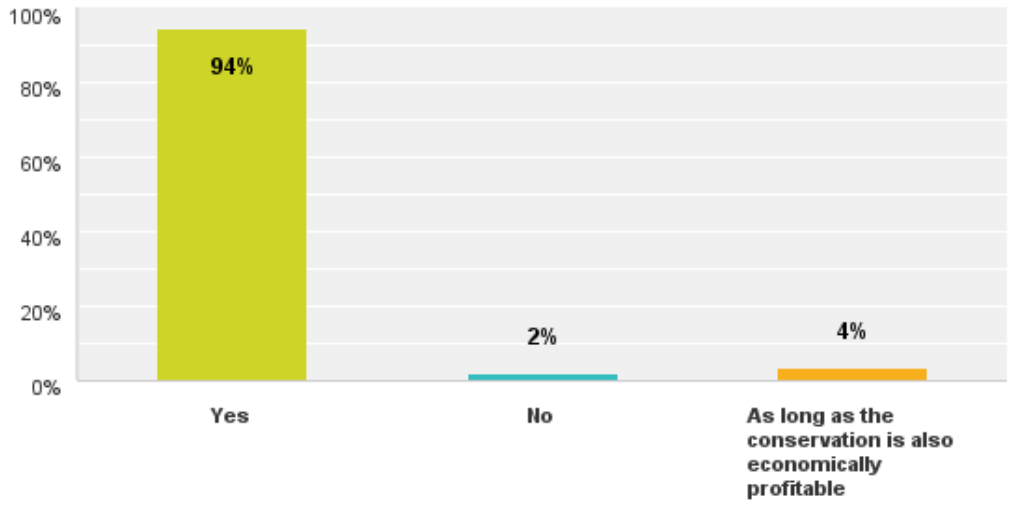
Answered: 736 Skipped: 691



The next 4 questions are only answered by the respondents saying they are a landowner. Though the survey doesn't give a definition of landowner.

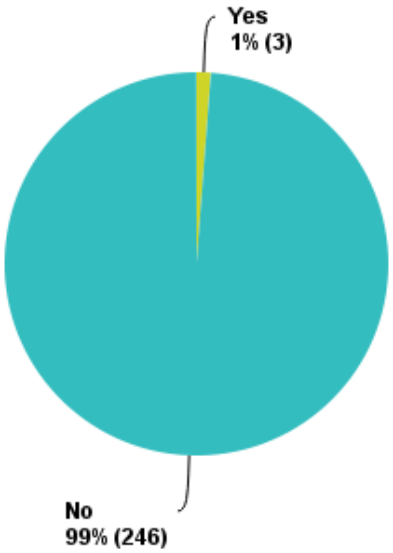
Q37 Do you agree with the following statement:Biodiversity conservation is important for my land.

Answered: 249 Skipped: 1,178



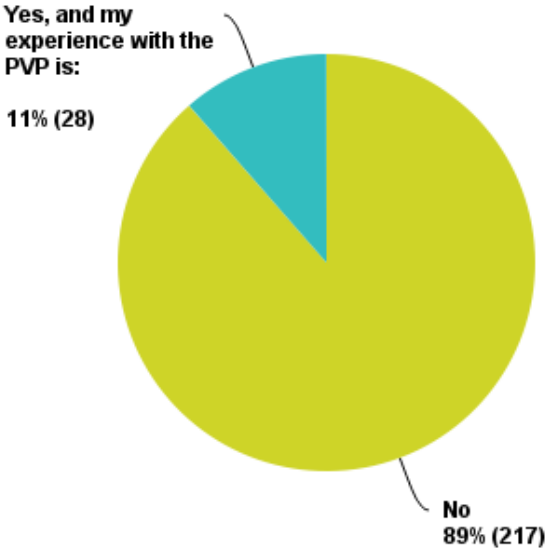
Q38 Did you initiate any broadscale native vegetation clearing on your land in the last 10 years?

Answered: 249 Skipped: 1,178



Q39 Did you draft a property vegetation plan (PVP) in the last 10 years?

Answered: 245 Skipped: 1,182



Most of the 28 respondents who shared their experiences were positive about the Property Vegetation Plan, although there are some remarks.

A few experiences:

My plan consists in constant **ongoing weed control** of lantana, tobacco bush, crofton weed, honeysuckle and mistflower. I intend to add native planting to suitable areas.

We are happy with the PVP that was negotiated but have **not had the resources** to implement it.

Only in a very cursory way as part of our application and participation in the **Land for Wildlife program**.
We have 4 hectares of regrowth wet shleropyl forest that was previously used as a farmers wood lot.
We have spent 15 years removing feral plants: lantana, camphor, saratro, sliver desmodia, mist flower, blue top etc. Only minimal tree felling and bush clearing immediately around the house has been done to mitigate bush fire threat. Our work has been methodical and we have mapped the property and recorded plantings (of native species). We have only a very small garden with aloe vera and pineapples as the decorative plants!

No I didn't but I voluntarily drew up a **conservation plan** with Nature Conservation NSW and have put a conservation covenant on my property which has helped greatly in my understanding of native vegetation conservation. I would like to try ridding the whole property of the pasture grass Setaria and would like to have it listed as a weed.

We have had 50 hectares placed under both **wildlife refuge and conservation area protection**. The land was extensively cleared in the 1980's and we have removed stock and the regeneration has been dramatic.

Incentive PVP for conservation and restoration works - a relatively successful initiative that provided funds to address environmental weed infestation.

We have been given a **biodiversity grant** for weed clearing on our property.

I found it very useful in **monitoring** the native vegetation on the property.

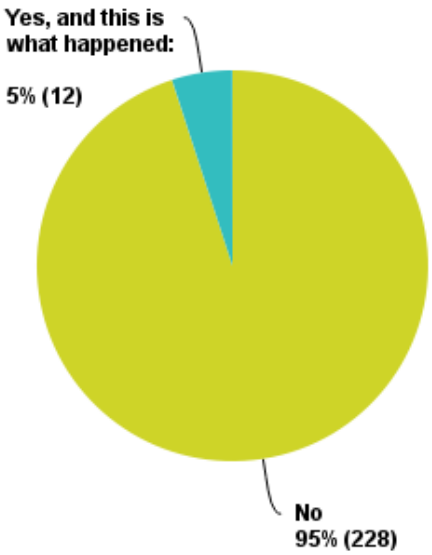
Wildlife Refuge management plan. The vegetation regenerates from existing rainforest and eucalypt forest species but the rainforest species diversity needs to be enhanced dud to the necessary seed trees being a long way away.

Not enough detail: the PVP was for conservation of vegetation. Funding attached and never audited.

Useless as did not fit in any current conservation category.

Q40 Have you lost a development opportunity in the last 10 years because of the current legislation on biodiversity conservation?

Answered: 240 Skipped: 1,187



12 Respondents gave details about their loss of opportunity.

A few examples:

What was a well balanced grassy woodland and recognised as such by NPWS and others has now become a total mess of mature timber totally under grown with woody weeds and invasive rubbish. Lack of management because of **not being able to get approval** 14 years ago has ruined it totally. Now an uneconomic wasteland. Bird species dropped from 90 plus to a handful. Sugar gliders and Squirrel gliders, once plentiful now scarce. Plenty of rabbits, pigs, foxes. A total bloody disaster totally attributed to NVAct and its predecessors. Would now take years and a lot of money to rectify. I if the laws changed it would now be debatable as to whether it was worth doing. What was once a place of pride, is now a mess. Had thought of PVP but was told by CMA that it would be a waste of time applying as owing to the stupid inflexible system drawn up by idiots incorporated there would be no chance of getting an approval to clean up the understory.

We **were prevented from properly developing** a percentage of our farmer that is 100% native. This has cost us 1,000's.

Legislation prohibits the removal of even one tree. I have land that I would have **selectively cleared** and planted to improved pastures and other areas that I would have excluded from grazing. As I cannot improve the productivity of some land I cannot afford to exclude grazing from the other.

Attempts to **develop enviro tourism** and increase community appreciation through managed access and sympathetic recreational experiences are commonly not supported or too hard due to overreaching and overly complicated conservation legislation

We would of liked to **subdivide into 2 x 100 acre blocks** but was told the rural block sizes had to be no less than 100ha.

We have voluntarily entered into a **conservation agreement** so that our property can never be subdivided. This is very important to us as the area around us has been subdivided into 100 acre lots which means increased human pressure on the environment.

The land was Zoned commercial, then residential, then was removed due to it being rezoned environmentally. Disheartening, but it was correct zoning as there was a **special type of frog** that lived there.

I was **happy to accept** that development was not possible due to protection of local species.

Appendix 2: International frameworks for biodiversity protection.

Biodiversity legislation within the United States:

Guiding Principles of Biodiversity and Conservation:

American biodiversity legislation is based on the principle of conservation and protection of America's resources for present and future generations. Regulation and legislation is built on the Public Trust Doctrine which states that America's native wildlife is too valuable to be held in private ownership, therefore the government controls federal land for the public good.

The North American Model of Wildlife Conservation is a set of principles that guides American conservation policy. Although not legally binding, the principles have been adopted and reflected in conservation legislation and the broader conservation movement within America. These include the following points:

- Wildlife as Public Trust Resources
- Elimination of Markets for Game
- Allocation of Wildlife by Law
- Wildlife Should Only be Killed for a Legitimate Purpose
- Wildlife Are Considered an International Resource
- Science is the Proper Tool for Discharge of Wildlife Policy
- Democracy of Hunting

Legislation:

The National Environmental Policy Act of 1970 (NEPA) and The Endangered Species Act of 1973 (ESA) are the two major pieces of US legislation that protect biodiversity and implement conservation efforts.

The ESA was created to protect and recover endangered species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service (FWS) and the Commerce Department's National Marine Fisheries Service (NMFS). The ESA's focus is on the management of biodiversity and conservation.
(For more information on the ESA see here: http://www.fws.gov/endangered/esa-library/pdf/ESA_basics.pdf)

NEPA establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within federal agencies. NEPA focuses on the compliance and enforcement aspect of conservation management and is overseen by the Environmental Protection Agency (EPA). The NEPA process consists of an evaluation of the environmental effects of federal development undertakings. There are three levels of analysis: categorical exclusion determination; preparation of an (EA/FONSI); and preparation of an environmental impact statement (EIS).

- **Categorical Exclusion**: At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria which a federal agency has previously determined as having no significant environmental impact.
- **Environmental Assessment/Finding of No Significant Impact (EA/FONSI):** At the second level of analysis, a federal agency prepares a written EA to determine whether or not a federal undertaking would significantly affect the environment. If

the answer is no, the agency issues a FONSI that may address measures which an agency will take to mitigate future potentially significant impacts.

- **EIS**: If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.

After a final EIS is prepared and at the time of its decision, a federal agency will prepare a public record of its decision addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process.

Biodiversity management:

Management Principles:

FWS establishes and implements management policies under the guiding principles of conservation, development, and management of the Nation's fish and wildlife resources create a functioning environmental stewardship ethic for American society.

Management Actions include:

- Reintroducing species to recovered habitats/conservation banks
- FWS has the power to craft protection laws for specific endangered species
- Grants to private landowners who undergo projects that benefit endangered species on their properties.
- Safe Harbour Agreements for private land owners
  -If landowners work to improve the suitability of their land for endangered species they can be exempt from further federal agency requests.
- The use of Habitat Conservation Plans- planning documents required as part of an application for an incidental take permit. They describe the anticipated effects of the proposed taking; how those impacts will be minimized, or mitigated; and how the HCP is to be funded.
- Tax deductions and exemptions for private landowners who expend income on achieving species recovery recommendations
  -Farm Bill (2008) and Conservation Security Program (CSP)
  (See U.S. Fish and Wildlife Services factsheet: http://www.fws.gov/endangered/esa-library/pdf/ES_TaxCredit2a.pdf)

Biodiversity Offsetting:

American Offset policy is guided by the principles of 'No net loss and Loss-Gain calculations' and 'Limits to what can be Offset'. America currently uses Conservation Banks to offset the loss of biodiversity through development projects that have adverse impacts on wildlife areas. Developers and others whose activities result in adverse environmental impacts typically are required to compensate for such impacts. Conservation banks provide a simple, economical alternative for developers and other project proponents. A one-time purchase of credits saves developers time and money and provides regulatory certainty. Landowners can profit from selling habitat or species credits to parties who need to compensate for adverse

impacts to these species. Landowners can generate income, keep large parcels of land intact, and possibly reduce their taxes.

Relevant Articles:

- Kiesecker M, Joseph et.al. 'A Framework for Implementing Biodiversity Offsets: Selecting Sites and Determining Scale' http://www.nature.org/ourinitiatives/urgentissues/smart-development/publications/kiesecker-bioscience-publication.pdf

- R.Kenward et.al, 'Identifying governance strategies that effectively support ecosystem services, resource sustainability, and biodiversity' *Proceedings of the National Academy of Sciences of the United States of America*, Vol. 108, No. 13 (March 29, 2011), pp. 5308-5312 Article Stable URL: http://www.jstor.org/stable/41125695

- J Fischer et.al. '*Biodiversity, ecosystem function, and resilience: ten guiding principles for commodity production landscapes*' Centre for Resource and Environmental Studies, The Australian National University, Canberra. 2006 Viewable at: http://www.cfr.washington.edu/classes.esrm.201su/Reading%20assignments/Readings/Fischer.pdf

- United States Fish and Wildlife Services, 'Endangered Species Recovery Program'. Viewable at: http://www.fws.gov/endangered/esa-library/pdf/recovery.pdf

- A full list of Fish and Wildlife Services Endangered Species Services can be found here: http://www.fws.gov/endangered/laws-policies/regulations-and-policies.html

Biodiversity management in Canada

Based on six guiding principles;

- 'Protection First,' that the primary purpose of a protected area is the protection of wildlife and its habitat.
- 'Science at the Core of Protected Areas Planning Management,' Knowledge of wildlife, habitats and ecosystems should be at the forefront of management, then social, economic and political considerations, as well as Aboriginal traditional knowledge.
- 'Environment Canada Network Designed to Complement other Conservation Actions,' Environment Canada is designed to complement other Canadian protected areas and stewardship arrangements.
- 'Network Designed and Managed to Adapt to Future Ecological Change,' this principle mainly refers to global warming.
- 'Ecosystem-Based Management of Protected Areas' Use an ecosystem approach in planning and managing protected areas.
- 'Environment Canada Works with Others' Environment Canada must work with NGO's, States and other Countries.

(Environment Canada, 2011)

The Canadian Government also subscribe to the 'no net loss' principle which has allowed for offsetting to be used within Canada's fisheries. Within this act, there is a hierarchy of preferred options to 'compensation' (offsetting). These are relocation of the project, then redesign so that the project no longer has an adverse impact on the fish or habitat and then mitigation. All of these options have to be unfeasible before compensation is allowed (Kate *et al.* 2004, 31)

The main government department responsible for biodiversity is the Department of the Environment, there is also the position of Minister for the Environment. Both this Department and the position were set up by *The Department of Environment Act* (1971) (Environment Canada, 2014a). Canada signed the *Convention of Biological Diversity* in 1992 at the United Nations Conference on the Environment and Development in Rio De Janiero (Attridge and Wood, 1996, 23). As Affolder (2006, 219) points out though, "an analysis of Canadian judicial decisions between 1990-2005 reveals an extremely limited role of the courts in internalizing international biodiversity law norms." The Canadian Federal Government has the ability of entering into treaties, and implementing them if they relate to Federal laws, when they cover provincial areas, they must be written into the Provinces legislation, (Attridge and Wood, 1996, 29).

The *Species at Risk Act* (2002) arose out of the *Convention of Biological Diversity* and partly satisfies Canada's commitments under the Convention. The aim of this act is to protect endangered species and their habitats. From the act an independent committee of wildlife experts is erected who assess animals conservation status. The committee's report goes to the Minister for the Environment who then assesses whether the species should go on the List of the Species at Risk. The Act also establishes penalties for those who do not comply with the law. There is also the *Migratory Birds Convention Act* (1994), which came about because of a treaty signed with the United States and Mexico (*The Migratory Birds Convention)* which outlines a list of migratory birds which are protected (Environment Canada, 2013a). Other acts include *The Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act,* and *The Canada Wildlife Act.* The purpose of the former is to protect plants and animals that may be at rick of overexploitation due to trade and also makes it illegal to transport illegally obtained animals between Provincial and

international borders (Environment Canada, 2014b) . The latter aims to protect habitats for species, particularly those that are at risk (Environment Canada, 2013b).

Reference List:

- Affolder N. (2006) 'Domesticating the Exotic Species: International Biodiversity Law in Canada' *McGill Law Journal* 51 217-251
- Attridge I, Wood P. (1996) 'Biodiversity Law and Policy in Canada: Review and Recommendations' Canadian Institute for Law and Environmental Policy
- Environment Canada (2014a) '*Acts'* Accessed: 10 September 2014, Available from: https://www.ec.gc.ca/default.asp?lang=En&n=E826924C-1
- Environment Canada (2014b) 'Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act' Accessed: 10 September 2014, Available from: http://www.ec.gc.ca/cites/default.asp?lang=En&n=18F4A0BC-1
- Environment Canada (2013) 'Birds Protected in Canada Under the *Migratory Birds Convention Act,* 1994 and Regulations' Accessed: 10 September 2014 2014, Available from: http://www.ec.gc.ca/nature/default.asp?lang=En&n=496E2702-1
- Environment Canada (2013b) 'Canada Wildlife Act' Accessed: 10 September 2014, Available from: http://www.ec.gc.ca/alef-ewe/default.asp?lang=En&n=E8EA5606-1
- Environment Canada (2011) 'Guiding Principles' Environment Canada Protected Areas Strategy. Accessed: 10 September 2014, Available from: https://www.ec.gc.ca/ap-pa/default.asp?Lang=En&n=8477CFB6-1#_Toc289954768
- Kate, K, Bishop, J, and Bayon, R. (2004). Biodiversity offsets: Views, experience, and the business case. IUCN, Gland, Switzerland and Cambridge, UK and Insight Investment, London, UK.

Comparison of Biodiversity Laws: EU

Comparison Principles of Biodiversity Management

- EU committed to halting biodiversity loss within the EU by 2020
- EU enviro policy rests on the principles of precaution, prevention & rectifying pollution at the source, & on the polluter pays principle
- Precautionary principle: A risk management tool that may be used when there's scientific uncertainty about a suspected risk to human health/to the environment due to a particular action/policy. Such measures must be non-discriminatory & proportionate, must be reviewed once more scientific information is available
- Polluter pays principle: Implemented by the Enviro Liability Directive. Preventative measures must be taken in the cause of an imminent threat to the environment. If damage as already occurred, the polluter is obliged to take appropriate measures to remedy it & pay for the costs. The scope has been broadened to include the management of extractive waste, the operation of geological storage sites, & the safety of offshore oil & gas operations.
- Precautionary & preventative action principles: environmental damage should be, to the extent possible, rectified at the source
- Also aim to integrate enviro concerns into other EU policy areas – agriculture, energy, transport sustainable to properly protect natural areas (http://www.europarl.europa.eu/aboutparliament/en/displayFtu.html?ftuId=FTU_5.4.1.html)

Comparison Principles of Biodiversity Offsetting

- No net loss initiative: Action 7, Target 2 of the EU Biodiversity Strategy to 2020 aims to 'ensure no net loss of biodiversity & ecosystem services'
    - 7A: Commission aims to develop a methodology for assessing the impacts of EU funded projects, plans & programs on biodiversity by 2014. Acknowledgement of the need for 'biodiversity proofing' the EU budget to ensure spending under the EU budget has no negative impacts on biodiversity, and that it is overall supportive of reaching biodiversity targets
    - 7B: Commission aims to carry out further work w/ the goal of proposing an initiative to ensure no net less of ecosystems & their services by 2015 (EG via compensation/offsetting schemes)
- (http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm)

Comparison of Management Systems

Basic Framework:

- Environmental action programs
- Horizontal strategies
- Environmental impact assessment & public participation
- International environmental cooperation
- Implementation, enforcement & monitoring
- (http://www.europarl.europa.eu/aboutparliament/en/displayFtu.html?ftuId=FTU_5.4.1.html)

Natura 2000:

- The "centrepiece of EU nature & biodiversity policy"
- Formed by the Birds Directive & the Habitats Directive
- A network of protected areas – the largest network of this kind in the world with over 26,000 areas covering over 750,000km squared (18 % of EU's land area)

- Aim is to ensure long-term survival of Europe's most valuable/threatened species/habitats
- Comprised of Special Areas of Conservation (SAC), Special Protection Areas (SPAs)
- Most of the land will most likely remain privately owned. Emphasis will be on ensuring sustainability and conservation
- Natura 2000 Barometer – provides updated statistical info on the progress of the Natura 2000 network
- (http://ec.europa.eu/environment/nature/natura2000/index_en.htm)

Journal Articles

- Baker, S (2013) "The Dynamics of European Union Biodiversity Policy: Interactive, Functional and Institutional Logistics". Environmental Politics Vol 12 (3), pp.23-41 (http://dx.doi.org/10.1080/09644010412331308264)
- Kingston, S (2010) "I. Environment". International and Comparative Law Quarterly Vol 59, pp.1129-1141 (doi:10.1017/S0020589310000552)

Comparison of Biodiversity Laws: New Zealand

Comparison of Principles of Biodiversity Management

- Principle 1: Governance: Gov responsible for providing direction & leadership in ensuring conservation & sustainability of NZ's biodiversity
- Principle 2: Treaty of Waitangi: Special relationship between the Crown & Maori as reflected in this treaty should be recognised in biodiversity conservation & sustainability
- Principle 3: Collective & Ethical Responsibilities: All depend on biodiversity & all are responsible for its conservation & sustainable use
- Principle 4: Working Together: Individuals & public agencies to work together in a coordinated matter, to share knowledge/costs/benefits, to be clear about their roles & responsibilities, to be able to contribute
- Principle 5: Respect for Property Rights: Essential to ensure collaborative partnerships between resource owners & users & public agencies to conserve & sustain biodiversity
- Principle 6: Recognise Variable Capacity to Respond: Acknowledge variable capacities of individuals & local communities in implementing biodiversity mechanisms
- Principle 7: Internalising Enviro Costs: When an activity imposes adverse effects on biodiversity, costs of mitigating/remedying those impacts should be borne by those benefiting from the activity
- Principle 8: In Situ Conservation: Biodiversity best conserved in situ by conserving ecosystems/ecological processes to maintain species in their natural habitats
- Principle 9: Indigenous Biodiversity Priorities: Priority should be given to conserving indigenous species over introduced species when making management decisions
- Principle 10: Sustainable Use: Conservation is a priority, but doesn't prevent its use where it is ecologically sustainable & doesn't result in long-term decline of biodiversity
- Principle 11: Management Actions: Biodiversity management requires a comprehensive approach which recognises all levels of biodiversity. Actions should identify, prevent & mitigate the causes of biodiversity loss via
- Principle 12: Precautionary Decision Making: Management actions shouldn't be postponed because of lack of knowledge, especially when significant/irreversible damage to ecosystems may occur, or where indigenous species are at risk
- Principle 13: Focus on the Future: We can learn from past mistakes but the way forward should not be assisted by delegating blame for past unsustainable practices

(https://www.biodiversity.govt.nz/picture/doing/nzbs/part-two/principles.html)

Comparison of Principles of Biodiversity Offsetting

Guidance on Good Practice Biodiversity Offsetting in NZ – Principles

- Principle 1: Adherence to Mitigation Hierarchy: Biodiversity offsets only after avoidance, minimisation & on-site rehabilitation measures have been taken
- Principle 2: Limits to What Can be Offset: There are situations where impacts can't be fully compensated for by a biodiversity offset due to irreplaceability of biodiversity
- Principle 3: Landscape context: Biodiversity offsets should be designed & implemented in relation to the landscape context, including biological, social & cultural values of biodiversity
- Principle 4: No Net Loss: Biodiversity offsets should result in no net loss, & preferably a net gain, of biodiversity

- Principle 5: Additional Conservation Outcomes: Biodiversity offsets should achieve conservation outcomes which go beyond what would have occurred if the offset had not taken place
- Principle 6: Stakeholder Participation: Effective participation of stakeholders should be ensured in decision-making of offsets - evaluating/design/implementing/monitoring
- Principle 7: Equity: Biodiversity offsets should be designed & implemented in an equitable manner – sharing amongst stake holders of rights & responsibilities, risks & rewards, respecting legal & customary arrangements, etc
- Principle 8: Long-Term Outcomes: Biodiversity offsets should have an adaptive management approach, aiming for options which last at least as long as the project's impacts & preferably forever
- Principle 9: Transparency: Design, implementation, & public communication of results should be undertaken in a transparent & timely manner
- Principle 10: Science & Traditional Knowledge: Design & implementation should be documented & informed by sound science, including traditional knowledge

(http://www.doc.govt.nz/about-doc/policies-and-plans/guidance-on-biodiversity-offsetting/#3)

Comparison of Management Systems

Conservation Act 1987 – Dept of Conservation

- "to promote the conservation of New Zealand's natural and historic resources"
- Various functions: EG Management for conservation of all land & natural & historic resources held under the Conservation Act
- Defines conservation areas & 'specially protected areas' (eg conservation parks, wildlife management areas), 'marginal strips', 'stewardship areas'
- Defines land deemed to be held for conservation purposes
- (http://www.doc.govt.nz/about-doc/role/legislation/conservation-act/)

Marine & Coastal Area Act 2011

- "provides for the special status of the common marine and coastal area as an area that is incapable of ownership"
- (http://www.doc.govt.nz/about-doc/role/legislation/marine-and-coastal-area-act/)

National Parks Act 1980

- Requires a balance between dual requirements of 'preservation in perpetuity' & 'public access & enjoyment' – greater emphasis given to preservation aspects
- Part 1: Principles for national parks. Includes preservation of their natural state, for native plants & animals; removal of introduced plants & animals; maintenance of soil, water, and forest conservation values; freedom of public access as far as possible, etc
- (http://www.doc.govt.nz/about-doc/role/legislation/national-parks-act/)

Reserves Act 1977

- 3 main functions: provide preservation & management for the benefit & enjoyment of the public of areas possessing some special feature/values (eg recreational use, wildlife, etc); to ensure as far as possible the preservation of representative natural ecosystems/landscapes & the survival of indigenous species of flora & fauna; to ensure as far as possible the preservation of public access to coastlines, islands, etc & to encourage protection & preservation of the natural character of these
- 8 types of reserves – national, recreation, historic, scienic, nature, scientific, government purpose, local purpose, wilderness areas, other categories
- (http://www.doc.govt.nz/about-doc/role/legislation/reserves-act/)

Wildlife Act 1953

- Most species of wildlife, native or introduced, absolutely protected under the Act – no-one may kill or have in their possession any such animal unless they have a permit
- Varying levels of protection – schedules 1 – 7A. No schedule means the animal is absolutely protected
- Part I also sets out the provisions relating to the following categories of land – wildlife sanctuaries, wildlife refuges, wildlife management reserves, wildlife districts
- (http://www.doc.govt.nz/about-doc/role/legislation/wildlife-act/)

The New Zealand Biodiversity Strategy – Biodiversity Govt NZ

- Actions being taken to implement the Convention on Biological Diversity w/in NZ
- Launched 29 March 2000 – commitment to reverse the decline of NZ's biodiversity, & to conserve & sustain it. In accordance w/ the Convention on Biological Diversity
- Outcomes to be achieved by 2020 via detailed action plans, objectives, specific actions
- EG Threat Classification Systems List 2005 – preventing the extinction of NZ's unique plant & animal species is critical to the Biodiversity Strategy
- (http://www.doc.govt.nz/documents/science-and-technical/sap236.pdf)

The Biodiversity Monitoring & Reporting System – Dept of Conservation

- Dept of Conservation progressively implementing a national system to monitor & report on NZ's biodiversity
- Will provide DOC & others w/ easily shared regularly updated comprehensive info about biodiversity across public conservation lands (& potentially across all NZ) – this will better inform effective management planning & policy development, thus improving conservation outcomes
- Biodiversity inventory & monitoring – seeing what is where, what condition it's in, & tracking changes. Critical to understanding progress, learning & thus improving practices & reporting, & showing how resources can be best spent & what should be focused on
- Improves ability to compare projects & know what interventions work best
- Relies on participation of NZ's biodiversity managers
- Training & other support provided to encourage stakeholders & communities to monitor effectively & consistently
- (http://www.doc.govt.nz/about-doc/policies-and-plans/managing-natural-heritage/a-national-system-to-monitor-and-report-on-biodiversity/)

Journal Articles

- Lee W, McGlone M, Wright E (2005) "Biodiversity Inventory and Monitoring: A review of National and International Systems and A Proposed Framework for Future Biodiversity Monitoring by the Department of Conservation". Landcare Research Contract Report LC0405/122 for the Department of Conservation, Wellington (http://www.landcareresearch.co.nz/publications/researchpubs/biodiv_inventory_system_review_framework.pdf)
- Gree, W & Clarkson, B (2006) "Review of the New Zealand Biodiversity Strategy Themes". Department of Conservation, Wellington (http://www.doc.govt.nz/Documents/conservation/nz-biodiversity-strategy-themes.pdf)
- Norton, N (2009) "Biodiversity Offsets: Two New Zealand Case Studies and an Assessment Framework". Environmental Management Vol 43 (4), pp.698-706 (http://download.springer.com/static/pdf/535/art%253A10.1007%252Fs00267-008-9192-5.pdf?auth66=1410494325_c0e234a68bcc38108c55360d60a75193&ext=.pdf)

Appendix 3: Processes for assessing biodiversity impacts under the *Environmental Planning and Assessment Act 1979*

Table A: Summary of processes for assessing biodiversity impacts of development under Parts 4 (and 5.1) of the *Environmental Planning and Assessment Act 1979* (EPA Act)

TYPE OF DEVELOPMENT	CONSENT REQUIREMENT	CONCURRENCE REQUIREMENTS[168] *	INFORMATION REQUIREMENTS	ASSESSMENT REQUIREMENTS	OFFSETTING OPTIONS
Exempt Development (ED)	None	None	None	Self-assessed – must comply with ED standards in Codes SEPP 2008[169]	None
Additional restrictions	Cannot be carried out on critical habitat or a wilderness area (s76(3)(a) EPA Act)				
Complying Development (CD)	None	None	None	Council- or certifier-assessed – must comply with CD standards in LEP or Codes SEPP 2008	None
Additional restrictions	- Cannot be carried out on critical habitat or a wilderness area (cl. 1.17A(1)(b)(c) Codes SEPP 2008). - Some CD codes do not apply within an ecologically sensitive area, environmentally sensitive land, or within a protected area (for example, the *General Housing Code*, *Rural Housing Code* and the *Commercial and Industrial (New Buildings and Additions) Code*) (see cl. 1.19 Codes SEPP 2008).				
DEVELOPMENT THAT REQUIRES 'CONSENT'					
General development (Part 4)	Local council evaluation and determination (ss 79C-80, EPA Act)	Only if likely to impact on TS etc.	Statement of Environmental Effects required (Schedule 1, Item 2(c), EPA Regulation)	s 79C, EPA Act	None
Designated development[170] (high-impact)	Local council, as above	As above	EIS[171] required (s78A(8)(a) EPA Act)	As above	As above
Additional requirements – If likely to impact on TS, EEC etc. or	-	Concurrence of DG (Secretary,	Species Impact Statement (SIS)[172] required	Only if *critical habitat* affected, consent authority	These additional requirements

[168] Concurrence requirements as they relate to threatened species, populations or ecological communities, or their habitats (i.e. concurrent approval of OEH Secretary or the Environment Minister – see e.g. s 79B EPA Act).
[169] *SEPP (Exempt and Complying Development Codes) 2008*.
[170] See Schedule 3, EP&A Regulation 2000.
[171] Environmental Impact Statement in accordance with Director Generals Requirements (DGR), Sch 2 EP&A Regulation 2000
[172] Species Impact Statement under Part 6 Div. 2, *Threatened Species Conservation Act 1995.* An SIS includes important information on species, communities and habitat affected; their status, abundance, distribution; cumulative effects and feasible alternatives with regard to ESD.

TYPE OF DEVELOPMENT	CONSENT REQUIREMENT	CONCURRENCE REQUIREMENTS[168] *	INFORMATION REQUIREMENTS	ASSESSMENT REQUIREMENTS	OFFSETTING OPTIONS
critical habitat (Consent authority applies '7-part test' to determine if these additional requirements apply – s 5A EPA Act)		OEH) required (s79B(3), EPA Act)	(s78A(8)(b) EPA Act)	must have regard to the register of critical habitat (s 5B EPA Act)	do not apply in the case of: - Biocertifiation - Biobanking statement
State Significant Development (SSD)[173]	Consent of Planning Minister or delegate[174] (s 89D, EPA Act)	Exempt from authorisation to clear native vegetation under NV Act (s 89J(1)(e), EPA Act	EIS required (s78A(8A), EPA Act)	s 79C, EPA Act	Biodiversity Offset Policy for Major Projects
Additional requirements If likely to impact on TS, EEC etc. or critical habitat (SSD is exempt from '7-part test' that applies to other development; public authorities are consulted on DGRs)	-	Exempt – unless specified in env. planning instrument (s 79B (2A), EPA Act)	Exempt from SIS requirement (s 78A(8A), EPA Act)	-	Biodiversity Offset Policy for Major Projects
State Significant Infrastructure (SSI)[175]	Minister for Planning (s115W, EPA Act)	Authorisation to clear native vegetation under the NV Act is not required (s115ZG(1)(e), EPA Act	EIS required (s 115Y, EPA Act)	115ZG	Biodiversity Offset Policy for Major Projects
Additional requirements	In preparing the environmental assessment requirements (DGRs) for the EIS, the Director-General of Planning is to consult relevant public authorities, and have regard to the need for the requirements to assess any key issues raised by those public authorities (s 115Y(3), EPA Act)				
Additional comments	Certain orders or notices **cannot** be made or given so as to prevent or interfere with the carrying out of approved critical State significant infrastructure, including: - an **interim protection order** (within the meaning of the NPW Act or the TSC Act) - a **stop work order** under Part 6A, Division 1 of the NPW Act; Part 7, Division 1 of the TSC Act; or Part 7A, Division 7 of the Fisheries Management Act 1994. - a **remediation direction** under Part 6A, Division 3 (Remediation directions) of the NPW Act.				

[173] Categories of SSD listed in SEPP (State & Regional Significant Development) 2011, other SEPPs, or ministerial declaration.
[174] Current practice is to delegate to senior Planning officers or the Planning Assessment Commission (PAC).
[175] Under Part 5.1, EPA Act. Categories of SSI listed in SEPP (State & Regional Significant Development) 2011, other SEPPs, or by ministerial declaration.

Table B: Summary of processes for assessing the biodiversity impacts of development on under Part 5 of the *Environmental Planning and Assessment Act 1979*

TYPE OF DEVELOPMENT		CONSENT REQUIREMENT	CONCURRENCE REQUIREMENTS*	INFORMATION REQUIREMENTS	ASSESSMENT REQUIREMENTS	OFFSETTING OPTIONS
Part 5 Activities[176]		None, but public 'determining authority' (may also be project proponent) has duty to consider enviro. impact before proceeding (s 111, EPA Act)	See below. Only if determining authority finds project will 'significantly affect' environment (incl. critical habitat) or threatened species, habitat etc	Usually a small-scale 'Review of Environmental Factors' (REF) to satisfy s 111 duty.	Section 111 EPA ACT	
Additional requirements	If likely to impact on TS, EEC etc. or critical habitat		s 112B – s112E, EPA Act	If REF (above) suggests significant impacts, then EIS[177] and/or SIS required (s 112, EPA Act)	Determining authority to consider whether there is likely to be a significant effect on threatened species etc. (s 111(4)(b), EPA Act	These additional requirements do not apply if Biocertification or Biobanking Statement applies
	Flora and Fauna under NPW Act				Determining authority to consider effect of an activity on any other protected native plants or fauna (s 111(4)(c), EPA Act)	These additional requirements do not apply if Biocertification or Biobanking Statement applies

**** See also Part 5, Division 5 - Environmental assessment of fishing activities**

[176] Small to medium development & infrastructure proposed by public authorities (SEPP (Infrastructure) 2007); some private projects e.g. mineral exploration, some CSG exploration (SEPP (Mining, Petroleum Production& Extractive Industries 2007).

[177] Environmental impact statement in accordance with Schedule 2 of the EP&A Regulation 2000.