Submission 040
Date received: 29/07/2011

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House of Representatives Standing Committee on
Climate Change, Environment and the Arts
PO Box 6021
Parliament House
CANBERRA ACT 2600
AUSTRALIA
ccea.reps@aph.gov.au

Birds Australia
CONSERVATION THROUGH KNOWLEDGE

ABN 87 004 076 475
Suite 2-05, 60 Leicester St, Carlton VIC 3053
Tel (03) 9347 0757 Fax (03) 9347 9323
Email: mail@birdsaustralia com au
Website: www birdsaustralia com au

Re: Inquiry into Australia's biodiversity in a changing climate.

Dear Committee,

Birds Australia appreciates the opportunity to participate in this timely inquiry into Australia's biodiversity in a changing climate. Birds Australia (the Royal Australasian Ornithologists Union) was founded in 1901 and works to conserve native birds and biodiversity in Australasia and Antarctica, through the study and management of birds and their habitats, and the education and involvement of the community.

Birds Australia appreciates that the scope of the inquiry into Australia's biodiversity in a changing climate is very broad. Whilst biodiversity, the variety of life, in Australia is complex, we believe that a number of straightforward actions will go along way towards addressing the current biodiversity crisis and meet the challenges of conserving biodiversity in a changing climate. Essentially, the Australian Government needs to ensure that;

1. A real effort is made to meet our international commitments.
2. Strong reform of our national legislation is based on comprehensive independent expert review that incorporates real and thorough community consultation. Particular emphasis should be given to recognising 'Ecosystems of National Significance' and critical habitat such as climate change refugia, as matters of National Environmental Significance so that they can be protected by law, and providing a legislative mandate for keeping National Environmental Accounts.
3. Existing instruments, such as the national Biodiversity Strategy, recovery plans etc, are appropriately resourced and funding for Biodiversity Conservation is substantially increased.
4. Appointments to the Land Sector Carbon and Biodiversity Advisory Board are based on merit and at arms length from political processes.
5. The capacity for publicly funded biodiversity research, auditing, monitoring, accounting and communication is restored and enhanced (by re-establishing an independent Biodiversity Authority similar to Land and Water Australia).
6. A national biodiversity education and training program is developed.

We provide further detail in our response to the inquiry's terms of reference below. I would welcome the opportunity to discuss further details and can be contacted at

Yours Faithfully,

Samantha Vine
Conservation Manager
Birds Australia

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Biodiversity in Australia and it's territories

Australia is a Global biodiversity hotspot, home to almost 10% of the world's known species. It also has 10% of the world's threatened species. About 92% of our vascular plants, 87% of our mammals, and 45% of our birds are endemic - that is, they are found no-where else in the world.

Australia's major biodiversity assets include ecosystems, ecological communities, species, populations and genes.

Many of these assets continue to be lost by ongoing threats such as habitat loss and fragmentation; land use change; invasive species; grazing pressure; altered fire regimes; and changed hydrology. Climate change will compound existing threats and bring new challenges.

Assessment of whether current governance arrangements are well placed to deal with the challenges of conserving biodiversity in a changing climate

In 2004 the IUCN calculated that the global rate of biodiversity loss had risen to 100-1,000 times the 'back ground' level of extinctions– a situation comparable to the five previous "mass extinctions"

Almost half of all worldwide mammal extinctions in the last 200 years have occurred in Australia. 1,667 of our species are listed as threatened under National legislation. A further 103 are listed as extinct. These figures are conservative.

The 2008 *Assessment of Australia's Terrestrial Biodiversity* found that change in conservation status of threatened species has generally been to a more threatened category - there were no cases of real improvement in the status of listed taxa at the national level for all examined case studies. Changes in the total state and territory listed taxa showed similar trends: for flora of the 68 records of real change, 93 per cent involved decline; for fauna of 128 records of real change, 91 per cent involve decline[1].

Australian governance arrangements, at the current level of funding, have not dealt with the challenges of conserving biodiversity to date and will be inadequate to address increased pressures brought on by a changing climate.

International Policy Arrangements

In response to an alarming rate of species extinctions, Australia ratified the United Nations (UN) Convention on Biological Diversity (CBD) on 18 June 1993. The Convention on Biological Diversity (CBD) is an international legally binding treaty. In 2002, Australia and other parties adopted the 2010 Biodiversity Target: to reduce significantly the rate of biodiversity loss at global, regional and national levels. Australia failed to achieve its 2010 Biodiversity Target.

The global failure to reach the 2010 CBD target to date has been largely attributed to **lack of resourcing.**

In October 2010, at the 10th Conference of the Parties in Nagoya, Japan, parties including Australia agreed on a new Strategic Plan and a strategy for financial resources mobilisation. The Strategic Plans 20 sub-targets ("Aichi targets") adopted in Nagoya include for example, 2020 targets to incorporate biodiversity values into national accounting, prevent the extinction of known threatened species, and to increase the land and marine protected areas to 17% and 10% respectively.

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[1] Department of the Environment, Water, Heritage and the Arts 2009, *Assessment of Australia's Terrestrial Biodiversity 2008*, Report prepared by the Biodiversity Assessment Working Group of the National Land and Water Resources Audit for the Australian Government, Canberra.

Of particular importance to this inquiry Target 15 of the Strategic Plan:

Target 15- By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

The Protected Areas decision adopted in Nagoya also has strong synergies with the United Nations Framework Convention on Climate Change (UNFCCC). It reminds UNFCCC to pay attention to the role of Protected Areas in adaptation and mitigation, and that such activities should receive financial and technical support through climate-related finance. It further invites UNFCCC to consider ecosystem-based approaches to adaptation, and requests consideration of Protected Areas in Rio Conventions' Joint Activities discussions. The CBD Executive Secretary will also provide advice to make sure REDD+ is consistent with CBD, including consideration of 'safeguards' for biodiversity.

Recommendation 1: Make a real effort to meet our international commitments.

National policy and legislation

Environment Protection and Biodiversity Conservation Act 1999

The Australian Government's primary piece of environmental legislation is the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, and ecological communities as matters of national environmental significance.

Led by Dr Allan Hawke, a comprehensive independent review of the EPBC Act found that existing laws need a substantial overhaul to meet present environmental challenges. The final report was delivered in late 2009, and recommended new legislation- *The Australian Environment Act*[2] be enacted. The Government is yet to respond to the review or Dr Hawke's recommendations.

Recommendation 2: Establish a new Australian Environment Act as per Dr Hawke's review of the EPBC Act.

As advocated by the Hawke review of the EPBC Act, the Government should adopt a package of reforms, and not cherry-pick a subset of the cheaper or 'easier' recommendations. Birds Australia convene a working group of prominent environment NGOs at the invitation of then Minister Garrett to support the creation of conditions to enable strong reform of our national environmental legislation. We considered, (as the previous Minister and Department did), the Hawke review to be a really good piece of work. The community consultation process was particularly robust, and many groups put a lot of time and effort into engaging with the review. Birds Australia are now concerned that all the hard work of the community is going to be disregarded if the Government plan to 'cherry-pick' recommendations, or ignore the review and the input of key stakeholders altogether.

At the very least we need more effective and adequately funded national laws that pertain to the conservation of biodiversity. Under no circumstances should the current legislation be weakened by piecemeal regulatory chances and amendments designed to accommodate proponents

[2] *The Australian Environment Act – Report of the Independent Review of the Environment Protection and Biodiversity Conservation Act 1999*. October 2009 Final Report. Commonwealth of Australia.

interests. In any streamlining effort, it is vital that environmental standards be maintained and strengthened.

Why Australia needs stronger environment laws
Preventing extinction: Australia has more animal species than any of the 16 other 'mega-diverse' countries, which together hold two thirds of all species known on earth. Thousands of native plant and animal species are at risk: 55 animal and 48 plant species are already extinct and another 371 animal and 1295 plant species are listed as threatened under the EPBC Act. Successive assessments find that threats are escalating and that climate change could be catastrophic for these and many more species not yet officially considered threatened.

Limiting remediation costs: Past failures to protect nature impose huge remediation costs on future generations. We are already paying over a billion dollars a year to rectify mistakes in the Murray Darling Basin.

For every bird species that moves from endangered to critically endangered, costs per hectare of remedial action to prevent extinction rise nearly 40 fold. Invasive species cost an estimated $7 billion a year in lost agricultural profits and control, and soil degradation another $1.5 billion.

Protecting valuable economic and cultural assets: Biodiversity is central to our health, prosperity, national identity and quality of life, giving us clean water and air, storm, flood and climate control, public health, and genetic resources for pharmaceuticals and food security. Australia's native wildlife and wild places are the assets of our $26 billion a year nature-based tourism industry.

Essential reforms of the EPBC Act

Following is an outline of the reforms that are absolutely essential to the future of Australia's biodiversity. Any less will be to guarantee escalating losses and degradation. While we support the majority of recommendations in the Hawke review, in many respects they do not go far enough, especially in light of the looming impacts of climate change.

Ecosystems of National Significance: The Australian Government has committed to a stronger focus on ecosystem protection, recognising the importance of conserving land/seascape scale ecological functions and processes. Without ecosystem scale conservation, species by species conservation will always have limited prospects for success.

We strongly support recommendation 8 of Dr Hawke's report; to provide for listing of "ecosystems of national significance" as matters of national environmental significance. We propose further that this must include climate change refuges, ecosystems significant for building a comprehensive, adequate and representative National Reserve System, nationally important wetlands, centres of endemism and biodiversity hotspots as well as large 'wilderness' or natural areas still largely free of degradation, with close to natural levels of ecosystem function.

Defining Ecosystems of National Significance, or 'Nationally important ecosystems'
Whilst Dr Hawke proposed a number of criteria for identifying Ecosystems of National Significance (ENS), we recognise that the criteria need further development and refinement to ensure workability.

Birds Australia, in association with prominent environmental groups from the Australian Environment Network, wrote to both then Minister Garrett and more recently, current Minister Burke, proposing an expert workshop to better define Ecosystems of National significance, or 'Nationally Important Ecosystems'.

We proposed that the then Environment Department (now SEWPaC) convene an expert workshop to refine criteria. We offered to facilitate the participation of leading ecologists from our various organisations and scientific advisory groups. There are a range of ecological and legal

challenges raised by the ENS proposal which could be usefully explored. In particular, protecting ecosystems in intact landscapes, often the least cost path to protecting biodiversity, has quite different challenges to those of protecting and restoring ecosystems in degraded and fragmented landscapes, such as the Murray Darling Basin. The proposed ENS needs to address both challenges.

As well as defining the criteria for ecosystems of national significance, there needs to be forecasting of the types of actions likely to have a significant impact on particular ecosystems. Combined with other measures such as regional planning, more clearly developed criteria for ENSs would provide greater certainty to industry and business and the basis for more preventative and cost-effective conservation.

Summarising what was set out in the letters, we:

- strongly support adoption of criteria (a) to (i) of the Hawke report for defining ENS, with some modifications/extensions,
- note the particular importance of listing climate change refugia (criterion h),
- recommend that criterion (a) should specifically include centres of endemism and biodiversity hotspots. These should include for example identified Important Bird Areas.
- recommend criterion (f) be amended to "it is significant in building a comprehensive, adequate and representative national reserve system",
- propose an additional criterion for a large wilderness2 or natural area still largely free of degradation, with close to natural levels of ecosystem function,
- propose relevant to protecting ecosystems that particular keystone species which provide 'critical nationally important ecosystem functions' should be protected as an additional MNES,
- support listing wetlands of national importance as an MNES alongside wetlands of international importance,
- propose that the National Reserve System be recognised as an MNES, whereby significant impacts on those areas trigger the operation of the Act, and new provisions in the EPBC Act provide for development of a national management framework and standards to provide for consistent protection and management of all NRS protected areas.

We urge full implementation of the ENS recommendation as a high priority, essential reform, with the improvements proposed and with the criteria to be further refined based on advice from an expert workshop.

National Environmental Accounts: We strongly support Report Recommendation 67 for development of a system of national environmental accounts.

Currently there are insufficient data to report on national trends in important aspects of Australia's biodiversity. For example, trends in the impacts of climate change on biodiversity and trends in the conservation status of species and ecological communities nationally was rated as poor by the 2008 Terrestrial Biodiversity Assessment[1].

A legislative mandate is needed to provide the certainty and the on-going resources needed to provide capacity to systematically monitor biodiversity assets and provide the information basis for improved planning and decision-making.

We also support the sub-recommendation that the Australian Bureau of Statistics (ABS) is an appropriate agency to manage national environmental accounts under a nationally standardised framework for data collection, coordination, reporting and auditing.

National Reserve System: A major gap in the EPBC Act is that it covers conservation areas declared under earlier conventions, but has no specific provisions for actual protected areas declared pursuant to the Convention on Biological Diversity, other than Commonwealth Reserves. We propose the inclusion of protected areas within the National Reserve System

(NRS) formally as matters of National Environmental Significance under the EPBC Act, whereby significant impacts on those areas trigger the operation of the Act, as well as new provisions in the EPBC Act to provide for development of a national management framework and standards to provide for consistent protection and management of all NRS protected areas.

Whilst the National Reserve System in Australia is designated primarily for the purpose of biodiversity conservation, protected areas have additional value in storing and sequestering carbon. About 15% of the global terrestrial carbon stock is currently within protected areas[3]. Effective management and expansion of the protected area estate can contribute to climate change mitigation by reducing both current and future greenhouse gas emissions, protecting carbon stock and biodiversity at the same time. In Australia, this is particularly relevant where a change in land tenure directly results in the protection of native vegetation that would otherwise degrade or be cleared; or results in management changes that benefit biodiversity and capture more carbon.

Mandatory Critical Habitat: There is no point protecting species without protecting the habitats they need to recover, to the point they can recover and come off the endangered list. The EPBC Act currently has weak protections for such habitats. We propose:

- mandatory identification of critical habitat within 12 months of listing of a species,
- mandatory inclusion on the register of critical habitats, and
- redefinition of critical habitat more precisely as those areas currently occupied and other areas currently unoccupied but found to be critical for the species to recover to the point it can be delisted (This may include for example, past distribution or future habitat given a high degree of confidence in climate change induced habitat shifts).
- provision that a significant impact on critical habitat is specifically recognised in the Act as being a significant impact on the species itself
- provision for periodic review to take account of changing needs due to climate change and any other relevant changes including improved data.

Strategic Environmental Assessments: While Strategic Environmental Assessments (SEAs) can better take into account cumulative impacts of multiple projects on MNES, and avoid the piecemealing of impacts, to date they have been rushed and have locked in poor ecological outcomes for decades. We have serious reservations about the widespread use of them on other than a pilot basis until rigorous empirical auditing proves that they actually produce beneficial biodiversity outcomes.

We propose a zoning scheme as the main an outcome of an SEA, identifying:

- areas where specific types of actions may proceed without further assessment, unless new information comes to light post-assessment
- areas where specific types of actions need project-level approval
- areas where specific types of actions are prohibited.

Decision-making and transparency: We support clear provisions to ensure transparency of decision-making and adequate public participation including a minimum 60 day public exposure and feedback period (Report Recommendations 43-46). We strongly support the creation of a call in power for 'plans, policies and programs' that may have or materially contribute to a significant impact on a MNES. This would improve the ability for the Commonwealth to pre-empt threats to MNES early in development processes and to better deal with cumulative impacts. At present the Commonwealth has to wait for a jurisdiction to initiate a request for an SEA.

Regional Environmental Assessments: We support the use of regional/bioregional assessments, particularly for regions/ecosystems which span multiple jurisdictions, and propose that the proposed independent Environment Commission should have the power to undertake

[3] Secretariat of the Convention on Biological Diversity. 2009. Connecting Biodiversity and Climate Change Mitigation and Adaptation: Report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change. Montreal, Technical Series No. 41, 126 pages.

bioregional assessments, using independent panels or council under a staged and rigorous assessment process, and with clear consultation processes.

Regional Forest Agreements: We support Report recommendation 39 for a more rigorous approach to auditing of Regional Forest Agreements. Native Forests are critical to both storage of carbon and biodiversity conservation. The CBD strategic plan encourages parties to at least halve the rate of deforestation by 2020, and where possible bring it close to zero; restore 15 per cent of degraded forests; manage all forests sustainably; and increase the coverage of protected areas to 17 per cent.

Invasive species: We strongly support Report Recommendation 23 to limit the "unconstrained movement" of thousands of invasive or potentially invasive species within Australia and provide "foresighting" capacity to identify and address environmental threats of all types before they become established.

Access to justice; merits review: We strongly support Report recommendations (48-53) to improve crucial elements of public interest participation in implementing the law.

Offsets/biobanking: We oppose general adoption of offsets until empirical research on pilot programs proves they actually result in improved species recovery through the course of normal operation.

Listing decisions: We agree with the Report that social and economic factors should continue to be considered at the approval decision stage and that decisions to list or not list species or ecological communities as threatened should continue to be solely on the basis of scientific judgment.

Keystone species: Not only ecosystems but particular species which might not be immediately threatened provide critical nationally important ecosystem functions. Loss of such keystone species may not qualify the species for listing as threatened, but may result in many other dependent or connected species becoming threatened. We propose widening the list of Matters of National Environmental Significance (MNES), to include keystone species or species of national ecological significance. This would greatly assist in achieving a whole of landscape approach to biodiversity conservation.

Greenhouse Trigger: We support Report recommendation 10. A greenhouse trigger is essential so that projects that would result in large emissions of greenhouse gases are treated as controlled actions under the Act.

Adequate funding

The effectiveness of EPBC Act reforms also depends on adequate funding. Overall, we need a major up-scaling of investment in biodiversity conservation. The $219 million Natural Heritage Trust component of Caring for our Country is a negligible 0.01% of the federal budget, and has been cut this year, just when it is needed most. Caring for our Country is vital to our national defence against climate change and biodiversity loss, but it's funded at about the same level as a single joint strike fighter per annum. This is grossly inadequate for the task of staving off mass extinction.

National Policy

Australia's first national biodiversity strategy, the *National Strategy for the Conservation of Australia's Biological Diversity*, was endorsed in 1996. However it failed to meet it's goal to protect biological diversity and maintain ecological processes and systems, specifically:

Objective 1.7 - Enable Australia's species and ecological communities threatened with extinction to survive and thrive in their natural habitats and to retain their genetic diversity and potential for evolutionary development, and prevent additional species and ecological communities from becoming threatened.

The revised National Biodiversity Strategy *Australia's Biodiversity Conservation Strategy 2010 –2030*[4] includes a number of relevant outcomes and actions, for example

Outcome 2.3.3 - An increase in the use of strategic and early interventions to manage threats to biodiversity including climate change; and

Action 14 - Identify and protect climate change refugia to strengthen opportunities for genetic and ecological adaptation.

However, it is difficult to see how the strategy will be delivered given the lack of any financial support. The strategy also lacks baseline information from which to measure progress, or adequate arrangements to oversee whole of government compliance.

Recovery and threat abatement
Despite significant time invested in listing and drafting National recovery plans, progress in implementation has been poor. Progress in managing threats has also been rated as poor nationally.[1] This is primarily due to insufficient funding for implementation.

Numerous State and Territory initiatives aimed at conserving biological diversity exist, including legislation for the protection of threatened species and policies such as State Biodiversity Strategies and native vegetation policies. However, although numerous policies and programs contribute to the conservation of biological diversity they have not been sufficient to address the biodiversity crisis.

Recommendation 3. Existing instruments, such as the national Biodiversity Strategy, recovery plans and the operation of our National legislation, should be appropriately resourced and funding for Biodiversity Conservation needs to be substantially increased.

Connectivity between ecosystems and across landscapes that may contribute to biodiversity conservation

The Government needs to invest substantially, and promote the issue of how biodiversity conservation can positively contribute to Australia's carbon reduction as well as assist in building ecosystem and species resilience. As described above the Biodiversity Fund, and the new Wildlife Corridors initiative are good first steps. Our hope is that they will use the best available science to identify pathways for climate adaptation for Australia's threatened species, and facilitate funding that will provide land managers with avenues for climate adaptation. Connectivity Conservation or landscape scale conservation is an internationally endorsed approach to address habitat fragmentation and provide species the best chance of adaptation. It is also an inclusive approach to conservation, which can cross many land tenures and involve all components of Australian society.

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[4] Natural Resource Management Ministerial Council 2010, *Australia's Biodiversity Conservation Strategy 2010-2030*, Australian Government, Department of Sustainability, Environment, Water, Population and Communities, Canberra.

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Strategies to enhance climate change adaptation, including promoting resilience in ecosystems

Recommendation 4. Restore and increase the capacity for publicly funded biodiversity research, auditing, monitoring, accounting and communication

The abolition of Land and Water Australia in June 2009, left a large hole in Australia's capacity for research to underpin sustainable land and water management. This loss compounds the research and auditing deficits identified in the preparation of the 2006 State of the Environment Report, including the lack of robust national trend data for biodiversity or marine and freshwater biota.

Australia urgently needs to establish a long-term monitoring and auditing framework for biodiversity across the continent to assess the impacts of climate change and other drivers of terrestrial, freshwater and marine biodiversity loss. Australia needs to support the sustainable management and use of our natural resources through investment in scientific research, Indigenous knowledge and education.

An expanded Land, Water and Biodiversity authority should be based on the model pioneered by Land and Water Australia, a core agency investing in and brokering research. Partnerships and formal alliances with research organisations in universities, national scientific organisations such as CSIRO, and others with capacity to undertake and implement research should underpin the work of such an authority.

Maximise the biodiversity benefits (and minimise perverse incentives) from the emerging carbon economy.

Recommendation 5: Maximise Biodiversity Benefits from Carbon markets

Birds Australia calls on Australian governments, business and the broader community to actively maximise the biodiversity benefits of emerging carbon markets schemes by:

- Recognising the importance of old growth vegetation and the more naturally carbon-dense nature of natural ecosystems.
- Recognising that the result of the degradation of natural ecosystems is a significant reduction of their carbon storage and sequestration capacity.
- Increasing recognition that biodiversity has a very important role to play in climate change mitigation through nature-based solutions.
- Ensuring that auditing based on credible full carbon accounting as a part of any offset approval process.
- Ensuring biodiversity impacts and benefits are considered in the emerging national climate change policies and projects, such as those under the proposed Carbon Farming Initiative.
- Ensuring national standards have been developed for accreditation and reporting of schemes that promote biodiversity outcomes along with carbon sequestration.
- Directing policy to ensure that emerging carbon markets do not actively contribute to biodiversity loss and decline.

- Supporting a substantial increase in the National Reserve System where this directly results in the protection of native vegetation that would otherwise degrade or be cleared; or results in management changes that benefit biodiversity and capture more carbon.

- Supporting carbon offset enterprises whose projects benefit biodiversity.

As well as adaptation, biodiversity also has a very important role to play in climate change mitigation. The importance of this relationship was recently recognised by decision IX/16 of the Conference of the Parties to the Convention on Biological Diversity (CBD).

The role of natural ecosystems in climate change mitigation
In general, natural ecosystems are more carbon dense and they are always biologically more diverse. Degradation of natural systems significantly reduces their carbon storage and sequestration capacity, leading to increases in emissions of greenhouse gases and loss of biodiversity at the genetic, species and ecosystem level[5].

The importance of old-growth vegetation as native carbon storage needs to be recognised. Based on full carbon accounting , the conversion of old-growth vegetation to fast-growing plantations results not only in significant losses to biodiversity, but also the acceleration of climate change through reduced carbon storage. In addition, long-lived tree species may be more resilient to climate change than fast-growing exotic species so that natural systems a likely to store more carbon in the medium term[7]. Indeed there is emerging consensus that permanent native forests should receive higher carbon sequestration credits than short-rotation plantations[7]. Auditing, using credible full carbon accounting as a part of any offset approval process, would reduce the likelihood of negative impacts from the emerging carbon economy.

Negative outcomes of carbon-trading schemes could include, for example, carbon credits for clearing native vegetation and planting non-endemic species. The clearing of native vegetation to establish a plantation is likely to have substantially negative impacts on biodiversity and must be avoided. Establishment of plantations may also come at the cost of missed opportunities for biodiversity restoration, for example, planting monocultures of non-native species on former agricultural land that may have reverted to native vegetation cover if left alone.

Conversion of landscapes with high biodiversity values, or those that provide ecosystem services, increases threats to native biodiversity. However, 'afforestation' activities could help to conserve biodiversity if, for example, degraded land or ecosystems largely composed of exotic species were converted to native species and patches were strategically restored within the landscape to enhance connectivity.

Improved land management, restoration and carbon offsets
In cleared or degraded landscapes, improved land management and/or restoration using native assemblages can enhance climate change mitigation and conserve biodiversity. Similarly, enhanced sequestration of soil carbon, for example by conserving wetlands, grasslands and savannahs, can contribute to climate change mitigation, the conservation of biodiversity and the provision of valuable ecosystem services.

Birds Australia believes that there should also be increased opportunities to obtain meaningful carbon offsets that benefit biodiversity and mitigate climate change, by enabling carbon emitting entities to gain credit by funding conservation or revegetation projects that absorbs CO2 (for example, strategically targeted habitat restoration activities). Steffen et al.[6] support development

[5] Secretariat of the Convention on Biological Diversity. 2009. Connecting Biodiversity and Climate Change Mitigation and Adaptation: Report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change. Montreal, Technical Series No. 41, 126 pages.

[6] Steffen W, Burbidge AA, Hughes L, Kitching R, Lindenmayer D, Musgrave W, Stafford Smith M and Werner PA. 2009. Australia's biodiversity and climate change: a strategic assessment of the vulnerability of

of a system of incentives such as biodiversity credits, which could be linked directly to the carbon trading system, an approach that is also discussed in depth by Berkessey and Wintle[7].

Whenever possible, natural ecosystem regeneration should be encouraged. This is particularly important where regrowth of threatened ecological communities is feasible, for example the Brigalow (*Acacia harpophylla* dominant and co-dominant) endangered ecological community. Where systems are too degraded to regenerate, revegetating landscapes with complex ecosystems, rather than with monoculture plantations, creates good biodiversity outcomes while eventually storing more carbon. Clean development mechanisms that measure and validate offsets should promote biodiversity conservation outcomes. This is an elegant solution for conserving habitat and absorbing CO2 emissions.

Improved Management
Improved management (for example, altered fire regimes) can enhance carbon storage in soils and vegetation, while enhancing other ecosystem services. Fire management has been implemented in Australia's tropical savannas in an attempt to return current fire regimes to more natural, low intensity, early dry season fire regimes. This not only reduces the size and extent of unmanaged late dry season wild- fires (and high levels of associated carbon emissions) but also results in better habitat management for species sensitive to the effects of high-intensity late dry season burns[8].

The Biodiversity Fund

The recently announced Biodiversity Fund is a mechanism to secure a win-win scenario under which biodiversity is better conserved and carbon storage enhanced.

We congratulate the Multi-Party Climate Change Committee on this new initiative, and hope it is the beginning of bigger things to come.

Although at this stage section 9.4 (Biodiversity Fund) of *Securing a Clean Energy Future* still focuses on adaption and does not yet adequately recognise the **mitigation** potential of biodiversity, we believe the Fund will be an important step in demonstrating how important this mechanism is as a mitigation tool.

Recommendation 6: Increase the size of the Biodiversity Fund

The amount of revenue from Australia's carbon price scheme invested in the Biodiversity Fund should be substantially increased. Although a transformational first step, $157 million per annum will not be sufficient to address the biodiversity crisis.

Increased investment in the Fund will help tackle climate change and its impacts by reducing greenhouse gases in the atmosphere and increasing the resilience of Australia's biodiverse natural environment so it can sequester carbon in the long term.

Projects on all types of land should qualify and marine/aquatic ecosystems should be included. Existing Commonwealth biodiversity funding levels should be maintained alongside the new Fund.

Australia's biodiversity to climate change. A report to the Natural Resource Management Ministerial Council commissioned by the Australian Government. CSIRO Publishing.

[7] Berkessey, S. A., and Wintle, B. A. 2008. *Using Carbon Investment to Grow the Biodiversity Bank*. Conservation Biology, Volume 22, No. 3, 510–513.

[8] Tropical Savannahs CRC. 2009. http://savanna.cdu.edu.au/

Governance
The importance of governance over Land Sector activities and the strategic investment of the Biodiversity Fund cannot be over stated.

Recommendation 7: Appointments to the Land Sector Carbon and Biodiversity Advisory Board should be based on merit and at arms length from political processes.

The Composition of Advisory Board should be made up of members with expertise in threatened species conservation, adaptation science, and the climate change mitigation potential of ecosystems, to ensure that funding priorities are based on the best available science. Funding priorities should be determined by a transparent process, made publically available, and provide clear directions to potential participants. Some funding should be set aside for 5monitoring progress and ensuring funds are well targeted. Regular review of the implementation of the Fund should also be made public.

Mechanisms to enhance community engagement

Recommendation 8. Develop biodiversity education and training programs

Develop our biodiversity education and training programs so that all sectors of the Australian community and business have the knowledge to understand the magnitude of current threats to our biodiversity and the skills to take action to conserve our biodiversity and ecosystems. This is essential to transforming our nation to a healthy, sustainable society and economy.
The Australian Government should seize the opportunity presented by the International Decade of Biodiversity to launch a community-wide program to upgrade ecological literacy, and improve skills in biodiversity management. From schools to work to home, protecting biodiversity is everyone's responsibility.