

# NATIONAL PARKS



Enhancing Landscape  
Connectivity



National Parks Australia Council

**NATURE  
FOR LIFE**



# NATIONAL PARKS

## A Matter of National Significance

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- Maintaining the Values of Australia's National Reserve System of Protected Areas
- Completing Australia's National Reserve System of Protected Areas
- Enhancing Landscape Connectivity
- National Parks - a Matter of National Environmental Significance
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# Executive summary

**T**he Australian Government has committed to the establishment of a National Reserve System that is effectively and equitably managed, well connected and integrated into the country's wider landscapes.

Connectivity - turning islands into networks - is the single most important consensus direction in global conservation, recognising that protected areas may not in themselves be enough to support self-sustaining populations of all the species they contain. Connectivity is essential for building resilience in the face of rapid change, especially climate change, into the system.

The short-lived National Wildlife Corridors Plan provided a national framework to guide and co-ordinate the planning and establishment of wildlife corridors and was to be the primary delivery mechanism of the Australian Government's commitment to "a long-term strategy designed to retain and restore ecological connectivity and facilitate connectivity conservation". One year after its introduction, the Australian Government abandoned the plan.

Regardless, efforts by a wide spectrum of Australian society are continuing to push this vision forward, though many initiatives are struggling and are being abandoned due to a lack of reliable funding and support. Ambitions such as these require massive coordination and the cooperation of multiple jurisdictions and collaborations 'across tenures' and are dependent on reliable resourcing – financial and human. Substantially more encouragement, direction and support, including financial and human resources, are needed if these nation-wide endeavours are to be successful.

Meanwhile, the continuing loss of native vegetation and fragmentation continue to be among the top pressures facing threatened species, highlighting the need to act now to ensure Australia's landscapes and the biodiversity within, are connected.

## **Our environment is a national issue requiring leadership at the highest level.**

It is time for the Australian Government to demonstrate strong commitment and leadership in implementing this essential component of our nation's approach to the environment. This commitment must be demonstrated through the Government's own actions for the national protection of biodiversity. This includes instigating stronger national environmental laws, providing a national coordinating role and oversight to ensure Australia meets its international and national commitments to protect biodiversity, including through the establishment of Connectivity Conservation Areas (CCAs) that effectively link and integrate protected areas into the wider landscape. Required actions include:

- Establish a strategic, coordinated framework to retain, restore and manage ecological connections across the landscape.
- Support the planning and implementation that have gone into existing initiatives.
- Provide guidance and oversight of planning and development for further complementary initiatives.



The stunning red and white striped sandstone and river gorges of Kalbarri National Park.  
Photos: Mamatdunet | Flickr | CC BY 2.0; Amanda Curness | Flickr | CC BY-NC-ND 2.0





# Enhance Landscape Connectivity

## Recommendation

Support nationwide bio-link projects that enhance connectivity between key habitats and engage the community in collective effort.

## Background

Australia's unique and incredibly diverse wildlife is under threat: since European settlement, more than 200 years ago, numerous species have become extinct and many more are threatened. The threats to biodiversity include invasive species, habitat loss, degradation and loss of connectivity across the landscape due to land clearing and development. Attempts to ameliorate these threats have proven difficult and Australia's biodiversity continues to be imperiled.

The single most effective action that protects biodiversity is the establishment of a protected area network. However, on their own, protected areas, such as national parks and other conservation reserves, may not be large enough to support self-sustaining populations of all the species they contain. The degree of isolation and the nature of the surrounding matrix of land-uses can further confine and limit populations of species to protected areas, restricting the ability of species to disperse and recolonise after local extinctions (e.g. arising from stochastic events, such as fire, and persistent threats such as introduced predators). It also hinders the ability of species to adapt to climate change or other environmental changes.<sup>4</sup> To compensate for these

size restraints and isolation, protected areas must also be well-connected and integrated into wider land and seascapes.<sup>5</sup>

Connectivity Conservation Areas (CCAs) - known by a variety of names, including 'wildlife corridors' and 'bio-links') - provide an essential 'whole of landscape' strategy for achieving a well-connected network of protected areas.<sup>2</sup>

Connectivity Conservation Areas complement the National Reserve System – Australia's network of protected areas – by:

1. Promoting conservation outcomes in the landscape matrix and enhancing the comprehensiveness, representativeness and adequacy of the conservation estate.
2. Improving conservation outcomes for species, particularly those that present special conservation challenges (e.g. are not found within the protected area network).
3. Explicitly considering the various ecological and evolutionary processes that operate at scales larger than even the biggest and most extensive of our terrestrial reserves.<sup>6</sup>

This wisdom is reflected in the Convention on Biological Diversity's 2011-2020 Strategic

### Conservation depends on protection and connection.<sup>1</sup>

The concept of ecological networks is the single most important consensus direction in global conservation. It has been strongly endorsed at an international level.<sup>2</sup> and recognises that connectivity - turning islands into networks - is essential for building resilience in the face of rapid change, especially climate change, into the system.<sup>3</sup>





| Mallee Emu Wren. Photo: Chris Tzaros.



| Sea turtle on the Great Barrier Reef.  
Photo: The.Rohit | Flickr | CC BY-NC 2.0



Plan (CBD) - Aichi Target 11 – which commits signatories, including the Australian Government, to:

*By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape. (Aichi Target 11).*

Until recently, the concepts ‘well-connected’ and ‘integrated into wider landscapes and seascapes’ have been vague and open to interpretation, which means that token, ad hoc development of Connectivity Conservation Area could be argued as fulfilling this requirement. However, the International Union for the Conservation of Nature (IUCN) is in the process of refining these concepts<sup>7</sup> to mean:

*“... a large and/or significant spatially defined geographical space of one or more tenures that is recognised as a Connectivity Conservation Area and actively, effectively and equitably governed and managed to ensure that viable populations of species are able to survive and move between systems of protected areas and other effective area based conservation areas. The purpose of a Connectivity Conservation Area is to connect protected areas and other effective area based conservation areas and to maintain or restore ecological and evolutionary processes of species and ecosystems across a landscape, freshwaterscape or seascape that may also be used and occupied for a variety of human purposes, so that people and other species are able to survive and to adapt to environmental change, especially climate change.”<sup>2</sup>*

This definition provides guidance for delivering the quality targets agreed to under the Convention on Biological Diversity.

Australian governments, including state and territory governments, agree that landscape connectivity (at all scales, but especially at the larger-scale) is crucial for strengthening the resilience of ecosystems and species, particularly under a scenario of climate change. For example, Australia’s National Reserve System Strategy 2009-2030 (the Strategy) includes the objective of “protecting critical sites for climate change resilience, that includes **broad landscape-scale corridors**, to act as core lands of a broader whole of landscape approach to biodiversity conservation.”<sup>8</sup>

The Australian Government also recognises that this will only be achieved with the collaboration of private landholders, and investment in the conservation and management of private land that complements the National Reserve System. These include areas of intact vegetation, or habitat, that improve connectivity between protected areas, as well as priority areas requiring restoration.

Several other national conservation strategies, including the National Biodiversity Conservation Strategy 2010-2030 and Australia’s Native Vegetation Framework, endorse the fundamental role landscape connectivity has for the protection of biodiversity.<sup>9,10</sup> For example, the first of five targets in the Native Vegetation Framework is to “increase the national extent and connectivity of vegetation”.

Clearly, Connectivity Conservation Areas are an integral part of Australia’s National Reserve System, and the reserve system is **inadequate** without them.

## The Emergence of Bio-links in Australia

Awareness that long-term conservation of biodiversity requires a well-connected protected area network stimulated on-ground, collective



action in Australia. Grassroots and conservation organisations as well as governments initiated consolidation of lands across tenures and jurisdictions to be managed for connectivity conservation, at landscape and sub-continental scales.

Six of these corridor initiatives have been identified as important foundation stones for a network of wildlife corridors<sup>11</sup> (see Figure 1):

1. Gondwana Link
2. The Great Eastern Ranges Initiative
3. Habitat 141°
4. Trans-Australia Eco-Link
5. NatureLinks (SA)<sup>12</sup>
6. Tasmanian Midlandscapes

While the positive involvement of people in connectivity conservation work has been a significant social phenomenon for Australia, it is one that needs encouragement and support to grow. For example, the sheer scale of these endeavours requires the coordination and cooperation of multiple jurisdictions and collaborations across multiple forms of tenure including public, private, Indigenous and other tenure arrangements, and as such, they require reliable resourcing, expert planning, policies and instruments to consolidate their continuing role in facilitating biodiversity conservation.<sup>14,15</sup>

These efforts recognise implicitly that considerably greater financial and human resources are needed than are currently being invested to alleviate the impacts of threatening processes that are undermining the conservation of Australia's wildlife.<sup>4</sup>

There needs to be a bold, guiding vision that provides direction and the 'glue' for the many individual initiatives that help to conserve biodiversity within individual corridors and at a national scale.

## National Wildlife Corridors Plan

In 2012, in response to these initiatives and recognition of the need for a nationwide framework to guide and co-ordinate the planning and establishment of 'wildlife corridors' (referred to as Connectivity Conservation Areas in this document), the then federal Labor government introduced the National Wildlife Corridors Plan (NWCP).<sup>11</sup> This was the primary delivery mechanism of the Australian Government's commitment to "a long-term strategy designed to retain and restore ecological connectivity and facilitate connectivity conservation".

The National Wildlife Corridors Plan was devised to promote guidance on linking national parks and reserves and well-managed private land. Its primary aim was to build the resilience within Australia's environment to the impacts of climate change by working with regional Natural Resource Management groups and local communities to develop a national plan for wildlife corridors/ Connectivity Conservation Areas.

The plan provided guidance for collaborative, whole-of-landscape approaches to conserving Australia's native species. It also signalled a **national commitment** to address landscape problems at the appropriate landscape scale and mobilised \$10 million to establish a framework for connectivity conservation on a national level, prompting the investment of almost \$1 billion through the former Biodiversity Fund.<sup>19</sup> It was anticipated that the focus would not only be on supporting existing initiatives, but also to encourage and enable a rapid expansion of more landscape connectivity initiatives.

The introduction of the National Wildlife Corridors Plan was a critical milestone in Australia's attempts to respond to its international commitments (e.g. the Convention on Biological Diversity), the effects of past habitat loss, pervasive threats from

introduced species and land management, and the rapidly emerging impacts of climate change.

Yet in 2013, one year after its introduction, the Australian Government reported that the National Wildlife Corridors Plan was complete<sup>16</sup>, and in its annual report for 2013-14<sup>17</sup> the federal Department of the Environment explained that the plan had been “discontinued as a result of changing government priorities”. It also said new programs, such as the 20 Million Trees program, “will support the planting of native trees and associated understorey species to re-establish green corridors and urban forests”.





# The issues

## 1. 'Adequacy' of the National Reserve System

Currently almost 18 per cent of land and more than 30 per cent of Australia's seascape makes up the country's National Reserve System, an impressive accomplishment. However, a comprehensive, adequate and representative National Reserve System means more than just acreage: the quality components of the Convention on Biological Diversity (Aichi Target 11) targets are a critical consideration, i.e. that protected areas are:

*"...conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes."*

The **adequacy** of the National Reserve System is influenced by the amount of the landscape/seascape being protected, the degree of connectivity and the landscape/seascape context, including ecological considerations (e.g. the species, habitats and ecosystems that occur in an area), as well as human utilisation and management of areas not being managed primarily for conservation (most of the landscape/seascape). This includes whether 'other effective area-based conservation measures' that are sympathetic to the management requirements of CCAs and protected areas are being employed

outside the protected area network. Sympathetic management will, inter alia, buffer Connectivity Conservation Areas and protected areas from threatening processes originating off-reserve and maintain species and other biodiversity assets found on other land tenures.<sup>6</sup>

All of these will influence the capacity of species to meet their habitat requirements, exchange genetic material and adapt to environmental change, and ultimately the degree to which the National Reserve System, including Connectivity Conservation Areas, are 'integrated into the wider landscapes and seascapes'.

## 2. National Reserve System

The National Wildlife Corridors Plan states that the National Reserve System is a 'foundation stone' of the future network of national wildlife corridors/Connectivity Conservation Areas, yet shortly after it was released the Australian Government announced it was ending nearly 20 years of dedicated financial support to expand the National Reserve System, despite the system being incomplete (e.g. several bioregions and many more ecosystems remain unrepresented or under-represented).

Many under-represented ecosystems occur on private land where land clearing continues to be a threat and acquisition of lands into the National Reserve System is not possible. For the same reasons, this makes it challenging to establish a

**Aichi Target 11.** By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.





Listed as vulnerable, the Malleefowl is a shy, wary bird. Photo: S Gillam

nationwide network of Connectivity Conservation Areas.

Funding for the acquisition of high priority properties was both a key stimulus for the creation of new connectivity initiatives and an important mechanism used to advance the goals of existing initiatives.

### 3. Aichi Target 11: A Protected Area Network that is 'Well-connected' and 'Integrated into the Wider Landscapes and Seascapes'

The Australian landscape is a patchwork of natural areas, productive lands, towns and cities. Protected areas and remaining pockets of relatively healthy remnant habitat have become isolated in the landscape – stranded within an ocean of highly modified and/or intensively used landscapes. This has reduced the capacity of ecological processes to function naturally, from hindering the ability of species to disperse throughout the landscape to jeopardising the maintenance of evolutionary processes.

An analysis undertaken by WWF Australia (2014)<sup>18</sup> found that although terrestrial protected area connectivity<sup>19</sup> has increased modestly, this

improvement has been undermined by land use intensification directly adjacent to linkages, and more generally throughout the landscape. The authors concluded that functional connectivity is eroding, not improving. Having a well-connected and well-managed National Reserve System can be undermined if the surrounding or adjacent areas are over-utilised, polluted or are also inadequately managed.

#### Key points

- Before the Australian Government can claim that it has met its obligations under the Convention on Biological Diversity Aichi Target 11, renewed effort must be given to finding ways to include under-represented bioregions and ecosystems into the National Reserve System, and greater account must be taken of the requirement to have a protected area network that is 'well-connected' and 'integrated into the wider landscapes and seascapes'.<sup>17</sup>

### 4. Threats

Widespread and pervasive pressures from invasive species, inappropriate land management practices, poorly planned development and declining water quality continue to threaten Australia's landscapes, ecosystems and native species. These

threatening processes are interfering with the natural adaptation processes that enabled species to persist through past environmental change, including climate change. CCAs maximise the potential for species to positively respond to the challenges rapid climate change will bring.<sup>20</sup>

## 5. Land Clearing = Habitat Loss and Fragmentation

The pressures of landscape fragmentation and the pressing need to enhance capacity to adapt to climate change are major factors in the ongoing decline of Australia's biodiversity. Indeed, fragmentation of habitat is one of the two most frequently cited pressures for species listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), the other is invasive species. Fragmentation of vegetation is particularly apparent west of the Great Dividing Range in eastern Australia (NSW and Queensland), across much of southern Australia and in the southwest (Figure 2), corresponding to the area of Australia that was originally under forest or woodland and, as indicated above, corresponds with the highest numbers of threatened species.<sup>21</sup>

## 6. Governance

Fragmentation is a direct result of land clearing (which is listed as a Key Threatening Process (KTP) under the EPBC Act). In the 1980s, in response to rising public concern over land degradation, salinity, biodiversity loss and greenhouse gas emissions, all states and territories introduced laws to protect native vegetation. Today, most of these regulations have been relaxed and as a consequence landholders now have greater freedom to clear native vegetation and land clearing continues, in some areas at an alarming pace.

For example, from 2009 to 2014 land clearing in Queensland tripled to approximately 296,000 hectares as a direct result of weakened vegetation laws in the state.<sup>23</sup> Similar retrograde moves regarding the protection of native vegetation were made in Victoria and Western Australia in 2013.

In 2008, the former Northern Territory Labor government failed to deliver its promise to pass a Native Vegetation Management Act that is 'world's best' practice. In Tasmania, there are large gaps in existing legislation that regulates the clearance of native vegetation, especially for non-threatened, non-forest vegetation.

Furthermore, much of this clearing can go undetected or ignored by state governments. For example, private landholders cleared six times more land (81,000 ha) than what was approved (12,280 ha) by the government in NSW between 2007-2011.<sup>24</sup>

The continued, and in some areas intensified, clearing of native vegetation is clearly at odds with Australia's Native Vegetation Framework, which all states and territories contributed to and endorsed (except Victoria).<sup>10</sup> The framework provides a strategy to 'build healthier and more connected vegetation', and supports the implementation of Australia's National Biodiversity Strategy and Australia's Strategy for the National Reserve System 2009-2030.

There are five national goals stated in the framework. With regard to clearing of native vegetation and connectivity, the relevant goals are:

- Goal 1:** Increase the national extent and connectivity of native vegetation.
- Goal 2:** Maintain and improve the condition and function of native vegetation.
- Goal 3:** Build capacity to understand, value and manage native vegetation.

It is clear that all levels of the Australian Government have failed to deliver or reneged



on their commitments: within a few years of its release, the goals and aspirations contained within the Native Vegetation Framework have been undermined by state and territory actions that achieve the opposite.

## 7. Threat Abatement Plan for Land Clearing

Land clearing is listed as a Key Threatening Process under the EPBC Act. In its advice to the minister, the Threatened Species Scientific Committee considered that a Threat Abatement Plan for Land Clearance was unnecessary on the grounds that current initiatives, including the whole-of-government endorsement of Australia's Native Vegetation Framework, would be sufficient to abate this threat.

## 8. Ecosystem Restoration

Restoration of ecosystems is difficult and expensive. The State of Environment Report (2011) concurs, "...replacing mature native vegetation with regrowth seldom provides the same environmental values as the original vegetation".<sup>15</sup> Other reviews of natural resource management programs have also highlighted the expense and difficulty in restoring an area to its original condition and the incongruity of continuing to allow further clearing given the existing problems and environmental challenges being dealt with in cleared landscapes.

## 9. Lack of National Cohesion Towards Common Environmental Goals

Poor environmental laws and enforcement, such as those described above, thwart other efforts made at the national level to protect the environment. Further, the net loss of habitat through practices

such as land clearing or logging of native forests far exceeds the net gain of habitat restoration. For example, the 50 million-plus trees lost in Queensland to clearing in one year – plus the extent of unregulated and unenforced land clearing laws in other states, such as NSW – totally negates the potential success of national programs such as the 20 Million Trees Program and the efforts of the thousands of volunteers that constitute the Green Army.

## 10. Perceived 'Risks' Associated with Connectivity Conservation Areas

Simberloff and Cox (1987)<sup>25</sup> and Simberloff et al. (1992)<sup>26</sup> first drew attention to the possible negative ecological effects of wildlife corridors. For example, in the same way these corridors help the dispersal of native species they may also increase the spread and subsequent impact of introduced species (e.g. feral predators, fire ants) and pathogens, and increase the spread and intensity of fire.

Although little research has been undertaken on the potential negative impacts of Connectivity Conservation Areas, a literature review undertaken by Haddad and his team (2014)<sup>37</sup> found no consistently negative effects, and emphasised the inconclusive evidence that corridors also aid in the spread of unwanted predators, parasites, competitors and pathogens. Further, Haddad et al. (2014) concluded that any negative effects are relatively small and manageable compared with the large positive effects of facilitating dispersal and increasing diversity of native species.

These perceived threats are generally ubiquitous and targeted for management action irrespective of the presence of Connectivity Conservation Areas, and strengthen the argument for a whole-of-landscape approach to conservation, sustainability

and improving the quality of the landscape matrix.<sup>29</sup> Agri-environment schemes – that incentivise private landholders to make environmental improvements to their land, such as environmental stewardships – reduce the increased risks of biological invasion associated with climate change because biodiverse landscapes are more resilient: they are less prone to invasion while benefiting wildlife and contributing positively to the protected area network and maintaining ecosystem services, including those vital to the agricultural sector (e.g. soil and water).<sup>38</sup>

## Key points

- Connectivity Conservation Areas provide an opportunity for coordinated, large-scale responses to the challenges of climate change.
- Given the complexity of governance arrangements, developing and implementing integrated approaches to manage the environment can be challenging.
- State and territory governments agree to high-level environmental goals but do not deliver.
- Weak state and territory native vegetation protection laws, compounded by poor regulation and enforcement, facilitate continued clearing of native vegetation to the detriment of biodiversity and will further reduce options for inclusion of land into bio-links/Connectivity Conservation Areas without expensive and difficult rehabilitation.
- The expectation that whole of government strategies, such as the Native Vegetation

Framework, will protect native vegetation, has not been met.

- Land clearance is listed as a Key Threatening Process and is therefore a nationally significant issue, that not only affects Australia's ability to fulfill obligations under international agreements, such as the Convention on Biological Diversity and Kyoto Protocol, but it will lead inevitably to the failure to deliver on its national commitments.
- By encouraging 'softer', or more sympathetic and integrated land use on private land, Connectivity Conservation Areas contribute to improving the quality of the landscape matrix and resilience that benefits both wildlife and agriculture.
- People on the ground need support to realise that the benefits of CCAs go beyond biodiversity conservation, e.g. benefits extend to agricultural ecosystems - and to adopt the necessary changes and developing the right attitude regarding sustainability.

## 11. Funding

In its 2015 review of Australia's Biodiversity Conservation Strategy, the Humane Society International (HSI) concluded that only two of the six large-scale connectivity projects - the Gondwana Link and Great Eastern Ranges Initiative - had established a solid support-base from a wide range of sources and were progressing effectively.<sup>30</sup>

**The best response to the threats of habitat loss and degradation is to retain natural lands in an undisturbed condition. The second most important response is to retain strategic interconnections to make habitat remnants bigger and less isolated.<sup>6</sup>**



The others have faltered, largely due to a lack of funding.<sup>30</sup> For example, Habitat 141° is currently in a period of planning and consolidation as it strives to secure funding for ongoing actions to establish connections, and to support much needed institutional arrangements, such as a centralised coordinating unit.<sup>31</sup> The Northern Territory Government's funding for its part of the Trans-Australian Eco-link ceased in December 2012.

## Key points

- Financial security remains a challenge in delivering lasting management change and connectivity conservation outcomes
  - Secure funding is also needed to maintain the institutional arrangements that are essential to the development and implementation of collaborative large-scale connectivity projects.
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## 12. 20 Million Trees Program and the Green Army

The two programs that reputedly replaced the NWCP - the 20 Million Trees Program and Green Army – offer ad hoc, short-term, disconnected approaches to managing largely local issues and stand in sharp contrast to the need to plan and act on a larger scale in a more purposeful and coordinated manner.

For example, with its modest budget of \$50 million over four years (to 2020), the 20 Million Trees Program has four investment priorities. Only one touches on corridors - to increase the area and linkages between and condition of Australia's native vegetation.

The more substantially resourced Green Army program supports hundreds of projects each year that encompass a wide range of local environment and heritage conservation projects across Australia, which may or may not include

connectivity conservation activities.

While there may be positive connectivity conservation outcomes to be gained from these programs, they lack the powerful commitment to develop and manage continental-scale bio-links/Connectivity Conservation Areas that was contained in the previous NWCP.

## Key points

- The directions established by the NWCP remain both relevant and critical: 20 Million Trees and the Green Army are not directed at the strategic development of bio-links/Connectivity Conservation Areas across Australia and therefore cannot be considered a substitute for the NWCP.
- 

## 13. Monitoring, Evaluation and Reporting

The effectiveness and adequacy of bio-links/Connectivity Conservation Areas at the national scale for achieving 'a well-connected' system of protected areas, and enhancement of biodiversity conservation more generally, can only be determined if there is a system in place for monitoring and evaluation (at various spatial and temporal scales), and reporting.

As acknowledged in the NWCP,<sup>11</sup> "[h]igh-quality long-term monitoring and evaluation will provide evidence about the appropriateness, effectiveness, efficiency and legacy of investments. This in turn will allow corridor managers to continuously adapt their management practices and generate a body of empirical knowledge about the impacts and effectiveness of particular management regimes".

Existing connectivity conservation initiatives are currently challenged by how to measure and demonstrate the outcomes of bio-links/Connectivity Conservation Areas in terms of

investment and biodiversity conservation, which is further complicated by the various scales at which they operate.

Furthermore, the development of a consistent monitoring and evaluation approach will allow data to be relatively easily aggregated and assessed, and will enhance the efficacy of reporting at different spatial scales and for a variety of purposes (e.g. state and national State of Environment reporting, Convention on Biological Diversity communiqués).

## Key points

- Organisations and individuals engaged in connectivity conservation initiatives need guidance to effectively design and carry out monitoring programs.
  - Provision of standardised guidelines, data collecting methods and management tools would aid connectivity conservation initiatives to build their capacity to measure success and enhance biodiversity outcomes.
  - Standardised monitoring, evaluation and reporting will increase the ease of reporting for local, state/territory, national and international requirements, improve accountability and provide more robust information regarding long-term outcomes.
-





# Role of the Australian Government

Our environment is a national issue requiring leadership at the highest level: it is critical that renewed energy and enthusiasm is injected into a national environment and conservation agenda with large landscape initiatives at its core.

There is no doubt that protecting biodiversity is a huge task requiring good science, expertise and strategic investments. The resources required will necessarily be ongoing and increasingly important with the mounting pressures of climate change. However, given the significant economic benefits - the National Reserve System providing an estimated economic benefit of

Due to the complexity of governance arrangements and the failure of the states and territories to deliver on their environmental stewardship commitments, the Australian Government has an important national role to play in environmental management. This includes the nationwide establishment of Connectivity Conservation Areas, which are essential for the long-term resilience of Australia's unique biodiversity, and have positive effects across the entire landscape, which is inherently impacted by poor land use management.

It is time for the Australian Government to demonstrate strong national commitment and leadership in implementing this essential component of our nation's approach to the environment. This commitment must be demonstrated through the Government's own actions for the national protection of biodiversity. This includes instigating stronger national environmental laws, providing a national coordinating role and oversight to ensure Australia meets its international and national commitments to protect biodiversity, including the establishment

of Connectivity Conservation Areas that effectively link and integrate protected areas into the wider landscape and promoting sustainable land use management more generally.

As the concept of connectivity conservation is already established in Australia, future actions can focus on the next stage. Required actions include:

- Establish a strategic, coordinated framework to retain, restore and manage ecological connections across the landscape.
- Support the planning and implementation that have gone into existing initiatives.
- Provide guidance and oversight of the planning and development for further complimentary initiatives.

Existing landscape connectivity initiatives provide the ideal focus for re-targeting attention on a national landscape conservation agenda. They contribute to sustaining our natural infrastructure for carbon capture, water and productive landscapes, managing our iconic landscapes as the backdrop to tourism, recreation and the Australian way of life, protecting our unique cultural heritage, native plants and animals while connecting and strengthening communities as they work together towards achieving a common goal. Connectivity Conservation Areas comprise a complex mosaic of private and public land used for a variety of purposes, and inspire communities to work cooperatively and with government and non-government organisations to support a vision to protect our environment by improving the connectivity and resilience of our natural ecosystems.

These natural, jurisdictional and social intricacies, that are an integral feature of large-scale connectivity initiatives, require mobilisation of



Project Hindmarsh is one of the most successful landscape connectivity projects in Australia.

Photos: John Sampson, David Fletcher





the full range of instruments available, and the development of new mechanisms if what is currently available isn't sufficient to achieve the goal of a network of Connectivity Conservation Areas across the nation and a protected area network that is fully integrated into the wider landscape.

Below are examples of actions that could be taken at the highest level of government to achieve a network of Connectivity Conservation Areas across Australia.

## 1. Leadership

- Re-introduce a national landscape-scale program that supports the collaborative establishment and ongoing management of Connectivity Conservation Areas to improve ecological and protected area connectivity, as part of Australia's national and international commitments.
  - This could include a renewed emphasis on the principles and implementation approaches outlined in the NWCP.
  - Such a plan will need clear and measurable goals, for both ecological and social outcomes.
  - Initiatives will need to have access to spatial planning tools and must operate within an adaptive management framework.
- Support existing large-scale connectivity projects that have made significant advances to enable the progression of their objectives and ensure that all efforts and expenditure to date have not been in vain.
- Recreate the enabling conditions needed to attract far greater investment in time, talent and

financial capital to match the scale of need and ambition to establish a National Reserve System that is well-connected and integrated into the wider landscapes and seascapes.

- Build enduring institutional arrangements that support the development of collaborative connectivity conservation projects and ongoing management, including monitoring and evaluation. This may include:
  - The re-establishment of a national body to coordinate and provide advice, such as how institutional, legislative and funding frameworks might best enable improved practices, to government and connectivity conservation initiatives.
  - Follow through with its promise in the National Wildlife Corridors Plan to develop guidelines and make available information on monitoring, evaluation and reporting.
  - Existing reporting tools, such as the 'MERIT' system of reporting that is used to strengthen national accounting for investment and outputs across public and private efforts as a basis for evaluating the appropriateness, effectiveness and legacy benefits from investment, could similarly be used for evaluating and reporting outcomes of bio-links/Connectivity Conservation Areas.
  - Critically, this system would need to be supported by complementary application of monitoring data, scenario modelling and outcomes prediction software.

## 2. Funding

There needs to be a clear vision and direction for targeted investment in connectivity conservation initiatives, and noting that financial resources could be achieved from a diversity of sources in addition to conventional budget allocations.

**The prognosis for the environment at a national level is highly dependent on how seriously the Australian Government takes its leadership role.<sup>15</sup>**

### 3. Prioritising Investment in Connectivity Conservation Areas within Existing Government Programs

- Identify the most strategic areas for establishing Connectivity Conservation Areas and give higher priority for funding under Australian Government programs for nominations that contribute towards developing these areas, i.e. prioritise funding for projects that assist in the development and management of Connectivity Conservation Areas.
  - Prioritisation of areas for further development should be driven from the ground up and reviewed in the context of the IUCN's forthcoming criteria and guidelines and the social aspects, particularly with regard to implementation and the range of delivery mechanisms required for success, need to be deeply embedded as part of the process.<sup>2</sup>

### 4. Economic Incentives

- Further develop economic instruments to encourage and support private landholders to manage land on their property for connectivity conservation. For example:
- Conservation banking biodiversity trusts that allow landholders to create conservation credits with active conservation management actions on their land to enhance biodiversity values. These should include arrangements that guarantee the long-term security of those credits.
- Taxation initiatives that reduce the cost to landholders of improved natural resource management.
- Cost share grants that require landholders to invest a minimum amount, or a proportion of total project costs. These were the favoured investment pathways during the 1990s under

a range of government programs. Entry to these programs was partially first come, first served and partly competitive, favouring a mix of environmental benefits and reduced costs to government.

- Incentive payments through conservation auctions, e.g. the Australian Government's Environmental Stewardship Programme.

### 5. Strategic Investment

- Develop a guiding national framework that includes strategies and mechanisms for securing funding and federal agency support for initiatives.
  - Such a plan will need bipartisan, long-term (decades not years) political support, and include support from state and local governments.
- Establish a Connectivity Conservation Area Fund with adequate funds allocated to:
  - Protect and connect Australia's unique and iconic natural heritage.
  - Integrate conservation within diverse and productive landscapes providing sustainable agricultural products, tourism and recreation.
  - Restore and maintain ecosystems and their role in maintaining the integrity of Australia's national carbon stocks, clean water catchments and natural economy.
- More broadly, prioritise Landcare and natural resource management investments to landholders voluntarily adopting new – or with existing – perpetual conservation covenants that secure those investments for the future and that also contribute to or are complementary with the National Reserve System, with a focus on restoring landscape connectivity and resilience to climate change.<sup>18</sup> For example:
  - The use and success of current incentive schemes - which blends elements of persuasion and inducement - to halt further clearance and in some cases, revegetate what has been lost.

## 6. Legal Tools

The clear need to establish connectivity conservation areas at local, regional, state, territory and national scales that cross jurisdictions requires the Australian Government develop better mechanisms within its primary environmental regulations (e.g. EPBC Act) to specifically recognise and protect bio-links and other Connectivity Conservation Areas and to control the continued depletion and fragmentation of native vegetation.

There are a number of legal options available that could be used.

## 7. Connectivity Conservation Areas

- Amend the EPBC Act to include the consideration of connectivity conservation to achieve biodiversity goals.
- List the National Reserve System as a Matter of National Environmental Significance (MNES) under the EPBC Act, which encompasses the Convention on Biological Diversity definition of 'adequate' (which includes connectivity).
  - This will ensure that any activity that may significantly impact on the National Reserve System - including connectivity conservation areas - would need to be assessed and approved by the responsible federal government minister.
- Establish a national legislative framework that incorporates the adoption of consistent criteria for Connectivity Conservation Areas in line with emerging international standards for connectivity conservation.
- Adopt and apply a formal process for the designation of large landscape initiatives of national significance.
  - For example, the NWCP mooted the development of statutory arrangements (such as a National Wildlife Corridors Act) under which corridors that meet

established criteria can be formally declared a National Wildlife Corridor. These criteria could adhere to those currently being developed by the IUCN.

- In the event the IUCN criteria are adopted, bio-links and other conservation connectivity initiatives that fit the IUCN definition of Connectivity Conservation Area could be recognised in much the same way as protected areas.

## 8. Land Clearance

- Expand the scope of the Australian Government to include greater oversight of environmental matters, including the power, resources and capabilities to end large-scale land clearing.
  - Introduce national laws to control land clearing, including a binding limit or "cap" on land clearing. The cap would need to be rapidly reduced over time to meet the national objective of stopping further losses of Australia's native vegetation.
- Establish an independent environment advisory body whose task would include a review of state and territory native vegetation legislative and regulatory regimes. This would include regulation, monitoring and enforcement, as well as analysing the implications for land managers – particularly the drivers and barriers to native vegetation management and conservation on private land, with a view to:
  - Establishing uniform protocols across the states that would guide enforcement and investigative procedures.
  - Making available helpful and relevant information to the public to help landholders understand processes and aims of the laws.
  - Reviewing incentive-based programs available to landholders to ensure policy settings across governments help farmers deliver environmental outcomes. These include environmental stewardship programs or access to sustainable agriculture grants, which allow landholders to earn income for protecting high quality native vegetation.
- List land clearance as a Matter of National Environmental Significance (MNES)
  - Assessment of actions applicable to this trigger to



consider: inter alia, the impacts on biodiversity from the removal of areas that contribute to landscape connectivity – formally or informally - to ensure future efforts to establish connectivity conservation areas are not increasingly limited, nor require extensive rehabilitation efforts.

- Develop a Threat Abatement Plan (TAP) for land clearance.

## 9. Special Legal Instruments for Voluntary Conservation

- The full spectrum of instruments available to incentivise and support private landholders to manage their land (or parts thereof) for conservation should be used. For example:
  - Land for Wildlife (Tasmania, Western Australia, Victoria), or Wildlife Refuge Agreements (NSW) that support simple and effective land management, and although non-binding, can be viewed as an 'entry level' agreement that can effectively encourage landholders to commit more substantially over time.
  - Biodiversity Stewardship Agreements (NSW) that protect and enhance biodiversity through restoration and management actions, and are secure and funded in the long term.
  - Conservation agreements or covenants that provide some legal recognition of connectivity conservation areas (or include lands managed for connectivity conservation within the definition of the National Reserve System).

## 10. Alignment with Existing Australian Government Environment Program

- Re-frame the objectives of program such as the National Landcare Program, 20 Million Trees Program and the Green Army Program to include a clear objective to restore fragmented landscapes and enhance connectivity of protected areas across the landscape.

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# National Parks Australia Council

The National Parks Australia Council (NPAC) is a national body that represents state and territory organisations concerned with protecting the natural environment and furthering national parks. It has six member organisations, representing all states and territories except Western Australia and the Northern Territory.

## Victorian National Parks Association

The Victorian National Parks Association (VNPA) shares a vision of Victoria as a place with a diverse, secure and healthy natural environment cared for and appreciated by all.

Website: [www.vnpa.org.au](http://www.vnpa.org.au)

Email: [vnpa@vnpa.org.au](mailto:vnpa@vnpa.org.au) | Phone: (03) 9347 518



## National Parks Association of NSW

The mission of the National Parks Association of NSW (NPA NSW) is to protect, connect and restore the integrity and diversity of natural systems in NSW and beyond, through national parks, marine sanctuaries and other means.

Website: [www.npansw.org.au](http://www.npansw.org.au)

Email: [npansw@npansw.org.au](mailto:npansw@npansw.org.au) | Phone: (02) 9299 0000



## National Parks Association of Queensland

The National Parks Association of Queensland (NPAQ) is dedicated to promoting the preservation, expansion, good management and presentation of National Parks in Queensland.

Website: [www.npaq.org.au](http://www.npaq.org.au)

Email: [npaq@npaq.org.au](mailto:npaq@npaq.org.au) | Phone: (07) 3367 0878



## National Parks Association of the ACT

The National Parks Association of the ACT (NPA ACT) was established in 1960. The Association works to promote national parks and the protection of fauna and flora, scenery, natural features and cultural heritage.

Website: [www.npaact.org.au](http://www.npaact.org.au)

Email: [admin@npaact.org.au](mailto:admin@npaact.org.au) | Phone: (02) 6229 3201





| Royal National Park, Australia's first national park. Photo: M Eckert | Flickr | CC BY-NC-ND 2.0

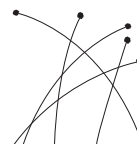
## Tasmanian National Parks Association

The mission of the Tasmanian National Parks Association (TNPA) is to preserve the integrity of, and expand, the Tasmanian national park system, and to ensure appropriate management of their natural and cultural values.

Website: [www.tnpa.org.au](http://www.tnpa.org.au)

Email: [info@tnpa.org.au](mailto:info@tnpa.org.au) | Phone: 0427 854 684

**Tasmanian**  
**National Parks**  
Association



## Nature Conservation Society of SA

The primary objective of the Nature Conservation Society of South Australia (NCSSA) is to foster the conservation of the State's wildlife and natural habitats.

Website: [www.ncssa.asn.au](http://www.ncssa.asn.au)

Email: [ncssa@ncssa.asn.au](mailto:ncssa@ncssa.asn.au) | Phone: (08) 7127 4630



National Parks Australia Council



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**South Australia:** [www.ncssa.asn.au](http://www.ncssa.asn.au)

**Tasmania:** [www.tnpa.org.au](http://www.tnpa.org.au)

**Australian Capital Territory:** [www.npaact.org.au](http://www.npaact.org.au)