

# Submission on Australia's Strategy for Nature 2018-2030: Australia's biodiversity conservation strategy and action inventory

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67 Payneham Road  
College Park SA 5069  
P 0422 974 857  
E [admin@dea.org.au](mailto:admin@dea.org.au)  
W [www.dea.org.au](http://www.dea.org.au)

Healthy planet, **healthy people.**

#### **DEA Scientific Committee**

Prof Peter Doherty AC  
Prof Stephen Leeder AO  
Prof Lidia Morawska  
Prof Hugh Possingham  
Dr Rosemary Stanton OAM

Prof Stephen Boyden AM  
Prof Michael Kidd AM  
Prof Ian Lowe AO  
Prof Peter Newman AO  
Prof Lawrie Powell AC  
Dr Norman Swan

Prof Emeritus Chris Burrell AO  
Prof David de Kretser AC  
Prof Robyn McDermott  
Prof Emeritus Sir Gustav Nossal AC  
Prof Fiona Stanley AC

## Conclusions and recommendations

In its current form, the Strategy for Nature lacks intellectual rigour and is deeply flawed and incomplete. It exposes a lack of understanding of the importance of biodiversity for human health and a failure to grasp the enormity of the task we face in addressing Australia's shameful record of species extinction and natural ecosystem destruction. It is clear from this document that there needs to be a dramatic improvement in investment for the protection of biodiversity and in education of not only the community, but of government and other decision makers in the sciences of ecology and biology. Doctors for the Environment Australia would welcome the release of a genuine biodiversity conservation strategy and the opportunity to contribute to the understanding why human health and the environment are indivisible.

Accordingly, we make the following recommendations:

### Goal 1: Connect all Australians with nature

1. Re-invigorate concern for nature among Australians of all ages, through school and higher education with exposure to nature through experiential learning (camps and excursions) and nature-based learning within school grounds as well as public education. This includes recognising, strengthening and revitalising Traditional Ecological Knowledge and educating the broader community about knowledge of nature of Aboriginal and Torres Strait Islander Australians.
2. Ensure funding for National Parks and other conservation areas is adequate so that public access and education are supported, while protecting vulnerable areas from risks of mass visitation. The national park reserve should not be eroded by private developments.

### Goal 2: Care for nature in all its diversity

3. Recognise biodiversity as a priority concern in conservation, environment and separate government portfolios of environment and energy so that these core functions of government can be adequately and independently addressed.

4. Ensure that global biodiversity implications are considered in foreign affairs and international relationships. Therefore, endeavour to abide more effectively to international agreements which will stabilise biodiversity in Australia and increase overseas aid to stabilise the local environments of poor countries.
5. Strong action on climate change mitigation and adaptation to reduce impacts on and build resilience of ecosystems, which are the source of biodiversity.
6. Recognise the importance of both urban and natural ecosystems in understanding and protecting biodiversity.
7. Ensure biodiversity concerns are addressed in all environmental impact assessments, and in land clearing, agricultural and housing developments.
8. Increase and protect conservation reserve areas to ensure that diversity of ecosystems is protected from development. This includes land under Indigenous management.

### **Goal 3: Build and share knowledge**

9. Ensure adequate funding for biodiversity research, both in the field including National Parks, and in laboratories. Funding should be assured in decadal time scales as required for understanding of ecosystems.
10. Recognise the key role of the non-government sector in education, research and promotion of biodiversity. Support NGOs through direct funding and encouraging large and small philanthropy through tax deductibility and facilitating public support. This includes large scale conservation reserves under management by organisations such as Bush Heritage Australia and Australian Wildlife Conservancy.
11. Develop a system of professional further education for elected representatives particularly in complex scientific and technological areas as the basis for more informed leadership, particularly in climate change and ecological decision making.
12. Support the development of legislation for a secure independent National Environmental Protection Authority as the basis for improved protection of natural resources.
13. Endeavour to abide more effectively to international agreements which will help stabilise biodiversity in Australia and the World and increase overseas aid to stabilise the local environments of poor countries, actions which are of mutual benefit.

# Doctors for the Environment Australia

Doctors for the Environment Australia (DEA) is an independent self-funded, non-government organisation of medical doctors and students in all Australian States and Territories. DEA works to address the diseases-local, national, and global-caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms of pollution and climate change.

Indeed, DEA understands that human health and wellbeing are absolutely dependent upon a rich, biodiverse planet where all ecosystems sustain life in balance. Our vision is '*healthy planet, healthy people*'.

The Constitutional Objectives of our organisation are;

- To conserve and restore the natural environment because of its relationship to and impact on human health.
- To work towards sustainable development which meets the needs of the present generation without compromising the ability of future generations to meet their own needs.
- To alert doctors and the public on the health effects of environmental degradation locally and worldwide using the best available scientific evidence and the precautionary principle.

DEA has produced the following policy papers;

A Policy Paper on Biodiversity<sup>2</sup>

A Position Paper on Biodiversity<sup>3</sup>

A Policy Paper; *Action on Climate Change and Health; Governance and Strategy*<sup>4</sup> which is based on recommendations for reform of Environmental Laws by the Australian Panel of Experts on Environmental laws (APEEL)<sup>5</sup> and makes frequent submissions on diverse environmental issues see examples in appendix 14.

The following relevant submissions have been made by DEA;

Protecting the Yarra River (Birranrung)<sup>6</sup>

Environment Protection and Biodiversity Conservation Amendment (Bilateral Agreement Implementation) Bill 2014<sup>7</sup>

Great Barrier Reef Coastal Component Strategic Assessment<sup>8</sup>

Environment Protection and Biodiversity Conservation Amendment (Retaining Federal Approval Powers) Bill 2012<sup>9</sup>

Amendments to the EPBC Act<sup>10</sup>

WA Draft Forest Management Plan 2014-2023<sup>11</sup>

Management of the Murray Darling Basin – impact of mining coal seam gas<sup>12</sup>

Action on the land: reducing emissions, conserving natural capital and improving farm profitability<sup>13</sup>

## Introduction

Natural ecosystems support our health by filtering air, providing fresh water and food and regulating climate. Ecosystems are the foundations of biodiversity, the infinite variation in life forms. Human resilience in the face of sudden and catastrophic shifts to the planet's life-support systems is strengthened by this variety of life on earth.

Time spent in the natural environment can also foster mental wellbeing help prevent and cure common lifestyle related disorders. Natural environments serve as places of recreation and sources of nature-based employment in tourism and other industries. Furthermore, with over one third of all medicines known to humans being derived from nature, protected ecosystems are a form of capital for future medical advances.

DEA is focused on the complex interaction between human health and the natural environment and its degradation, particularly the loss of biodiversity and the impact this is having, and will continue to have, on human health and social stability. This is an issue of utmost urgency, and of great political and cultural complexity.

Currently, humanity is facing urgent threats to our wellbeing from climate change and biodiversity loss. As medical doctors, we welcome this opportunity to provide input to Australia's Strategy for Nature 2018-2030.

It is not possible to overstate the importance of addressing climate change in concert with biodiversity protection. We are already experiencing effects of a 1°C rise in global temperatures and this has had impacts on both our natural environment and human health.

For example, Victoria has experienced more severe weather events, most notably bushfires and heatwaves, over the past decade. These disasters destroy the natural habitat or native wildlife, permanently alter the types of forest, with a loss of temperate rainforest, and affect communities living in close contact with the bush. DEA has been tireless in highlighting the health effects of these climate change related disasters. A brief example is the death and disease resulting from heatwaves- often called 'silent killers'- where large numbers of people suffer. In the heatwave prior to Black Saturday there were 374 excess deaths in Victoria, far more than those caused by the fires themselves. Heatwaves particularly affect the elderly, those with chronic diseases, children and the disadvantaged. Similarly, climate change, through heatwaves and bushfires, impacts biodiversity with irreversible loss of ecosystems like temperate rainforests. Accordingly, human health is harmed both directly during these events

and into the future as ecosystem services and biodiversity, are jeopardised.

Importantly, solutions to address the biodiversity crisis will also mitigate further climate change and enhance our capacity to adapt to changes already taking place. These solutions need to include a reduction in extractive mining activity and the excessive land clearing currently being pursued by the agricultural sector.<sup>13</sup> Concurrently, an increase in the protection of certain natural ecosystems is required to protect food security. An example of this is the need to enhance fish stocks by strengthening the protection of Marine National Parks and fish nurseries in mangrove systems.

## Discussion

Biodiversity loss – the World and Australian context.

Scientific consensus is that the 6<sup>th</sup> global mass extinction of species is in progress, its causation being the activity of one species, *Homo sapiens* which has moved the planet rapidly from the Holocene to the Anthropocene with irreversible changes in the biological and physical status of the earth.

The Strategy for Nature must be seen in the context of this current mass extinction. This demands urgency for a new approach by governments based on biological communities at risk on the need to strengthen scientific knowledge to understand the causation, threats and need for this urgency.

There is much physical and biological evidence for extinctions in Australia from measurements of biodiversity loss within species and from data comparing rates of species loss compared to background loss. The leading scientific journal *Nature* examined the conservation status of species in 109 countries and compared that to conservation funding. Australia ranks as the second worst of the group, with a biodiversity loss of 5-10%. Indeed, Australia is among the top seven countries worldwide responsible for 60% of the world's biodiversity loss between 1996 and 2008<sup>14</sup>.

The Australian government spending on the environment had decreased even more rapidly since 2013.<sup>15</sup> This government inaction has contributed to rapid loss of entire ecosystems and their services causing the almost demise of the Great Barrier Reef and the likely loss of the Murray Darling Basin system.

This sad record of the national governments also extends to the states. In the case of perhaps the most environmentally aware state South Australia the Report of its Biodiversity of the South Australia's Environment, Resources and Development Parliamentary Committee was highly critical

of the current legislative arrangements protecting biodiversity and found that the condition of biodiversity in the State "...continues to decline"<sup>16</sup>.

The report argued that existing legislative arrangements are out-of-date, lack cohesion and consistency, and are fractured across at least 20 pieces of legislation. There has also been inadequate consideration of biodiversity conservation, particularly in legislation that regulates human activities - such as land use planning, assessment and approval. The report also highlighted that South Australia's native biodiversity "*is facing myriad of current threats, including habitat loss and fragmentation (due to development and changing land-use), pest plants and animals, and control burn regimes,*" as well as augmented future threats from climate change and increasing urbanisation.

## What can be done?

Until governments are prepared to understand and act on the basic reasons for the demise of biodiversity, Strategy for Nature will be a futile exercise in reporting a continuing demise. This reporting will become confined to using the past tense and it will be taught in history lessons instead of science.

We therefore suggest that the Strategy report courageously embraces an expansion of the Build and Share knowledge goal to increase a fundamental understanding of the issues. The first step is 'The Commons' and the necessary education that develops from its understanding. If it is not in the terms of reference of your Committee, please explain to the government why it must be- you are the experts.

## The Tragedy of the Commons

Garrett Hardin, in his seminal paper, *The Tragedy of the Commons* published in the journal *Science* in 1968 exposes the defect that makes present society unsustainable in its present form. The Commons of Anglo Saxon culture was the pasture open to the cattle of all villagers. Hardin explained:

*As a rational being, each herdsman seeks to maximise his gain. Explicitly or implicitly, more or less consciously, he asks 'What is the utility to me of adding one more animal to my herd?' This utility has one positive and one negative component. The positive component is the increment of one animal. Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is nearly +1. The negative component is a function of the additional overgrazing created by one more animal. Since however the effects of overgrazing are shared by all herdsmen, the*

*negative utility for any particular decision making herdsman is only a fraction of minus 1. Each herdsman concludes that it is sensible to add another animal to his herd, and another, without limit... Therein is the Tragedy, and in a world that is finite, freedom in the environmental commons brings ruin to all.*<sup>17</sup>

There lies the crux of the cause of loss of biodiversity. One herder epitomises the individual right to maximise self-interest. He operates by the rule of the market and treats the environment as a resource.

The 'World Commons' is the stability of resources of land, sea, air and fresh water necessary for the health and wellbeing of humanity. The 'ruin to all' predicted by Hardin is the confluence predicted this century of the above problems, population growth, depletion of resources and the ravages of climate change. All our problems can be placed in the context of The Commons. For example, air pollution is a largely free access to the air we breathe, and greenhouse emissions are as yet causing uncontrolled damage to the atmosphere for all.

The only solution is regulation of the individual (or company) or community so that harm is balanced by repair. Yet in Australia regulation to enable the future to be sustainable is under attack with derogatory terms like 'Green tape' and 'Red tape' being used by government to label sensible limits as an impediment to progress. A dysfunctional regulatory system favours demolition of many Pilliga-like biodiverse areas and the states run amok on land clearing. There is no balance in this necessary equation - there is no sustainability and the endpoint is progressive, and irreversible loss of biodiversity.

There are several key steps to solve this problem, requiring an educated and committed community to support effective protection of biodiversity, one of our most valuable resources. These will be detailed in Objectives 1, 3 and 13.

## Goals

Overall DEA believes that this document requires elaboration and clarification. Action on biodiversity is a priority, since we are undergoing rapid loss of species and degradation of ecosystems, thereby losing the contribution of these unique features of Australia to our identity as Australians. Yet this document is passive, without recognition of the scale or importance of the task of protecting biodiversity, or even recognising the relationship between nature and biodiversity. In comparison we have identified that the 25-year Scottish Biodiversity Strategy from 2004 contains similar ideas but is far more comprehensive and ambitious even



while directed at the lay audience. Importantly the Scottish Strategy includes outcomes.<sup>18</sup>

We compare Australia's Strategy for Nature to the great efforts of the Department of Environment and Energy in producing the State of the Environment: Biodiversity report, which should provide the basis for this current strategy.<sup>19</sup>

Ironically, Australia's 'Strategy for Nature' presents goals and objectives but no actual strategies to achieve these objectives, nor performance indicators nor other means to monitor progress. The action inventory is presented as a series of possibilities "*governments could partner...*", and "*an action inventory could be designed*", rather than serious commitments and obligations to the people of Australia and to the World through our undertakings to the International Union for Conservation of Nature (IUCN).

Furthermore, the use of the word 'Nature' in the title is unfortunate without an understanding of the relationship between the concept of nature and biodiversity. Nature and biodiversity are complementary, but our efforts should be on protecting and enhancing biodiversity; efforts to manage nature are a diversion from the critical threats to Australia's biodiversity. 'Nature' is an abstract idea, with carries implicit value judgements about the worth, attractiveness and significance of various species and habitats. It is subjective and is therefore impossible to measure. Biodiversity is a more objective concept, rating all species and all habitats as being of equal importance. Biodiversity is measurable and has value beyond those to which we ascribe to it.<sup>20</sup> Biodiversity provides ecosystem services: production of food, fibre and water; control of climate and diseases; nutrient cycling and crop pollination, and spiritual and recreational benefits. Humanity depends on biodiversity, yet these ecosystem roles of biodiversity are overlooked in the current Strategy.<sup>19</sup>

## **Goal 1: Connect all Australians with nature**

### **Objective 1: Encourage Australians to get into nature**

The objective to get Australians into nature is simplistic, and poorly defined. What is meant by 'into nature'?

Current National Parks departments are underfunded even with their current levels of visitors.<sup>21</sup> Increased numbers of Australians in nature in these parks and other conservation areas would increase the stress on and damage to nature. If this objective is accompanied by appropriate funding for National Parks and other conservation areas, to ensure that the objective is achieved without significant costs to nature, and it contributes to the other related objectives of ensuring understanding of nature, then it may be part of a broader nature-protection strategy. In its

current form this objective may be counter-productive to overall efforts to protect nature and biodiversity.

We encourage the government to consider providing opportunities for children to experience wild places through nature-based activities in a way in which the conservation value of these places is preserved. From a developmental and educational perspective, a reasonable goal would be for all Australian children to experience a nature-based camp annually from Grade 3, and a nature-based half to full day excursions once per term throughout their schooling. Students in senior years are also in need of nature experiences and can be offered overnight hiking and other adventure-based activities to enable them to test their problem solving and leadership skills and take some appropriate risks.

These are important developmental opportunities and lead to enhanced resilience, a protective factor in the face of increasing rates of mental illness in young people. Likewise, the development of an Australia-wide, location specific, versions of the Northern Territory's 'Learning on Country' program, that seeks to enhance literacy and learning through structured nature engagement with indigenous elders and rangers, should be explicitly identified and supported.<sup>22</sup> This is especially important given the persisting significant gap in life opportunities facing indigenous Australians and the critical importance of early life interventions

### **Objective 2: Empower Australians to be active stewards of nature.**

Without clear definitions of stewardship and nature, this objective is near meaningless. In particular, it could mean everything from picking up dog faeces to difficult remote field work that could contribute to biodiversity conservation. Without meaningful definition this objective is too bland to contribute to Australia's biodiversity conservation. However, DEA recognises the value in the approach of stewardship to nature, and the critical role in ensuring the maintenance of the conservation estate.

It is important to note here that destruction of native species for sport such as allowing annual duck hunting sends the wrong message about valuing our wildlife and should be ceased. Given the enormous threats facing water birds from climate change and habitat loss further pressures from 'sports' like hunting are unnecessary and harmful.

### **Objective 3: Increase Australians understanding of the value of nature**

Like stewardship, education is critical for biodiversity conservation. However, for education and resulting understanding to contribute meaningfully, increasing understanding of the value of nature must lead to changes in policy that will ensure biodiversity conservation. Australians must understand the value of nature in the context of how, overall, our activities are contributing to the diminution of the value of nature in Australia and what is needed to reduce the loss of value.

Furthermore, and contrary to the diagram presented on page 8 without reference to literature, which shows continuous relationships between benefits of nature, caring for nature and building and sharing knowledge, there is evidence that relationships are more complex. Greater knowledge of nature does not consistently lead to more pro-environmental behaviour.<sup>23</sup> Here the lack of evidence base for the strategy is obvious.

#### **Objective 4: Respect and maintain traditional ecological knowledge and stewardship of nature**

It is unclear from this objective what is meant by 'traditional' ecological knowledge, and it could be assumed to mean Aboriginal and Torres Strait Islander knowledge in which case this should be specified. The last sentence mentions Aboriginal and Torres Strait Islander people, but this should be in the objective itself.

The trans-disciplinary aspects of understanding and enhancing biodiversity are identified in this objective. Appropriate performance indicators would link to those of closing the gap, through recognising links between Indigenous identity, authority, empowerment, education, employment and health.

#### **Goal 2: Care for nature in all its diversity**

Australian biodiversity is declining rapidly, so the urgent need is to reduce the rate of loss of diversity not merely 'care for nature in all its diversity'. The risk in the current goal statement is an assumption that nature could include artificial ecosystems, which are indeed nature despite limited diversity.

#### **Objective 5: Improve conservation management of Australia's landscapes, seascapes and aquatic environments**

This bland statement of the need for conservation management requires detailed information about which environments should be priorities, how they will be managed, who will be responsible and from where will funding be obtained.

#### **Objective 6: Maximise the number of species secured in nature**

We welcome the mention in this objective of the threats to species. Action on these threats is essential for this objective, but no action is specified, leaving the objective weak. As described by Cresswell, identifying and managing threats is key to biodiversity conservation. The most significant threats to biodiversity recognised by experts in the area are: clearing and land-use change, climate change, invasive species and pathogens, governance issues, changed fire regimes, pollution, social issues and

species level changes.<sup>19</sup> However, current policies are increasing threats without adequate understanding of the biodiversity that is at risk.

International cooperation is referred to in Figure 1 but there is no further discussion apart from a statement, *"by signing these agreements, Australia has an obligation to care for nature and report on progress towards global goals in biodiversity conservation and nature conservation"*.

In the opinion of DEA our commitment to national biodiversity could be greatly advanced by observing more fully the obligations to these international agreements and by not seeking to weaken them, for example obligations under World Heritage Agreements.

However, there is an additional dimension to this obligation for care. As one of the World's most wealthy nations our foreign-aid contributions are woeful at around 0.2% of gross national income; they fail to recognise that all nations share this planet and that we can assist the stabilisation of our biodiversity by helping restore and maintain it in other nations. This can be substantiated by scientific evidence eg prevention of forest destruction on our near northern neighbours will alleviate the rapid and destructive changes in our climate.

Australia needs to understand that President Macron's €700 million solar energy initiative for poor countries<sup>24</sup> will help all nations by stabilising climate and therefore biodiversity more quickly. Meanwhile Australia progressively reduces its already meagre foreign aid. We walk by on the other side.

### **Objective 7: Reduce threats to nature and build resilience**

Mention of possibilities and options to reduce threats to nature appears to deny the reality of how Australians ourselves cause the threats to nature. Whole of government respect for nature will be needed to reduce threats, for example from climate change and urban development.

A major threat to nature comes from government owned extractive businesses. For example, VicForests, a state-owned body, is currently logging old growth forests in several parts of Victoria even though these are areas which contain threatened species like the Lead-beaters possum and Greater Glider. It is through the work of concerned 'citizen scientists' that the wider public has come to learn of the plight of these species. The government is doubly culpable in these cases for both failing to identify threatened species and seeking to profit from the destruction of their habitat.

We can find examples like this in every state and territory and those natural systems which run through several jurisdictions, like the Murray-Darling river system are subject to an even more confusing regime of

obfuscation with various governments blaming one another for the system's collapse. To truly improve Australia's biodiversity, we need to see constructive action in a collaborative manner from all levels of government. A prioritising of the protection of our natural heritage, through Australia's unique biodiversity, needs to see short term financial profits take second place to this long term indigenous legacy.

Climate change is a great threat to biodiversity, not even mentioned in this strategy. Without global action to mitigate and adapt to climate change, all other efforts to protect and enhance biodiversity will flounder.

### **Objective 8: Use and develop natural resources in an ecologically sustainable way**

We welcome the mention of trade-offs in this objective, as trade-offs are the key to rational decision making. However, trade-offs between use and protection are overlooked in the current loss we are seeing with landscape scale destruction of ecosystems, for example, through land clearing with no recognition of the lost value.

Mention of natural capital is also welcome but should be accompanied by recognition that this term is fraught, and nature has value beyond what can be capitalised. The existence of non-renewable natural capital is also often overlooked in discussion of natural capital.<sup>25</sup>

### **Objective 9: Enrich cities and towns with nature**

DEA supports prospects for enriching cities and towns with nature, recognising the health-giving aspects of nature. It is important that this greening of our cities and towns sees an emphasis on the restoration of indigenous species of plants in order to support our bird and insect species to improve biodiversity. An understanding that with increasing urbanisation comes a need for richer, more species diverse natural places underpins good preventative health planning.

Our urban rivers need to have better protection from inappropriate development and we welcome the Victorian government's recent legislation to protect the Yarra River. The Yarra River Protection Bill 2017 identifies the Yarra River and the many hundreds of parcels of public land it flows through as one living, integrated natural entity for protection and improvement. This landmark legislation could provide a template for the protection of other river systems.<sup>26</sup>

Cities abutting coastal ecosystems need to ensure the integrity of dune systems is enhanced and, in many cases, restored in order to mitigate threats including storm surges associated with rising sea- levels. Here biodiversity within coastal areas can be improved whilst climate change adaptation measures are taken.

This Strategy should explicitly address the requirement for maintaining and improving biodiversity in all infrastructure planning decisions and legislation should be developed to reflect this.

### **Goal 3: Build and share knowledge**

#### **Objective 10: Increase knowledge about nature to make better decisions**

The urgent requests from researchers for adequate resources demand attention:

*"No consistent national-level data are available on the impact of pressures on all aspects of biodiversity in the past 5 years. The Australian Government released a Threatened Species Strategy in 2015, which provides insight into threats to a limited number of high-priority taxa or species. For example, the impact of feral cats on small mammals has been well documented. However, information on which to base a comprehensive assessment of trends in pressures and the relative impact of different pressures broadly across ecosystems is very limited (see Box BIO1). Information about the entire range of species that make up the bulk of our biodiversity or on ecological processes that maintain biodiversity is also very limited."*<sup>19</sup>

In a survey of biodiversity researchers, *the highest-ranked response to the barriers to biodiversity management was a lack of basic knowledge about species distributions and abundances, and particularly of threatened species.*<sup>19</sup>

This objective demands considerable increase in funding, to be used by researchers based on their own knowledge of greatest need, without the risk of political interference.

#### **Objective 11: Share and use information effectively.**

The failure of governments and industry to use extensive knowledge about Australian biodiversity is leading to despair among researchers, so a genuine commitment to this objective would be a radical reform. Emerging threats to diversity are well established: climate change, clearing and habitat modification, biosecurity, governance issues, mining and development, population growth and urbanisation, fire regime change, species-level changes, social issues, pollution.<sup>19</sup> None of these threats are identified or managed in any way whatsoever by any item in this strategy. The vague term 'use' misses the point that governments themselves must implement key recommendations from biodiversity research.

## **Objective 12: Effective measurement to demonstrate our collective efforts**

DEA strongly supports appropriate performance indicators to measure progress in biodiversity conservation, including public consultation in their development, and regular public release.

However, the claim in this objective that caring for nature is a shared responsibility of all Australians overlooks the government's role in leadership, funding allocations, approval of developments, and countering competition among states to allow destructive industry. The State of the Environment: Biodiversity report includes information for development of indicators.<sup>19</sup>

## **Objective 13: Education of elected representative and public service experts**

Elected representatives particularly in the federal parliament are presented with increasingly complex challenges from the rapid increases in scientific and technical knowledge. This challenge is increased by the lack of elected representatives with advanced training and therefore understanding of the sciences. DEA has drawn attention to this need since our submission to The Standing Committee on Procedure, Inquiry into the effectiveness of the House Committees in 2009<sup>27</sup> and we strongly recommend ongoing educational programs for all elected representatives. Ongoing education should be regarded as a need in all professions, and parliamentarians should be regarded as a profession during their term of office. The immediate availability to Ministers of expert knowledge has also been eroded in recent years by the replacement of public servants by Advisors.

More specifically, it is apparent from the document that there is a paucity of knowledge about biodiversity and related sciences within the public service and our elected representatives. Natural systems are complex and dynamic, and the loss of key species can bring about the collapse of an entire ecosystem. It can be difficult to know which species of thousands is 'the' key species for an ecosystem, hence all species should be valued. It is also often difficult to predict tipping points for system collapse as natural systems don't generally follow linear relationships- it is all very different from the economic and legal systems many politicians and their staff are familiar with. It is therefore essential that those in relevant departments like health, environment and education are provided with relevant knowledge on biodiversity, human health and natural systems. It is also imperative that, where this understanding is lacking, expert advice from those working in the disciplines of ecology, health, environmental education and human geography is sought and listened to.

Given that our elected representatives are drawn from the general community incorporation of nature-based education within our education system will provide a foundational understanding and care for biodiversity

in all Australians. There is good evidence from the UK that this approach provides benefits *"including health through increased physical activity; wellbeing through enhancing social and intrapersonal qualities and educational attainment through developing 'characters' of resilience and confidence as precursors to successful learning"*.<sup>28</sup>

#### **Objective 14: Exercise of leadership by governments to preserve biodiversity**

The complexity of the topic and the failure of understanding by government leaders has resulted in a failure of leadership to address the threat of several interrelated topics particularly climate change and biodiversity loss. Leadership essentially involves explaining to the public the reasons for necessary legislation some of which might involve action in the sphere of economic management.

Noting the public perception of health professionals as trustworthy, knowledgeable and reliable, and the need for trans-disciplinary policy development, we as Doctors for the Environment Australia, together with other health organisations would welcome the opportunity to work with government in implementing an effective strategy for nature.

#### **Objective 15: National Regulation**

Because the necessary management of The Commons is not understood, regulation is often seen as an impediment to economic progress. It is the view of DEA from examining many Environmental Impact Statements that state based regulation is causing much irreparable damage to the natural environment and biodiversity and therefore to human health.<sup>29</sup> Our assessments commenced in 2006 and provide a body of evidence of harm over 12 years which is now becoming recognised in legal judgements for example New Hope Coal (NHC) Land Court judgement.<sup>30</sup>

These harms necessitate the establishment of a secure National Environmental Protection Authority as detailed by environmental organisations which would deliver nationwide security against the ravages of land clearing<sup>31</sup> as well as for action on climate change as detailed in our submission to the Senate<sup>32</sup> and in DEA's Climate and governance policy<sup>4</sup>.



# References

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