

Submission into the 2019-2020 Independent Review of the Environmental Protection and Biodiversity Conservation (EPBC) Act

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Healthy planet, healthy people

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About Doctors for the Environment Australia

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-government organisation of medical doctors in all Australian states and territories.

DEA is focused on the complex interaction between human health and our natural environment and is therefore interested in environmental protection and restoration to promote human health and social stability. We advocate to protect health through care for our natural environment and to address the diseases caused by damage to it.

DEA's work is supported by a distinguished Advisory Committee of scientific experts whose knowledge of medical and public health issues is fully contemporary. Our members work across all specialties in community, hospital and private practices.

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Executive Summary

It is DEA's stance that human health is indivisible from healthy, biodiverse ecosystems. As biodiversity and ecosystems decline or are lost, we compromise our food security, our water resources, the air we breathe and the stability of our climate. Because of this, the effectiveness of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) has major implications for the health and wellbeing of Australians.

DEA's view is that since its inception, the EPBC Act has failed in its statutory objectives of providing for the protection of the environment, conserving Australian biodiversity and promoting ecologically sustainable development. Furthermore, it offers no protection against the escalating threat of climate change, nor does it mitigate a range of more recently recognised threats such as air and noise pollution.

DEA believes that the flaws in the EPBC Act are too significant to be addressed by amendments alone. A new generation of environmental law is needed to restore past damage and cope with the scale of future challenges. This law must provide the Commonwealth with the powers it needs to fulfil a greater leadership role in the protection of Australia's environment, as compared with the current situation where much of this task is left to the states and territories. There should be central involvement of scientific and health experts in the development and administration of environmental law to ensure our environment and health are at all times viewed in parallel.

Having recognised that reform will require comprehensive review of biodiversity protection measures, effective climate change policy and reform of national water law, the government must also recognise the underlying drivers of our challenges: namely, population expansion and an economic system designed for perpetual growth.

Recommendations:

Biodiversity as a health issue

Recommendation 1: That national biodiversity loss and climate change are recognised as key threats to the sustainability of Australia and to human health and wellbeing. The recognition of these problems as important health issues will help facilitate commensurate action and lay the foundation for laws capable of truly protecting our environment.

Widespread species loss

Recommendation 2: That threatened species are recognised as the 'tip of the iceberg', with the health of many thousands of other less charismatic, less well known or unassessed species also in decline and in need of support.

Recovery plans

Recommendation 3: That the development of recovery plans for threatened species and ecological communities be a mandatory requirement rather than a discretionary decision.

Recommendation 4: That the obligations of state and territories in the implementation of recovery plans be clearly delineated, and appropriate regulatory tools developed to support and if necessary, compel them to fulfil their obligations.

Recommendation 5: That a dedicated and adequate funding stream be established to support the implementation of species and ecological community recovery plans.

Recommendation 6: That a framework be developed to assess, monitor and report on the effectiveness of recovery plans. This should include explicit targets and triggers for review/revision of plans.

Key Threatening Processes

Recommendation 7: That Australia's Key Threatening Processes list be scientifically determined rather than dependant on public nominations.

Recommendation 8: That the decision to assess and list a Key Threatening Process results from an independent scientific process rather than relying on ministerial discretion.

Threat Abatement Plans

Recommendation 9: That for each Key Threatening Process, it be a mandatory requirement to prepare a Threat Abatement Plan.

Recommendation 10: That, as recommended for recovery plans, the obligations of state and territory jurisdictions in the implementation of Threat Abatement Plans are made clear and enforceable.

Recommendation 11: That Threat Abatement Plans are adequately funded.

Recommendation 12: That, as recommended for recovery plans, a robust framework is developed to assess, monitor and report on the effectiveness of Threat Abatement Plans. This should include explicit targets and triggers for review/revision of plans.

Critical Habitat

Recommendation 13: That critical habitat is included as a matter of national environmental significance.

Recommendation 15: That it be a mandatory requirement that critical habitat is identified for all listed threatened species and ecological communities within 6 months of a species being listed.

Recommendation 15: That a systematic and rigorous approach is applied to identifying critical habitat.

Recommendation 16: That the National Critical Habitat register is applied across all land tenures, and penalties applied for destruction of critical habitat whether this occurs on Commonwealth, state-owned or private land.

Deforestation and land clearing

Recommendation 17: That land clearing and deforestation are recognised as health issues for both humans and other species due to their contribution to habitat loss, reduced water and air quality, and climate change.

Recommendation 18: That land clearing and deforestation are recognised as matters of national environmental significance.

Recommendation 19: That Regional Forestry Agreements are abolished, and a moratorium imposed on all native forest logging.

Recommendation 20: That standard setting, regulation and monitoring of deforestation and land clearing are firmly brought within the remit of the Commonwealth Government.

Greenhouse gases

Recommendation 21: That greenhouse gas emissions are included in legislation as a matter of national environmental significance.

Air pollution

Recommendation 22: That regulation of air pollution is brought under the aegis of national environment law.

Recommendation 23: That national air pollution regulation includes compliance obligations and enforcement mechanisms. While the States and Territories would continue to be responsible for on-ground implementation and enforcement of air pollution standards, those that fail to ensure compliance could then be subject to federal intervention.

Recommendation 24: That the Commonwealth Government be responsible for specifying a nationally consistent approach to monitoring and reporting air quality.

Noise pollution

Recommendation 25: That the Commonwealth Government recognise the risk that noise poses to the health of humans and other species.

Recommendation 26: That regulation of noise pollution is brought under the aegis of national environmental law.

Water

Recommendation 27: That better protection of our water resources is a central consideration in the reform of environmental law.

Recommendation 28: That all gas mining projects, including shale gas mining, are regulated under the water trigger.

Marine Environment

Recommendation 29: That the Commonwealth Government recognise the vital importance of our marine environment to biodiversity and human health.

Recommendation 30: That the Commonwealth Government pursues a nationally agreed system of new environmental law for managing Australia's marine and coastal environment.

Aboriginal and Torres Strait Islander Knowledge and Involvement

Recommendation 31: That Australia's environment law recognises Aboriginal and Torres Strait Islander expertise in biodiversity and its management.

Recommendation 32: That Aboriginal and Torres Strait Islander groups and communities are specifically consulted on what reforms they feel are required for the EPBC Act.

Recommendation 33: That the institutions responsible for developing and delivering national environmental law include Aboriginal and Torres Strait Islander Australians.

Role of Commonwealth Government

Recommendation 34: That the Commonwealth Government be responsible for setting national environmental standards.

Recommendation 35: That the Commonwealth Government be responsible for ensuring that the states and territories comply with these standards through a strengthened and expanded regulatory framework.

Recommendation 36: That the Commonwealth Government be responsible for developing a national system for monitoring and reporting on environmental outcomes.

Recommendation 37: That the Commonwealth Government be responsible for improving public transparency around environmental decision making including increasing the availability of decision-making material through improved public facing systems.

A new generation of environmental law

Recommendation 38: That a new generation of environmental law, as developed by the Australian Panel of Experts on Environmental Law, be introduced nationally to replace ineffective state laws and the EPBC Act.

Recommendation 39: That institutions responsible for developing and delivering national environmental law include individuals with public health expertise.

Driving forces for loss of biodiversity

Recommendation 40: That economic and population growth are recognised as key drivers of damage to our environment.

Preamble

DEA welcomes the opportunity to make a submission to the Independent Review of the EPBC Act. We contend that the Act has failed to fulfil its statutory objectives of protecting the environment and promoting ecologically sustainable

development and biodiversity conservation. We need much greater and more robust environmental protections if we are to survive and thrive as a community into the future.

Our natural environment is currently facing unprecedented threats. Biodiversity loss is accelerating, climate change is intensifying, we are seeing more extreme weather and our water resources are declining. These challenges impact not only on the environment, but also on human health and wellbeing. Indeed, we have recently witnessed unprecedented damage to habitats and biodiversity due to increasingly unstable hot and dry weather patterns, with accompanying impacts on human health.

Every aspect of the EPBC Act has health consequences, acting through the human life support systems of biodiversity, water, air and food production. In this submission we provide many examples of public health being adversely affected as result of inadequacies of the Act. To date, the Act has considered our natural environment in a silo, whereas reformed or new environmental law must bring health and wellbeing considerations into the environmental sphere.

We note that this 10-year review of the EPBC Act is a legislative necessity. However, it also presents a once in a decade opportunity which DEA believes is of critical importance to the future sustainability of Australia. In light of this summer's bushfire crisis, DEA's view is that the review committee expertise and terms of reference need to be greatly expanded, commensurate with the national environmental and public health emergencies we now face. It is a major oversight that the review panel does not include a member with public health expertise.

Background

Human beings are fundamentally dependent on a healthy planet where all ecosystems sustain life in balance. We rely on other species, the diversity of life on earth, to provide us with clean air and water, a stable food supply, protection against infectious diseases and a stable climate. The natural environment also provides us with places for recreation, psychological rejuvenation and spiritual connection. It is the original source of more than half of all medicines in use today and a potential source of many more for the future. Though the human species is increasingly disconnected from nature, our reliance on it is absolute. As David Attenborough has recently said, *'The plain fact is that every mouthful of food you eat comes from the natural world... Every lungful of air that you take is refined by the natural world, oxygen breathed out by plants. If you can't breathe and you can't eat, you don't exist'*¹.

Acknowledging the biodiversity and climate emergencies

In 2019, the United Nations released a Global Assessment Report which may be the most comprehensive study of life on Earth ever undertaken^{2,3}. It documented the loss of 60% of all mammals, birds, fish and reptiles since 1970, with a further 1 million animal and plant species threatened with extinction, many within decades – this includes 40% of amphibian species, almost 33% of reef-

forming corals and more than a third of all marine mammals. This information was accompanied by a stark warning: *'The health of the ecosystems on which we and other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of economies, livelihoods, food security, health and quality of life worldwide'*³. Other researchers have gone further to describe the current rate of species extinction as 'biological annihilation'⁴.

As a consequence of ever rising concentrations of atmospheric greenhouse gases, the last half century has also seen relentless upward trajectories in global surface temperature, ocean heat content, ocean acidity, ice melt, sea level and extreme weather events⁵. Based on these worsening 'vital signs' of climatic impacts, a worldwide group of 11,000 scientists including many from DEA recently declared 'clearly and unequivocally that planet Earth is facing a climate emergency'⁵. This group went beyond their usual self-defined scientific boundaries and warned of 'untold suffering'.

The health impacts of climate change are broad and mediated by increases in extreme weather events, altered distributions of vector borne and other climate-sensitive diseases, air pollution, reductions in crop yields, fish stocks and fresh water availability, social unrest, and population displacement. These exposures underlie health effects including physical trauma, heat stress illness, cardiovascular and respiratory disease, vector-borne disease, infectious gastrointestinal disease and psychological stress⁶. The global scale of these health impacts threatens to overwhelm the adaptive capacity of existing health, social and economic systems and thus they are now viewed as the greatest public health threat of the 21st century^{7,8}. Worldwide, a growing numbers of health organisations including DEA have declared climate change a public health emergency^{9,10}.

It is worth noting that the health impacts of climate change are likely to dwarf those arising from the current devastating COVID-19 outbreak. Yet, there couldn't be greater contrast between the global responses to the two issues. Specifically, action on COVID-19 has been decisive, founded on the best available scientific evidence and focussed on health and not economics. In contrast, the response to climate change has involved indecision, health concerns being sacrificed for economic ones and science being sidelined.

We know the origins of the current global coronavirus pandemic, and other outbreaks of infectious diseases previously, stem back to human mistreatment of other species and destruction of their habitats, changing their distribution and movements and often bringing dangerous pathogens closer to human communities¹¹. Conversely a growing body of research shows that high biodiversity can reduce rates of pathogen transmission and lower disease risk for human beings, wildlife, livestock, and plants¹².

The Australian context

Australia is one of the most naturally beautiful and biologically diverse countries on the planet. Most of Australia's species are found nowhere else - 85% of the terrestrial mammals, 90% of our reptiles and frogs and 91% of our flowering plants are endemic¹³. Australia is rich in many natural and cultural

resources, but others, such as water, are scarce. Because of this, Australia has much to gain from conserving and protecting its rich environmental inheritance and resources, while at the same time, is particularly vulnerable to a devastating loss of endemic species and ecosystems and compromised human health and wellbeing if threats to our environment are not addressed.

Australia has an appalling record of species extinction, having experienced the largest documented decline in biodiversity of any continent since colonisation¹⁴. Currently, Australia has the second highest rate of biodiversity loss in the world, beaten only by Indonesia¹⁵.

The magnitude of these losses has now been compounded by appalling losses from the disastrous bushfires of the 2019-2020 summer. Preliminary data suggest that more than 49 threatened species have lost at least 80% of their habit in the fires, while 142 have lost between 10-80%¹⁶. The impact on most species not currently listed as threatened is yet to be assessed, and may never be, but is likely to also be large.

With regard to climate change, the Australian State of the Environment (SoE) Report 2016 noted that its many consequences, including changes to species distributions, restriction of agricultural growing seasons, threats to heritage values and intensification of bushfire conditions, pose the greatest medium-term threat to Australia's environment¹⁷. A 2019 report from the *Medical Journal of Australia*, in partnership with the *Lancet* and University College London, noted that Australia is particularly vulnerable to the health impacts of climate change and that current policy inaction threatens Australian lives¹⁸.

The issue of water in Australia is particularly pertinent in the face of climate change. Australia is the driest inhabited continent on Earth, and rainfall is highly variable in both distribution and time compared to other continents¹⁹. Australia's water security has already been significantly impacted by our warming climate. For instance, south-east Australia has experienced a 15% decline in late autumn and early winter rainfall and a 25% decline in average rainfall in April and May over the past two to three decades²⁰. South-west Western Australia has also experienced a pronounced decline in cool season rainfall, with particularly strong drying from May through July. Much of eastern Australia has been gripped by the worst drought on the historical record, with substantial implications for rural and urban water supplies, agricultural productivity, mental health in farming communities and bushfire risk²¹⁻²³. For the future, even more profound changes to Australia's water cycle are projected, including more frequent severe droughts and more extreme rainfall²⁰.

DEA's view is that unless the combined crises of biodiversity loss and climate change are fully recognised and urgently and effectively addressed, we will see ongoing dramatic disruption of natural ecosystems and human life in this country over the remainder of this century. We are faced with a closing window of opportunity to act, such that what we choose to do now matters.

Recommendation 1: That national biodiversity loss and the climate emergency are recognised as key threats to the sustainability of Australia and to human health and wellbeing. The recognition of these problems as important health

issues will help facilitate commensurate action and lay the foundation for laws capable of truly protecting our environment.

How effective has the EPBC Act been? What are the priority areas for reform? (Questions 4, 5, 6 and 10 in the discussion paper)

As noted in the Discussion Paper, the EPBC Act is the Australian Government's central piece of national environmental law. Yet, since the EPBC Act came into force, nearly all key indicators of the environment have continued to decline. DEA's view is that the EPBC Act has abjectly failed to deliver the protections it promised in key areas such as species and ecological community protection and land clearing. It also plays no role in limiting climate change despite the centrality of this environmental threat, nor does it address the issues of air and noise pollution. In addition, it fails to deliver effective policy to ensure water is properly conserved and utilised, nor does it adequately protect our marine environment.

Species and ecological community protection

The SoE Report 2016 provided comprehensive evidence of the scale of species and ecosystem loss across land and seascapes in Australia²⁴. It noted the 'poor state and declining trend of Australia's biodiversity' and the ongoing rise in number of species listed as threatened under the EPBC Act²⁴.

According to the EPBC Act, 37 species of Australian plants and 54 species of Australian animals have been listed as extinct while almost 1,900 species and ecological communities are formally listed as threatened with extinction²⁵⁻²⁷. Many more Australian animal and plant species have not been sighted for decades, suggesting these figures are likely to be gross underestimates of the number of species at risk. A recently published study showed that four times as many vulnerable species have declined in their threat status than have improved since the EPBC Act was enacted²⁸.

Importantly, there are no signs of these trends abating: the SoE Report 2016 showed that overall pressures on biodiversity have mostly increased since 2011 while the status of biodiversity has mostly decreased²⁹. As noted above, it is also likely that the bushfires of this summer have compounded the biodiversity crisis facing our nation, pushing a large number of species closer to extinction.

DEA is of the view that in the face of these data, none could claim that the EPBC Act is achieving its statutory objective of biodiversity conservation.

We wish to reiterate that biodiversity and human health are inextricably linked. Biodiversity, the range of other species on earth, is essential for the maintenance of ecosystem services, which are the benefits people obtain from nature. As we lose biodiversity, we degrade these services, including the provisioning services of food, water, timber, and fibre; regulating services such as the regulation of climate, floods, disease, wastes and water quality; cultural services such as recreation, aesthetic enjoyment, and spiritual fulfillment; and supporting services such as soil formation, photosynthesis, and nutrient

cycling³⁰. Without biodiversity and healthy ecosystems, human beings quite simply could not survive.

Recovery plans

Since an amendment to the EPBC Act in 2006, the decision to develop a recovery plan for a nationally listed threatened species has relied on ministerial discretion rather than this being mandatory. The result is that less than 40% of threatened species currently have recovery plans in place to ensure their long-term survival³¹.

Another issue is that there is currently no requirement within the EPBC Act for governments to implement recovery plans once they are developed. The result is generally inadequate implementation, hindered by weak co-ordination between Commonwealth, state/territory and local authorities and inadequate funding³¹. Furthermore, despite the requirement under the EPBC act for regular ministerial review of recovery plans, the Environment and Energy Department's public documentation does not track progress. This leads to major issues with transparency and accountability.

Recommendation 2: That threatened species are recognised as the 'tip of the iceberg', with the health of many thousands of other less charismatic, less well known or unassessed species also in decline and in need of support.

Recommendation 3: That the development of recovery plans for threatened species and ecological communities be a mandatory requirement rather than a discretionary decision.

Recommendation 4: That the obligations of state and territories in the implementation of recovery plans be clearly delineated, and appropriate regulatory tools developed to support and if necessary, compel them to fulfil their obligations.

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Recommendation 6: That a framework be developed to assess, monitor and report on the effectiveness of recovery plans. This should include explicit targets and triggers for review/revision of plans.

Key Threatening Processes and Threat Abatement Plans

The processes for mitigating major threats to species are also deficient. Currently, the listing of Key Threatening Processes (KTPs) depends on public nominations rather than systematic scientific assessment. As is the case for the listing of threatened species and the development of recovery plans, decisions on whether or not to assess a KTP nomination and list a particular KTP are at the discretion of the environment minister³². The minister also decides whether or not a Threat Abatement Plan (TAP) for a listed KTP Process is developed and how much funding is allocated to threat abatement³³.

Where TAPs are developed, the EPBC Act only requires that the Commonwealth Government implement them 'to the extent to which they apply in areas under Australian Government control and responsibility'³⁴. A KTP listing does not generate any obligations for other governments, landholders or anyone whose actions may exacerbate the KTP. Indeed, government documentation explicitly states that 'Listing a key threatening process does not regulate or prevent actions undertaken by the states, territories or individual property managers.'³⁵

There is also no requirement for the Commonwealth Government to monitor or report on KTPs. While TAPs do need to be reviewed every 5 years, this requirement provides no feedback on those KTPs without an attached TAP. In addition, reviews of TAPs do not need to be independent.

A 2018 discussion paper from the Invasive Species Council has highlighted some of the many consequences of current process³⁶. It documented lengthy delays between nomination of a KTP to listing; refusal by the environment minister to assess numerous KTP nominations despite seeming validity of the nominations; rejection of a nomination by the minister against the advice of the Threatened Species Scientific Committee, with no reasoning provided; no TAP in place for almost a third of listed KTPs (n=6; 29%) despite there being no clearly defined alternative threat abatement process in place in most cases; no assessment of the effectiveness of threat abatement for those KTPs lacking TAP; 4 TAPs (19% of KTPs) never reviewed despite assessments being overdue by 1-4 years; independent reviews of TAPs only performed in 3 cases (14% of TAP reviews); slow initial preparation and revision of TAPs.

Recommendation 7: That Australia's Key Threatening Processes list be scientifically determined rather than dependant on public nominations.

Recommendation 8: That the decision to assess and list a Key Threatening Process results from an independent scientific process rather than relying on ministerial discretion.

Recommendation 9: That for each Key Threatening Process, it be a mandatory requirement to prepare a Threat Abatement Plan.

Recommendation 10: That, as recommended for recovery plans, the obligations of state and territory jurisdictions in the implementation of Threat Abatement Plans are made clear and enforceable.

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Recommendation 12: That, as recommended for recovery plans, a robust framework is developed to assess, monitor and report on the effectiveness of Threat Abatement Plans. This should include explicit targets and triggers for review/revision of plans.

Critical habitat

The EPBC Act defines critical habitat as 'habitat critical to the survival of a listed threatened species or ecological community'³⁷. By definition then, protection of

species must involve protection of critical habitat. While the EPBC Act includes provisions for the environment minister to list any land deemed to be critical habitat on the National Critical Habitat Register, only critical habitat locations in or on Commonwealth land are protected under the EPBC Act (i.e. the Act contains no penalty provisions for harming critical habitat on private or state-owned land). Because the majority of critical habitat locations lie outside Commonwealth land, the result is that registering critical habitat provides no protection for most species.

The EPBC Act does require that recovery plans identify 'habitat critical to survival', but as discussed above, the majority of threatened species do not have recovery plans in place. Moreover, even where recovery plans are developed, critical habitats identified through this process are not afforded any special protections under the EPBC Act.

Demonstrating the ineffectiveness of current environmental law to identify and protect critical habitat, there have been only five critical habitat listings under the EPBC Act since it was enacted despite there being over 1800 threatened species in Australia. Not a single piece of critical habitat has been listed since 2005. A report released by the Australian Conservation Foundation in 2018 showed that of 230 listed critically endangered and endangered animals, only 127 (55%) had recovery plans in place³⁸. While 105 (46%) of these clearly identified critical habitat essential to species survival, only 25 (10%) identified critical habitat wholly or partly located on Commonwealth land. This meant that under national environmental law, critical habitat locations for 90% of the species surveyed were not eligible for protection. For the 25 species with critical habitat that was located on Commonwealth land and therefore could have been protected under the EPBC Act, only two had habitat listed on the National Critical Habitat Register.

Recommendation 13: That critical habitat is included as a matter of national environmental significance.

Recommendation 14: That it be a mandatory requirement that critical habitat is identified for all listed threatened species and ecological communities within 6 months of a species being listed.

Recommendation 15: That a systematic and rigorous approach is applied to identifying critical habitat.

Recommendation 16: That the National Critical Habitat register is applied across all land tenures, and penalties applied for destruction of critical habitat whether this occurs on Commonwealth, state-owned or private land.

Deforestation and land clearing

The situation with deforestation and land clearing in Australia is equally dire. Rates of these are among the highest in the world, with approximately 600,000 hectares of forest and bushland lost each year and 40% of Australia's total forest cover lost over the past 40 years³⁹. Much of the native vegetation that remains is highly fragmented. Old growth forests are still being clear-felled, despite the fact

that these provide critical habitat for endangered species. Over half of all the native species listed as threatened under the EPBC Act are at risk of habitat loss from land clearing and deforestation³⁹. Similarly, of the 74 ecological communities listed on Australia's Threatened Species List, most lie within areas of high current or historic land clearing and deforestation. Land use change has historically been, and remains, the greatest threat to biodiversity in Australia³⁹.

Forests and bushlands support our health in so many ways⁴⁰. They release oxygen to the atmosphere and draw down pollutants and carbon dioxide, thereby maintaining our air quality. Forests act as vital carbon sinks in the face of climate change, which, as noted above, has been identified as the greatest human health threat of this century. Victoria's mountain ash forests are the most carbon dense in the world, yet they are currently being logged. Broad scale land clearing and deforestation in Australia currently causes around 14% of Australia's greenhouse gas emissions and are expected to be responsible for the release of between 673 and 826 Mt CO₂ emissions over the period 2016 to 2030 without substantial policy change⁴¹.

Forests also increase the amount of water entering the soil, thereby regulating the water table. In Melbourne, there is good evidence that the forested catchment area regulates water flow, maintaining a more constant supply in times of drought⁴². In contrast, it has been shown that continued logging in Melbourne's water catchments could reduce the city's water supply by the equivalent of 600,000 people's annual water use every year by 2050⁴³.

In addition, health professionals recognise and prescribe forests as places for restoration, both physical and psychological⁴⁰. Spending time in a forest can lower blood pressure and heart rate, reduce levels of the stress hormone cortisol, reduce sympathetic nervous system activity and improve immune and cognitive function. Forest visits also improve mood and attention, lower anxiety and enhance psychological stress recovery.

Yet deforestation and land clearing are not directly addressed by the EPBC Act. The current EPBC Act only applies where activities directly impact a protected entity such as a World Heritage area, Ramsar wetland, threatened species, ecological community, or migratory species. If direct impact cannot be, or is not established, no environmental assessment under the EPBC Act will occur⁴⁴.

Providing a clear example of the gross failure of the EPBC Act to regulate land clearing, over 7.7 million hectares of threatened species habitat has been cleared this century alone⁴⁵. Of this clearing, over 93% was not referred to the Commonwealth Government for assessment, meaning the loss was not scrutinized under the EPBC Act. Of the 7% of projects that were referred for federal assessment, only 0.1% were deemed clearly unacceptable, while 74% could proceed without conditions. This latter statistic suggests that even when the EPBC is applied, its capacity to protect the environment or biodiversity is limited.

As Australian environmental law is currently structured, most of the powers relating to land clearing lie with the states and territories. The result is inconsistent approaches to regulation and frequent utilisation of loopholes

particularly for large agricultural, mining and urban development projects³⁹. It is a major issue that state and territory governments responsible for environmental decision-making are often reliant on the money from royalties and taxes from projects they are assessing. Monitoring of land clearing also differs between states and territories – or more rightly, is poor to non-existent in all states bar Queensland³⁹.

With respect to native forest logging, there is little or no federal oversight due to Regional Forestry Agreements which defer regulatory powers to state governments. These agreements entirely exempt public native forest operations from the application of the EPBC Act, which means that the Commonwealth Government has no power to intervene even when, for instance, logging involves threatened species habitat. No other industry has this kind of exemption. Highlighting the flow on consequences of this, over decades, logging has continued in Victoria's tall montane ash and mixed species forests in the Central Highlands, despite these providing some of the last remaining habitat for the critically endangered Leadbeater's Possum and the vulnerable Greater Glider. In Tasmania, a Regional Forestry Agreement has recently been re-signed with a term of 20 years, with the new agreement explicitly allowing logging of old growth forest and rainforest tree species in conservation reserves³⁹.

Given the recent loss of swathes of forest in southeast Australia from bushfires, including wet temperate rainforests, logging of old growth and native forests needs to cease immediately. The temperate rainforests of the south-eastern corner of the mainland and Tasmania are irreplaceable – they will not regenerate when burnt. With ongoing climate change and ever-increasing fire risk, we must do all we can to support, not destroy, these fragile ecosystems. Particularly relevant at this time is research which has found logging contributes to future fire risk thus increasing bushfire threats to humans and other species⁴⁶.

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Recommendation 18: That land clearing and deforestation are recognised as matters of national environmental significance.

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Climate change

As discussed above, climate change is an increasingly pervasive pressure on all aspects of the Australian environment. Its impacts are projected to worsen over time and it has been ranked as the highest future threat to biodiversity in Australia¹⁷. Australians are also at significant risk of major declines in health due to climate change over time¹⁸.

With the bushfires of the summer of 2019-2020, the magnitude of threat of climate change to the environment and human health in Australia could not have been clearer. It has been estimated that over 1 billion animals perished, in addition to unknown numbers of insects⁴⁷. Over 10 million hectares were burnt, including at least 80% of the Blue Mountains World Heritage Area. This is a region whose exceptional biodiversity and ecosystems provide clean air and water to the Greater Sydney region and a healthy escape into nature for over five million visitors a year⁴⁸.

At least 33 people died in the fires, while thousands lost homes and properties and many more were displaced. Based on the experience of Black Saturday in 2009, the flow on mental health impacts are likely to be substantial and evident for decades.

The fires produced air pollution of up to 11 times the base 'hazardous' level in parts of Sydney and New South Wales⁴⁹. A recent study has estimated that the air pollution over eastern Australia was responsible for 1305 presentations to emergency departments with asthma, 1124 hospitalisations for cardiovascular problems and 2027 for respiratory problems, as well as 417 excess deaths⁵⁰.

The medium to long term consequences of exposure to this level of smoke pollution, present for such an extended period, are still unknown but are likely to be significant. Importantly, the smoke from the fires circled the globe with potential impacts on a vast number of people.

Estimates suggest the fires released somewhere between 650 million and 1.2 billion tonnes of carbon dioxide into the atmosphere, an amount far more than Australia's annual emissions of around 531 million tonnes⁴⁷. They also vaporised an important carbon sink, which will compound climate change and thereby its impacts on the environment and health well into the future.

Yet, despite the magnitude of threat climate change poses to the Australian environment, ecosystems and public health, the EPBC Act does not include a climate change trigger. This is a major gap in the legislation. As noted by Dr Chris McGrath in a submission into the 2008 review of the EPBC Act, this results in the anomalous situation whereby the EPBC Act aims to protect matters of national environmental significance such as our World Heritage listed forests and the Great Barrier Reef, but does not regulate the greatest threat to those matters, climate change⁵¹. DEA strongly advocates that greenhouse gas emissions should be made a matter of national environmental significance. Climate change is a national issue with national-scale impacts on biodiversity, the environment in general and human health.

Recommendation 21: That greenhouse gas emissions are included in legislation as a matter of national environmental significance.

Air pollution

Air pollution adversely affects all living systems^{52,53}. For instance, air pollutants such as sulphur may lead to excess amounts of acid in lakes and streams and can damage trees and forest soils. Nitrogen in the atmosphere can harm fish and

other aquatic life when deposited on surface waters. Ozone can reduce photosynthesis and slow growth of sensitive plants. Mercury and other heavy metal compounds that are emitted into the air from fuel combustion and deposited on land and in water can accumulate in plants and animals, some of which are consumed by people.

Air pollution also poses a major threat to human health. Globally, it is one of the major causes of environmentally related mortality and morbidity⁵⁴. In Australia, it is estimated that urban air pollution contributes to approximately 3,000 deaths annually, which is more than double the deaths of the national road toll⁵⁵.

At present, the EPBC Act does not address air pollution at all. Instead, the current system of Ambient Air Quality National Environment Protection Measures requires that air pollution standards are agreed upon by State and Territories governments. This has led to lengthy delays in revising standards and has also allowed these to be weakened by some states rather than reflecting best-practice. Furthermore, the task of enforcing standards lies entirely with the states and territories. The result is regular exceedances of standards in many parts of Australia.

Recommendation 22: That regulation of air pollution is brought under the aegis of national environment law.

Recommendation 23: That national air pollution regulation includes compliance obligations and enforcement mechanisms. While the States and Territories would continue to be responsible for on-ground implementation and enforcement of air pollution standards, those that fail to ensure compliance could then be subject to federal intervention.

Recommendation 24: That the Commonwealth Government be responsible for specifying a nationally consistent approach to monitoring and reporting air quality.

Noise pollution

There is now a considerable body of research documenting the threat anthropogenic noise poses to a vast number of species including birds, amphibians, reptiles, fish, mammals and invertebrates⁵²⁻⁵⁶. This threat is seen across terrestrial, aquatic and coastal ecosystems⁶³⁻⁶⁵.

For instance, in the marine environment, it is well recognised that seismic exploration by the oil and gas industries, use of military sonar and ship noise can each change behaviours and cause injury to, and even death of, whales⁶⁶⁻⁶⁸. In a recently published Australian study, widely used marine seismic survey air gun operations were observed to cause a two to three-fold increase in mortality of adult and larval zooplankton populations, with effects seen out to 1.2km from the site of the test⁶⁹. Notably, zooplankton underpin the health and productivity of global marine ecosystems.

Another Australian study has shown a negative impact of motorboat noise on parental behaviour and offspring survival in the spiny chromis (*Acanthochromis*

polyacanthus), a brooding coral reef fish⁷⁰. Yet another has shown that traffic noise can alter the pitch of calls of the southern brown tree frog (*Litoria ewingii*), possibly negatively influencing mate choice by female frogs⁷¹.

There is also substantial evidence of negative impacts of noise pollution on human health. These include stress, poor concentration, sleep disturbance, fatigue and communication difficulties, in addition to more serious issues such as cardiovascular disease, tinnitus, hearing loss and cognitive impairment^{72,73}. In a study commissioned by the World Health Organisation in 2011, it was shown that at least one million healthy years of life are lost in Western Europe each year from traffic noise pollution alone⁷⁴.

Yet despite this, the EPBC Act contains no mechanism to address the issue of noise pollution, unless this impacts on a matter of national environmental significance or where the noise 'may kill, injure, take or interfere with a cetacean in the Australian Whale Sanctuary'⁷⁵. Once again, responsibility for noise pollution lies with the states and territories, leading to inconsistent and generally ineffective monitoring and regulation across jurisdictions⁷².

Recommendation 25: That the Commonwealth recognises the risk that noise poses to the health of humans and other species.

Recommendation 26: That regulation of noise pollution is brought under the aegis of national environment law.

Water

The importance of effective water management for environmental and human health in Australia cannot be overstated. Indeed, the health and wellbeing of present and future generations of Australia depend on this. While under the Australian constitution, states and territories have ultimate responsibility for water resources, numerous federal policies and laws also govern and regulate water extraction and allocation⁷⁶⁻⁷⁸. This complex web of control has proven, for the most part, grossly inadequate at protecting our water resources.

This is best exemplified by the current situation in the Murray-Darling Basin, a region which supports a diverse range of plants, animals and ecosystems, provides one third of the nation's food, supplies drinking water to over 3 million people, and yet is approaching collapse⁷⁹. Major factors contributing to the water crisis in the Basin include poor architecture of the Murray Darling Basin plan (particularly its failure to account for declining river flows due to climate change), multiple failings of governance and regulation, political deals and possible corruption⁸⁰⁻⁸².

With respect to the EPBC Act, this was amended in 2013 to provide that water resources are a matter of national environmental significance in relation to coal seam gas and large coal mining development⁸³. However, even with this provision, political sympathy for resource development has repeatedly led to the prioritisation of water for mining over water for the environment and human and agricultural use.

The Adani coalmine provides one example. The Queensland Government granted the Adani group a licence to extract 12.5 billion litres of water per year from the Suttor river system in Central Queensland at a time when much of the region was in drought. This is close to the amount used by all local farmers combined. As well as supporting agricultural and pastoral activities, the Suttor river supports fragile and important ecosystems, including contributing water to one of Australia's declared wetlands of national importance. Adani's proposed water scheme was referred to the Commonwealth Government for assessment under the EPBC Act, but on the basis that the development of the pipeline to extract water was not 'a coal mining activity', the water trigger was not applied^{84,85}. This narrow interpretation of the law has meant that there has been no comprehensive assessment of the impact of the proposed water extraction.

This same permissive attitude is reflected in decisions that have allowed huge Great Artesian Basin (GAB) water usage, when clear evidence exists to show this vital underground water system is becoming depleted⁸⁶; for instance, Adani has been granted unlimited access to GAB water, while a 2011 indenture for the Olympic Dam Mine expansion allowed an increase in water consumption from 37 up to 42 million litres daily⁸⁷, making it one of the biggest users of GAB water. Multiple similar examples exist of mining activities impacting the sustainability of water resources in the Surat and southern Bowen Basins⁸⁸.

We draw attention to a 2017 Land Court judgement made in relation to the New Hope Acland mine⁸⁹, which is located amidst farmlands on the Darling Downs in Queensland. This was condemnatory of government and industry for the unsustainable use of water. The words used in refusing a water Licence in Land Court judgment included:

'I am satisfied, given the totality of the groundwater evidence before me in this case, that there is a real possibility of landholders proximate to Stage 3 suffering a loss or depletion of groundwater supplies because of the interaction between the revised Stage 3 mining operations and the aquifers. I am also convinced that the potential for that loss or interference with water continues at least hundreds of years into the future, if not indefinitely.'

'The principles of intergenerational equity are breached in at least one regard by the proposed revised Stage 3, with the potential for groundwater impacts to adversely affect landholders in the vicinity of the mine for hundreds of years to come.'

'In conclusion, over 6 years this company had trampled on the complaints and health concerns of the local residents.'

'Their concerns were ignored by the instruments of government which were supposed to protect them.'

DEA contends that there are many more cases, which, if they came to Court, would receive similar judgments.

Similarly, state and territory regulation of coal seam gas operations has been woefully inadequate, as demonstrated by a recent Queensland audit report⁹⁰. Industry assessments of water impacts have been found to be unreliable and the regulator criticised for failures in data gathering, transparency and failing to ensure adequate compliance⁹¹.

An additional issue for water management specific to the EPBC Act is that the water trigger does not apply to shale gas mining, despite the fact that this uses large quantities of water (4 to 24 million litres) in each hydraulic fracturing event⁹². This amount can be applied many times per well across hundreds to thousands of wells in an area. Water stress is already experienced by local farmers and communities in existing developments on the Darling Downs, Queensland and in Narrabri, NSW, and similarly, water availability is a pressing challenge for farmers and communities near to proposed sites for exploration and mining in the Northern Territory and Western Australia.

It is clear that the EPBC Act and other water laws are inadequate to protect our precious water resources. DEA contends that this is a major issue for Australia's natural environment, our biodiversity and the health and wellbeing of Australians. It is essential that new national water policy be developed by scientific experts under the aegis of new or reformed national environmental law.

Recommendation 27: That better protection of our water resources is a central consideration in the reform of environmental law.

Recommendation 28: That all gas mining projects, including shale gas mining, are regulated under the water trigger.

The marine environment

The marine environment is of great importance to the Australian community, yet current governance approaches are fragmented across various levels of government and sectors, including those for conservation, fishing, pollution control, bio-security, and oil, gas and seabed mining. Climate risks as they pertain to the marine environment have not been adequately addressed.

Our Great Barrier Reef has recently gained world-wide attention due to current bleaching events caused by raised sea temperatures, which are putting the long-term viability of this World Heritage listed icon in doubt. The loss to humanity of its 'superlative natural beauty' would be devastating. It also contributes about \$6 billion to Australia's economy and supports approximately 64,000 jobs⁹³. Arguably even more important, it is a source of extraordinary biodiversity. As the world's largest coral reef ecosystem, the Great Barrier Reef (GBR) stretches 2300 kilometres along the coast and is visible from space. It encompasses 3000 separate coral reefs, with species representing 54% of the world's mangrove diversity, 6,000km² of seagrass beds, over 1500 species of fish, and 600 types of soft and hard corals⁹⁴.

Healthy marine ecosystems support human health and well-being in a multitude of ways, including access to food and good nutrition, protection from natural hazards such as wave energy from storms, climate stabilisation, physical

recreation, and psychological, spiritual & cultural enrichment⁴⁰. In addition, it is rarely recognised that these ecosystems are a source of novel compounds and biomedical models to treat and prevent human disease and enhance good health.

The marine world has become an important source of anticancer agents with novel mechanisms of action, with compounds derived from algae, sponges, tunicates and bryozoans⁹⁵. Over recent years, thousands of new compounds from various marine sources have been described and characterized. Importantly however, we are currently losing species faster than we can understand and benefit from them⁹⁶.

Recent research has found that of 136 species animal species on the GBR found to be at elevated threat, only 23 of them are listed as threatened under regional or national legislation⁹⁷.

Recommendation 29: That the Commonwealth Government recognise the vital importance of our marine environment to biodiversity and human health.

Recommendation 30: That the Commonwealth Government pursues a nationally-agreed system of new environmental law for managing Australia's marine and coastal environment.

Aboriginal and Torres Strait Islander knowledge and involvement

Aboriginal and Torres Strait Islander peoples talk about 'looking after country', and in turn expect that country will look after them⁹⁸. This reciprocal relationship is a vastly different way of thinking about the environment to the Western management paradigm.

The health of Aboriginal and Torres Strait Islander peoples is particularly adversely affected by loss of biodiversity, both because of their on-going reliance on wild harvest and bush medicines and through their loss of cultural connections when biodiversity is lost.⁹⁸ The detrimental effects of prolonged drought on Aboriginal and Torres Strait Islander health are striking, particularly when these are compounded by discrimination from those whose commercial and political interests in water are prioritised ahead of the interests of Aboriginal and Torres Strait Islander peoples.^{99,100}

In its current form, the EPBC Act does not adequately safeguard the Aboriginal and Torres Strait Islander cultural values of Australia's protected areas, heritage places, and other conservation tenures. It also fails to recognise their extraordinary expertise in biodiversity and sustainable management. As noted in a briefing document on Indigenous Land and Sea Management prepared by individuals from the Centre for Aboriginal Economic Policy Research, Australian National University, *'Indigenous ways of interacting with the environment and responding to threats and challenges are shaped by systems of knowledge, historical association, practical experience and social institutions. Indigenous knowledge must be recognised for its unique potential to improve understanding of critical ecological processes and to offer insights into an alternative, sustainable future'*¹⁰¹.

Recommendation 31: That Australia's environment law recognises Aboriginal and Torres Strait Islander expertise in biodiversity and its management.

Recommendation 32: That Aboriginal and Torres Strait Islander groups and communities are specifically consulted on what reforms they feel are required for the EPBC Act.

Recommendation 33: That the institutions responsible for developing and delivering national environmental law include Aboriginal and Torres Strait Islander Australians.

Role of the Commonwealth (Questions 1 and 9 in the discussion paper)

DEA's view is that there is a clear and vital need for the Commonwealth government to hold responsibility for delivering environmental and heritage outcomes. The premise of the EPBC Act is that the Commonwealth is responsible for 'matters of national environmental significance'. Yet under the present system, and as discussed above, environment law is predominantly enacted by the states and territories, with minor input from the EPBC Act. This fragmented and decentralised model of governance means there is no one body charged with coordinating efforts to protect our environment and it is unclear who is ultimately responsible for outcomes. It also means that standards and therefore levels of protection vary markedly between states and territories.

There is also inconsistent environmental monitoring and reporting by the states and territories, with the result that Australia's environmental accounts are incomplete and grossly inadequate to facilitate evidence-based decision making. As noted in the SoE Report 2016, 'The lack of effective monitoring and reporting has been raised in every jurisdictional report, and multiple other reports and papers, as a major impediment to understanding the state and trends of Australian biodiversity.'¹⁰²The SoE report further comments that 'no consistent national-level data are available on the impact of pressures on all aspects of biodiversity in the past 5 years.'¹⁰³ How can we adequately protect our environment if we do not know what it is that we are trying to manage?

An additional issue is a lack of transparency in process, decision making and accountability. Whereas the Commonwealth Parliament is transparent in some of the information it considers and it is possible for the public to read submissions to parliamentary committees and benefit from the information supplied by experts, this is generally not the case for State and Territory Parliaments.

Recommendation 34: That the Commonwealth Government be responsible for setting national environmental standards.

Recommendation 35: That the Commonwealth Government be responsible for ensuring that the states and territories comply with these standards through a strengthened and expanded regulatory framework.

Recommendation 36: That the Commonwealth Government be responsible for developing a national system for monitoring and reporting on environmental outcomes.

Recommendation 37: That the Commonwealth Government be responsible for improving public transparency around environmental decision making including increasing the availability of decision-making material through improved public facing systems.

The need for a new generation of environmental law and improved governance and accountability (Question 21 in the discussion paper)

As discussed above, the present environmental crisis in Australia has arisen under the watch of the EPBC Act. Existing environmental governance arrangements have struggled to deal with past challenges and are straining under many pressures now.

As outlined in the Discussion Paper, it is also clear that pressures on the environment will only increase over time, with many such as climate change having cumulative impact and exacerbating the impacts of other pressures. We know to expect a 50% increase in Australia's population, a doubling of Australia's food production (if our warming climate allows), service and infrastructure expansion and more gas and coal developments over the next few decades.

Because of these factors, environmental governance arrangements will need to be vastly more effective than they are now to cope in the future.

DEA argues that the flaws in the EPBC Act are too significant to be addressed by amendments alone. A new generation of environmental law is needed to restore existing environmental degradation, protect what remains of our extraordinary environmental and cultural heritage and cope with future challenges.

DEA supports the framework for new environmental law that has been developed by the Australian Panel of Experts on Environmental Law (APEEL)¹⁰⁴. We particularly support the notions that:

- a) under new law, approval powers for nationally significant matters should be retained by the Commonwealth, not handed over to the states and territories;
- b) new law must equip the Commonwealth with the necessary regulatory tools to ensure the law can be effectively implemented;
- c) new federal institutions should be created to improve governance and accountability, including an independent National Environment Protection Authority to administer national environment law at arms length from the government and a National Environment Commission to set national environment standards, develop national and regional environment plans and report on national environmental performance.

The independence of these institutions from government are vitally important, removing the influence of politics from environmental assessments, advice, decision making and application of law. These bodies should include individuals

with public health expertise to ensure that the fundamental interdependence of our environment and health are always considered.

Recommendation 38: That a new generation of environmental law, as developed by the Australian Panel of Experts on Environmental Law, be introduced nationally to replace ineffective state laws and the EPBC Act.

Recommendation 39: That institutions responsible for developing and delivering national environmental law include individuals with public health expertise.

Other considerations

Economic and population growth

In the abovementioned declaration recently made by a worldwide group of 11,000 scientists, the following comments were made⁵:

'The climate crisis is closely linked to excessive consumption of the wealthy lifestyle. The most affluent countries are mainly responsible for the historical GHG emissions and generally have the greatest per capita emissions.'

'To secure a sustainable future, we must change how we live..... Economic and population growth are among the most important drivers of increases in CO₂ emissions from fossil fuel combustion; therefore, we need bold and drastic transformations regarding economic and population policies.'

These points apply equally to the biodiversity crisis, which will not be solved until we recognise that economic growth in its present form is incompatible with the maintenance of biodiversity and the essential ecological services that it provides to humanity.

The current economic system has two fatal flaws: it fails to recognise that the world's resources are finite, and it fails to recognise the collective right to the 'World's Commons', these being the shared resources of land, sea, air and fresh water that are necessary for the health and wellbeing of humanity¹⁰⁵.

Unsustainable economic and population growth exert enormous pressures on our environmental life support systems and therefore on our health. Our hope is that recognition of this may foster gradual changes in attitude that will in turn lead to necessary shifts in relevant policies and law.

Recommendation 40: That economic and population growth are recognised as key drivers of damage to our environment.

Other matters raised in the Discussion Paper

In direct response to other matters raised the discussion paper, we wish to make the following points.

- 1) We argue, as above, that the Act has not ensured that the principle of ecologically sustainable development is adequately considered in policy and

decision-making process. Similarly, the precautionary principle and inter-generational equity have not been sufficiently recognised.

- 2) We contend that cost benefit analysis in decision making may be misleading, given the large often unrecognised costs to human health and future generations that are not generally factored into such considerations.
- 3) Should the Act be retained, we would agree that nuclear actions and the water trigger must remain, and land clearing and climate change triggers be added.
- 4) State and territory processes must not be relied on to address specific impacts on matters of national environmental significance. History has clearly demonstrated this.
- 5) We agree that community representation in environmental advisory and decision-making bodies be increased, as long as there is sufficient control of conflicts of interest.

Summary

In summary, the EPBC Act has failed to achieve its statutory objectives to protect the environment and promote ecologically sustainable development and biodiversity conservation. Australian biodiversity and ecosystems necessary for human health need much stronger protection. This should be provided by a new generation of national environmental laws, as developed by the Australian Panel of Experts on Environmental Law.

In the words of David Suzuki *'If we pollute the air, water and soil that keep us alive and well, and destroy the biodiversity that allows natural systems to function, no amount of money will save us.'*

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