



Ecosystem
Science Council

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Submission to the Independent Review of the EPBC Act 2020

By the Ecosystem Science Council

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The Ecosystem Science Council will be available to answer questions from the Review team.

Independent Review of the EPBC Act 2020

ESC responses to the broad questions posed in the discussion paper

In addition to the specific questions asked throughout (the EPBC Act discussion paper), the broad questions that this review is seeking to answer are:

- *Is the EPBC Act delivering what was intended in an efficient and effective manner?*
- *How well is the EPBC Act being administered?*
- *Is the EPBC Act sufficient to address future challenges? Why?*
- *What are the priority areas for reform?*
- *What changes are needed to the EPBC Act? Why?*

The questions in this discussion paper are provided as a guide only and are not intended to limit your comments.

The EPBC Act is the Commonwealth's key environmental legislation. It also supports the Commonwealth in meeting its international commitments under the Convention on Biological Diversity, to prevent extinction of known threatened species and improve their conservation status. Since the introduction of the EPBC Act, we have lost nearly 8 million ha of threatened species habitat. Clearly the Act is not fulfilling its most basic purpose. There have long been concerns about the passive approach of the Environment Department to the management of non-compliance with the Act, and these questions remain. The Act needs major reform, as was argued, apparently to little effect, ten years ago in the last (Hawke) Review of the Act:

- we need to see proper enforcement to address the fact that most land-clearing activity for agriculture is never referred for approval,
- we need the Federal Government to be accountable for extinctions, as is the case with the Endangered Species Act in the USA,
- we need the Act to include triggers to address climate change and land-clearing, and
- we need a national system of environmental monitoring and evaluation, not only for compliance, but also to determine the efficacy of the Act in achieving its objects.

We note that the terms of reference for the inquiry include the sentence: "The Australian Government is committed to delivering improved national environmental laws to ensure a healthy environment and a strong economy." We do question how the Australian Government's central piece of environmental law, at this time of a dramatically deteriorating environment, can be expected, not only to protect the environment, but also to improve the economy. Furthermore, these terms are vague and ambiguous. The term

'healthy environment' provides no guidance. The protection of biodiversity should be explicit, as should the meeting of Australia's international commitments relating to the environment. The 'strong economy' phrase is ambiguous: it could be taken to mean that economic health *relies* on environmental health; alternatively, it could be referring to a trade-off, with the environment coming off second best.

The Act does not work in an integrated sense. Actions such as the implementation of species recovery plans act completely independently of impact prevention (e.g. avoiding negative impacts of development). The Government and community can invest significantly to support the Act's implementation such as the recovery of threatened species, but this can be completely wiped out by lack of compliance or regulation of development. Lastly, there is no system in place for measuring effectiveness of the Act, or decisions made under it.

ESC responses to specific questions in the Discussion Paper

The Ecosystem Science Council has not responded to all questions. Questions to which we have not responded are greyed out.

Question 1

Some have argued that past changes to the EPBC Act to add new matters of national environmental significance did not go far enough. Others have argued it has extended the regulatory reach of the Commonwealth too far. What do you think?

As ecosystem scientists, we find the Act is wanting. Since it came into operation in 1999, there has been significant harm done to Australia's natural ecosystems, and to its biodiversity, both in the sea and on land.

Australia historically has had a poor record of environmental stewardship. For example, nearly 100 species of Australian organisms have become extinct since European settlement, of which 26 are mammals, accounting for 30% of the world's mammalian extinctions in the last 100 years ([CSIRO 2014 Ch3](#)). The dismal truth is that Australia is among the top five world leaders in extinctions of plant and animal species.

If we look at the period since the Act has been in place, seven countries globally have been responsible for 60% of the global biodiversity decline scores in bird and mammal species (to be precise, these figures cover a 12-year period that began three years before the Act, between 1996-2008). Of these countries, Australia was second only to Indonesia in the rate of decline of conservation status of bird and mammal species ([Waldron et al. 2017](#)). This is a significant indictment of the working of the Act.

To take one example of threats that are not being effectively managed – land-clearing. Last summer saw unprecedented public concern over the impacts of bushfires on wildlife. However, while Australia's wildlife is adapted to coping with bushfires, this is not the case for land-clearing. There would be considerable public outrage if the extent of land-clearing in Australia was widely appreciated. The impacts of clearing are far greater than bush-fires. Clearing is devastating, and regrowth cannot quickly compensate for the damage done to

our biodiversity. It is a Key Threatening Process under the Act, but land-clearing will only attract EPBC Act application where it can be established that it impacts on specified matters of environmental significance. If this connection cannot be established, the EPBC Act provides no mechanism for restraint, and even where the connection can, in theory, be made, the vast majority are never referred anyway ([Hepburn 2018](#)).

The effect of this is to render the Act toothless in the face of land-clearing pressures. Australia's 2016 State of the Environment Report ([Australian Government 2016](#)) summarized trends in the clearing of native forests since European settlement and showed that clearing rates across Australia were not affected by the introduction of the EPBC Act in 1999. Rather, it is changes to State legislation that have had the most impact. For example, land-clearing in Queensland fell to a historical low of 78 000 ha in 2009–10 following the introduction of a ban on broadscale clearing that came into effect under Queensland legislation in 2006. However, in 2013, major reforms were again introduced to the *Queensland Vegetation Management Act 1999*, and, by 2015–16, clearing had increased to 395 000 ha. A cumulative total of 1.2 million ha were cleared over the period 2012–2016 ([Queensland Government 2019](#)).

Recent research ([Ward et al. 2019](#)) examined satellite imagery of forests and woodlands across Australia and found that 7.7 million hectares of threatened species habitat had been cleared or destroyed since the EPBC Act was enacted. The researchers found that 85% (1 390) of threatened species experienced habitat loss in this period, and that 93% of the habitat destruction was not referred to the Federal Government for approval. For land-clearing, known as the most important threat to biodiversity globally, the Act is simply not working.

What has been the effect of the Act more broadly? The recently published summary report on Australia's Environment for 2019 ([ANU 2020](#)) gave the lowest national Environmental Condition Score since at least 2000, decreasing 2.3 points to a score of 0.8 out of ten. Scores declined in all states and territories.

Despite the apparent lack of impact of the Act in protecting the environment, some industry groups still argue that it represents unnecessary "green tape". Most projects and developments that require approval under the EPBC Act also need separate approvals under State or Territory legislation, and it has been argued that this is unnecessary duplication. However, the extent of recent land-clearing demonstrates that States and Territories are failing to meet public expectations of environmental protection, and that there is a strong need for Commonwealth action.

Conclusions: The EPBC Act has not halted, nor even reduced the rate, at which Australia's ecosystems are being destroyed. It has hardly "extended Commonwealth's regulatory powers too far". The Act should be strengthened so that it more effectively meets its objectives, not further watered down.

Question 2

How could the principle of ecologically sustainable development (ESD) be better reflected in the EPBC Act? For example, could the consideration of environmental, social and economic factors, which are core components of ESD, be achieved through greater inclusion of cost benefit analysis in decision making?

Australia has signed up to the United Nations Sustainable Development Goals and the 2030 Agenda for sustainable development. These initiatives seek to end global poverty and hunger, and increase prosperity and peace, while maintaining a healthy environment for all. Australia aims to do this through partnerships between sectors, minimising intersectoral conflict. The Independent Review of the EPBC Act provides a timely prompt to revise the Act in the light of commitments the Australian government has made to achieving the 2030 goals. This should be done carefully through a combination of vision and pragmatism. On the one hand, if we are too unfocused, there is a risk that the desire to pursue sustainability may simply translate into an empty series of motherhood statements. On the other hand, attempts to force spurious precision upon intersectoral dialogue through greater inclusion of cost-benefit analysis are probably doomed to failure. Cost-benefit analysis is an exercise in futility when procedures for measuring costs and the benefits are not commensurate, use different currencies, and emerge from very different value systems: my job-creating mine will always trump your endangered species in direct dollar terms, but such an economic argument is specious because it is not appropriately considering the true costs of development. Arguably, social and economic factors are already considered in decision-making, probably pre-eminently, albeit in an opaque fashion, buried within Ministerial decisions.

Ecologically sustainable development in Australia requires the development of a shared national vision of environmental protection and land use. It is encouraging that in recent years the agriculture sector perceives that its future prosperity will rest on high value overseas markets for clean, green food products. The National Farmers' Federation ([NFF 2018](#)) has laid down a vision for the industry: \$100 billion in farm gate output by 2030 – growth of almost 70% in the coming 12 years. To achieve this, the NFF proposes marketing Australia's produce towards high value consumers who:

...are increasingly focussed on where their food and fibres come from, and how it's produced. Increasingly, characteristics like taste or price are taking a back seat to animal welfare, sustainability, safety and nutrition. This means farmers are no longer motivated simply by productivity. They must meet their customer's ethical, environmental and nutritional requirements.

NFF 2018 p. 7

Michele Allan, Chair of Meat and Livestock Australia (MLA) has outlined MLA's ambition to be carbon neutral by 2030. MLA believes achieving the goal would put Australia well above our competitors in the high-value markets where consumers have a growing interest in a food's provenance and environmental footprint:

What's more, there's an almost perfect correlation that exists between increased productivity and reduced greenhouse gas emissions.

M. Allan, MLA, quoted in NFF 2018 p. 15

The NFF proposes a focus on intensification of land use as a path to sustainability and a clear enabler towards the \$100 billion target:

Most farm systems are intensifying to some degree. This can deliver improved sustainability and lower footprints.

Sustainable intensification will be an important component of the approach in the broadacre industries and particularly in the approach to managing natural resources and responding to climate change in an increasingly variable climate.

NFF 2018 p. 15

A further vehicle for increasing the environmental and economic sustainability of farms is through biodiversity, with a national market-based approach that rewards farmers for stewardship:

Australian farmers are custodians of approximately 48 per cent of Australia's land mass. With this comes a deep connection to the nation's plants and animals and a duty of care in how farm systems interact with them. Some state-based schemes e.g. BioBanking in NSW, have been put in place to support biodiversity management. Uptake of these schemes has been patchy and their national implementation piecemeal. The current depth of the market for conservation services on private land falls short of what is required to properly reward landholders for the significant investments they make in landscape management. While a market-based approach is unlikely to become a comprehensive solution to this issue in the near term, we should nurture new frameworks which provide a consistent mechanism for matching landholders with purchasers of landscape services.

NFF 2018 p. 16

The Australian Government recognises the benefits of protecting biodiversity on farms through its investment in the [Agricultural Stewardship Package](#) (four years, \$34 million). If successful, this has the potential to mobilize farmers as stewards of the environment, and for them to be acknowledged and rewarded for improving biodiversity outcomes as part of ecologically sustainable business practices.

Conclusions: The sustainable development aspects of the EPBC Act should be revised to focus on building a common cause with the agriculture sector. We do not think cost-

benefit analysis is part of the solution, but rather the focus should be to build a national vision that fosters clean, green and ethical farming initiatives as a source of profitability. The farming industry's stated long-term economic strategy rests on embracing the green ethos that the wealthy modern consumer demands. To be viable, such a strategy would have to be underpinned by government land management policies that decrease agricultural impacts on remnant vegetation, reduce clearing rates, and thereby protect ecosystems and threatened species.

Question 3

Should the objects of the EPBC Act be more specific?

As one surveys the Objects of the EPBC Act, it does appear to us that they attempt to cover a vast panoply of demands, and that the current Act has not been framed well, partly because it is beyond the capacity of a series of regulations to accomplish what is required in the Objects. For example, the Objects that involve the verb "to promote", while laudable, would seem to be beyond the remit of a regulatory framework for environmental protection: certainly, the "promotional" aspects do not seem to be adequately resourced. Furthermore, having a list of inclusions is unsafe in that it implies that things not listed may be regarded as unprotected. This particularly applies to the Matters of National Environmental Significance (see our response to Question 4). We delve deeper now and consider the related Question 4 and provide a way forward that deals with Questions 3 and 4 together.

Conclusions: We suggest that the Objects of the Act should be revised and provide more detailed discussion under Question 4.

Question 4

Should the matters of national environmental significance within the EPBC Act be changed? How?

The list of matters of national environmental significance is highly problematic because it is inconsistent with the overall goal of the Act, which is to protect Australia's environment and biodiversity *in a broad way*. As argued in our response to Question 1, land-clearing only triggers a response when one of these matters is implicated but ignores the very real impact of progressive clearing and its impacts over large areas, leading to 'death by a thousand cuts'.

The listing of threatened matters of national environmental significance does rely on defensible, evidence-based and internationally recognised processes. However, the process by which they are listed will remain a secondary consideration while the application of the Act to remedy the threats to these species and communities remains ineffectual.

There is much less of Australia's environment left now than there was when the Act was conceived and enacted, and arguably *all* of what remains is of national environmental significance. Better, and more in line with the precautionary approach, would be to have *no list of matters of national environmental significance*, but instead to follow the

environmental law principles outlined below and ensure that we are protecting the environment broadly.

Here, we have also taken note of the input from experts in Environmental Law (Australian Panel of Experts on Environmental Law, [Blueprint for the Next Generation of Australian Environmental Law](#)). We support the principles outlined in that document (summary pages 2-7). Key principles are: 1) to identify through consultation a **societal goal** that will underpin the environmental law in Australia; 2) design principles for environmental law such as ‘smart regulation’, and **no reduction in the level of protection**, termed ‘non-regression’; and, 3) Directing principles that build upon the **precautionary principle** by adding an explicit principle to ‘**Achieve a highly level of environment protection**’, and apply ‘**Best Available Techniques**’.

Other dimensions of the recommendations cover ideas: 4) ‘General environmental duties’ to **take care to prevent or minimise harm and to repair any environmental harm caused by activities**; 5) ‘Substantive and procedural rights’ to a **safe, clean and healthy environment**; 6) ‘Strategic environmental leadership in terms of **national environmental measures** in the form of strategies, programs, standards and protocols and regional environmental plans’.. and implementation plans’; and, 7) **Commonwealth environmental institutions** such as a Commonwealth Environment Commission, and a Commonwealth Environment Protection Authority.

The roles for wider participation from the community are covered with the principles: 8) facilitate the **private sector to report on their environmental performance**, and to reform the income, business and property tax systems to **reward environmentally beneficial practices**, such as in land management and pollution control; and 9) **provide for the interests and voices for Australia’s Indigenous peoples** in the making and implementation of policy, programs, and decisions.

Key operational principles we endorse relate to ideas 10) **integrity and accountability through a dedicated department within the Australian National Audit Office** to monitor and report on performance, 11) **Resources identified through a National Environmental Investment Plan**, and 12) **Environmental data** that is nationally coordinated for collection, monitoring, evaluation and reporting.

Principles that cover the objectives of environmental law are ideas 13) **Conserving nature** (terrestrial and marine) through cross-sectoral, **ecosystem-based planning and management** in terrestrial and coastal areas; and 14) Addressing **Climate change and energy** through instruments such as a price on carbon, ambitious emissions reduction targets, and incentives for renewable energy and low-carbon initiatives.

While suggesting a re-consideration of the value of a list of specific matters of national environmental significance because of its anti-precautionary effect, we have no objection, to the specificity inherent in the Key Threatening Processes (KTPs), because here, the specificity alerts regulators to all the diverse sources of risk to ecosystems. We therefore commend the submission of the Invasive Species Council to the review: it contains useful

and constructive proposals for revising the KTP process, especially the move to responding to new and emerging threats.

Conclusions: we should follow environmental law principles and consider reducing the objects of the EPBC act to a single clause “to provide for the protection of Australia’s environment, biodiversity and heritage”, removing the remaining objects and all the specific matters of national environmental significance, while retaining specificity around Key Threatening Processes.

Question 5

Which elements of the EPBC Act should be priorities for reform? For example, should future reforms focus on assessment and approval processes or on biodiversity conservation? Should the Act have proactive mechanisms to enable landholders to protect matters of national environmental significance and biodiversity, removing the need for regulation in the right circumstances?

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) needs substantial reform for strengthening biodiversity conservation. There is an urgency to reviewing and revising the environmental legislation pertaining to the conservation of biodiversity, particularly threatened species, in accordance with the recommendations for a comprehensive review made by the Australian Panel of Experts in Environmental Law (see our response under Question 4).

Recovery plans for all threatened species were mandated under the EPBC Act. Recent studies have shown conclusively that Recovery Plans help drive efforts and funding for threatened species. Changes passed in 2006 ([Environment and Heritage Legislation Amendment Act \(No. 1\) 2006](#)) made recovery plans discretionary by the Minister. Recovery plans were replaced for most species by ‘conservation advices’, which are now mandatory for all listed threatened species. These ‘advices’ are much weaker than recovery plans: the Act requires the Minister not to make declarations that are inconsistent with any recovery plan, whereas the Minister is not required under the legislation to give the same due regard to conservation advices. Even when recovery plans do exist, they often lack resources necessary for timely implementation, leaving it to ‘crowd-sourcing’ and community based volunteer efforts, such as the efforts to rescue injured animals in response to the 2019-2020 bushfires. The Act can be judged on its record, and Australia’s record of recent extinctions is embarrassing, with the extinction of the Christmas Island forest skink, Bramble Cay melomys and Christmas Island pipistrelle between 2009 and 2014 ([Woinarski et al. 2017](#)).

The Act also allows the Minister to make threat abatement plans for key threatening processes at their discretion. It is our view that this provision should be amended to require that threat abatement plans should be made for more threatened species and ecosystems where threat abatement plans would be advantageous in protecting a suite of species and ecosystems, according to the best available evidence.

The Act should also be amended to address cumulative effects, which are currently not addressed, nor permitted for consideration, under the Act.

There is also a lack of accountability for extinctions. No department, authority nor person can be charged with an offence for an action that leads to the extinction of a species, nor is there any requirement for a public inquiry or investigation into species declines and extinctions. This lack of accountability has been taken even further with the new nature conservation strategy for Australia. Accountability should fall to the Australian Government. While we recognise that there are many stakeholders involved in threatened species recovery, it should ultimately be the Government's responsibility to prevent extinction. This was dealt with in the Endangered Species Act in the USA through legislation – the US Government is responsible for the attainment of recovery, not just the plans. This has led to very targeted and, importantly, adequate, investment in the US, and a much better record there in moving species off the endangered list ([Wintle et al. 2019](#)). It would not mean that the Australian Government has to do everything, but they would be accountable in law for making sure recovery happens.

Conclusions: The Act should be amended to re-mandate recovery plans for threatened species, requiring threat abatement plans where evidence suggests they would be advantageous, and initiating a system of Australian Government accountability for extinctions. There is much evidence to indicate that self-regulation would be disastrous for the environment.

Question 6

What high level concerns should the review focus on?

As highlighted under the relevant questions, we suggest the Review concentrate on the following concerns:

- Making the Australian Government accountable in law for extinctions (see Question 5).
- Handling land-clearing and climate change in a much more strategic and precautionary fashion (see Questions 1-4).
- Limiting social license to operate for industries that harm the environment but are not held accountable for remediation (See Question 2).
- Conducting an audit of Government subsidies to industries that draw down on natural capital but do not contribute back to the public good (tax avoided, not sharing data etc).

- Indigenous participation in the management of the environment and the administration of any revised Act.

For example, should there be greater focus on better guidance on the EPBC Act, including clear environmental standards?

See our response to Question 10.

How effective has the EPBC Act been in achieving its statutory objectives to protect the environment and promote ecologically sustainable development and biodiversity conservation?

See also our response to Question 1.

The EPBC Act is the Commonwealth's key environmental legislation. It also supports the Commonwealth in meeting its international commitments under the Convention on Biological Diversity, to prevent extinction of known threatened species and improve their conservation status. Since the introduction of the EPBC Act, we have lost nearly 8 million ha of threatened species habitat. Clearly the Act is not fulfilling its most basic purpose. There have long been concerns about the passive approach of the Environment Department to the management of non-compliance with the Act, and these questions remain. The Act needs major reform, as was argued, apparently to little effect, ten years ago in the last (Hawke) Review of the Act:

- we need to see proper enforcement to address the fact that most land-clearing activity for agriculture is never referred for approval,
- we need the Federal Government to be accountable for extinctions, as is the case with the Endangered Species Act in the USA,
- we need the Act to include triggers to address climate change and land-clearing, and
- we need a national system of environmental monitoring and evaluation, not only for compliance, but also to determine the efficacy of the Act in achieving its objects.

We note that the terms of reference for the inquiry include the sentence: "The Australian Government is committed to delivering improved national environmental laws to ensure a healthy environment and a strong economy." We do question how the Australian Government's central piece of environmental law, at this time of a dramatically deteriorating environment, can be expected, not only to protect the environment, but also to improve the economy. Furthermore, these terms are overly vague and ambiguous. The term 'healthy environment' provides no guidance. The protection of biodiversity needs to be explicit, as should the meeting of Australia's international commitments relating to the environment. The 'strong economy' phrase is ambiguous: it could be taken to mean that economic health *relies* on environmental health; alternatively, it could be referring to a trade-off, with the environment coming off second best.

The Act does not work in an integrated sense. Actions such as the implementation of species recovery plans act completely independently of impact prevention (e.g. avoiding negative impacts of development). The Government and community can invest significantly to support the Act's implementation such as the recovery of threatened species, but this can be completely wiped out by lack of compliance or regulation of development. Lastly, there is no system in place for measuring effectiveness of the Act, nor of decisions made under it.

What have been the economic costs associated with the operation and administration of the EPBC Act?

Question 7

What additional future trends or supporting evidence should be drawn on to inform the review?

As was highlighted by the Hawke Review of the Act ten years ago, there is a lack of forward-looking capacity to inform the administration and continued evolution or reform of the Act. A series of fore-sighting studies should be undertaken, including:

1. the effect of future trends in climate change and global warming on Australia's ecosystems
2. the emergence of new human diseases because of habitat destruction, species loss, and global trade
3. the effect of Australia's growth and development on biodiversity
4. use of incentives to improve environmental outcomes
5. seeking win-win outcomes between the environment sector and Australian rural industries.
6. Conducting an audit of Government subsidies to industries that draw down on natural capital but do not contribute back to the public good (tax avoided, not sharing data etc).

Conclusions: Undertake a series of fore-sighting reports and audits to help Government manage environmental opportunities and threats.

Question 8

Should the EPBC Act regulate environmental and heritage outcomes instead of managing prescriptive processes?

Question 9

Should the EPBC Act position the Commonwealth to take a stronger role in delivering environmental and heritage outcomes in our federated system? Who should articulate outcomes? Who should provide oversight of the outcomes? How do we know if outcomes are being achieved?

In our response to Question 1 we argue that the Commonwealth should take a much stronger role in delivering environmental and heritage outcomes. We will focus here on the question of how we will know if outcomes are being achieved. The ESC proposes a national agency, with accompanying data architecture, for environmental monitoring.

Australia is not achieving its environmental goals in part because we do not monitor our ecosystems very well. Because of the paucity of long-term ecological monitoring in Australia and the disconnection with environmental reporting initiatives like the State of the Environment Report (which relies largely on *ad hoc* sources of evidence), we have little idea of how effective billions of dollars of expenditure have been on environmental outcomes in Australia. Our reporting against national targets as signatories to the UN Convention on Biodiversity is consequently incomplete and patchy, and the international leadership we once had in setting the environmental agenda has been lost. A [recent OECD report](#) on Australia's environmental performance has noted that Australia needs to:

- *Fill gaps in data on the status and trends of species and ecosystems and establish national biodiversity indicators to measure progress and identify priorities for action.*
- *Increase investment in biodiversity conservation and ecological restoration in line with the scale of the challenge.*
- *Improve monitoring of water resources, extraction and quality across river basins.*

The compelling need for an [advanced national ecosystem data collection capability](#) is well accepted and has been referenced in several significant Australian Government reports over several years. The most recent of these was the [National Collaborative Research Infrastructure Strategy Roadmap](#) which identifies the need for:

“a national ecosystem observatory capability to monitor carbon, water and biodiversity. This needs to be fully integrated including modelling, to enable the prediction of future changes in carbon, water and biodiversity”.

The proposed national ecosystem monitoring and science capabilities will help to address these issues but would need to be matched by a commitment from government to integrate the findings from such capabilities into policy formulation and planning.

The Australian Government has spent too much energy in ensuring that the individual processes of the Act are administered, and not nearly enough on ensuring that its objects are being met. This has resulted in lack of transparency in the relationship between individual decisions and overall outcomes, a lack of connection between decisions and their results, and a lack of adequate investment in recovery. If the Australian Government was accountable for the outcomes of the Act, and a system for measuring those outcomes, there would be more of a focus on delivering an efficient and effective regulatory process.

It is critical that the capability be given long-term security because a monitoring system such as this is dependent on continuity. It is therefore proposed that a national ecosystem monitoring and forecasting system be established under its own legislation either by:

- Expanding the remit of an existing authority through the establishment of an Ecosystems Act. Potential institutions that could house a national ecosystem monitoring and forecasting system include the Australian Bureau of Statistics within the Treasury portfolio (which operates under the Australian Bureau of Statistics 1975 and the Census and Statistics Act 1905) or the Bureau of Meteorology within the Environment portfolio (which operates under the authority of the Meteorology Act 1955 and the Water Act 2007.),

Or:

- Introducing a new independent authority via an Ecosystems Act, akin to the Productivity Commission (which operates under the Productivity Commission Act 1998) or the Australian Institute of Health and Welfare which operates under the Australian Institute of Health and Welfare Act 1987).

Conclusions: to measure outcomes of the EPBC Act and monitor progress, Australia should establish a [national ecosystem monitoring and forecasting system](#) that will:

- **Target environmental monitoring within a subset of key ecosystems across the Australian continent and develop a national strategy and network of field sites, surveillance sensors and satellite imagery that link with existing jurisdictional programs.**
- **Balance monitoring effort to meet national needs through integrated design and use scientific data analytics and modelling to forecast and manage future risks to our environment and biodiversity.**
- **Build from current and previous initiatives in advancing capability in environmental information such as the government’s National Collaborative Research Infrastructure strategy.**

Question 10

Should there be a greater role for national environmental standards in achieving the outcomes the EPBC Act seeks to achieve? In our federated system should they be prescribed through: Non-binding policy and strategies? Expansion of targeted standards, similar to the approach to site contamination under the National Environment Protection Council, or water quality in the Great Barrier Reef catchments? The development of broad environmental standards with the Commonwealth taking a monitoring and assurance role? Does the information exist to do this?

Australia currently has strong, [legally binding standards](#) for air quality, non-binding [“guidelines” for water quality](#), and little or nothing to regulate soil health. Standards and targets should be mandated across these three areas, based on sharing information with

jurisdictions such as the USA, New Zealand, the UK and the EU where the development and implementation of standards is much more advanced.

Question 11

How can environmental protection and environmental restoration be best achieved together?

- *Should the EPBC Act have a greater focus on restoration?*
- *Should the Act include incentives for proactive environmental protection?*
- *How will we know if we're successful?*
- *How should Indigenous land management practices be incorporated?*

Environmental protection and environmental restoration can be best achieved together by setting a common goal of biodiversity conservation. Environmental protection, on its own, is no longer sufficient to conserve biological diversity ([Suding 2011](#)). Environmental restoration is needed to address increased environmental degradation resulting from human activities. It is anticipated that future demand for environmental restoration will increase with ongoing environmental change. However, while evidence to support the use of environmental restoration is growing, long-term (> 5 years) studies are rare, reflecting the infancy of the practice ([Wortley et al. 2013](#)).

Therefore, environmental protection should be prioritised, and environmental restoration should not be presumed to offer the same level of protection for species and communities under threat of extinction.

The Act should include incentives for proactive environmental protection, because a significant portion of Australia's biological diversity is under the management of private landholders in agricultural landscapes. Recent evidence shows that revealed-price incentive payments to landholders improved biodiversity of native remnant vegetation in the Mt Lofty Ranges of South Australia compared with independently managed, non-contracted private land ([Bond et al. 2019](#)). Under the incentive scheme, landholders were required to manage grazing pressure, control weeds and to retain fallen logs over a ten-year period.

Additionally, the emerging carbon market could help incentivise environmental restoration. The current price on carbon (\$14.17 per metric ton of carbon dioxide equivalent) is below profitability estimates for the sector of \$40 per metric ton but is projected to increase to \$274 by 2060 (Standish and Prober, in review).

To help us to monitor the effect of efforts in restoration, Australia should establish a national ecosystem monitoring and forecasting system (our response to Question 9).

How should Indigenous land management practices be incorporated?

Question 12

Are heritage management plans and associated incentives sensible mechanisms to improve? How can the EPBC Act adequately represent Indigenous culturally important places? Should protection and management be place-based instead of values based?

Question 13

Should the EPBC Act require the use of strategic assessments to replace case-by-case assessments? Who should lead or participate in strategic assessments?

Question 14

Should the matters of national significance be refined to remove duplication of responsibilities between different levels of government? Should states be delegated to deliver EPBC Act outcomes subject to national standards?

Question 15

Should low-risk projects receive automatic approval or be exempt in some way?

How could data help support this approach?

Should a national environmental database be developed?

Should all data from environmental impact assessments be made publicly available?

Question 16

Should the Commonwealth's regulatory role under the EPBC Act focus on habitat management at a landscape-scale rather than species-specific protections?

Question 17

Should the EPBC Act be amended to enable broader accreditation of state and territory, local and other processes?

Question 18

Are there adequate incentives to give the community confidence in self-regulation?

Question 19

How should the EPBC Act support the engagement of Indigenous Australians in environment and heritage management?

How can we best engage with Indigenous Australians to best understand their needs and potential contributions?

What mechanisms should be added to the Act to support the role of Indigenous Australians?

Question 20

How should community involvement in decision-making under the EPBC Act be improved? For example, should community representation in environmental advisory and decision-making bodies be increased?

Question 21

What is the priority for reform to governance arrangements? The decision-making structures or the transparency of decisions? Should the decision makers under the EPBC Act be supported by different governance arrangements?

Question 22

What innovative approaches could the review consider that could efficiently and effectively deliver the intended outcomes of the EPBC Act? What safeguards would be needed?

Question 23

Should the Commonwealth establish new environmental markets? Should the Commonwealth implement a trust fund for environmental outcomes?

Question 24

What do you see are the key opportunities to improve the current system of environmental offsetting under the EPBC Act?

A review of 208 offsets applied in Western Australia suggested better implementation and on-ground management of offsets is needed to demonstrate effectiveness for biodiversity conservation (i.e., timely reporting, compliance and measurement of ecological outcomes; [May et al. 2017](#)). Evidence suggests environmental restoration is currently not able to deliver like-for-like biodiversity values promised under offset schemes ([Maron et al. 2012](#)). These studies add weight to concerns as to whether offsets are adequate or appropriate on ethical and philosophical grounds ([Maron et al. 2016](#)).

Question 25

How could private sector and philanthropic investment in the environment be best supported by the EPBC Act?

Could public sector financing be used to increase these investments?

What are the benefits, costs or risks with the Commonwealth developing a public investment vehicle to coordinate EPBC Act offset funds?