SUBMISSION TO THE EPBC ACT REVIEW

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Name

Brendan Edgar

Organisation

NESP Northern Australia Hub

Areas of interest

Threatened species; Indigenous Australians; Matters of National Environmental Significance; Environmental Impact Assessments; Cumulative impacts; Climate change; Biodiversity; Conservation; Commonwealth National Parks; Water

Attachment provided?

Yes

Do you give permission for your submission to be published?

Yes - anonymously

SUBMISSION RESPONSES

This submission was provided as an attachment only. The attachment is provided on the following pages of this document.

EPBC Act Review Secretariat
Department of the Environment and Energy
GPO Box 787
CANBERRA ACT 2601
epbcreview@environment.gov.au

NESP Northern Australia Environmental Resources Hub

Submission to EPBC Act Review

The NESP Northern Hub is pleased to provide a response to the EPBC Act review. This response has been prepared by the Hub's Research Executive Committee (REC), comprising lead scientists from the University of Western Australia, Griffith University, James Cook University, Charles Darwin University, CSIRO, and the Qld (DES), NT (DNRM) and WA (BDCA) Governments.

We focussed our response on issues where we believe that our research was best able to demonstrate potential improvements/solutions, backed by specific examples from our research portfolio. We identified four high priority questions from the Discussion Paper (11, 13, 16 and 19) around which to base our submission. These are addressed as follows:

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?

We believe that both proactive protection and restoration are important. Generally prevention is a cheaper option in the longer term than more expensive restoration interventions. Also in northern Australia where there are more intact natural landscapes restoration is less relevant. Protection lends itself to a greater focus on landscape processes such as fire management, and the identification and management of threatening processes such as weed and feral invasion. Managing these threatening processes is also important in fauna reconstruction/translocations/recovery efforts.

Restoration however is still required to halt our rate of extinctions and maintain the state of our environment, and there needs to be an emphasis on restoration where biodiversity values have been degraded. Where mammal extinctions have occurred, many of which are culturally significant to Traditional Owners, restoration programs that return such species should be supported.

We support providing for Indigenous land management practices, including with the ability for them to be valued with payments for delivery of services. The IPA program funded by the Australian Government is a good example of where Indigenous Australians are proactively managing country through which ecological decline is being moderated if not restored to a previous state. The IPA program does provide 'incentives' for community managed country, mainly through the employment of rangers. Perhaps more importantly the IPA program delivers a significant social and economic benefit to the community and the Australian government as clearly demonstrated through the Social Venture Australia reports of the benefits of IPAs.

Where management practices are funded they need to be rigorously designed and monitored to ensure they deliver a biodiversity benefit, particularly if funded from a biodiversity program (e.g. carbon farming). Programs should focus on Indigenous people delivering the benefits, particularly where those programs impact on the Indigenous land estate. There is the potential for perverse outcomes if programs are not well-designed or delivered in isolation of land owners/managers.

In 2017 we examined the benefits of Indigenous land and sea management programs to better value their socio-economic benefits. Indigenous land and sea management programs (ILSMPs) are gaining a reputation for providing a core function in communities, with growing evidence of a variety of environmental, cultural, social and economic outcomes being delivered. This research provided quantified and comparable information about multiple, local to national scale socio-economic and wellbeing benefits associated with ILSMPs. It is important that governments, Indigenous organisations, industry and others fully recognise these benefits and that appropriate data are collected to better measure them, otherwise ILSMPs may be undervalued and overlooked in investment and development decisions.

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?

We believe that Strategic Assessments should receive a greater emphasis under the EPBC Act. Adequate resourcing will need to be addressed, as this is a key issue in their successful implementation. Strategic assessments need to accommodate multiple spatial scales. A consortium approach with governance including State/Territory and Indigenous representation and key industry and NGO groups will be needed to build confidence in assessment outcomes.

Regional assessments can assist in addressing issues of catchment connectivity, cumulative impacts, and a strategic approach to the landscape scale delivery of offsets from multiple developments, that are not well addressed through case by case approaches including derived project assessments. They can also play a role in identifying which areas are most likely to be the focus of development, advancing environmental protection by filling knowledge gaps before individual development proposals arise. Building in change scenarios and the trajectories of future change, such as climate change, and how to accommodate this in legislation is a challenge but could be incorporated into a strategic assessment approach.

We also require mechanisms to address national biodiversity/environmental inventory and monitoring program data management that links federal, state/territory and importantly corporate/private business data on biodiversity. Such a cross-jurisdictional facility (enhanced ALA or BIO by WABSI-see below) can support access to, curation of and management of data that enables longitudinal studies, spatial prioritisations, and associated modelling approaches that can be used to inform decision science applications across multiple species over multiple scales.

We are currently working on a cross Hub project *Integrated Environmental Assessment to inform development decisions* to help improve the quality and transparency of decision-making by undertaking research for an "Integrated Environmental Assessment" approach. The project will draw together existing tools and knowledge to support capacity in regulatory and planning agencies to undertake such assessments.

The project will provide guidance to government and stakeholders about existing information available, data needs, analysis approaches, and governance settings to support Integrated Knowledge Building and Assessment for northern Australia.

Our project on multi-objective planning in northern Australia is working in the Fitzroy River catchment, WA. It is demonstrating how to operationalise participatory, multi-objective catchment planning, with a broad participant church, including Indigenous Australians, where stakeholders collaboratively construct and assess the outcomes of alternative development scenarios. The scenario planning exercise aims to create a shared space for constructive and objective conversations about the future development of the Fitzroy River catchment. This process aims to develop common understandings about different development options for the region and systematically explore the possibilities as well as the potential outcomes of different development trajectories, including identifying those with multiple benefits and where trade-offs are needed.

Most of the Kimberley represents a knowledge gap in terms of distribution of biodiversity values as very few comprehensive biological surveys have been undertaken (it is very expensive to undertake a regional scale systematic

survey). As such there is limited information available to inform development decisions e.g. irrigated agriculture.

Our project on identifying high priority areas in Northern Australia for threat abatement and species recovery sourced data, expertise and methods to identify how to best fill gaps in knowledge on the spatial distribution of threatened ecosystems and species, and of their interactions with threatening processes. Threat abatement and recovery planning, environmental impact assessment, and systematic conservation planning are among the processes inhibited by lack of information and explicit procedures to enable decision-making by the Australian Government, state and territory agencies, Indigenous land managers, and Natural Resource Management bodies. Progress can be made by collating and synthesising existing information from disparate sources, including the experience of experts, and using this information in a structured way to guide future management and development decisions.

Making data and environmental information more widely available should be an important secondary goal that will facilitate strategic assessments. We have experience with large scale projects that have been required to source data from multiple sources that have had significant issues with data collection, retention and storage. Data barriers, restrictions on supply between partners, unexpected and unresolvable complexities, models and predictions can be restricted and sometimes outputs are not trusted by end users, or other scientists.

WABSI in Western Australia is working on an information management program (BIO) that seeks to create and lead a culture of shared expertise, common data standards, policies and incentives for data sharing and support for the enduring storage and archiving of biodiversity data and derived products. The goal is to mobilise biodiversity data from all available sources, (environmental impact assessments, government agencies, Natural Resource Management groups, the research community, community groups, etc.) to make the data promptly, routinely and reliably available to the entire biodiversity community.

We have two projects (Developing e-DNA for Tropical Waters and e-DNA to detect Gouldian Finch) that are looking at the role of environmental DNA (eDNA) as an emerging and innovative data collection tool in remote landscapes. Analysing eDNA is a relatively new technology which detects the presence of DNA in small environmental (water or soil) samples. The technique has a number of advantages over traditional monitoring, including:

- Time and cost-efficiency.
- Increased accuracy.
- Ability to detect a wide range of species from a single water sample.
- Targeted detection, e.g. of rare species or new pest species.
- Greater safety when sampling in the field.

The projects are developing eDNA technology and trial field programs for an array of northern Australian species of conservation and management significance. They aims to significantly improve the efficacy of field surveys and monitoring, hence providing a cost-effective tool to dramatically improve our knowledge of biodiversity in northern Australia. The information generated from this study can be used to inform planning processes, impact assessments and development decisions.

This is important as regulators need to be convinced that the detection of the DNA of a species is representative of the occurrence of the species itself (i.e. minus an actual specimen). This approach also being investigated for subterranean fauna – poorly understood in northern Australia. This is also the case for species distributional models i.e. are they sufficient for decision-making.

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?

Habitat management and addressing threatening processes at larger scales can be a more effective management approach in landscapes such as northern Australia, which are more intact than the fragmented agricultural and urbanised landscapes in much of southern Australia. A species by species approach is not the most effective way to manage most landscapes. Habitat management can also allow for threatened species and ecological community conservation at a regional and cross jurisdictional level, a proposition that the 2019-20 bushfire event has highlighted is critical to any management response.

While northern Australia has fewer threatened species than other parts of Australia it has a range of threatening processes that are common to multiple species. For example the Kakadu floodplain has no national threatened species although para grass and olive hymenachne are aquatic weeds that threaten to irreversibly damage wetland floodplain communities.

A focus on threatened ecological communities, or identifying threatened species hotspots (locations where more that one species occurs) can also be more efficient in terms of the allocation of scarce resources. Northern Australia also has a large number of endemic species that could be better protected by a landscape or threatening process approach. We need to better understand the implications of managing habitats and ecological communities at a broader scale; recent work on bushfires underpins this. We will still need species specific reporting to check on management outcomes, and there will also be high profile threatened species where the community will expect conservation action.

For example our project on safeguarding Kimberley bilbies is providing an accurate understanding of where bilbies occur and how they use their habitat in the Fitzroy River catchment. This information is being used to identify and

implement on-ground actions that are helping ease the impacts of threats to bilbies.

As well as gaining an understanding of the status of bilbies in the catchment, this project is contributing to species recovery planning and threat abatement programs. Broader natural resource management and conservation planning is also being supported through the research. The project is extending existing bilby research and management efforts and contribute to the Kimberley Bilby Network. It is also linking with work outside the catchment, such as the Dampier Peninsula Bilby Offset Project and bilby projects in the Pilbara.

Our work on fire and weeds in the top end is drawing on existing information about the impacts of land clearing, weed invasion and changes to fire patterns on the natural landscape, with a major focus on gamba grass. Researchers are collecting additional data and use collated information to model the likely scenarios of changes in ecosystem function over the next 30 years in the Darwin and Daly regions. This understanding is critical to inform land use planning and management scenarios t, and will hopefully prevent, ecosystem failure and further biodiversity decline as well as to improve fire safety for people and infrastructure.

A Cape York project on feral animal management is working with Indigenous land managers to explore the extent of the damage being caused by feral animals to aquatic ecosystems and the methods to best control them. Researchers are working with Indigenous ranger groups, local communities and agencies to achieve this goal. This is providing important information that will help design relevant monitoring methods and reporting frameworks that can be shared with other land managers across northern Australia.

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?

As per Article 19 (the need for ensuring that Aboriginal people give their 'free, prior and informed consent' to any decisions that 'may affect them') of the UN Declaration of the Rights of Indigenous People (United Nations 2007) the EPBC Act should address this commitment (and other International Obligations (UN Convention on Biological Diversity) and should ensure that processes for environmental decision-making are set up to comply with the UN Sustainable Development Goal 16.7, which requires '*ensuring responsive, inclusive, participatory and representative decision-making at all levels'* for Indigenous Peoples.

In northern Australia there is an extremely high level of Indigenous land ownership and management, for example native title has been determined for

over 95% of the Kimberley of which 62% has been determine as exclusive possession, most of this is managed in part for conservation. What we have learnt after more than 10 years of research is that Indigenous knowledge, engagement and empowerment is achievable if there is a will and a commitment to exploring new approaches to undertaking research. Co-design was critical to make NESP valuable to Indigenous partners (and industry and government), and developing Indigenous-led approaches, with complementary western science methodologies and knowledge schemes.

The outcome of this is that the NAER Hub supports Indigenous participation in the decision-making process for matters that impact upon them and the co-design and co-delivery of outcomes that are important to Indigenous peoples. The Hub also supports Indigenous led decision and design processes where community defines and describes the environmental (inherently also social and cultural) matters that are important to them and require support through the hub's research programs.

Many Indigenous organisation, such as Prescribed Body Corporates, already have IPA or Healthy Country Plans that articulate Indigenous values and research priorities. Formally, recognising these plans would demonstrate a commitment to working cooperatively, having Indigenous led processes helps articulate goals and priorities, as does recognising Indigenous knowledge, cultural authority, and cultural competencies.

The EPBC Act is framed more around western science prioritisation, to better engage with Indigenous Australians we will need to accommodate a different value system, in particular Indigenous Knowledge, which will include both placed based and value based approaches.

Adequate resourcing has been mentioned in other contexts but needs to be emphasised again if Indigenous engagement is going to be meaningful.

Our knowledge brokering for Indigenous land management project involves Indigenous peoples as co-researchers to develop tools that are assisting them to identify useful knowledge resources and explore ways they can use different types of knowledge for decision-making. It is delivering:

- tailored knowledge brokering tools and guidelines for their use;
- knowledge-sharing among Indigenous land managers across northern Australia through workshops and digital networking activities;
- a diagnosis of the conditions under which knowledge brokering can improve Indigenous adaptive management of environmental assets.
- documented case studies to build the *Our Knowledge, Our Way Guidelines:* highlighting best practice examples of how Indigenous knowledge has been incorporated into environmental management and economic opportunities *the right way*.

Collaborative work with Indigenous landowners in Kakadu National Park on healthy country indicators is aimed largely at improving the management of

threats to the park's outstanding values. This research is addressing threats to the Park's values that align with the research priorities that were set by Traditional Owners. The research is also designed to support the involvement of Aboriginal residents in on-ground work.

Information is limited on how to jointly assess the health of country to guide effective co-management activities. To care for important areas, cross-cultural monitoring and evaluation frameworks need to be co-designed and trialled with Indigenous partners to develop appropriate measures of success, data sharing processes and methods for identifying priority management actions.

Involving landholders (both Indigenous and non-Indigenous) in nature conservation programs is critical in northern Australia, because there is limited resources in government land management agencies, and the Indigenous and pastoral estate comprises the vast majority of the land system of the north.

Thank you for the opportunity to have input to this important review and I look forward to seeing the outcomes.

Professor Michael Douglas
Hub Leader

17 April 2020