

Submission to the Senate Inquiry on Australia's faunal extinction crisis from the Commonwealth Threatened Species Scientific Committee (TSSC)

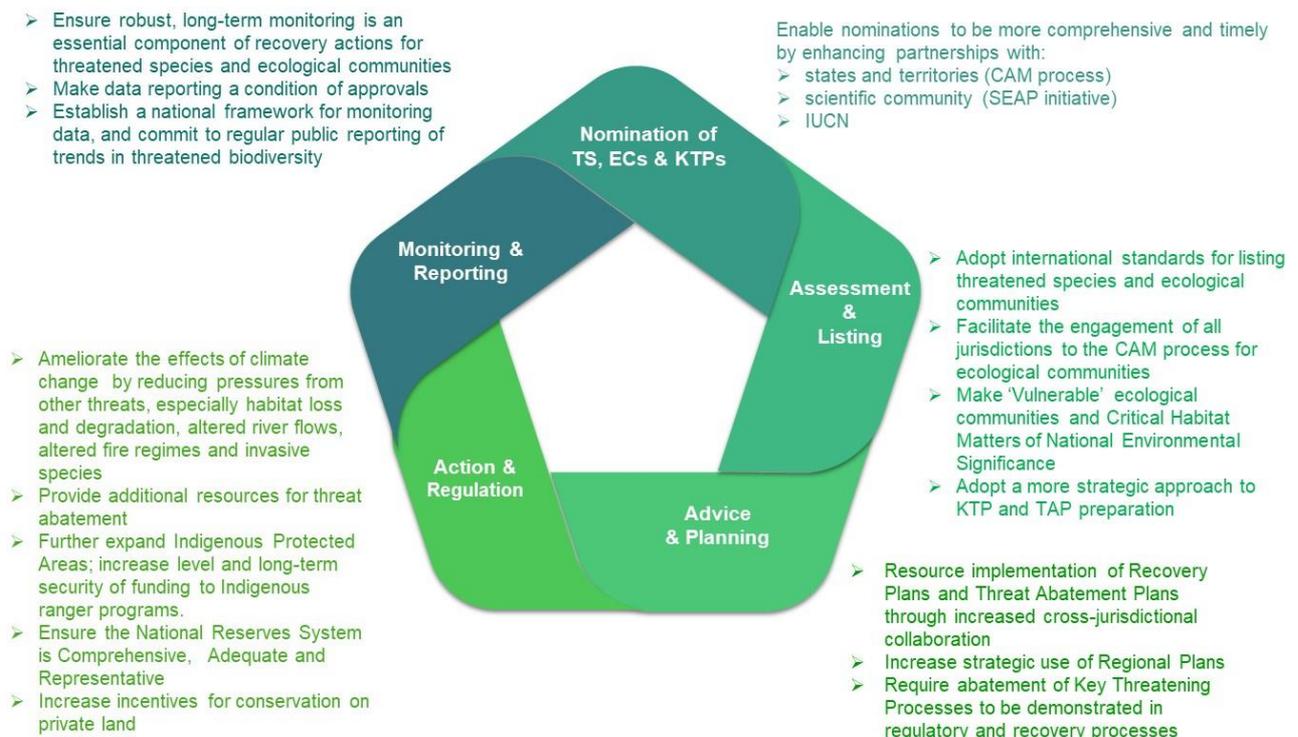
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Executive Summary

The Threatened Species Scientific Committee (TSSC) is an independent statutory committee of conservation scientists whose terms of reference are set-out by the EPBC Act. The Committee provides the Minister for the Environment with advice on matters relating to listing, conservation and recovery of threatened species and ecological communities, the listing and abatement of key threatening processes, and other matters relating to the conservation of threatened species. The Department of the Environment and Energy and the TSSC work closely to provide high quality, independent and timely advice to the Minister that meets all legislative requirements and is based on robust science.

This submission addresses the Terms of Reference of the Inquiry in the context of the role of the TSSC. We focus our commentary on the current deficiencies in the listing, planning, implementation and recovery processes to conserve Australia's threatened species and ecological communities, and provide potential solutions to these deficiencies. The figure below summarises our headline recommendations.

Proposed improvements to nomination, assessment, planning, implementation and reporting for threatened biodiversity



Introduction

The Threatened Species Scientific Committee (TSSC) is an independent statutory committee of conservation scientists that provides the Federal Government's Minister for the Environment with advice on matters relating to listing, conservation and recovery of threatened species and ecological communities, the listing and abatement of key threatening processes, and other matters relating to the conservation of threatened species.

Our submission addresses the Terms of Reference of the Inquiry in the context of our role. In addition to a focus on fauna, we include the conservation and recovery of flora and ecological communities and the abatement of key threatening processes in our response, as these matters are essential to the prevention of faunal extinction.

Context

Almost 500 species of fauna are listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

Australia's extinction crisis extends beyond our comparatively 'well-known' terrestrial, vertebrate fauna. For example, more than 1300 plants are EPBC-listed as threatened, and a far larger number of species of conservation concern are yet to be assessed. As a consequence of the inadequate inventory for most groups, Australia's Threatened Species List is biased toward terrestrial higher vertebrate animals: mammals, birds, reptiles and frogs. Any new initiatives to halt Australia's extinction crisis must therefore address a much broader base of biodiversity than the fauna listed as threatened.

Biodiversity loss is a critical issue for Australia and it is imperative that action is taken to avert an even greater extinction crisis in the future. Australia has strong environmental protection laws, is a signatory of several international conservation treaties, and is a world leader in conservation science. These achievements indicate significant capacity for action. However, the continuing extinction of Australian species indicates that this capacity is not deployed effectively to achieve outcomes, a situation that reflects poorly on Australia's global reputation.

a. The ongoing decline in the population and conservation status of Australia's nearly 500 threatened fauna species

Background

- Australia has a very high rate of faunal extinction since European settlement. For example, we have the highest loss of mammal species extinction in the world with >10% of 273 endemic land mammal species becoming extinct in the last two centuries (Woinarski et al. 2015). At least 30 Australian terrestrial mammal species have become extinct since 1788, 29 of which are endemic (Woinarski et al. 2015). The number of population-level extinctions is far greater and is not systematically documented. Every bioregion of Australia has lost species from the pre-European faunal assemblages.
- Australia has 57 invasive animal species, 207 invasive plant species, and three introduced pathogens that are listed as threatening native biodiversity. Many of the faunal extinctions of the past 200 years, particularly the mammal extinctions, have occurred in remote ecosystems where the loss was likely caused by predation by introduced species, particularly the feral cat (*Felis catus*) and the European red fox (*Vulpes vulpes*) (Woinarski et al. 2015). Across Australia, invasive species (non-native plants, animals, pathogens) threaten a greater number of species (>80%) than any other threat (Kearney et al. 2018). Changed fire regimes and habitat fragmentation by vegetation clearing and land use intensification have exacerbated the threats posed by these introduced weeds, pests and predators.
- A recent mammal extinction, the Bramble Cay melomys (*Melomys rubicola*), was almost certainly due to habitat loss caused by rising sea levels. This is the first instance of a likely wave of faunal extinctions resulting from climate change. Species with no ability to move in response to changing conditions (e.g., those occurring on mountain top 'islands') are particularly vulnerable. Climate change will also interact with habitat loss and degradation, fire and disease to increase the likelihood that catastrophic events will eliminate species with small, geographically restricted populations.
- There are large numbers of other poorly known but imperilled species at risk from extinction but they are not protected because we know so little about them. Sufficient data are available for other species that have not been assessed. Scientists suspect that many hundreds of thousands of Australian species remain undiscovered or poorly known, and that many of these species are at as great a risk of extinction as those formally listed as threatened.
- All these factors mean that the approach to reducing extinction needs to be long-term, strategic and co-ordinated. Single species recovery planning and management, although valuable for some species, is not enough.

Recommendations ToR a

- a.1 Ameliorate the effects of our changing climate by reducing pressures from other threats, notably by protecting climate refuges, preventing major habitat loss from vegetation clearing, reducing habitat degradation from altered fire regimes, pollution and overstocking, maintaining river flows and controlling invasive and feral species.
- a.2 Expand control program for invasive species, particularly those for feral cats and foxes.
- a.3 Expand and adequately resource the ongoing management of the National Reserves System (NRS), the cornerstone of biodiversity conservation in Australia, so that it is 'Comprehensive, Adequate and Representative' of the ecosystems important to the survival of biodiversity.
- a.4 Continue to expand Indigenous Protected Areas (IPAs) and the associated Indigenous Ranger Programs. These programs are attempting to restore traditional management regimes with benefits to biodiversity, as well as delivering social and economic outcomes.
- a.5 Increase the support for conservation on private land which, together with the National Reserve System, is an essential component of landscape-scale strategies for avoiding extinctions
- a.6 For species at the greater risk of extinction, implement salvage measures including (as appropriate) seed storage, captive breeding and translocation, with a view to sustaining the long-term security of wild populations.

b. The wider ecological impact of faunal extinction

Background

- No assessment has been undertaken to estimate the consequences and cumulative impacts of faunal loss and extinction in Australia, but impacts include the loss of viability of entire ecosystems. The wider ecological impacts of faunal loss and extinction will be reduced if Australia (and the rest of the world) meets the greenhouse gas emission targets set in Paris, but some change impacts are inevitable due to processes already in train.
- Extinction and the underpinning threats causing extinction is altering key ecological and biophysical processes and ecosystem services important to socio-economic productivity and sustainability to the point that some ecosystems no longer provide the goods and services essential to humanity (Hooper *et al.* 2012).
- Ecosystem functions that have been reduced, degraded or lost include pollination capability, nutrient cycling, soil stabilisation, water quality and forage support.
- There are likely to be cascading effects on other biodiversity, resulting in co-extinctions and/or the increase or release of other species, including invasive pests and weeds, and the replacement of specialist species by generalist species (Young *et al.* 2016).
- Another key ecological disturbance in many Australian systems is fire, and faunal extinction can cause, and be a result of, changing fire regimes.

Recommendations ToR b

- b.1 Better understand the causes and consequences of biodiversity loss, including associated societal impacts.
- b.2 Determine the additional societal benefits (e.g. improved water quality outcomes, job creation, human health and wellbeing) from investments and actions taken to address biodiversity loss.
- b.3 Effectively engage with policy makers and the general public to increase understanding about the causes and consequences of biodiversity loss and the societal benefits of investments and actions taken to address such loss. The Threatened Species Commissioner could play an important role in such public engagement.

c. The international and domestic obligations of the Commonwealth Government in conserving threatened fauna

Background

- Historically, Australia has taken an international leadership role with respect to implementing the Convention on Biodiversity (CBD) and its targets. Australia was an early signatory to the CBD in 1993 with its first national biodiversity strategy completed in 1992 in the lead up to the Rio Earth Summit.
- Australia actively contributes to the IUCN Global Species Programme, assessing the conservation status of species on a global scale for the past 50 years with the aim of identifying species threatened with extinction to assist with their conservation.
- These approaches, and related reporting established by the Commonwealth government, are an important component of Australia's obligations under several international treaties.
- Australia's obligations to the conservation of species threatened with extinction are met domestically through legislative, management and reporting arrangements with the States and territories. Recently, increased co-operation through the joint development of a Common Assessment Method (CAM; see our response to ToR i) by the Commonwealth, and most states and territories, is harmonising environmental legislation and simplifying processes to improve regulatory efficiency with regard to threatened species. These processes should assist Australia to meet its domestic and international reporting requirements.

Recommendations ToR c

- c.1 Ensure Australia meets international commitments with regard to biodiversity conservation, particularly Aichi target 12 under the Convention on Biodiversity (CBD).
- c.3 Develop stronger programs to inform citizens (established and new arrivals) of the value and fragile status of the nation's natural heritage (including, but not restricted to its threatened native fauna) to build broad community support for meaningful action to halt extinctions.
- c.4 Develop new initiatives towards threat abatement through balanced programs of incentives, regulation and compliance.

d. The adequacy of Commonwealth Environmental Laws¹ relevant to the role of the TSSC

Background

Listing of threatened species and ecological communities

- Some sections of the EPBC Act do not reflect contemporary international best practice as codified by the IUCN in the listing and conservation of threatened species and ecological communities.
- The species listing category of Conservation Dependent (CD) is not now used by IUCN. Nonetheless in Australia, the listing category has proved a useful tool for managing species of marine fish that are eligible to be listed as threatened and are commercially fished. A CD listing requires the species to be the focus of a plan of management that is in force under law and aims to stop the decline of, and support the recovery of, the species to maximise its chances of survival in nature. Thus, a CD listing enables continued data collection on the status of the species through fisheries activities. Conversely, listing such a species as threatened generally means that its status and recovery would not be monitored (see ToR i). However, a CD listing, as currently implemented in Commonwealth law, poses a barrier to transparent reporting on the conservation status of Australian biodiversity by excluding CD species from the internationally-accepted schedules of threatened species, despite meeting their criteria.
- Species listed as Conservation Dependent and Ecological Communities listed as Vulnerable are not currently Matters of National Environmental Significance under the EPBC Act.

Recovery Planning

- Recovery Plans set out research and management actions necessary to stop the decline and support the recovery of listed threatened species and ecological communities (except for species listed as Extinct and Conservation Dependent (CD)). Recovery Plans are optional; the Minister decides whether a recovery plan is warranted, after considering advice from the TSSC.
- With appropriate resourcing and engagement of committed stakeholders, recovery planning can be highly successful (e.g. Malleefowl (*Leipoa ocellata*) and others described in *A Book of Hope* (Garnett *et al.* 2018)).
- Recovery Plans are typically complex documents that can take considerable time and resources to prepare and finalise with input from many stakeholders. Amending Recovery Plans to incorporate new information or techniques also takes time. Of the 1775 species and 78 ecological communities that are on the threatened list, but not listed as extinct or Conservation Dependent, Recovery Plans

¹ This section is also relevant to the following Terms of Reference:

c. the international and domestic obligations of the Commonwealth Government in conserving threatened fauna; e. the adequacy and effectiveness of protections for critical habitat for threatened fauna under the Environment Protection and Biodiversity Conservation Act 1999; h. the adequacy of existing funding streams for implementing threatened species recovery plans and preventing threatened fauna loss in general; i. the adequacy of existing monitoring practices in relation to the threatened fauna assessment and adaptive management responses; j. the adequacy of existing assessment processes for identifying threatened fauna conservation status.

exist for 743 (40%). The majority (503) of these plans are more than or approaching 10 years old. Furthermore, 180 species and ecological communities that are required to have a Plan do not currently have one. Few Plans are reviewed every five years as required by the EPBC Act.

- Conservation Advices were introduced in 2007 and provide a streamlined alternative to Recovery Plans. Conservation Advices are mandated for each listed entity, except for those which have a Recovery Plan in place. Conservation Advices rather than Recovery Plans have been prepared for most recent listed species and ecological communities. Advices are more concise, can be prepared in a more timely way (usually concurrently with listing) and can be amended more easily than Recovery Plans. In practice, Conservation Advices contain most elements of a Recovery Plan and can be used by Recovery Teams to guide conservation action, but they do not include the same level of detail (particularly on implementation and responsibilities) nor require the same level of public consultation and collaborative preparation. This reduced level of consultation means that there is reduced opportunity for community and stakeholder 'buy-in', reducing the capacity of Conservation Advices to engage and influence recovery.
- The inclusion of detailed budgets in Recovery Plans is uncommon, and budgets are absent from Conservation Advices. When budgets are provided, they are not based on consistent methodology. In contrast, standardised budgets provide the potential to:
 - estimate how much funding is needed to recover threatened species;
 - look for spending efficiencies across multiple Recovery Plans. For example, mitigating one (or more) threat(s) in one region, is likely have a positive impact for many threatened species, but without consistently costed recovery plans, this sort of analysis is impossible;
 - consider investment trade-offs;
 - prioritise allocation of scarce resources to actions most likely to lead to recovery.
- Recovery Plans and especially Conservation Advices fail to highlight the critical role of monitoring in species recovery; monitoring is usually described only in a generic sense, is rarely costed, and is not mandated, removing the potential for reporting the progress of the recovery actions (see our response to ToR i).
- There is no obligation for the Commonwealth to fund the recovery of threatened species or ecological communities, even though they are Matters of National Environmental Significance². The constitutional obligation on state and territory government also is not clear, leading to debates about responsibility. Where funding is provided (through Australian Government Natural Resource Management grant programs for example), Recovery Plans are not a transparent driver of investment decision making.
- The Minister must 'not act inconsistently with' a Recovery Plan and must 'have regard to' Conservation Advice in approving an action under the environmental approvals parts of the EPBC Act. This statutory difference between Recovery Plans and Conservation Advices reduces the power of the EPBC Act to control threats to Australia's threatened species and ecological communities when these are described in a Conservation Advice (rather than in a Recovery Plan).
- Thus, the present system of recovery planning and Conservation Advices is not achieving essential conservation outcomes.

² Vulnerable ecological communities are not Matters of National Environmental Significance

The unrealised opportunities of spatially-explicit planning

- The EPBC Act enables more spatially-explicit planning than is generally practised in Australia. For example, Bioregional Plans can be made for bioregions within Commonwealth Areas. The EPBC Act allows for the Minister on behalf of the Commonwealth to cooperate with a state or self-governing territory or any other person to prepare a Bioregional Plan for an area that is not wholly within a Commonwealth Area. A Bioregional Plan is not a legislative instrument, but the Minister must have regard to such a Plan when making any decision under the EPBC Act to which the Plan is relevant.
- The Hawke Review (Hawke 2009) recommended expansion of the role of Bioregional Plans so that they are used more often, and strengthening the process for creating these plans so they are more substantial and robust. That Review further recommended that the EPBC Act be amended to: (i) change the terminology from 'Bioregional Plans' to 'Regional Plans'; (ii) allow the Commonwealth to unilaterally develop Regional Plans; and (iii) ensure that the process for delineating a region for the purpose of the Act is flexible. Such Plans would be further strengthened if they were legislative instruments.

The unrealised opportunities of threat abatement

- Key Threatening Processes (KTPs) are legislative instruments under the EPBC Act designed to identify threats to biodiversity. A threat can be listed as a KTP if it threatens, or may threaten, the survival, abundance or evolutionary development of a native species or ecological community.
- Threat Abatement Plans (TAPs) act to coordinate collaborative national effort to mitigate those threats defined as a KTP.
- The current KTP nomination process is ad-hoc and, as a consequence, there are several major causes of species decline not currently listed.
- The thematic breadth of the listed KTPs is highly variable.
- There are currently 21 KTPs listed under the EPBC Act, and eight of these do not have a TAP decision, and therefore there is no requirement to monitor the abatement progress or initiate an action if the abatement of the process is proven ineffective.
- Although listing of KTPs and preparing and implementing TAPs is a protracted process, the TSSC considers strategic and well-executed threat abatement to be a powerful and potentially cost-effective strategy for biodiversity conservation in a constrained funding environment.
- A single KTP with an effectively designed and resourced TAP can precipitate actions that benefit multiple threatened species and ecological communities. Listings of threatened ecological communities can similarly benefit multiple threatened species and engage the abatement of multiple threatening processes.

Recommendations ToR d

- d.1 Reconsider the recommendations of the Hawke Review of the EPBC Act (Hawke 2009) (and the government response to them (Commonwealth of Australia 2011)) in the context of the upcoming statutory review of the EPBC Act.
- d.2 Amend the EPBC Act to:
 - a) make listing processes for species and ecological communities conform with international best practice and be aligned with the Common Assessment Method already agreed with most state and territory jurisdictions;
 - b) make Vulnerable ecological communities a Matter of National Environmental Significance;
 - c) make Conservation Dependent an additional schedule (rather than an alternative schedule) that applies special management provisions to the taxon. Thus, commercially harvested fish species that meet the criteria for listing as threatened and have an appropriate management plan in force under law could be listed as both CR, EN or VU (as appropriate) as well as CD (or some other label) that would exempt them from the specified statutory provisions that apply to other species listed as threatened but would subject them to the prescriptions specified in the management plan;
 - d) make the changes to Bioregional Plans recommended by the Hawke Review and make such plans legislative instruments;
 - e) strengthen the governance and accountability of KTPs by adding new provisions that require abatement of KTPs to be demonstrated in regulatory and recovery processes;
 - f) Increase the regulatory effect of a Conservation Advice.

e. Protections for critical habitat for threatened fauna under the Environment Protection and Biodiversity Conservation Act 1999³

Background

- Managing the Australian environment is the joint responsibility of the Commonwealth, states and territories.
- The EPBC Act establishes a Register of Critical Habitat maintained by the Minister, on advice from the TSSC.
- Under the EPBC Act (s207b), habitat identified on the Register of Critical Habitat is only protected from the offence of 'knowingly damaging critical habitat' if that habitat is in or on a Commonwealth area. This restriction has resulted in only five places currently being listed on the EPBC Act Register of Critical Habitat.
- Threatened species' habitat does not need to be listed on the Register of Critical Habitat in order to trigger the environmental assessment provisions of the EPBC Act.
- Identification of 'habitat critical to the survival of the species' in a Recovery Plan or a Conservation Advice ensures those particular areas are taken into account in the environmental approval process.
- Actions to guide protection and recovery of habitat are identified in Recovery Plans and Conservation Advices.

Recommendations ToR e

e.1 Amend the EPBC Act to:

- change the function of the Register of Critical Habitat to initiate a higher level of protection similar to the red flag provisions for "Serious and Irreversible Impact" in NSW legislation; *or*
- consider making Critical Habitat for listed Threatened Species a Matter of National Environmental Significance.

³ This section also has relevance to the following Term of Reference d: the adequacy of Commonwealth environment laws, including but not limited to the Environment Protection and Biodiversity Conservation Act 1999, in providing sufficient protections for threatened fauna and against key threatening processes;

f. The adequacy of the management and extent of the National Reserve System, stewardship arrangements, covenants and connectivity through wildlife corridors in conserving threatened fauna

Background

- The first national biodiversity strategy in 1996 stated a core principle: 'Central to the conservation of Australia's biological diversity is the establishment of a Comprehensive, Representative and Adequate system of ecologically viable protected areas integrated with the sympathetic management of all other areas, including agricultural and other resource production systems'. This reflects one of Australia's fundamental obligations of the Convention on Biodiversity (CBD).
- In spite of long-standing bipartisan commitments to the development of Comprehensive, Adequate and Representative networks of protected areas, many of Australia's bioregions remain inadequately represented in the National Reserve System (NRS).
- Whilst reservation is an important component of the protection of biodiversity and the prevention of extinction, it is not sufficient of itself to deal with the diversity of threatening processes that cause extinctions. Many of Australia's most pervasive threats are as prevalent inside reserved areas as outside (e.g. Legge *et al.* 2017). Commitment to strategic management of the National Reserve System is therefore essential to its success in preventing extinctions. Further, adequate resources to undertake on-ground works is critical to this outcome and the Indigenous Ranger Program is an excellent initiative towards meeting this need.
- Additional strategies are required for other land tenures. Covenants and stewardship arrangements have been a useful mechanism to extend conservation management on private land. In the past few decades, there has been a significant expansion of private land organisations, supported by government, philanthropy and the public.
- Indigenous Protected Areas (IPA) protect important biodiversity, as well as providing significant economic, social and cultural benefits to indigenous communities. IPAs are a class of protected area used in Australia, and they contribute almost one half of the National Reserve System.
- In recent years there has been considerable recognition of the important connectivity role that habitat corridors play in biodiversity conservation. The Australian Government introduced a National Wildlife Corridors Plan in 2012 but it has not been developed or implemented further, despite considerable investment from the NGO sector.
- As the climate changes, conserving biodiversity requires a coordinated approach across reserves, conservation on other land tenures, and habitat corridors.
- The reserve system and other protected lands are also critical for the conservation of poorly known but imperilled species.

Recommendations ToR f

- f.1 Commit to completing the establishment of a Comprehensive, Representative and Adequate system of ecologically viable protected areas, integrated with the sympathetic management of all other areas, including agricultural and other resource production systems.
- f.2 Review and address resource requirements (particularly on-ground staff and custodians) for effective ongoing management of the National Reserve System.
- f.3 Expand the level of support for, and the long-term security of, the Indigenous Ranger Program.
- f.4 Continue to support and expand private land conservation areas and the Indigenous Protected Area program.
- f.5 Further develop and implement a network of national habitat corridors to create major links in the Australian landscape to support biodiversity and, in particular, facilitate movement to accommodate shifting climates.

i Adequacy of existing monitoring practices in relation to the threatened fauna assessment and adaptive management responses⁴

Background

- Monitoring is the foundation on which conservation management of threatened species is built. It informs listing assessment, helps identify causes of declines, and measures the effectiveness of management, thus informing investment and policy decisions. It is a potent tool for engaging the public in conservation, and a key element of public reporting on the state of our environment.
- Existing policy and legislative settings to support monitoring for threatened biodiversity are weak, inconsistent and are not always aligned with international reporting obligations. Policy and management are thus not always evidence-based:
 - Australia's biodiversity policy, the Biodiversity Conservation Strategy (2010-30) (Natural Resource Management Ministerial Council 2010) fails to highlight the critical contribution that monitoring can make to supporting, and documenting, recovery for threatened species and ecological communities.
 - Our national policy also does not align with all components of international agreements. For example, the UN Convention on Biological Diversity (<www.cbd.int/sp/default.shtml>) includes a target relating to threatened species and their monitoring to which Australia is not on track to fulfil (Aichi Target 12: 'By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained' <www.cbd.int/sp/targets/default.shtml>).
 - Successive State of the Environment reports (State of the Environment Committee 2011; Cresswell and Murphy 2017) and reviews of national biodiversity conservation policy (Commonwealth of Australia 2016) record our failure to effectively monitor biodiversity.
- The EPBC Act guides the preparation of Commonwealth-approved Recovery Plans that aim to improve the conservation status of nationally-listed species and ecological communities. National Recovery Plans are required to include details on how progress toward meeting the recovery objectives of the Plan are to be measured (i.e., the monitoring plan) (Section 270 (2b)). However,
 - Not all listed species/ecological communities have an approved Recovery Plan. Most listed entities have Conservation Advices, which have no detail on monitoring requirements. Some listed entities have neither a Recovery Plan nor a Conservation Advice;
 - Monitoring programs described in Recovery Plans are of variable quality: usually, there is no detail about monitoring methods; the responsibilities for delivery and pathways to implementation are not outlined; the links between monitoring and management/reporting

⁴ This section also has relevance to the following Terms of Reference:

d) the adequacy of Commonwealth environment laws, including but not limited to the Environment Protection and Biodiversity Conservation Act 1999, in providing sufficient protections for threatened fauna and against key threatening processes and j) the adequacy of existing assessment processes for identifying threatened fauna conservation status.

are not articulated; and guidance on the management response if pre-defined thresholds of change are observed are usually absent (trigger points) (Lindenmayer *et al.* 2013);

- Recovery Plans are not automatically accompanied by resources for implementation;
 - There is no legal requirement to implement Recovery Plans (other than on Commonwealth land);
 - The lack of monitoring data makes it hard to assess whether recovery planning processes are aiding population recovery (Bottrill *et al.* 2011);
 - In contrast, in the USA, Recovery Plans that include monitoring are mandatory for all species (Campbell *et al.* 2002), all governments are required to pro-actively protect and recover species, and progress on Plan preparation and implementation, and the status of species must be reported every two years to the government Section 4(f)(3) (US FWS 1973).
- Much conservation activity is based on short-term, transient programs. In contrast, monitoring requires long-term (sometimes decadal scale) continuity and consistency. This is especially important in Australia, where short-term fluctuations in population sizes, driven by inter-year climatic variability, may mask long-term trends.
 - We monitor threatened biodiversity poorly in Australia. One in four threatened species is not monitored at all. Monitoring of threatened ecological communities is even less comprehensive. Where monitoring does occur, its quality is generally poor. This situation affects every part of conservation management for threatened species and ecological communities. In the extreme case, it means that species become extinct before we become aware of the threat. Notably, species are more likely to be monitored, and monitored well, for taxa with Recovery Plans, and for taxa with strong public engagement (Legge *et al.* 2018).

Recommendations ToR i

- i.1 Reform national biodiversity policy documents, to explicitly recognise threatened biodiversity as targets for action, with monitoring a critical component of their recovery; and to clearly align national policy with international agreements.
- i.2 Reform recovery planning processes so that all Recovery Plans and Conservation Advices include adequate and costed detail on how the listed entity is to be monitored.
- i.3 Use national leadership to ensure that monitoring is an essential ingredient for the recovery of threatened species, that funding for important monitoring should be long-term and secure, and that monitoring should be a mandated accompaniment to management activity.
- i.4 Make scientifically robust monitoring programs mandatory parts of protected area management and the conservation of threatened species.
- i.5 Make data reporting a requirement of regulatory approvals that include monitoring and lodgement of monitoring data in a national public data repository (see i.7 below) a condition of approval.
- i.6 Further support programs that foster the involvement of Indigenous Australians and the public generally in biodiversity monitoring.
- i.7 Establish and fund a national framework for storing, analysing and interpreting monitoring data, and making information on management effectiveness and conservation priorities available to the public, policy-makers and managers.
- i.8 Commit to effective public reporting and interpretation of trends in Australian biodiversity

j. Adequacy of existing assessment processes for identifying threatened fauna conservation status⁵

Background

- As required by the EPBC Act, the TSSC makes scientific recommendations to the Minister with regard to the listing and delisting of species of threatened fauna using a rigorous, scientific and evidentiary approach.
- The efficiency of the species listing process has improved in recent years as a result of the adoption of: (1) the Common Assessment Method (CAM) by most Australian jurisdictions for species listing ⁶; (2) the use of expert groups to undertake status review assessments of a particular taxa or group of species via the Species Expert Assessment Plan (SEAP); (3) collaboration with IUCN in undertaking nation-wide rapid assessments of a taxonomic group (e.g., in 2017 the IUCN assessed the threat status of more than 950 Australian reptiles).
- Listings of threatened ecological communities benefit the conservation of multiple threatened species that may occur within them. The Commonwealth and NSW have been responsible for most of the ecological communities listed to date. Australian governments have agreed in-principle to a Common Assessment Methodology (CAM) for listing ecological communities (as for species), but so far only NSW and the ACT have opted in to implement the CAM for ecological communities.
- The Threatened Species List is also dated and incomplete, partially because of the limited resources available to support the listing process and the revision of listings.
- The mandatory Final Priority Assessment Listing process (FPAL) is prolonged. Once a species is on the FPAL the TSSC must complete an assessment. Given that listing is a scientific process and the Minister has limited discretion at the listing decision stage, it would be more efficient if the TSSC were the Listing Authority as in some of other jurisdictions e.g., NSW and Canada. Alternatively, the period allowed for a Ministerial decision could be reduced from the present 90 business days.

⁵ This section also has relevance to the following Terms of Reference: b. the international and domestic obligations of the Commonwealth Government in conserving threatened fauna; c. the adequacy of Commonwealth environment laws, including but not limited to the Environment Protection and Biodiversity Conservation Act 1999, in providing sufficient protections for threatened fauna and against key threatening processes;

⁶ Only NSW and the ACT have signed onto the CAM for listing ecological communities.

Key Recommendations for ToR j

- j.1 Amend the EPBC Act so that the processes of listing and delisting of species and ecological communities align more closely with IUCN best practice.
- j.2 Encourage all jurisdictions to opt in to the Common Assessment Method for ecological communities.
- j.3 Consider streamlining the listing process through changes such as:
 - o removing the provisions enabling the FPAL process from the Act or revising them;
 - o requiring all nominations to be assessed within a defined period (suggest 2 years) subject to Ministerial approval for extension;
 - o reducing the maximum period for the Minister to make a listing decision;
 - o making the Threatened Species Scientific Committee the listing authority (as in NSW).
- j.5 Enable regular and comprehensive reviews of all listed species to be carried out.

I. Any related matters

A vital element in the prevention of faunal extinctions is a functional, efficient, well-trained bureaucracy that includes a cohort of skilled, professional scientists. In our experience, Department of Environment and Energy staff are consummate professionals: dedicated, hard-working and highly competent. Nonetheless, they are seriously constrained in their capacity to facilitate the timely delivery of the requirements of the EPBC Act to protect threatened species and prevent extinctions.

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