KTPs & TAPs

Australia's failure to abate threats to biodiversity

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invasive species council

Keeping nature safe from dangerous new invaders

KTPs & TAPs

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About the Invasive Species Council

The Invasive Species Council was formed in 2002 to seek stronger laws, policies and programs to keep Australian biodiversity safe from invasive plants, animals, diseases and parasites. The goal is to establish a biosecurity system for Australia that prevents new invasive species and protects Australian species and ecological communities from existing invasive species. The Invasive Species Council is a not-for-profit charitable organisation funded almost entirely by donations from supporters and philanthropic organisations.

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An invitation to respond

Our aim with this discussion paper is to stimulate discussion within the environment sector (government and non-government) about the changes needed to strengthen Australia's threat abatement processes. We invite feedback and ideas. We hope to hold a workshop in 2018 to develop a conservation sector proposal for reform.

The importance of KTPs and TAPS

Australia's national processes to protect and recover threatened biodiversity are failing. One major reason for this are deficient processes for mitigating major threats – listing key threatening processes (KTPs) and preparing and implementing threat abatement plans (TAPs) under the *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act).

KTP listings are intended to identify major threats to biodiversity and, through a TAP or other processes, drive collaborative national action to mitigate those threats. Currently, 21 KTPs are listed. Collectively, they imperil thousands of threatened species and ecological communities.

In this discussion paper we ask the following questions:

- *How systematic and efficient is the process for listing KTPs?*
- *How effective is threat abatement through the KTP/TAP processes?*
- *What needs to change?*

Invasive species as KTPs

We focus in particular on invasive species, which make up two-thirds of the listed KTPs. A KTP/TAP type process is often the only effective way to address invasive species threats, for abatement is often ecologically, technically and socially complex, and needs to involve several jurisdictions and sectors. We particularly need federal leadership for invasive species threats that are poorly addressed by the states and territories.

How systematic and efficient is the KTP listing process?

Limited coverage of major threats

We cannot save species and ecological communities without abating the major causes of decline. But there are no KTP listings for inappropriate fire regimes, altered hydrological regimes or grazing; the land clearing KTP has no TAP; and the majority of invasive species threats are encompassed within the 'novel biota' KTP, a moribund listing that lacks a TAP. This means the KTP/TAP system is not applied for most major threats to biodiversity and only partially for invasive species (now the leading threat according to a soon-to-published study).

Another limitation of the listing process is that it does not recognise threats to other 'matters of national environmental significance' protected under the EPBC Act, including migratory species, Ramsar wetlands and world heritage areas.

Stymied listing of invasive species

For the past 6 years at least, there has been a refusal to assess invasive species KTP nominations or list any more invasive KTPs. The main reason given in 6 cases is that invasive species threats are encompassed within a catch-all 'novel biota' KTP (listed in 2013). In a 7th case, the environment minister refused to list the KTP, contrary to advice by the Threatened Species Scientific Committee.

Encompassing invasive species threats in the novel biota KTP would be acceptable if it led to coordinated action to address the threats of high priority invasive species. But this has not occurred. Stymieing further invasive species listings appears to be a deliberate strategy to limit funding demands because there is far too little funding for abating the already-listed KTPs.

Slow, tedious and ad hoc KTP listing processes

The listing of KTPs is mostly ad hoc, relying on public nominations and ministerial prerogative, and the assessment processes are slow and tedious. The 3 KTP listings of the past decade (excluding the novel biota KTP nominated by the scientific committee) have taken 3–4 years from nomination to listing. Two rejected nominations took 5 and 7 years to complete, and one nomination still under assessment is more than 10 years old.

The rate of KTP listings and development of TAPs has greatly slowed in recent years. Six KTPs were listed prior to 2000 (carried over from the previous law) and 12 were listed during the first decade of the EPBC Act (2000-2009). Since then (2010-2018), there have been just 3 KTP listings. No KTP nomination since 2011 has even been assessed. The environment minister can ignore advice from the Threatened Species Scientific Committee about which nominations should be assessed.

How effective is threat abatement through TAPs?

Moribund KTP listings

Almost a third (6) of listed KTPs have no TAP – due to the environment minister deeming that a TAP is not 'a feasible, effective or efficient way' to abate the threat. This could be acceptable if there were already effective processes for abating those threats (as verified by monitoring). But this is mostly not the case. The threat level for KTPs without TAPS – particularly land clearing, climate change, escaped garden plants, noisy miners and novel biota – are all likely to have increased since their listings. There is no requirement to show that alternative abatement processes are effective, to monitor abatement progress, or to initiate action if existing processes prove ineffective.

Limited abatement progress

Due to a lack of monitoring and regular reporting, the only feasible way of assessing the effectiveness of most threat abatement efforts is through the 5-yearly reviews of TAPs required under the EPBC Act. But only half the KTPs can be assessed in this way: 6 KTPs lack a TAP and 4 TAPs have not been reviewed despite being overdue by 1–4 years for review (or their reviews have not been made publicly available).

Eleven TAPs (52%) have been reviewed at least once, although only 3 by independent reviewers. Those reviews indicate that good progress was achieved for 4 TAPs, moderate progress for 4 TAPs and poor progress for 3 TAPs. One KTP for which moderate progress was reported, feral cats, has recently been subject to improved abatement effort. Overall, fewer than half of KTP listings have resulted in moderate to good progress on threat abatement.

Nonetheless, the examples of good abatement progress demonstrate that major threats to Australian biodiversity are surmountable. We do not know what distinguishes the effective TAPs, for no analysis has been done to determine the elements of success, and the TAP may not have been the main driver of abatement effort in all cases.

Slow TAP processes

TAP development is very slow. It has taken an average 4 years to prepare or revise TAPs for the 9 KTPs listed since 2001 that have a TAP. Most TAPs are reviewed within 5–6 years, but then it often takes several years for TAPs to be revised after a review. It took 8 years in the case of the root-rot fungus KTP, and 5 years after a ministerial decision to revise the fox TAP, the plan has still not been updated. Of 15 existing TAPs, 60% (9) are more than 6 years old and 27% (4) are 10 years old. This means that only about one-third of KTPs have an up-to-date TAP.

Limited obligations and accountability

Although the Australian Government has international obligations to abate threats to biodiversity, there is no obligation under the EPBC Act to list the major threats or act on them. The environment minister has complete discretion about whether to accept the advice of the Threatened Species Scientific Committee to assess a KTP nomination, list a KTP or prepare a TAP. The minister can also delay decisions for years and starve the assessment processes of funding. This means our national system for recognising and abating threats is highly vulnerable to political interference. The same vulnerability applies to the listing of threatened species and ecological communities and preparation of recovery plans.

Moreover, KTP listings come obligation free. Even if the minister decides that a TAP should be prepared, the EPBC Act obliges the federal government to do little to implement it, apart from in Commonwealth areas. A KTP listing or TAP also does not generate any obligations for other governments, landholders or anyone whose actions may exacerbate the KTP. There are no requirements for the federal government to monitor or report on KTP status. The one reporting obligation is the 5-year review of each TAP, but with no requirement for this review to be independent.

Limited leadership, commitment and funding

Although the federal government is limited in the extent to which it can compel other governments or individuals to undertake threat abatement, it can apply considerable pressure through strong leadership, incentives and funding for abatement, and use of its own laws to partially compensate for state or territory failings. These have been largely missing in KTP/TAP processes. Abating KTPs has been a low federal government priority.

The government unit responsible for administering KTPs and TAPs should be a well-funded, central hub of activity. Instead, as is evident in the slowness of its processes, it is small and threadbare.

Leadership has improved to some extent with the appointment of a Threatened Species Commissioner as a champion for threatened species and facilitator of partnerships. This has generated considerable focus on the feral cat KTP (and a modest level of additional funding for abating that threat) and a small proportion of threatened species.

There is no information about how much Australia spends on abatement (from government and non-government sources), and there has never been an estimate of how much is needed to properly implement abatement plans. However, it is clear from the limited progress that the gap between available funding and funding needed for implementing TAPs is large.

Changes needed

The fundamentals of the current KTP/TAP model seem sound – that major threats should be listed nationally and that, under federal leadership, a listing should then catalyse a plan and collaborative action to abate the threat. And as demonstrated by some successful TAPs, the current model can work well. The major missing element in the current system appears to be a commitment by the federal government to achieve threat abatement.

As with many other environmental problems requiring federal leadership and funding, it will be difficult to achieve reform in the current political environment. Beyond the work of analysis and advocacy, the conservation sector has much more to do, socially and culturally, so that the decline of Australian species and ecological communities becomes of major national consternation. Extinctions must become anathema to most Australians.

Make threat abatement a high national priority

An essential first step is greater recognition that an effective KTP/TAP system is essential for arresting loss of Australia's biodiversity, and that developing solutions for major threats is typically more effective and more cost-effective than a species-by-species approach, and also benefits myriad other, often poorly known, species at risk from KTPs.

To drive reform of the KTP/TAP system, Australia needs an ambitious (but realistic) conservation strategy that specifies long-term goals for threat abatement. That ambition needs to be then reflected in each of the TAPs.

Enlisting commitment from state and territory governments is essential. The federal government should pursue an intergovernmental agreement with the states and territories to achieve long-term abatement goals for recovery of threatened species and ecological communities.

Such commitment is likely to come only if there is substantial public pressure on governments. As part of a broader effort to elevate conservation as a national priority, we need a social change strategy and involvement of community groups in planning for and contributing to threat abatement and monitoring.

Strengthen governance and accountability

The assessing and listing of KTPs and preparation of TAPs should be free of political influence and not subject to ministerial discretion. We endorse the recommendation by the Places You Love Alliance for an independent National Sustainability Commission to undertake such functions. It is also worth considering co-governance models, such as exemplified by the industry-government partnerships, Animal Health Australia and Plant Health Australia.

More meaningful, independent and regular reporting is needed. The five-yearly TAP reviews are important and, for the sake of credibility and rigour, should be done by expert reviewers independent of government. An annual progress report (based on meaningful abatement indicators) should be presented to the federal parliament. This needs to be underpinned by monitoring of threatening processes and the species and ecological communities at risk.

Systematically list KTPs for all matters of national environmental significance

The KTP list under the EPBC Act should be the authoritative list of major threats to Australian biodiversity. The listing process needs to be more systematic to properly reflect the major threats. A systematic expert process can be supplemented by a public nomination process to fill gaps and keep the KTP list up to date.

Australia's KTP list should be scientifically determined. As with similar processes at the state level, the decision to assess and list a KTP should emerge wholly from an independent scientific process.

The KTP list should expand to recognise threats to other 'matters of national environmental significance' protected under the EPBC Act, including migratory species, Ramsar wetlands and world heritage areas. The list should also more adequately encompass emerging threats (as exemplified by the listing of red imported fire ants as a KTP) to stimulate early cost-effective action before they become entrenched threats.

Strengthen obligations for abatement

For each KTP, it should be mandatory to prepare a TAP (or equivalent) to specify long-term abatement goals and shorter-term targets, the research and actions needed to achieve them and a monitoring regime. A TAP should serve as a national statement of what is needed to achieve abatement and as the basis for monitoring and reporting on the status of the KTP and abatement progress. A TAP should be required even where abatement can best be achieved through existing processes or relies on processes beyond the control or influence of the federal government. This ensures that the federal government takes responsibility under the EPBC Act for specifying the desired conservation direction and monitoring progress.

Federal leadership is needed to encourage commitment by all states and territories to implement TAPs. As with other national priorities, this requires intergovernmental agreements, attractive funding arrangements and good negotiation skills.

If state and territory governments fail to participate in implementing TAPs, the federal government should be obliged to consider options for over-riding or compensatory measures, such as using its own laws to limit land clearing or regulate trade in invasive plants.

Obligations should extend to individuals and corporations. All Australians are bound by the EPBC Act to avoid having a significant impact on matters of national environmental significance. They should also be bound to avoid actions likely to significantly exacerbate a KTP.

Commit to long-term funding to achieve abatement targets

A government demonstrates it is serious about mitigating harms when it is prepared to fund the necessary actions. Highly inadequate funding is currently a major impediment to abating most KTPs. To assess funding needs, each TAP should include an estimate of costs to achieve 10–20-year targets. New funding sources such as levies and taxes should be considered to provide long-term base funding for implementing TAPs.

1. Introduction

1.1 The importance of KTPs and TAPs

Australia's national processes to protect and recover threatened biodiversity are failing. Most criticisms have been directed at failures under the *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act) to develop and implement recovery plans for threatened species and to protect their habitats (1–3).

Equally important but receiving less attention are processes under the EPBC Act for mitigating major threats – listing key threatening processes (KTPs) and preparing and implementing threat abatement plans (TAPs).

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' (4). KTP listings are intended to identify major threats to biodiversity and, through a TAP or other processes, drive collaborative national action to mitigate those threats. Currently, 21 KTPs are listed under the EPBC Act (Table 1). Collectively, these KTPs imperil thousands of threatened species and ecological communities.

There are great conservation benefits in a strong focus on KTPs. Most threatened species have threats in common, and relatively few threats cause most declines – for example, cats and foxes are the major threat to mammals (5); chytrid fungus and habitat loss to frogs (6, 7); rodents and cats to island birds and habitat loss to woodland birds (7–10), and habitat loss, invasive species and inappropriate fire regimes to plants (7) – so abating these threats would help recover large numbers of species.

Although abatement is often difficult and expensive, it is well worth it for the conservation gains and the money and effort saved in the long term. Investing in enduring abatement solutions – for example, better control techniques for invasive species or stricter regulation to protect habitat – is usually far less expensive over the long term than species-by-species efforts. It is also cost effective to abate emerging threats, before they become entrenched.

In this paper we critique the KTP/TAP process, asking the following questions:

How systematic and efficient is the process for listing KTPs?

- Are the major threats listed as KTPs?
- How comprehensively are invasive species covered?
- How efficient are listing processes?

How effective is threat abatement through the KTP/TAP processes?

- What progress has been achieved through TAPs?
- How efficient are TAP processes (development, reviews, revisions)?
- How well do TAPs oblige or facilitate implementation?
- Is there strong federal leadership, commitment and accountability?
- How adequate is funding for TAP implementation?

What needs to change?

- What changes are needed to address current deficiencies?

1.2 An invitation to respond

Our aim with this discussion paper is to stimulate discussion within the environment sector (government and non-government) about the changes needed to strengthen Australia's threat abatement processes. We invite feedback and ideas. We hope to hold a workshop in 2018 to develop a conservation sector proposal for reform.

Table 1. Current listed key threatening processes

Key threatening process[A]	Abbreviated KTP	Year listed	Listed spp/ECs impacted[B]
Competition and land degradation by rabbits	Rabbits	2000	>300
Competition and land degradation by unmanaged goats	Feral goats	2000	56
Dieback caused by the root-rot fungus (*Phytophthora cinnamomi*)	Root-rot fungus	2000	144
Incidental catch (or bycatch) of seabirds during oceanic longline fishing operations	Longline fishing	2000	18
Predation by European red fox	Foxes	2000	74
Predation by feral cats	Feral cats	2000	>150
Incidental catch (bycatch) of sea turtles during coastal otter-trawling operations within Australian waters north of 28 degrees south	Otter trawling	2001	3
Land clearance	Land clearing	2001	Not stated
Loss of climatic habitat caused by anthropogenic emissions of greenhouse gases	Climate change	2001	Not stated
Predation, habitat degradation, competition and disease transmission by feral pigs	Feral pigs	2001	159
Psittacine circoviral (beak and feather) disease affecting endangered psittacine species	Beak & feather disease	2001	16 (11)
Infection of amphibians with chytrid fungus resulting in chytridiomycosis	Chytrid fungus	2002	27
Injury and fatality to vertebrate marine life caused by ingestion of, or entanglement in, harmful marine debris	Marine debris	2003	20
The reduction in the biodiversity of Australian native fauna and flora due to the red imported fire ant, *Solenopsis invicta*	Red fire ants	2003	Not stated
Loss of biodiversity and ecosystem integrity following invasion by the yellow crazy ant (*Anoplolepis gracilipes*) on Christmas Island, Indian Ocean	Yellow crazy ants, Christmas Island	2005	10+
The biological effects, including lethal toxic ingestion, caused by cane toads (*Bufo marinus*)	Cane toads	2005	Not stated
Predation by exotic rats on Australian offshore islands of less than 1000 km^2 (100,000 ha)	Exotic rats on islands	2006	Not stated (~20 extinctions)
Invasion of northern Australia by gamba grass and other introduced grasses	Invasive grasses, north Australia	2009	28
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	Escaped garden plants	2010	7[B]
Novel biota and their impact on biodiversity	Novel biota	2013	Not stated
Aggressive exclusion of birds from potential woodland and forest habitat by over-abundant noisy miners (*Manorina melanocephala*)	Noisy miners	2014	>11

Notes: Ordered per year of listing. Pink highlight = invasive species KTPs. **A.** The list of KTPs is at (12). **B.** This is the number of threatened species (spp.) and ecological communities (ECs) mentioned in the TAP, background information or listing advice. The numbers are often not comprehensive (e.g. the threatened spp/ECs impacted by escaped garden plants is considerably higher than the 7 exemplified in the listing advice) and they do not include non-listed species that are also impacted. The novel biota and land clearance KTPs each threaten several thousand listed species and ecological communities (7, 13).

1.3 Invasive species as KTPs

We focus in particular on invasive species, which make up two-thirds of listed KTPs (highlighted in pink, Table 1) and for which TAP processes are particularly important ways of abating threats. Invasive species have been the major cause of animal extinctions in Australia and currently imperil more nationally threatened species than any other type of threat (9, 13). Invasive threats are growing, as acknowledged in the guidelines for the novel biota KTP (prepared by the Threatened Species Scientific Committee): 'Despite a wide range of legislation, plans, strategies and initiatives, the impacts of novel biota on Australian ecosystems are increasing' (14).

A KTP/TAP type process is often the only effective way to address invasive species threats – it is mostly impractical to abate them through legislation, and developing effective abatement methods often requires research and a dedicated long-term focus. Abatement is often ecologically, technically and socially complex, and needs to involve several jurisdictions and sectors. As we told the senate inquiry into the 'Effectiveness of threatened species and ecological communities' protection in Australia' (referred to hereon as the 'threatened species senate inquiry'):

> The only way of addressing a lot of these threats is to do what threat abatement planning is meant to do, which is to bring together the players, agree on a plan, identify the priorities and then start implementing the actions that are needed to address these threats. (15)

Most of the responsibility for managing invasive species that threaten biodiversity rests with state and territory governments and private landholders. We particularly need federal leadership for invasive species threats that are poorly addressed by the states and territories. The Invasive Species Council nominated two KTPs involving invasive species threats being exacerbated by the actions of some state governments – tall wheat grass through being promoted as a pasture grass and feral deer by laws and policies protecting them for hunters (see Table 2 and section 2.2).

2. How systematic and efficient is the KTP listing process?

2.1 Limited coverage of major threats

A study soon to be published has found that invasive species threaten 82% of nationally listed threatened species (13). Other major threats are ecosystem modification, mainly due to changed fire regimes and hydrological regimes (74% of listed species) and agricultural activity (57%). A 2011 analysis using different categories found that habitat loss threatens about 80% of listed species and invasive species and disease about 75% (7). We cannot save species without dealing with these major threats. Yet there are no KTP listings for inappropriate fire regimes or hydrological regimes, or grazing, and land clearing is a listed KTP but has no TAP. And although 14 KTPs are invasive species, a large number of major invasive threats are not listed as individual KTPs, but are instead lumped within the 'novel biota' KTP, a moribund listing without a TAP. This means the KTP/TAP system is not applied for several major threats to biodiversity (habitat loss, changed fire and hydrological regimes, grazing) and only partially for the leading threat (invasive species).

Another limitation of the listing process is that it does not recognise threats to other 'matters of national environmental significance' under the EPBC Act, including migratory species, Ramsar wetlands and world heritage areas.

2.2 Stymied listing of invasive species

Although invasive species make up two-thirds of listed KTPs, the current listings of individual species (e.g. feral pigs) or species groups (e.g. escaped garden plants) are far from comprehensive of major invasive threats. But for the past 6 years at least, there has been a refusal to assess invasive species KTP nominations or list any more invasive KTPs. The main reason given in 6 cases (Table 2) is that invasive threats are encompassed within the catch-all novel biota KTP, listed in 2013. In a 7th case, the environment minister refused to list the KTP, contrary to advice by the Threatened Species Scientific Committee, with no reason given.

The novel biota listing covers 6 categories of invasive species – vertebrates, invertebrates, terrestrial plants, aquatic plants and algae, marine organisms and pathogens. Encompassing such a multitude of invasive species in one listing would be acceptable if it led to action to abate the highest priority threats. The threatened species senate inquiry (2013) said it hoped the novel biota listing would lead to 'a more strategic approach to improve management and control of invasive species, and … result in the development of an integrated planning framework to respond to invasive species' (15). This has not occurred.

There are no novel biota TAPs, and the only action apparently catalysed by the listing has been publication of a few fact sheets (16). The listing document acknowledges that the purpose of the listing is mainly for information: 'to recognise the threat that all novel biota pose to the Australian environment and to highlight the vast array of different novel biota and the threats they pose'. Even though the KTP listing document says it is 'anticipated individual novel biota KTPs will continue to be listed as stand-alone KTPs', the main effect of the listing has been to stymie further invasive species listings (Table 2). This appears to be a deliberate strategy to limit funding demands because there is far too little funding for abating the already-listed KTPs (see section 3.4). The guidelines for the novel biota listing state that the list of invasive species KTPs 'has grown so large that individual evaluations could divert the Government's attention and resources for many years' (14).

There have also been refusals to assess KTP nominations for other types of threats, including altered hydrological regimes and the loss or removal of dingos from Australian landscapes (17).

Table 2 Invasive species KTP nominations not assessed, or rejected, since 2008

KTP nominated	Spp/ECs threatened[A]	Reason[B]
Ecosystem degradation, habitat loss and species decline due to invasion in southern Australia by introduced tall wheat grass (*Lophopyrum ponticum*) (18)	28	Not assessed due to the novel biota KTP
Ecosystem degradation, habitat loss and species decline in arid and semi-arid Australia due to the invasion of buffel grass (*Cenchrus ciliaris* and *C. pennisetiformis*) (19)	29	Not assessed due to the novel biota KTP
Herbivory and habitat degradation by feral deer (20)	18	Not assessed due to the novel biota KTP
Introduction, establishment, and spread of, and infection by, exotic rust fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae (21)	Several[C]	Not assessed due to the novel biota KTP
Loss of habitat and native flora due to expansion of the weed lippia (*Phyla canescens*) (22)	42	Not assessed due to the novel biota KTP
The invasion, establishment and spread of *Lantana camara* impacts negatively on native biodiversity including many EPBC listed species and communities (23)		Not assessed due to the novel biota KTP
Introduction in Australian inland waters of native or non-native fish that are outside their natural geographic distribution (24).	9	Rejected by ministerial prerogative

Notes: **A.** This is the number of threatened species (spp) and ecological communities (ECs) for which evidence is provided in the KTP nomination or, for the rejected nomination, the number accepted by the Threatened Species Scientific Committee. **B.** The reasons for not assessing nominations are provided at (17). The ministerial rejection of the non-native fish nomination is noted at (24); no reasons were provided. **C.** The extent of the threat is not clear yet because myrtle rust was first detected in Australia only in 2010.

2.3 Slow, tedious and ad hoc KTP listing processes

Although the Threatened Species Scientific Committee can nominate KTPs itself (as it did for the novel biota listing), the listing of KTPs is mostly ad hoc, relying on public nominations and ministerial prerogative.

The assessment processes are slow and tedious. The 3 KTP listings of the past decade (excluding the novel biota KTP) have each taken 3–4 years from nomination to listing (Table 3). Two rejected nominations took 5 and 7 years to assess. One still under assessment – fire regimes that cause biodiversity loss – was nominated more than 10 years ago. It should be an obvious KTP listing, for inappropriate fire regimes is recognised as one of the leading threats to threatened biodiversity (7, 13).

Several KTP nominations have never been assessed because they have not made it onto the annual assessment priority list. This has been the case for 6 invasive species nominations (as discussed in section 2.2) and for others including one on the impacts of dingo loss and removal and one on altered flow regimes of watercourses (25). The environment minister has discretion over which nominations are assessed (25, 26).

The rate of KTP listings (and the development of TAPs) has greatly slowed in recent years (Figure 1). Six KTPs were listed prior to 2000, carried over from the previous national law, the *Endangered Species Protection Act 1992*. Each of them has a TAP (although not all are up-to-date). During the first decade of the EPBC Act (2000-2009), 12 KTPs were listed, 9 of which have a TAP (not all are up-to-date). Since then (2010-2018), there have been just 3 KTP listings, none of which has a TAP. The most recent KTP nomination to be assessed was made in 2011 (Table 3).

Table 3 Time from KTP nomination to listing or rejection

KTP	Year nominated[A]	Year listed/ rejected	Years taken to list/reject
Invasive grasses, northern Australia	2006	Listed 2009	3
Introduction in Australian inland waters of native or non-native fish that are outside their natural geographic distribution	2006	Rejected 2011	5
Escaped garden plants	2006(?)	Listed 2010	4
Biodiversity decline and habitat degradation in the arid and semi-arid Australian rangelands due to the proliferation, placement and management of artificial watering points	2007	Rejected 2014	7
Fire regimes that cause biodiversity decline	2007	Not complete	>10
Noisy miners	2011	Listed 2014	3

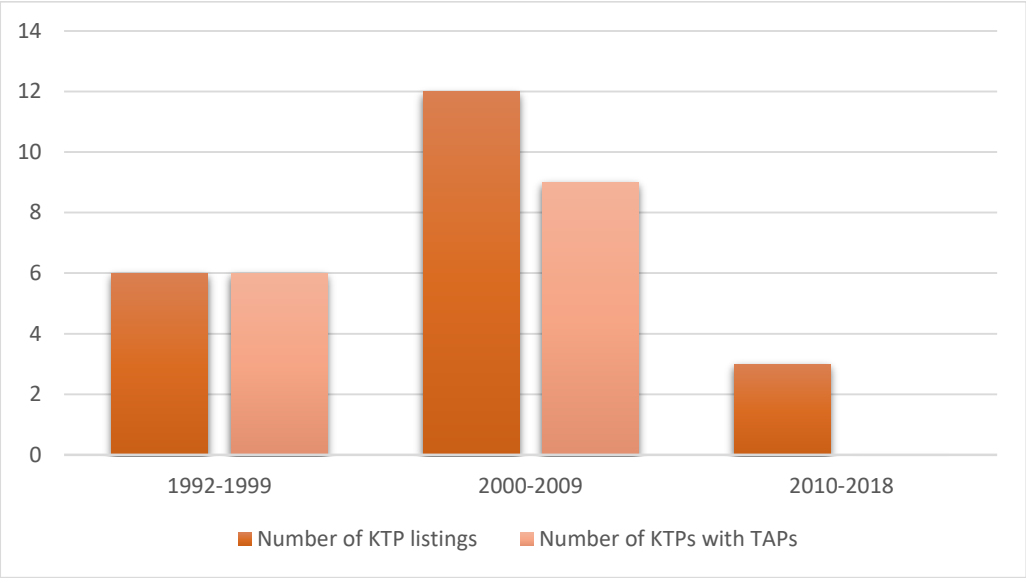
Notes: A. Information about the year of nomination was mostly gleaned from the annual 'finalised priority assessment lists' available at (26). These are the lists of nominated species, ecological communities and key threatening processes approved for assessment by the environment minister each assessment year.

Table 4 Listed KTPs and the status of TAPs

KTP	Year listed	Year of TAP[A]	Latest (publicly available) review[B]
Rabbits	2000	1999/2008/2016	2013
Feral goats	2000	1999/2008	2005
Root-rot fungus	2000	2001/2014	2006
Longline fishing	2000	1998/2006/2014	2011
Foxes	2000	1999/2008[C]	2013
Feral cats	2000	1999/2008/2015	2014
Otter trawling	2001	X	
Land clearing	2001	X	
Climate change	2001	X	
Feral pigs	2001	2005/2017	2011
Beak & feather disease	2001	2005	2012
Chytrid fungus	2002	2006/2016	2012
Marine debris	2003	2009	X
Red fire ants	2003	2006[C]	2012
Yellow crazy ants, Christmas Island	2005	2006[C]	2012
Cane toads	2005	2011	X
Exotic rodents on islands	2006	2009[C]	2015
Invasive grasses, northern Australia	2009	2012	X
Escaped garden plants	2010	X	
Novel biota	2013	X	
Noisy miners	2014	X	

Notes: **A**. Dark grey highlight = no TAP; light grey = out of date TAP or no review. Pink = current TAP (published within the past 5 years or reviewed within the past 5 years and found to be still relevant). **B**. Additional TAPs may have been reviewed but the review not released. **C**. A draft root-rot fungus TAP (intended to replace the 2014 TAP) was released for consultation in 2017 (27). The environment minister decided in 2013 that the foxes TAP would be revised, but a new TAP has not yet been published. The environment minister decided in 2013 that the tramp ant TAP would not be revised; instead threat abatement advice would be developed to supplement it. This is apparently still in preparation. The environment minister decided in 2016 that the exotic rodents TAP would be revised, but a new TAP has not yet been published.

Figure 1. KTP listings – per time period, with TAPs



The nomination process is demanding. Two nominations not assessed due to the novel biota listing were prepared by the Invasive Species Council (tall wheat grass and feral deer, see Table 2). Each nomination took several weeks of volunteer effort, but was rejected (not assessed) for no legally valid reason – a waste of scarce resources and disrespectful of those who prepare nominations (mostly environmental NGOs and researchers). As a result, the Invasive Species Council no longer prepares KTP nominations. However, there is no equivalent alternative process by which to catalyse national collaborative action on major invasive threats.

How effective is threat abatement through TAPs?

3.1 Moribund KTP listings

The EPBC Act specifies that a threat abatement plan must, among other things:

- state the objectives to be achieved, the actions to achieve these objectives and the criteria against which the objectives are to be measured
- provide for research, management and other actions necessary to reduce the KTP to an acceptable level in order to maximise the chances of the long-term survival in nature of native species and ecological communities affected.

This seems like a logical first step to address major threats. After all, how can you abate a KTP without a plan?

Almost a third (6) of listed KTPs have no TAP (highlighted in dark grey, Table 4) – due to the environment minister deeming that a TAP is not 'a feasible, effective or efficient way' to abate the threat (usually on the advice of the Threatened Species Scientific Committee). This could be acceptable if there were already effective processes for abating those threats (as verified by monitoring). But this is mostly not the case. The threat level for at least 5 KTPs without TAPS –land clearing, climate change, escaped garden plants, noisy miners and novel biota – are likely to have increased since their listing (although insufficient monitoring makes it hard to be definitive) and the federal government has not instituted effective processes for abatement or demonstrated strong leadership to promote abatement action by the state and territory governments.

In the case of the escaped garden plants KTP, listed in 2010, the minister claimed there was no need for a TAP due to existing arrangements for preventing new weeds and managing emerging and established weeds (28). But the minister is not required to show that these other processes are effective, to monitor abatement progress, or to initiate action if existing processes prove ineffective. The federal government largely washes its hands of issues such as weed management that it can leave to the states. The sale of dozens of highly invasive nursery plants is still permitted in most states and territories (e.g. 29). Abatement of the weed threat has been substantially undermined by the decision of the federal government to stop funding the Cooperative Research Centre for Australian Weed Management (in 2008) and the Weeds of National Significance program. In 2016 a research and development strategy for environmental biosecurity was finalised (30), but with no extra funding for implementation and no body assigned to coordinate implementation. The federal government is failing to provide the processes, resources and leadership needed to abate the threat of escaped garden plants.

Some KTPs lacking TAPs have 'threat abatement advices' or guidelines instead, which are non-statutory documents prepared by the environment department 'to provide guidance … on activities and research needed to abate the threat' (31). There are currently 4 advices and 1 guideline, all except one on invasive species. The move to advices was recommended in the 10-year review of the EPBC Act as a way of providing early guidance for recovery and regional planning and other decisions under the EPBC Act (32). While an abatement advice or guideline can provide useful information, it is no substitute for a TAP in setting a direction, catalysing national collaboration and providing a basis for reviewing abatement progress. For KTPs without a TAP, the federal government does nothing under KTP/TAP processes to monitor or report on the threat or abatement efforts.

3.2 Limited abatement progress

Due to a lack of monitoring and regular reporting, the only feasible way of assessing the effectiveness of most threat abatement efforts is through the 5-yearly reviews of TAPs required under the EPBC Act. But only half of the KTPs can be assessed in this way: 6 KTPs (29%) lack a TAP and 4 TAPs (19% of KTPs) have not been reviewed (to the best of our knowledge) despite being overdue by 1–4 years for their 5-yearly review (Table 4). Eleven TAPs (52%) have been reviewed at least once, although only 4 in the past 5 years and only 3 by independent reviewers.

Our conclusions drawn from the 11 reviews are summarised in Table 5 and Figure 2. Good progress was reported for 4 TAPs (27% of TAPs, 19% of KTPs), moderate progress for 4 TAPs (27% of TAPs, 19% of KTPs) and poor progress for 3 TAPs (14% of KTPs, 20% of TAPs). One KTP for which moderate progress was reported, feral cats, has recently been subject to a more concerted abatement effort, resulting in much better progress (see section 3.5). But, overall, less than 40% of KTP listings have resulted in moderate to good progress on threat abatement.

Nonetheless, the examples of good abatement progress demonstrate that major threats to Australian biodiversity are surmountable. What distinguishes the effective TAPs? No review has been conducted to determine the elements of success and the TAP may not have been the main driver of abatement effort in all cases. Obvious factors include leadership, adequate funding and a working group responsible for implementation.

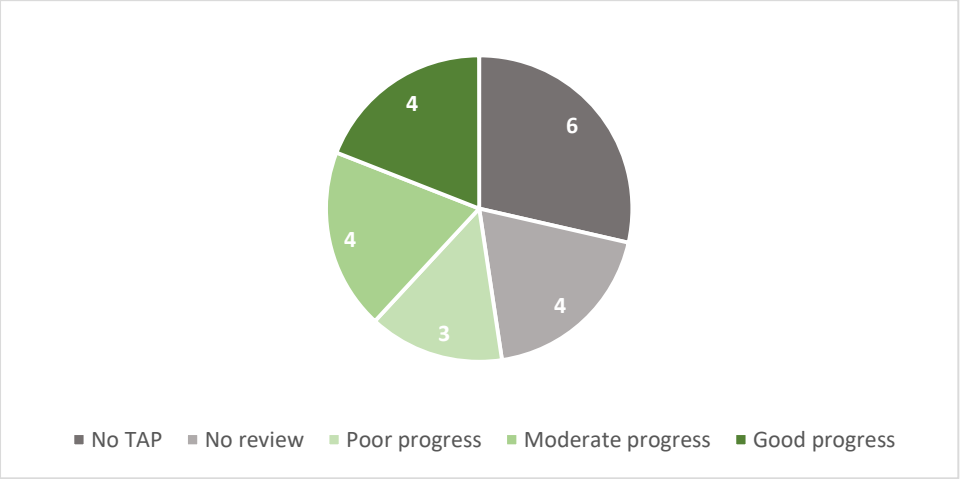
Table 5 Effectiveness of TAPs

KTP	Latest review available[A]	Review findings	Conclusion
Longline fishing	2011 Reviewer unknown[B]	Considerable progress has been made under successive TAPs due to the 'fishing industry, researchers and non-governmental stakeholders working with government … in a feasible, effective and efficient way'.	Good progress
Red imported fire ants	2012 Independent review (33)	'Reasonable progress' against goals, objectives and a number of the actions. This species is subject to national eradication co-funded by federal, state and territory governments.	Good progress
Yellow crazy ants, Christmas Island	2012 Independent review (33)	'Reasonable progress' against goals, objectives and a number of actions (for 6 species). Crazy ants intensively managed on Christmas Island. Addendum: In 2017 a biological control agent was released.[C]	Good progress
Exotic rodents, islands	2015 Government review (34)	Significant advances in eradication & management techniques. Improved information base. Network established, symposiums. Eradications on 3 islands, including Macquarie. Improved capacity for sustained control on priority islands. Biosecurity plans for 2 islands. Limited public promotion. Inconsistent knowledge collection. A number of priority islands still impacted.	Good progress
Feral cats	2014 Government review (35)	Goal of minimising impacts not met. Significant advances in research and control techniques. Island eradications – 1 complete, 3 in progress. Some fenced sanctuaries. New baits. Improved monitoring. Public awareness growing. But land managers still limited in their ability to control cats. Lack of resources for control. Addendum: Since 2015 there has been a greatly strengthened commitment to abatement.[C]	Moderate progress Good progress since 2015

Red foxes	2013 Government review (36)	Except in small areas, goal of abating impacts on biodiversity not met. Asset protection approach widely adopted. Some predator-proof sanctuaries built. Eradication on some islands (program in Tasmania). Improved diagnostics. Some cross-tenure control programs. Better ecological understanding. Improved techniques for monitoring and control. But still much to be done.	Moderate progress
Rabbits	2013 Government review (37)	Progress includes rabbit eradications on several islands & better knowledge of impacts. But control programs have often been ad hoc, lacked strategic prioritisation, and were rarely initiated for threatened species or ecological community recovery (drivers are usually agricultural or social). New strains of RHD identified. Addendum: A new strain of RHD has been released. [C]	Moderate progress
Feral pigs	2011 Government review (38)	Improved tools: guidance to land managers on control, nationally consistent monitoring, updated mapping, 2 new baits. Some federally funded control programs. But impacts in high biodiversity sites not accurately monitored. Few effective, wide-scale programs. Poor public recognition of problem. Limited knowledge of numbers that need controlling to abate threat in particular sites.	Moderate progress
Root-rot fungus	2006 Independent review (39)	TAP lacked timelines, budget and did not identify responsible parties. Objectives not easily measurable. Implementation team not established. Ad hoc, short-term funding precludes a strategic approach to determine and abate the threat. Little improvement in management, continued spread.	Poor progress
Chytrid fungus	2012 Government review (40)	Some progress: national map, historical surveys reliable diagnostic protocols, biology investigated, captive breeding programs, national chytrid working group established. But the two TAP goals have largely not been achieved. Critical gaps in knowledge. Most research work not govt funded. No national coordinated surveillance. Of 68 actions, 8 were completed and 39 were partially completed.	Poor progress
Beak & feather disease	2012 Government review (41)	Working group established. Improved coordination. Dedicated funding needed to establish a good system to capture and disseminate information. Hygiene and disinfection protocols developed. Some research, but gaps in knowledge remain. Exploring potential for vaccine. No surveillance of wild birds due to cost. Of 26 actions, 12 completed, 7 partially completed. But the 2 TAP goals were not met – risks have not diminished.	Poor progress
Marine debris	Effectiveness unknown – no review of 2009 TAP found		
Invasive grasses, northern Australia	Effectiveness unknown – no review of 2012 TAP found		
Feral goats	Effectiveness unknown – no review of 2008 TAP found		
Cane toads	Effectiveness unknown – no review of 2011 TAP found		
Noisy miners	No TAP		
Escaped garden plants	No TAP		
Climate change	No TAP		
Novel biota	No TAP		
Otter-trawling	No TAP		
Land clearing	No TAP		

Notes: **A.** Some TAPs may have been reviewed without the review being published or the TAP revised. All reviews should be made publicly available. **B.** We have not been able to find the review of the longline fishing TAP, so have taken on face value the comment in the latest TAP about the success of previous TAPs. **C.** For a few TAPs we have added an addendum to the review findings column to note recent abatement progress.

Figure 2 Effectiveness of KTP listings for threat abatement



3.3 Slow TAP processes

TAP development is very slow. It has taken an average 4 years to prepare or revise TAPs for the 9 KTPs listed since 2001 (after the EPBC Act came into force) that have a TAP (Table 6).

Most TAPs are reviewed within 5–6 years, but then it often takes several years for TAPs to be revised after a review. It took 8 years in the case of the root-rot fungus KTP (Table 4). The environment minister decided in 2013 that the foxes TAP would be revised, but 5 years later a new TAP has not yet been published.

Of 15 existing TAPs, 60% (9) are more than 6 years old; 27% (4) are 10 years old (light grey highlights, Table 4). We assume the major impediments to more efficient TAP development and revision are too little funding and too few departmental staff. Consultation with state and territory governments is also often time consuming.

Table 6. TAP timeframes for KTPs listed since 2001

KTP	Listing	TAP	Review	Time to TAP[A]
Feral pigs	2001	2005/2017	2011	4/6
Beak & feather disease	2001	2005	2012	4
Chytrid fungus	2002	2006/2016	2012	4/4
Marine debris	2003	2009	X	6
Red fire ants	2003	2006[B]	2012	3
Yellow crazy ants, Christmas Island	2005	2006[B]	2012	1
Cane toads	2005	2011	X	6
Exotic rodents on islands	2006	2009[B]	2015	3
Invasive grasses, northern Australia	2009	2012	X	3

Notes: **A**. 'Time to TAP' is the number of years from the listing until the release of the TAP and then (for 2 KTPs) the number of years from a TAP review until the release of a new TAP. **B.** The environment minister decided in 2013 that the tramp ants TAP (which covers red fire ants and yellow crazy ants KTPs) would not be revised; instead threat abatement advice be developed to supplement the existing TAP. Five years later, this has not yet been published. In 2016 the environment minister decided that the exotic rodents on islands TAP would be revised, but this apparently is still in preparation.

3.4 Limited obligations and accountability

Although the Australian Government has international obligations to abate threats to biodiversity, there is no obligation under the EPBC Act to list the major threats or act on them. The environment minister has complete discretion about whether to accept the advice of the Threatened Species Scientific Committee to assess a KTP nomination, list a KTP or prepare a TAP. The minister can also delay decisions for years and starve the assessment processes of funding. This means our national system for recognising and abating threats is highly vulnerable to political interference. The same vulnerability applies to the processes for listing threatened species and ecological communities and preparing recovery plans.

Moreover, KTP listings come mostly obligation free. In addition to the ministerial discretion about whether to prepare a TAP, the EPBC Act obliges the federal government to do little to implement a TAP. As explained in most TAPs:

> Under the EPBC Act, the Australian Government develops TAPs and facilitates their implementation. The EPBC Act requires the Australian Government to implement TAPs to the extent to which they apply in areas under Australian Government control and responsibility. In addition, Australian Government agencies must not take any actions that contravene a TAP. Where a TAP applies outside Australian Government areas in states or territories, the Australian Government must seek the cooperation of the affected jurisdictions, with a view to jointly implementing the TAP.

A KTP listing also does not generate any obligations for other governments, landholders or anyone whose actions may exacerbate the KTP. The government emphasises in public information that KTP listings are mostly obligation-free (42):

- Listing a key threatening process does not regulate or prevent actions undertaken by the states, territories or individual property managers.
- Listing a key threatening process does not regulate or prevent actions undertaken by property managers.
- Key threatening processes do not trigger the EPBC Act (key threatening processes are not matters of National Environmental Significance under the EPBC Act).
- Listing a key threatening process does not cause any change to property practices.

An essential element for effective threat abatement is a working group with sufficient expertise, stakeholder representation and authority to take responsibility for driving and monitoring implementation progress. It is not clear from most TAPs whether national working groups have been established and, if so, whether the membership extends beyond government stakeholders.

There are few accountability requirements associated with KTPs, with no obligations for monitoring or reporting on KTP status. The one reporting obligation is the 5-year review of each TAP, but with no requirement for this review to be independent.

3.5 Limited leadership, commitment and funding

Although the federal government is often limited in the extent to which it can compel other governments or individuals to undertake threat abatement, it can apply considerable pressure through strong leadership, incentives for implementation and use of its own laws to partially compensate for state or territory failings (see section 4.3 for examples). These have been largely missing in KTP/TAP processes. With a few exceptions, abating KTPs has been a low federal government priority.

Befitting the importance of dealing with major threats to Australian biodiversity, the unit

responsible for KTPs and TAPs should be a well-funded, central hub of activity in the government. Instead, as is evident in the slowness of its processes, it is small and threadbare. The committee conducting the 2013 threatened species senate inquiry said it was 'troubled by the evidence received that the TSSC [the committee assessing KTP nominations] is under-resourced' (15).

However, leadership has improved to some extent in the past 3 years due to the appointment of a Threatened Species Commissioner as a champion for threatened species and facilitator of partnerships to implement recovery and abatement plans. In particular, this has generated considerable focus on the feral cat KTP (and a small number of listed threatened species). The 2015 *Threatened Species Investments and Future Opportunities* document lists $2.5 million worth of funded projects directed at 'tackling feral cats and their impacts' and 5 other projects not yet funded (43). In 2017 about $0.75 million was provided from the Threatened Species Recovery Fund for 3 community projects to implement TAPs, 2 on feral cats (44). This level of federal funding for mitigating the major threat of feral cats is modest, but far more than most other TAPs receive. That the commissioner's KTP (and threatened species) priorities are so few in number highlights the poverty of federal government commitment and resources.

Funding for actions specified in TAPs (even if not driven by the TAP) may come from a wide variety of sources, including state, federal and local governments, non-government, philanthropic and private sources, and research funding bodies. There is also a huge voluntary contribution to managing many KTPs, particularly invasive species. But we have no idea how much is actually spent on abatement, and there has never been an estimate of how much is needed to properly implement abatement plans.

However, it is clear from the limited progress (e.g. Table 5) that the gap between available funding and funding needed for implementing TAPs is large. Inadequate funding was one of the main critiques that emerged from the 2013 threatened species senate inquiry, articulated in dozens of submissions to the inquiry. The cross-party senate committee said it was 'concerned by the evidence received about the lack of funding and implementation' of TAPs (15). It recommended longer-term funding options, targeted funding for implementation of recovery and abatement plans, prioritising funding, and more funding for researching effective control methods for invasive species and for controlling feral animals.

Inadequate funding is evident also in the federal government's refusal to assess any more nominations of invasive species KTPs. The guidelines for the novel biota KTP say that the list of invasive species nominated as KTPs 'has grown so large that individual evaluations could divert the government's attention and resources for many years' (14). These guidelines also acknowledge that 'the impacts of novel biota on Australian ecosystems are increasing', which shows the need for broader and stronger application of the KTP/TAP process.

4. Changes needed

Here we outline broad changes needed to improve the KTP/TAP system. We do not provide detailed recommendations, for our intention is to stimulate discussion and collaboration within the conservation sector, leading to a comprehensive reform proposal.

We start from the premise that the fundamentals of the current KTP/TAP model are sound – that major threats should be listed nationally and that, under federal leadership, a listing should then catalyse a plan and collaborative action – involving federal, state and territory governments, scientists and non-government stakeholders – to abate the threat. As demonstrated by some successful TAPs, the current model can work well. The changes proposed here – mainly to priorities, governance, accountability and funding – are common to many other reform proposals. The major missing element in the current system – essential to all others – appears to be commitment by the federal government to achieve threat abatement. However, we remain open to, and invite ideas for, other models for facilitating threat abatement. In particular, it is worth exploring co-governance models, as mentioned in section 4.2.

As with many other environmental problems requiring federal leadership and funding, it will be difficult to achieve reform in the current political environment. Beyond the work of analysis and advocacy, the conservation sector has much more to do, socially and culturally, so that the decline of Australian species and ecological communities becomes of major national consternation. Extinctions must become anathema to most Australians.

4.1 Make threat abatement a high national priority

Priority within the conservation sector— ambitious conservation strategy—intergovernmental agreement—social change strategy—community involvement

An essential first step is greater recognition that an effective KTP/TAP system is essential for arresting loss of Australia's biodiversity, and that developing enduring solutions for major threats is typically more effective and cost-effective than species-by-species recovery efforts. Abating threats also benefits myriad other species, including those threatened but not listed due to data deficiencies, and those not yet threatened.

To drive reform of the KTP/TAP system, Australia needs an ambitious (but realistic) conservation strategy that specifies long-term goals for threat abatement. One exemplar of the sort of ambition needed is New Zealand's 'Predator Free 2050' goal to eradicate the country's most damaging alien predators (rats, stoats and possums), a goal driving major research effort and energetic collaborations (45). Ambition needs to be then reflected in each of the TAPs. We see something of this energy in the recent drive in Australia to abate the threat of feral cats (46, 47). It is even more evident in the commitment by the federal and state governments to eradicate red fire ants, with a recent agreement to spend $411 million over the next decade (driven in large part by the massive social and economic impacts of fire ants) (48).

Securing commitment from state and territory governments is essential. The federal government should pursue an intergovernmental agreement (via COAG) with the states and territories to achieve threat abatement and recovery of threatened species and ecological communities. Such commitment is likely to come only if there is substantial public pressure on governments. As part of a broader effort to elevate conservation as a national priority, we need a social change strategy. As part of generating greater community commitment, a high priority for each TAP should be to involve community groups, when feasible, in threat abatement and monitoring.

4.2 Strengthen governance and accountability

An independent National Sustainability Commission—co-governance model— review of success elements— national TAP working groups—independent TAP reviews—annual parliamentary reports—monitoring of meaningful indicators

KTP and TAP processes (as well as processes for threatened species and ecological communities) should be free of political influence and not subject to ministerial discretion. We endorse the recommendation by the Places You Love Alliance for an independent National Sustainability Commission to undertake such functions (49).

It is worth considering other governance models as well. The Invasive Species Council has long advocated the establishment of an independent biosecurity body – to be called Environment Health Australia and co-governed by governments (federal, state and territory) and non-government bodies with a strong stake in environmental biosecurity (e.g. environmental NGOs, Indigenous organisations, research bodies) to undertake functions such as contingency planning for new invasive species arrivals. It is modelled on existing government-industry partnerships – Animal Health Australia and Plant Health Australia – and would serve as a 'relationship and brains infrastructure' for grappling with priority environmental biosecurity problems (50, section 12).

The current TAP process has worked well for a few KTPs (section 3.2), so these cases should be analysed to identify success factors. One important element appears to be a national working group for each TAP with government and non-government participants to foster collaboration (as exemplified by the longline fishing TAP).

More meaningful, independent and regular reporting is needed. The five-yearly TAP reviews are important and, for the sake of credibility and rigour, should be done by expert reviewers independent of government. Befitting the priority of threat abatement and to improve oversight, an annual progress report on KTP abatement (based on meaningful indicators) should be presented to the federal parliament. This needs to be underpinned by monitoring of threatening processes and the species and ecological communities at risk.

4.3 Systematically list KTPs for all matters of national environmental significance

Comprehensive authoritative KTP list—systematic expert listing process supplemented by public nominations—no ministerial prerogative—KTPs for all matters of national environmental significance—emerging as well as entrenched threats—much greater efficiency

The KTP list under the EPBC Act should be the authoritative list of major threats to Australian biodiversity. The listing process needs to be more systematic to properly reflect the major threats. This is important not just for education and information, but to facilitate access to national processes and resources for abatement of the highest priority threats, to trigger monitoring of and reporting on all major threats, and as a basis for prioritising research and abatement actions.

A systematic approach needs to move beyond reliance on public nominations. It is important to base listings on credible scientific evidence, but there has already been a lot of work that can be drawn on to comprehensively identify KTPs. An expert process can be supplemented by a public nomination process to fill gaps and keep the KTP list up to date. As with similar processes at the state level (NSW and Victoria) the decision to assess and list a KTP should emerge from a scientific process rather than be the prerogative of an environment minister.

The KTP list should expand to recognise threats to other 'matters of national environmental significance' protected under the EPBC Act, including migratory species, Ramsar wetlands and

world heritage areas. The list should also more adequately encompass emerging threats (as exemplified by the listing of red imported fire ants as a KTP) to stimulate early cost-effective action before they become entrenched threats.

Like that of other KTPs, the listing of invasive species threats should be systematic and comprehensive, and not rejected due to funding limitations. This does not require listing every major invasive species threat as an individual KTP – that would require several dozen more KTPs. KTP categories should be guided by abatement considerations. Some invasive species warrant listing as an individual KTP while others could be listed in taxonomic or functional groups (e.g. invasive freshwater fish, invasive ants) if they can practicably be addressed under the one TAP.

There is no need for KTP listing to be such a tedious, slow process. With the extensive literature on most major threats, it should be a straightforward matter to identify and list the major KTPs. Rather than rely mainly on an ad hoc public nomination process, it would be considerably more efficient for an expert committee to develop a candidate list of KTPs and commission experts (or departmental staff) to prepare an assessment that the scientific committee reviews and uses as a basis for a final decision. It should take no more than a year to assess and list a KTP, and 3 years to develop a comprehensive KTP list.

4.4 Strengthen obligations for abatement

Mandatory TAPs—state and territory obligations—fallback federal options —public obligations

For each KTP, it should be mandatory to prepare a TAP (or equivalent) to specify long-term abatement goals and shorter-term targets, the research and actions needed to achieve them and a monitoring regime. A TAP should serve as a national statement of what is needed to achieve abatement and as the basis for monitoring and reporting on the status of the KTP and abatement progress. A TAP should be required even where abatement can best be achieved through existing processes or relies on processes beyond the control or influence of the federal government. This ensures that the federal government takes responsibility under the EPBC Act for specifying the desired conservation direction and monitoring progress.

Even where federal abatement options appear to be limited, there are often actions they can take. For example, although abatement of the climate change KTP relies heavily on global actions, a climate change TAP could focus on reducing threats that will be exacerbated by climate change (such as many invasive species) and ensuring that mitigation does not exacerbate other KTPs (such as planting biofuel crop species that are invasive).

While the federal government is constrained in what actions it can itself take to implement TAPs, this should not be used as an excuse to abrogate responsibility. Federal leadership is needed to encourage commitment by all states and territories to implement TAPs. As with other national priorities, this requires intergovernmental agreements and attractive funding arrangements.

If state and territory governments fail to implement TAPs, the federal government should be obliged to consider options for over-riding or compensatory measures. Although it mostly cannot compel TAP implementation by other parties, it could for some KTPs use its own laws to partly compensate for laggard state or territory governments – for example, more-rigorous assessments of land clearing as potential 'controlled actions' under the EPBC Act for the land clearing KTP, and regulating trade in harmful weed species (under section 301A of the EPBC Act) for the escaped garden plants KTP.

Obligations should extend to individuals and corporations. All Australians are bound by the EPBC Act to avoid having a significant impact on threatened species (and other matters of national environmental significance). Australians should also be bound by the EPBC Act to avoid significantly exacerbating a KTP.

4.5 Commit to long-term funding to achieve abatement targets

Assessment of funding needs and gaps—new funding sources—long-term investment in enduring solutions

A government demonstrates it is serious about mitigating harms when it is prepared to fund the necessary actions. Highly inadequate funding is currently a major impediment to abating most KTPs.

To assess funding needs, each TAP should include an estimate of costs to achieve 10–20-year targets. New funding sources such as levies and taxes should be canvassed. Long-term base funding should be provided for the implementation of each TAP to foster the development of innovative, enduring solutions (this is particularly important for invasive species KTPs, many of which lack effective control methods). Also assessed should be the economic as well as environmental benefits of effective abatement, which are likely in many cases to far exceed the costs of abatement.

Feedback invited

We welcome comments and ideas about how Australia's threat abatement processes can be strengthened. Please email contact@invasives.org.au.

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