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Threatened Species Network

Submission to the Australian National Audit Office's 2006 audit of the Environment Protection and Biodiversity Conservation Act 1999

Introduction

As a program sponsored by the federal government to support the implementation of the federal environment legislation, the Threatened Species Network (TSN) is in a unique position to comment on its experiences of the EPBC Act and its ability to protect threatened species and ecological communities.

A program of WWF-Australia, the TSN facilitates community-based conservation efforts for nationally listed species and ecological communities. The scope of the team's involvement ranges from basic advice on the development of conservation projects to advisory roles on conservation and natural resource management and policy at the highest levels. With over 15 years of experience, the TSN is in all likelihood the most experienced on-ground team in Australia.

WWF-Australia has been a supporter of the EPBC Act since it came into effect in July 2000 and has defended its faith in the Act's ability to conserve biodiversity since that time, often in the face of criticism by other environment groups. The organisation holds firm in its belief that the Act has greater powers than any previous Australian environment legislation, and that its success depends directly on its administration.

The following submission is not comprehensive but provides comments on a number of areas of specific concern to the TSN. An earlier confidential submission, an issues paper drawing on the broader experiences of WWF with respect to the Act, provided a more comprehensive perspective of WWF as a whole.

Issue: Threatened Ecological Communities – adoption and assessment

1.1 How does the administrative process of listing threatened species, threatened ecological communities, migratory species and marine species and key threatening processes work, and what is role does the strategic assessments of fisheries play in biodiversity conservation?

- The process of public nomination is useful but insufficient to generate comprehensive lists and should be coupled with a pro-active and more systematic approach to assessing and reviewing the status of biodiversity.
- The lack of a strategic nomination process could have been addressed by the continuation of the National Action Plans for species and the drafting of an Action Plan or Conservation Overview for threatened ecological communities, and the review of the EPBC lists against the advice of these plans within a reasonable time frame. The time lag in reviewing the national EPBC list against the advice of the National Action Plan for Birds is an example of a significant opportunity lost.
- The opportunity to list or update the species list through a process equivalent to the former ANZES process is worthy of review.
- Without a strategic approach little known or un-charismatic threatened species found across several states and those considered data deficient

species are particularly vulnerable to receiving inadequate protection under EPBC.

- Species/TECs and key threatening processes identified in the Australian Terrestrial Biodiversity Audit 2002 could provide an additionally useful starting point for the revision/addition of the lists.
- In some instances, TECs seem to have been explored for nomination with some uptake into lists (eg. alpine and arid woodland communities), but the processes have subsequently stalled without explanation to stakeholders.
- Despite inconsistencies in criteria between State and the Commonwealth jurisdictions greater progress could have been made in using the provisions under the Act to adopt state listings.
- The nomination criteria for species are useful and thorough; however moves to short-cut nominations through the SPRAT process have been welcomed in recent times.
- The transparency of decision-making on nominations has been valuable, though at times the decisions themselves have been frustrating (see comments for 1.9).
- The process for generating EPBC nominations of state-endemic species is facing considerable delays which are cause for concern. Moreover, species that are listed in several states appear to be being over-looked in the short-term for listing under the EPBC Act, denying them access to some sources of conservation funding.
- Recovery teams are able to make recommendations about changes in status of the species listed under a recovery plan. The progress of reviewing any recommended changes in status submitted to the Commonwealth for adoption is uncertain. There appears to be no clear link between the advice relating to the review of status within the Plan and the lists.

1.4 Is there a backlog in the listing process?

- Yes, there is clearly a backlog of nominations to decisions and significant time lags between nominations submitted and this has discouraged some community participation in the process.
- WWF-Australia has submitted several TEC nominations and on three occasions the nominations were lost or "not received". Two of these were re-submitted in around 2000 and their assessment is only now reaching completion (Iron Grass Temperate Grassland and Peppermint Box Grassy Woodland). Several KTP nominations made by WWF have also exceeded the assessment time.
- Moves to short-cut nomination process of State endemic species through the SPRAT process has been useful in recent times, but delays in generating state nominations of listed endemic species are cause for concern.
- The time lag in reviewing the national EPBC list against the advice of the National Action Plan for Birds is an example of a significant opportunity lost.

1.9 Are key threatening processes listed as required by section 183 of the EPBC Act?

- There are a number of nationally significant threats that have not been listed under EPBC despite their recognition in a suite of national biodiversity policy documents (eg altered fire regimes as mentioned in the Australian Natural Resource Atlas). Some of these threats have not been identified by internal or

external review or nomination processes. Some have been nominated but not listed for reasons permissible under the Act. See Appendix 1.

- A number of community KTP nominations have had limited success despite their eligibility. "Continuing net loss of native hollow bearing trees and coarse woody debris due to firewood harvesting practices" as a case in point. Although the Minister agreed with TSSC that the process was eligible to be listed as a Key Threatening Process, he found that there would be no conservation benefit from listing the process under the EPBC Act given that there are existing mechanisms in place to address it. If community felt sufficiently motivated to nominate it one could question the effectiveness of these existing measures and the Commonwealth's potential leadership in this issue has been underrated by the decision.
- The nomination of firewood harvesting is another interesting case in point. While the TSSC recommended this threat for listing as a KTP, the Minister decided against the committee's advice on the basis that it would provide no conservation benefit, and that other effective plans to address this issue were already in place. This view begs the question how firewood-harvesting could still meet the criteria for a KTP. Details about his decision can be found at ttp://www.deh.gov.au/biodiversity/threatened/ktp/firewood-harvesting.html
- All KTPs identified in the Australian Terrestrial Biodiversity Audit of 2002 should be investigated for their suitability for inclusion in the EPBC lists.

1.10 Is there a register of critical habitat vital to the survival of a listed threatened species or listed threatened ecological community as required by section 207A of the EPBC Act?

- There is a much longer list of endorsed recovery plans than registered critical habitat, potentially for the following reason: at the time the EPBC Act commenced it was the understanding of Recovery teams that critical habitat for species was to be identified within Recovery plans and that this would form the basis of the register. However it was clear within a short time of the Act's commencement that both the Commonwealth and Recovery teams wanted a higher level of confidence that critical habitat identified would be defendable in court. As the definition of critical habitat included potential and translocation sites, confidence to defend some aspects of critical habitat as defined in the recovery plans was sought. At this time two definitions seemed to appear. One was of critical habitat that could be spatially defined with some level of precision and included current occupation. The second was habitat critical for survival which included known and potential habitat as identified in recovery plans.
- In addition to the issue of defence in court another issue for recovery teams with defining critical habitat is that by definition it 'excludes'. With the levels of uncertainty that recovery teams have about most species they manage, they are hesitant to define exclusion areas, particularly with the stakeholders they rely on to be able to access land to survey and monitor the species in the first place. Hence there has been little incentive for most recovery teams to identify habitat for the register. Equally, there appears to have been little encouragement to do so. At the same time investment in recovery programs has remained inadequate to be able to address the levels of confidence.

1.12 What priorities have been set to ensure the identification of species/areas under threat that may/not be as yet listed?

- Please see responses to questions 1.1 and 1.4 regarding the absence of strategic listing processes, the inadequacy relying solely on a public nomination process and the delays in processing of state-listed species.
- There is a Catch-22 situation. Few people are in a position to nominate species to EPBC and it is a lengthy process, first to nominate and secondly to await a decision. Therefore some species identified by recovery teams, State legislation and other experts as suitable and a priority for national listing are not being nominated and are left out or overlooked because they are not as yet identified as a priority under the Act and for Commonwealth investment. While they are overlooked for investment, their status is unlikely to be reviewed.
- NRM regional delivery is doing little to contribute to the identification of species/TECs under threat that are not listed. Few NRM regional programs identify reviewing species status or nominations as activities under their plans. The majority of funding available is for established recovery programs which address already listed species/TECs.
- The TSN Community Grants provide some money towards clarifying status of state-listed species (for projects where a nationally listed species will benefit) but data deficient species are not currently eligible for funding.
- Envirofund may fund some of the community monitoring work required to determine status but capacity and hence demand to fund such activity is limited. At times this activity is considered a low priority for community grants because it is considered primarily a state government responsibility. In the last decade, funds directed to such activities by the majority of Australian States and Territories has been limited.
- In South Australia, several attempts were made to access Commonwealth funds to identify the status of a number of data deficient marine vertebrate and invertebrate species believed to be at risk. Investment was sought through the Coasts and Clean Sea's marine species program, NHT 1 and TSN Community Grants. None of these applications were successful as the Commonwealth did not see the activity as a priority or eligible.
- Opinions vary on the suitability of the EPBC Act for recognising species at risk that are managed within fisheries. This has also caused confusion and nomination delays.
- It should be noted that undertaking genetic work to clarify taxonomic status was also generally not funded in later years of NHT 1 under ESP and generally not seen as a priority in NRM regions. So where uncertainty about taxonomic status is an obstacle to nominating (eg Eyre Peninsula Yellow-tailed Black-Cockatoo), this is unlikely to be addressed in the near future.

Issue: Recovery plan numbers and costs

2.1 How many 'recovery plans' and threat abatement plans have been developed and at what cost?

- 24% of threatened species have had recovery plans developed for them. 11% of threatened species have current recovery plans.
- 31% of TECs have had recovery plans developed for them. 6% of TECs have current recovery plans.
- There are 17 listed KTPs. 10 have threat abatement plans, 5 of those are current.

2.3 Has the content of the recovery plans and threat abatement plans been made in accordance with the requirements of s270 and s271 of the EPBC Act?

- With respect to addressing the statutory requirements of recovery plans, both endorsement and review, the level of detail required in recovery plans has been challenged. There has been a trend towards shorter, non-time specific recovery plans with limited detail on actions, stakeholders, and budget (eg draft Australian Sea-lion Recovery Plan released 2005). In some cases, it is questionable if these draft Plans have satisfied the Act's requirements.
- Recovery teams responsible for managing the plans are increasingly providing supplementary information to the plans to provide sufficient content to direct the program. Some recovery teams have been told to remove content from plans and place it in an Appendix.
- At the same time, recovery plans are potentially gaining status within the NRM regional framework and are being increasingly recognised and relied on as key guiding documents in the regional NRM plans. Regional NRM Boards have limited past engagement in species/TEC recovery programs so they rely on more rather than less prescriptive plans.
- A review of recovery plan Content Guidelines that balances the Commonwealth's requirements to reduce delays in recovery plan development and/or revision and that of the needs of recovery teams and regional NRM Boards is required.

2.4 How many recovery plans and threat abatement plans are being implemented?

- Only a small percentage of species listed in the majority of States and Territories have a recovery plan in place, and even fewer have plans adopted under EPBC. TECs fair worse.
- Taxa/TECs with recovery plans generally attract more regional NRM investment than those that do not have plans. In some States, investment in recovery from NHT I to NHT II appears to have stayed constant or to have increased. In some States/Territories regional investment remains low. This means that there is an incentive to have plans adopted, but States/Territories need sufficient and ongoing investment to develop outstanding plans.
- In some states, regional NRM Boards are investing in developing regional recovery plans but rarely national plans unless the taxon is endemic to the region. This is the case in South Australia, for example, although not in Victoria, where regions are investing in some national recovery plans in addition to the state plans (for which a database systems exists in that state). Regional competitive projects being funded this year in Victoria include those for spot-tailed quoll, malleefowl, OBP, RtBC and others.
- The funding provided directly from the Commonwealth to the States/Territories to develop outstanding Recovery plans is an important initiative to continue to generate plans.
- Of the recovery plans being implemented, most are only being funded at minimum capacity to be able to progress the plan's objectives. In South Australia, many are receiving around a quarter of the funding they require to meet their objectives (compare SA rcovery plans with regional NRM species investment).
- Regional NRM bodies are struggling to integrate the evaluation requirements of species recovery work and other regional conservation targets. Where triple bottom line assessments are undertaken, species recovery programs

are currently assessed as lower priorities. This is due in part to a lack of understanding within regions about the role that biodiversity plays in maintaining productive landscapes.

- There is limited coordinated implementation of KTP TAPs at a State or regional NRM scales. However TAPs provide a useful tool for identifying priorities and approaches.

- Under NHT I, community groups were eligible to apply under ESP for funds to develop recovery plans, and larger groups such as WWF-Australia and Birds Australia were responsible for the development of a number of plans. Since NHT II, the Commonwealth has been engaging solely with State agencies on this matter. Excluding community and NGOs in this activity is an opportunity lost as state agencies often have different priorities.

2.8 What reviews of the efficiency or effectiveness of recovery plans and threat abatement plans have been conducted? What were the conclusions?

- A national review of the overall effectiveness of the recovery plan and national recovery process approach has not been undertaken for many years. One national review commenced in the last decade but remains un-published and several national workshops were held in the mid 1990s.
- Under previous ESP funding (NHT I) 5-yearly reviews of the effectiveness of individual recovery plans and the progress made were required and funded. Since funding through NRM began, this is no longer encouraged and only recovery teams who feel the process was useful now do this voluntarily. Often, alternative funding (eg. by state govt) has to be found to undertake the review. This could be perceived as a decline in process. The inevitable lag in change to species indicators makes 5-yearly reviews essential.

- An excellent model of internal review is provided by the South East Red-tailed Black-Cockatoo Recovery team in undertaking its landholder survey. The project surveyed the attitudes, land management practices, recovery understanding and motivations of private landholders towards the endangered cockatoo throughout its range in South Australia and Victoria. The survey also gave the Recovery team insight in to how effective it had been in raising awareness of the bird's plight since adopting its recovery plan in 1998 and a baseline for future efforts. Twenty recommendations were formulated by the Recovery team as a result of the survey, aimed at improving implementation of the Recovery plan. Copy available from TSN.

- A disjunct between regional funding timelines and Commonwealth processes in relation to plan adoption has lead to a greater fragmentation in evaluation and reporting effort.

- WWF-Australia undertook a cursory analysis of spatial gaps in recovery effort across Australia in 2005. This assessment compared levels of Commonwealth investment in recovery against national biodiversity hot spots. See map in Appendix 1.

- Internal dialogue has occurred with the TSSC and organisations such as WWF-Australia as to the effectiveness of the current recovery model(s) and the most effective recovery models for different situations. The SA

government is about to commence a similar discussion, but discussions are not being shared or consolidated.

- Some recovery programs that are producing excellent results include the Mt Lofty Ranges Southern Emu-wren and Fleurieu Peninsula Recovery Program, Kangaroo Island Threatened Flora Recovery Program, Marthakal, Mabunji and/or Tiwi Rangers Species Programs (contact details available from TSN).

Issue: Referral/assessment/approval process

3.6 What progress is being made to ensure that all appropriate referrals (ie those that should reasonably be made) are being made and that all matters of national environmental significance are addressed?

- It is difficult to assess what progress is being made to ensure that all appropriate referrals are being made as this is not an open process. Certainly most TSNers know of at least one development that should have been referred and was not and/or were involved in providing details of a development to AG DEH for their follow-up.
- Delays and ongoing issues in engaging the States and Territory governments in bilateral arrangements under the Act has meant that a process for capturing referrals through state and local government processes/officers for the activities of third parties is absent. As a consequence these government bodies have provided only moderate support to the EPBC referral process. The South Australian government for instance has a process to make comment on EPBC referrals and is mindful of the need for referrals in relation to its own activities but does not actively support a compliance role for the Act. The absence of the bilaterals means that compliance is more problematic and has undermined one of the intents of the Act to streamline and coordinate development decision making across the jurisdictions.
- NGOs and community have played an important role in ensuring that developments are both aware of the requirements of the Act and that AG DEH are aware of developments. Initially, public presentations that promoted the role of the Act and the capacity of community to bring developments to government attention provided by AG DEH (EA as they were then) and the EPBC Unit provided considerable impetus for public engagement in this role. These presentations required follow-up to maintain momentum, particularly in the face of so few rejected development applications.
- In terms of addressing matters of significance, the NRM bilaterals are clear about the preferential funding for matters of national environmental significance (MNES), and the required adoption of NRM regional plans is a useful tool for ensuring regional consideration of these priorities. What is lacking is a mechanism to ensure that what is being done in those plans and investment strategies is the most effective way of addressing the matters.
- The tri-conditional assessment proposed for TECs (also known as TEC triage) is not supported by TSN as it undermines the capacity of the EPBC Act to deliver on this matter of significance when TECs are in moderate or poor condition. In many cases, most of the remaining extent of TECs are degraded and it was this state of degradation that prompted their nomination. WWF-Australia has provided advice in relation to at least 6 EPBC Act referrals for clearance of habitat of the red-tailed black-cockatoo in Victoria. In most cases, these have also involved the removal of the endangered buloke woodland community. However it is apparent that the ecological

values of the endangered Buloke Woodlands of the Riverina and Murray Darling Depression Bioregions (or "buloke woodland community") have not been considered in decisions based on an understanding that this ecosystem is highly degraded in the agricultural landscape. For example, in 3 specific cases that involved the removal of between 56 and 127 buloke trees (Reference numbers: 2002.849, 2003.1069 and 2003.975), a decision was made that approval would not be required in accordance with the "particular manner" of each proposal. In all three cases, each decision made no consideration of the loss of the buloke woodland community. In each case, submissions provided by WWF-Australia and other stakeholders identified the presence of buloke woodland at the site. However it is apparent that the DEH has made a decision to omit consideration of the ecological community due to poor quality of buloke woodlands particularly in this region. However it is recognised that most of the former extent of buloke woodlands have been eliminated and only highly degraded indications of its former occurrence remain. Even stands within national parks are considered to be of very poor quality (although it is considered possible to restore the community by removing key threats).

- There are frustrations that so few opportunities have been taken to develop Administrative Guidelines under the Act. As a case in point the TSN had discussions in 2002 with EA and the EPBC Compliance Section encouraging the generation of a set of guidelines associated with minimising impacts to EPBC listed species at risk from the potential impacts of wind turbines. To date no document for public consultation has been circulated on this matter and yet it has become an emerging and significant issue for the administration of the Act. Administrative Guidelines are an opportunity to address some of these development activities pro-actively and with the support and advice from Recovery teams.

Issue: NRM delivery of species recovery

4.3 Is the investment consistent with the priorities of the program and agreed national objectives and targets for biodiversity conservation?

- The NRM Biodiversity Evaluation is a useful reference for this question.
- In terms of addressing matters of significance, the NRM bilaterals are clear about the preferential funding for matters of significance, and the required adoption of NRM regional plans is a useful tool for ensuring regional consideration of these priorities.
- Despite their status within the respective bilateral agreements, coastal/marine species and habitats, shorebirds and strategic threat abatement and species recovery in some State/Territories are still under-funded. Of these, the NRM Biodiversity Evaluation highlighted coastal and marine as a gap of immediate importance to address.
- There is no mechanism to ensure that actions taken under the NRM plans and investment strategies are the most effective means of addressing the issues at hand.
- South Australia has a good model of regional NRM regional investment strategies (RIS) assessment with the respective roles of the JSC, NRM Council and NRM Council's Assessment Sub-committee (made up of skills-based community members) which ensure consistency between the RIS and

the Commonwealth and State priorities and to identify gaps. Contact Pam Chapman chapman.pam@saugov.sa.gov.au for further details.

Issue: NRM delivery of species recovery

4.4 Is cash flow for projects/investments largely in line with the needs of applicants/project managers?

- Most biodiversity projects addressing MNES are being implemented at minimum capacity to be able to progress the plan's objectives (eg in SA many are receiving around 50—60% of the funding they originally indicated they would need in Rd 1 of funding). An example of this in South Australia can be found in the AMLR NRM region where an umbrella threatened species project managing several individual recovery projects funded at $1.1M in the first round is now being offered funding at $400k in round three. In some regions, such as South Australia's Kangaroo Island, the total indicative funding for the region for 2007/08 is $500k. If the region is not granted additional funds then all but one biodiversity project would cease to operate out of the region.
- Community and agency engagement appeared to be much more intensive in the INRM plan writing phase than it has been for the development of the Investment Strategies. Some regions are not engaging in consultation on the RIS at all and justifying it by the consultation they did two years ago on the plans. This raises some questions of process. In the Northern Territory for example, it is important to note that community groups have not been invited to take part in the development of an investment strategy. This has been solely developed by the NRM board.
- Groups responsible for delivering biodiversity programs as a consequence have not always been involved in the priority setting process. Some have only be engaged after funding priorities have already been established, rather than being engaged in the initial allocation of regional funds for each program area. As a result, cash flow for projects needs to be negotiated between various biodiversity projects and this has been a cause of concern among some biodiversity stakeholders. A way to improve this situation could be to involve stakeholders and key delivery agencies in the priority setting process for the entire regional investment package each year. The process being followed by some regions to prioritise regional funding is not always clear and it would be useful to identify a more transparent and consistent process in this area. In some cases the initial stage of allocation could actually be the optimum and most logical time to involve key groups, particularly those with responsibility for delivering regional programs.

4.5 Have core performance indicators been identified and applied?

- The NRM Biodiversity Evaluation is a useful reference for this question.
- Recovery activities associated with formal recovery programs have identified core performance indicators, though funding has not always been available to implement them.
- Of the matters for reporting indicated in 4.6, "priority actions initiated to ameliorate key identified threats to species/TECs" is likely to be the most difficult to establish though existing NRM reporting requirements.
- Recovery activities and other MNES activities assumed as part of broader Bushcare objectives/projects do not have consistent core performance

indicators and regional NRM Boards are struggling to develop meaningful indicators and resource condition targets (RCTs).

- In SA, the RCTs of interim plans are about to be reviewed because they are not well integrated as indicators and not easily measurable.
- In Victoria this is slowly developing. The identification of actions to be implemented through Victoria's Actions for Biodiversity Conservation data base will assist this process.
- Overall there is considerable work required to be able to develop a national framework that builds up a picture of progress made at each region to the state and eventually national level against the MNES identified against indicators that are meaningful in measuring changes to both resource condition and capacity. Delays in developing native vegetation condition indicators for ecosystem values by the Commonwealth have contributed to this. Furthermore, there are data and meta-data storage, sharing and retrieval issues that restrict the use of the monitoring collected. Supporting states and region's to address these issues individually and in cooperation with each other is a significant area of required Commonwealth leadership and investment.

4.6 Is there a process to monitor and report on progress? For example, is it possible to report on: (see points listed)?

- See comments for 4.5.
- It is our understanding that a reporting system for recovery was developed for the ESP Unit in NHT I but this was disassembled under NHT II when direct funding power no longer lay with the section.
- Many States/Territories have the reporting capacity to list the number of species listed, number of plans vs species, level of activity against identified key threats and numbers of activities outside of plans (eg SA State of Environment, Victorian Actions for Biodiversity Conservation data base). There are however no processes open to the public that identify investment levels against MNES or identify the gaps in MNES investment or the nominations process.
- SA has an interesting model of regional NRM RIS assessment with the respective roles of the JSC, NRM Council and NRM Council's Assessment Sub-committee (CASc) (made up of skills-based community members) which ensure consistency between the RIS and the Commonwealth and State priorities and to identify gaps. CASc's advice to SA NRM Council is publicly available but it contains no budget details.

Provide examples of EPBC where it has worked well to provide direction.

- A recent referral from Electranet in South Australia to increase the number of towers at a site in the Adelaide Mt Lofty Ranges with potential implications to Southern Brown Bandicoot (SBB) and significant vegetation at the site resulted in a good outcome for all concerned. The application was called in and this motivated the company to negotiate with the SBB Recovery Team. A re-design of the proposal has resulted in far fewer impacts for the bandicoot, the same power supply capacity for the company at a comparable cost. The referral process motivated a negotiation process that would not have occurred if it were not in place. Contact Kirstin Long long.kirstin@saugov.sa.gov.au for further details.

- The recognition of the Fleurieu Peninsula Swamps as a national TEC has provided the Recovery Team with greater funding opportunities and generated more impetus for regional planning and water allocation bodies to align with recovery priorities.
- The required transparency of decision making under the Act and the role of the EPBC website in supporting this are valuable.
- The recognition of MNES in the delivery of the regional NRM framework though bilateral and regional plan adoption has the capacity to increase regional investment in species/TEC recovery.
- The ongoing support for state-wide and community grant programs such as the TSN Community Grants and Envirofund is to be commended. These programs target MNES and facilitate projects at a cross-regional scale. Initially, the Commonwealth anticipated a short life for these grants but it is to their credit that they have recognised the important role these grants play in consolidating what can be delivered through the regional NRM framework.
- Also to be commended is the opportunity for members of the community to contact AG DEH to report an activity or proposed activity that they consider could have an impact on a MNES but that has not been referred formally by the proponent. In such cases, AG DEH has the capacity to follow up inquiries and this has often led to a request by AG DEH for a referral from the proponent.

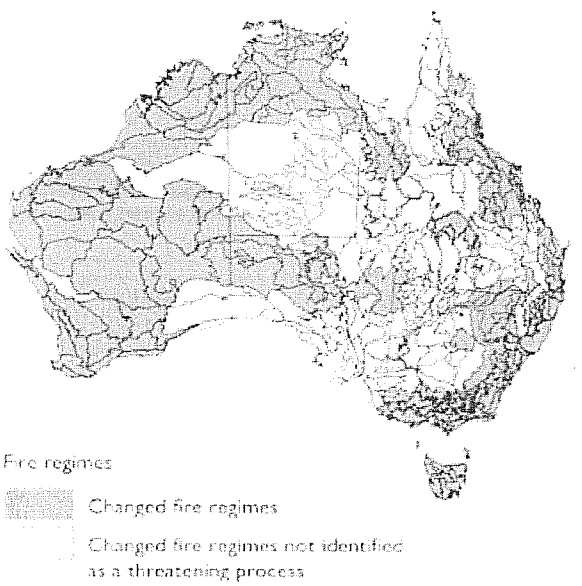
Appendix 1

The absence of strategic KTP listing under the EPBC Act

The following are a list of figures, taken directly from the Australian Terrestrial Biodiversity Assessment 2002 to demonstrate that significant KPT's impacting on Australian Biodiversity are not necessarily being listed under the EPBC Act (notably fire regimes and grazing)

Map Data Source: National Land and Water Resources Audit,Assessment of Terrestrial Biodiversity 2002 Database.
Data used are assumed to be correct from the data suppliers.

Figure 4.2 Distribution of the nine major threatening processes for threatened ecosystems (selected only grazing and fire for this purpose)



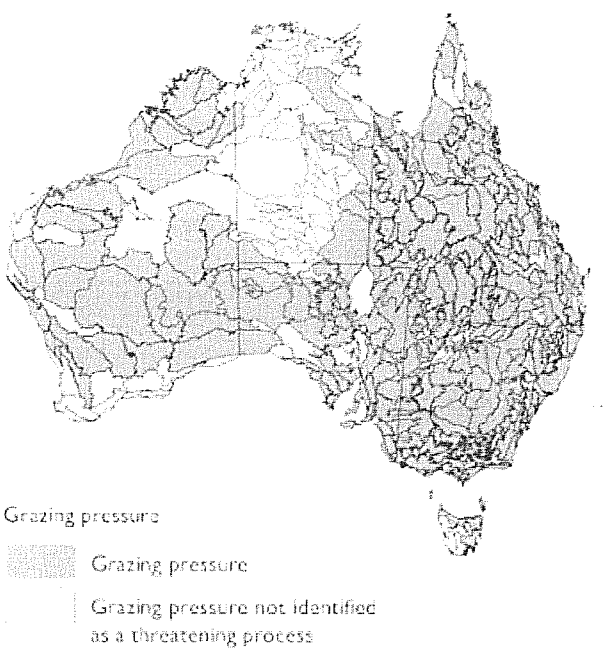
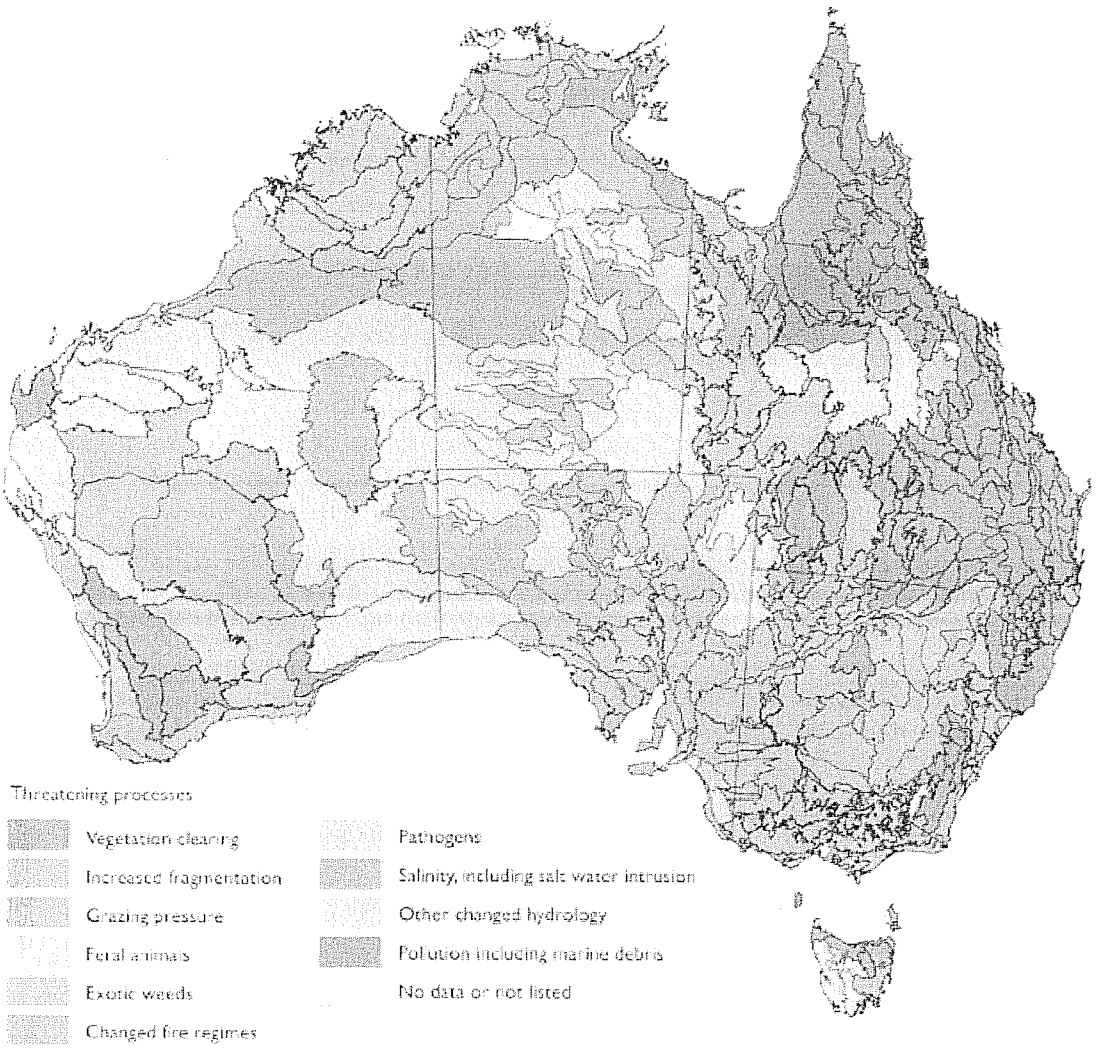


Table 4.3 Extract of an Atlas table listing threatened ecosystems in the Tasmanian West bioregion; their recommended status, and threatening processes. (E denotes endangered and V denotes vulnerable).

Note that eitgh of these have grazing and fire recognised as a threatening process

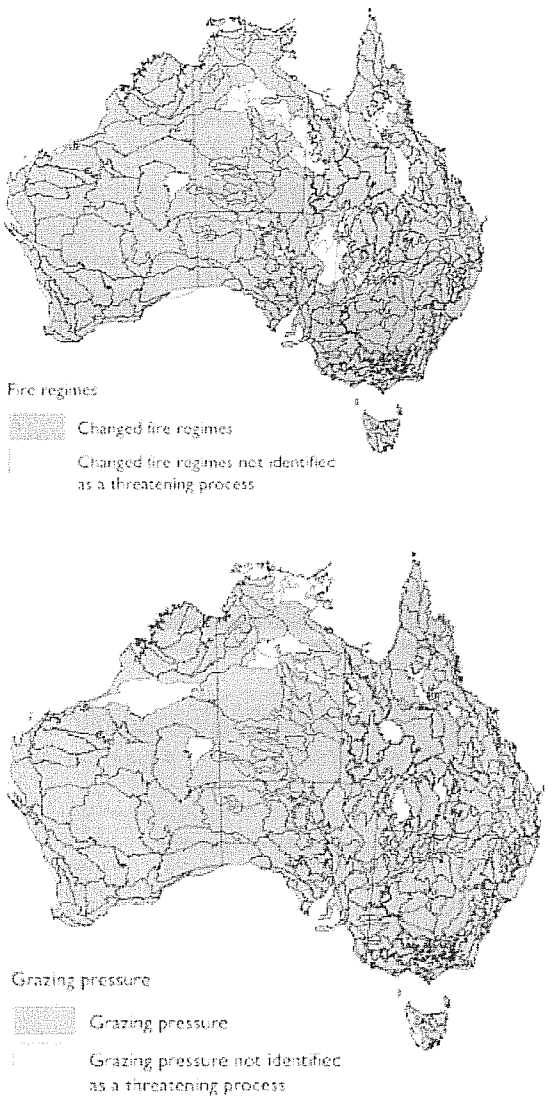
THREATENED ECOSYSTEM	RECOMMENDED STATUS	THREATENING PROCESS	NOTES
BA - Brookers gum wet forests	V	Other - describe	Clearing for forestry plantation establishment
F - king billy/pencil pine/ deciduous beech forest	V	Changed fire regimes	Ecosystem is fire sensitive
G - white gum/blue gum coastal forests on sands	V	Broad scale vegetation clearing	Clearing for agriculture or other purposes; weed invasion, dieback, inappropriate fire regimes, firewood collection
Ma - coastal saltmarsh	V	Grazing pressure	
Mg - coastal saline rushland/ sedgeland	V	Grazing pressure	
Ms - succulent coastal herbfield and saltmarsh	V	Grazing pressure	
NP - native olive/blanket leaf shrubberies	E	Changed fire regimes	Ecosystem is fire-sensitive
Sd - Sand dune vegetation	-	Changed fire regimes	
Waf - freshwater aquatic herbland	-	Increasing fragmentation and loss of remnants; grazing pressure; exotic weeds	
X - king billy/pencil pine forests	V	Changed fire regimes	Ecosystem is fire-sensitive

Figure 4.6 Distribution of ten most common threatening processes for threatened species by bioregion. Where subregions cross State and Territory borders, threatening processes may not apply equally within each jurisdiction.



Note that this map indicates that fire regimes and grazing are the primary threatening process for threatened species in over 50 bioregions

Figure 4.7 The distribution of twelve threatening process impacting on threatened species across subregions.



The above maps and tables demonstrate the significant impact that grazing and fire regimes are having on both threatened ecosystems and species, across Australia, yet they are currently not recognised as KTP's under the EPBC Act