

Submission to the Senate Standing Committees on Environment and Communications on “The effectiveness of threatened species and ecological communities' protection in Australia”

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The management of threatened species and communities in Australia is groaning under the burden of ever-lengthening lists of threatened species, and ever-decreasing resources to address the problem. As a scientist and manager of threatened freshwater fish in Australia for the past 30 years, below are some thoughts on the problems and what needs to be done. Most of the examples are from the perspective of freshwater fish conservation, but the issues go well beyond this faunal group.

Environmental legislation in Australia is being progressively weakened and watered down, and this must cease. The proposal from the Commonwealth to cede its environmental regulation responsibilities under the EPBC Act to the States is a recipe for disaster. If this power is ceded, local political or economic considerations will likely overrule conservation priorities, to the detriment of biodiversity. Similarly, the decision in 2006 to make the preparation of recovery plans discretionary (rather than mandatory) under the EPBC Act is regrettable. The now non-mandatory nature of the preparation of Threat Abatement Plans (TAP) to address Key Threatening Processes (KTP) is also a retrograde step. The benefits to a species of having a recovery plan are well documented (Taylor et al. 2005; Crouse et al. 2002), and the Commonwealth loses an important coordination opportunity by not preparing TAPs. Some states are also going down this path of making recovery plans or action statements discretionary, and I fear that species without recovery plans have little chance of recovery.

Most current recovery plans lack adequate performance indicators and improved approaches to measuring success of conservation action are required. Using delisting or downlisting of a threatened species to judge recovery actions is a poor indicator of success (Doremus and Pagel 2001). If this performance indicator were to be applied in Australia, the result is underwhelming: only a single vertebrate species has been delisted (the Woylie) (only to be subsequently relisted) and no species has been delisted as a result of conservation actions. Most species have taken decades to decline and the threats responsible are usually still operating (e.g. habitat loss, invasive species). The great majority of threatened species in Australia are within the lifespan of their first recovery plan, and it is unrealistic to expect recovery to occur in the relatively short period of recovery action. The US Endangered Species Act (ESA) requires the identification of population trend as an indicator of whether a species is recovering or not (Taylor et al 2005; Scott et al 2005). Under the ESA, biennial reporting of population trend is required, providing insight into whether recovery actions are effective, or whether management changes are required. Such a requirement for monitoring of population trend would be of benefit in Australia (Lintermans submitted).

The lack of reporting of recovery progress is also of great concern. Trying to find details of recovery activities directed at threatened species is almost impossible for many species. This difficulty exists at both national and state levels. How can we improve conservation responses to threatened taxa, if we cannot locate information on what has been done previously, and whether it has worked or not? For example, the Lake Eacham Rainbowfish has been listed as nationally endangered since the

1990s; new populations were subsequently discovered (Pusey et al. 1997, Zhu et al. 1998); the species does not have a recovery plan and none is proposed (TSSC 2011); it has almost no recovery actions reported; no current on-ground recovery actions can be traced; and there is no formal monitoring program to track population or species trend (Lintermans submitted). So how can the effectiveness of current management arrangements be assessed, or generalised to other similar species?

Management arrangements for the onground recovery of nationally threatened species in Australia are also problematic. While the Commonwealth Government is responsible for national listings, preparation of recovery plans and approval of proposed activities that might impact on nationally listed species, financial responsibility for implementation of recovery actions largely rests with the States and Territories. As the States and Territories usually have insufficient resources to implement the required recovery actions, this results in recovery plans being poorly implemented, and so species often have a poor prognosis for recovery. Surely a case exists to argue that there is a Commonwealth responsibility to fund recovery plan implementation for nationally-listed species.

The availability of funding for recovery actions is almost invariably tied to level of endangerment, with species at lower threat levels usually unable to secure even modest funding that may avert the need for costly later interventions. For example, Even though Macquarie perch were first listed nationally as endangered in 1980 (Burbidge and Jenkins 1984), taxonomic uncertainty (suspicion of cryptic species) led to the species being downlisted to 'indeterminate' in the mid-1980s. As a consequence, for more than a decade no Commonwealth funding was available for conservation research or management, and the taxa continued to decline until they were again listed as endangered in 1998. Now, more than 30 years after being first listed, they still don't have a national recovery plan, and there is no Commonwealth funding for recovery actions. A better way of prioritising spending on threatened species is required; don't just use conservation status. A triage approach has been suggested, but does not have universal support amongst practitioners.

Only ecological communities listed as either critically endangered or endangered receive the full protection of the EPBC Act, and so there appears to be little point in nominating ecological communities for listing as vulnerable (although Hawke (2009) has recommended that the EPBC Act be amended so vulnerable communities are also protected). The capacity to list vulnerable communities should be pursued under the EPBC Act, as it gives more scope for remedial actions to be devised and implemented before the community reaches an endangered status.

There appears to be a move in Australia towards multispecies recovery plans (see DECCW 2010 as an example)(Bryant and Harris 1996). There are compelling ecological arguments to include regional or ecological community-based approaches to threatened species conservation, rather than relying solely in single species efforts. However, reviews of the US Endangered Species Act indicates that species listed under multispecies recovery plans had less recovery tasks implemented (Lundquist et al. 2002) and were more likely to have a declining recovery trajectory than species with dedicated plans (Taylor et al. 2005). Since the mid-2000s the USA has moved away from multispecies plans (Schwarz 2008). Consequently, a mix of single-species and multi-species conservation approaches is required

Although a number of states or territories have the legislative capacity to declare critical habitats, very few have done so. For freshwater fish for example, New South Wales has made a preliminary

listing of critical habitat for Oxleyan pygmy perch under their legislation, but this is the only critical habitat listed (either nationally or at State level) for a freshwater fish anywhere in Australia. By contrast, the US Endangered Species Act requires that critical habitat be designated for all listed species encompassing all land and waters 'essential to the conservation of the species'. A study of the trajectory of threatened species with identified critical habitat listed under this legislation found that they were more than twice as likely to be improving (as opposed to declining) than species without identified critical habitat (Taylor et al. 2005). It is disappointing that more use of critical habitat designation under Australian legislation has not occurred, and Hawke (2009) recommends that the EPBC Act be amended to require the identification of critical habitat for listed threatened species at the time of listing.

The current approach to listing threatened species under the EPBC Act relies on assessment of nominations; a passive rather than a strategic approach. This means that each nomination is considered in isolation, and without formal nominations to recategorise a species they may remain in their existing threat category for many years, even though expert opinion suggests their conservation status should be amended. For example, the National Trout Cod Recovery Team assessed Trout cod as meeting the criteria for Critically Endangered in the mid-2000s, but the species is still only listed as endangered. Mandated formal reviews of conservation status at regular intervals would ensure that species are in appropriate categories, and such formal reviews should be enough evidence for recategorisation to occur (i.e. a formal renomination is not required).

The passive approach to listing also means that many species that are eligible for listing remain unlisted. It is not a trivial task to gather the information required for a nomination, and many interested people do not have the time or support from employers to prepare nominations. An improvement on current arrangements would be the commissioning of strategic or overarching national reviews of the conservation status of particular groups. This would provide an opportunity to also assess relative priorities for conservation or recovery action between species in a group, as well as identifying species or communities that are near-threatened. Such strategic overviews should be conducted at least every 10 years. There has not been an overview of the conservation status of Australian freshwater fish since Wager and Jackson (1993) prepared their action plan, and one is sorely needed.

There are a number of issues with the current legislative and administrative basis for recovery of threatened fauna. The EPBC Act does not cover existing actions prior to the Acts declaration in 1999, meaning that many of the existing threats are not addressed by this legislation. For example, the majority of threats to freshwater fish (alien species, river regulation, vegetation clearance etc.) existed prior to the declaration of the EPBC Act, and so are outside its purview. Whilst new proposals trigger the EPBC Act, the lack of legislative support to nationally address existing threats and the lack of nationally listed KTPs or TAPs for freshwater ecosystems hampers coordinated national recovery approaches. The many years it takes to get a species listed and a recovery plan prepared (both nationally and at State level) is also a significant impediment, particularly if community support and participation is to be fostered and harnessed. Many recovery plans lack adequate detail of activities required, as there is also a perception amongst many conservation agencies that if recovery plans are too detailed they become quickly dated.

What needs to be done:

1. There needs to be significant additional investment in biodiversity research, management and monitoring in Australia. Such investment requires not only more investment, but also more long-term investment. The parlous state of many fauna and flora is the result of decades of neglect, and the recovery of such taxa will require similarly long timeframes.
2. It should be a Commonwealth responsibility to fund the recovery of nationally-listed species, and this includes the funding of national recovery teams.
3. The EPBC Act should be amended to:
 - a. Have the capacity to list vulnerable communities
 - b. make declaration of critical habitat mandatory upon listing
 - c. make recovery plans and TAPs mandatory
4. State and national information management systems should be implemented that can consolidate information on recovery actions.
5. Regular (biennial) monitoring of and reporting of population trend for threatened species should be mandatory for nationally-listed species.
6. Regular (5-10 years) national strategic overviews are required of the conservation status of individual faunal groups (e.g. freshwater fish, birds, mammals, reptiles, amphibians).
7. Regular reviews (5 years?) of the conservation status of individual nationally-listed species should be mandatory, with the results of such reviews then automatically reflected in the listings
8. Investigate alternative methods for prioritisation of recovery activities between species (i.e. don't just rely on conservation status)
9. Do not blindly assume that multi-species recovery approaches will deliver better conservation outcomes

I would be happy to expand on these concerns in person should the committee wish me to

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