AUSTRALASIAN BAT SOCIETY, INC.

ABN 75 120 155 626

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Standing Committee on Environment and Communications
Australian Government
PO Box 6100
Canberra ACT 2600.

17 December 2012

Dear Sir/Madam,

The Australasian Bat Society, Inc. (ABS) welcomes the opportunity to make a submission to this Inquiry on behalf of Australia's bat fauna. The primary aim of the ABS is to advocate for the conservation of bats and their habitats through the advancement of quality science (Appendix 1). Bats make up around a quarter of Australia's land mammal species—about 82 species of small cryptic insectivorous bats through to the large conspicuous flying-foxes. They typically make up a third or more of the mammal fauna in any given ecosystem across the country. We recognise the intrinsic value of all bat species and their place in this country's natural heritage, their contribution to biodiversity, and their roles in ecosystem services such as maintaining the structure and diversity of Australia's native forests.

Please find attached our submission, which addresses the terms of reference a. – g. in the order in which they have been set out. We present a view based on selected experiences rather than a fully qualified and thoroughly researched position, given the time available and that we are a volunteer organisation.

This Submission document represents the collective views of the Australasian Bat Society, Inc. It was authorised by the elected executive members and released by its president to The Senate Standing Committee on Environment and Communications.

If you have further questions with regard to the content of this submission, please do not hesitate to contact me on the email address above.

Sincerely,

Dr Kyle Armstrong
President
Australasian Bat Society, Inc.

Inquiry into the effectiveness of threatened species and ecological communities' protection in Australia

A submission from the Australasian Bat Society, Inc to the Australian Government's Standing Committee on Environment and Communications

Introduction

Under the *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*), ten species are listed in a Threatened category (**Table 1**), and one is formally extinct. Three of the four Critically Endangered mammals in Australia are bats, and one of these almost certainly became extinct in 2009.

Ten other species are considered to be Near Threatened, and 14 are Data Deficient (i.e. their status is unknown), so therefore more than a third of the 82 or so species of bat in Australia are exposed to some risk of extinction (Duncan et al. 1999; Van Dyck and Strahan 2008).

Table 1. List of Threatened species under the *EPBC Act*.

Common name	Scientific name	Status under EPBC
Southern bent-winged bat	*Miniopterus schreibersii bassanii*	Critically Endangered
Christmas Island pipistrelle	*Pipistrellus murrayi*	Critically Endangered
Bare-rumped sheath-tailed bat	*Saccolaimus saccolaimus nudicluniatus*	Critically Endangered
Semon's leaf-nosed bat	*Hipposideros semoni*	Endangered
Greater large-eared horseshoe bat	*Rhinolophus philippinensis*	Endangered
Large-eared pied bat	*Chalinolobus dwyeri*	Vulnerable
South-eastern long-eared bat	*Nyctophilus corbeni*	Vulnerable
Spectacled flying-fox	*Pteropus conspicillatus*	Vulnerable
Grey-headed flying-fox	*Pteropus poliocephalus*	Vulnerable
Pilbara leaf-nosed bat	*Rhinonicteris aurantia* (Pilbara form)	Vulnerable

While some of the ABS membership have had the opportunity to be involved in various initiatives such as Recovery Plans, Action Plans, and the development of survey guidelines and species profiles, we recognise many critical shortcomings of the way in which both State and Commonwealth Governments undertake their stewardship of protecting our natural resources. In highlighting some of those shortcomings, we refer to some pertinent recent examples to support our statements.

a. management of key threats to listed species and ecological communities;

There has been little effective management of key threats to listed bat species.

For many listed bat species, the key threats are well known and have been articulated in Action Plans and Recovery Plans. Some of these key threats are common to most listed species while others are more specific, and include:

- Habitat loss and modification/damage;
- Lack of roost protection;
- Shooting in commercial orchards (flying-foxes);
- Exposure to pesticides;
- Death caused by fruit netting and barbed wire fences;
- Poor public image/public persecution;
- Disease;
- Lack of available information needed for effective conservation management (e.g. poorly surveyed distribution of threatened insectivorous bats, lack of ecological knowledge of threatened insectivorous bats, and poor knowledge of population trends over time), not only for currently listed species but also the species listed as Near Threatened and Data deficient;
- Climate change effects (particularly the increased frequency of extreme heat events, fire, flooding);
- Collision with turbines blades at wind farms;
- Taxonomic gaps for some species (though currently being funded by the Commonwealth through the Australian Biological Resources Study).

To be effective, threatened species protection must enact a positive change in the indicators of threats. For example, they must result in an increase in population size and an increase in the natural distribution. For most Commonwealth Threatened species, population size has not been established, much less monitored, and for some the extent of their distribution or the boundaries between species has not been established.

In our view, there is been little in the way of effective management of key threats to listed bat species since the introduction of the *EPBC Act*. Moreover, where management actions have been attempted, none have resulted in a downgrading of a listed species status or had a positive effect on threatened status indicators. The only listed bat species that has

undergone a change in its status has been the Christmas Island pipistrelle which became extinct within three years of its EPBC listing as Critically Endangered.

Of the key threats, the most pressing and universal are habitat loss and roost disturbance (Duncan et al. 1999). Habitat loss affects all nine living listed bat species. It is perhaps the hardest trend to reverse, as native habitats have been and continue to be damaged by urban sprawl, agriculture and mining. In the foreseeable future, habitats of listed bats are expected to come under further pressure by resource exploitation and climate change. Small-scale efforts by volunteers, government environment departments and the acquisition of land for conservation by private companies seem to be the only efforts to try and stem the loss of habitat, but on a large scale these may fail to have a significant impact on reversing the fate of listed bat species. Roost protection is one area where, with comparatively little effort, funding and legislation, we could see a marked positive effect.

The Critically Endangered southern bent-winged bat and the Vulnerable grey-headed flying-fox provide examples of these threats and required management.

> The southern bent-winged bat is an obligate cave-dweller and is threatened by habitat loss and damage through drainage of wetlands, the degradation of rivers, the clearing of native vegetation and the intensification of agriculture, as well as pesticide biomagnification. One important consideration for this species is the low genetic variation among its populations. Cumulatively, the threats to its two maternity roosts, foraging sites and 'health' threaten the long-term viability of this species, and a key recommendation has been to focus effort on promoting habitat quality and population stability for these bats (Wood and Appleton 2010). A national Recovery Plan is currently being finalised (there is a State plan in South Australia), and no landscape habitat actions have been funded.
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> The southern bent-winged bat is known to breed in only two cave sites in southern Australia. One site is protected within a national park at Naracoorte, and the other is on private land near Warrnambool, Victoria, where the landowner is unsympathetic to the importance of the site. The current landowner undertakes land practices that threaten the integrity of the cave site, and makes access to the cave difficult for researchers. Attempted intervention by Commonwealth and State Government representatives has not been fully effective. There has not been resolution to provide effective protection of this critical site.

The main threats to the Vulnerable grey-headed flying-fox are the loss and modification of its habitat, shooting in commercial orchards and the disturbance of its camps (roosts). To address the first two of these threats, the Commonwealth funded a research project to identify information on the foraging habitat of this species for use in recovery planning and habitat management. One of the project objectives was to use the data to make recommendations for habitat retention and tree planting programs to assist in the conservation of grey-headed flying-foxes and provide alternative food sources to commercial fruit crops. The research produced useful maps to help drive the restoration of foraging habitat in New South Wales at least, though the existence of these maps to aid the recovery effort has not been promoted. A national Recovery Plan for the species was never finalised although a draft has been available since 2009.

A more thorough review of what programmes have been directed at the management of threats to listed bat species is beyond our capacity within this Submission timeframe, which stems partly from fact there is no single government reference point for monitoring the actions recommended in Recovery and Action Plans. However, for most living listed bat species, almost no management of actions to ameliorate threats has been funded anywhere near sufficiently to make any impact on the key indicators.

b. the development and implementation of recovery plans;

The ABS recognises the central of importance of collated information on the biology, relevant threats and recommended actions in the form of Recovery Plans, but is generally dismayed at how little support they are given.

Many of our members were involved in the preparation of Recovery Plans, as well as the 'Action Plan for Australian Bats' (Duncan et al. 1999), contributing specialist knowledge and unpublished experiences and observations. However information on biology, threats and recommended actions is collated and organised, such summaries bring focus to the plight of species at risk of extinction. To address this term of reference comprehensively and with adequate justifications needs significant effort and access to resources—capacity that the ABS does not have in the context and timeframe of this Submission. However, it is clear that, for those species that actually do have a Recovery Plan, adequate funding is not given to address the threats and undertake the recommended actions, and there is no clear mechanism or resource that summarises progress (**Appendix 2**).

Not all Commonwealth Threatened-listed species have a Recovery Plan.

Most bat species listed in a Threatened category by the Commonwealth now have a finalised or draft Recovery Plan. The remaining species, the orange leaf-nosed bat does not, and an enquiry revealed that there is no intention of providing one. The Pilbara form of this species that is listed as Vulnerable by the Commonwealth occurs in Australia's most active mining and exploration terrain, and is considered by all new project developments in the region, but apart from the comprehensive information given on the Commonwealth's SPRAT entry for this species, there is no overall strategy that allows each occurrence to be placed into regional context.

There are unacceptable delays in the preparation of Recovery Plans.

The time between listing of a species and the availability of a finalised Recovery Plan has varied for each of the Commonwealth listed bat species between one and more than 10 years (**Table 2**). The Commonwealth has an obligation under the *EPBC Act* to develop and enact Recovery Plans for listed species in a timely manner, but this is obviously not being achieved. Furthermore, in 2007 requirements for Recovery Plans were changed, leaving it to minister's discretion as to whether one should be prepared. A concomitant change in focus from Recovery Plans to recovery actions does not seem to have had much effect since this time.

Table 2. Years of listing by the Commonwealth (taken from DEWHA 2010) and publish date of a Recovery Plan (SEWPAC 2012).

Common name	**List date** (current listing)	**Recovery Plan** (made or adopted)	**Delay** (approx)
Southern bent-winged bat	18 December 2007	In review	5 years to date
Christmas Island pipistrelle	12 September 2006 (EN from 4 April 2001)	18 August 2004	3 years 4 months
Bare-rumped sheath-tailed bat	4 April 2001	8 January 2008	6 years 9 months
Semon's leaf-nosed bat	4 April 2001	14 July 2001	3 months
Greater large-eared horseshoe bat	4 April 2001	14 July 2001	3 months
Large-eared pied bat	4 April 2001	19 January 2012	10 years 9 months
South-eastern long-eared bat	4 April 2001	Draft submitted early 2012, not yet adopted	11 years
Spectacled flying-fox	14 May 2002	5 April 2011	8 years 11 months
Grey-headed flying-fox	6 December 2001	Draft submitted 2009, not yet adopted	11 years to date
Pilbara leaf-nosed bat	4 April 2001	Not commissioned	11 years to date

Prohibitively slow conservation status upgrading and recovery planning processes have contributed significantly to the recent presumed extinction of the Christmas Island pipistrelle (Lunney et al. 2011a). Although the alarming population declines of this species were first reported as early as 1997 (Lumsden and Cherry 1997), the species was not listed as endangered until 2001 and a Recovery Plan not developed until 2004. The Commonwealth examined an environmental impact statement (Corbett et al. 2003) that highlighted the absence of the species in the eastern end of the island and the further decline but made no response. During the seven year delay from the recognition of its decline and the completion of the Recovery Plan, the population of the pipistrelle continued to decline to the extent that an upgrading of its listing to Critically Endangered followed in 2006, more than one year after the plan was completed. Once it was finally implemented (in part), the Recovery Plan failed to provide a means for gauging its effectiveness and triggering alternative action when those in place were found to be ineffective. Scientists both within and outside the Government continued to monitor the decline of the pipistrelle throughout the 2000s, regularly alerting the Commonwealth Government to the critical situation and requesting further management and research actions. When this failed and faced with the imminent extinction of the pipistrelle, the ABS alerted the media and relevant politicians to the plight of the bat, however six critical months passed before there was finally an announcement of a rescue package for the species. This announcement exceeded (by several months) the deadline for the priority action of captive breeding set by species experts and consequently failed. Unarguably, the slowness of the recovery planning and conservation process was a significant factor in the extinction of this species on 26 August, 2009, when the last Christmas Island pipistrelle was recorded. From this experience, it has become apparent that Recovery Plans require regular review and clear and timely triggers for alternative action if current actions are failing (a standard adaptive management approach) and further, that recovery is not taken for granted but that emergency measures (e.g. immediate captive breeding options) are incorporated into the plans in the event that the species' decline continues unabated.

A second threatened species at risk from inaction is the Critically Endangered southern bent-winged bat. Listed under the *EPBC Act* in 2007, a draft Recovery Plan for the species is currently under review. This delay has highlighted a frustrating lack of coordination between Commonwealth and State legislation. Since 2009, the southern bent-winged bat has had a Recovery Plan in South Australia which contains one of two breeding colonies. With appropriate coordination between States and the Commonwealth Government, the information from this plan could have been quickly and efficiently expanded to cover the remainder of the species' range in Victoria and to finalise a national Recovery Plan. Better

coordination between governments to achieve conservation outcomes would go a long way to improving the efficiency and outcomes of conservation efforts to the benefit of all concerned.

Any approach to Threatened species management that is currently being implemented, whether they be Recovery Plans, Action Plans, Priorities Action Statements or regionally focussed Actions for Biodiversity, are in danger of failure simply because Governments do not allocate sufficient resources to the recommended actions.

One of the main challenges to the effectiveness of national and state Recovery Plans has been a lack of funding commensurate with the priority recovery actions identified in the plans. This fundamentally undermines the value of the Recovery Plans and amounts to a waste of the considerable time and funds invested in the planning process, although studies such of those as Bottrill et al. (2011a,b) found that Recovery Plans did encourage field surveys and contributed to better understandings of population size and extent.

The ABS did not have the capacity to compile expenditure against Recovery Plans and the Action Plan for Australian Bats. It does acknowledge that some funding has been allocated, for example the Australian Biological Resources Study (ABRS) has provided 3-year funding to resolve the taxonomic status of five of the Commonwealth listed bat species, an essential first step in any conservation effort. However, even a casual run through the list of actions derived for each listed bat species (**Appendix 2**) identifies that many of these have not been achieved despite more than a decade of listing in most cases—mainly because they have not be given support. Some of the actions have been furthered through offsets or as requirements to development proponents, but such focus is *ad hoc*.

State Governments have their own systems for summarising priority species, threats and actions, which suffer from the same general lack of funding and action. In addition, there are sometimes mismatches between State and Commonwealth priorities.

The same shortfalls identified for national Recovery Plans developed by the Commonwealth often limit the effectiveness of State efforts to conserve species. This includes a failing to provide funding, implement recommended actions and monitor progress.

For example, the Western Australian Department of Environment and Conservation makes their Recovery Plans freely available on their website, but does not provide one for the Pilbara leaf-nosed bat that is listed under Schedule 1 of its own State legislation. Mining

developments in the Pilbara regularly need to consider the presence of this species in project areas, often at significant cost, but there is no centralised plan within the regulator or government land manager that is able to place local occurrences into a regional context and recommend standard actions that would be common to most situations. In the case of this species, significant private resources have been spent on surveying and monitoring, but none have been directed at protecting the few identified roost sites that contain most of the known regional population. Furthermore, there has been little effective effort to confirm roost sites in areas where the species has been detected, despite that the Commonwealth's conservation advice highlights the importance of roost sites.

In Queensland, species Recovery Plans do not exist in favour of Actions for Biodiversity as part of the Back on Track programme, which focuses on regions rather than species. Compiled information available as part of the species accounts is brief when it comes to listing threats, and the regional Actions for Biodiversity documents do not always include species they should, much less specify detailed actions that need to be undertaken to effectively manage them. For example, Semon's leaf-nosed bat (EN under the *EPBC Act*) is not listed under the Cape York Peninsula Natural Resource Management Region document (DERM 2010) despite being identified as an inhabitant of this region in their own species accounts. There are some actions listed for the effective management of the greater large-eared horseshoe bat (and other bat species), but there is no indication of how these will be achieved, funded and how outcomes will be monitored.

In New South Wales, Recovery Plans were abandoned altogether in 2005 in favour of the development of Priorities Action Statements (PAS) (Lunney et al. 2011b). A total of 361 PAS actions were listed for twenty species of bat listed as threatened in NSW; 163 (45%) were research actions, and 115 (32%) were high priority conservation actions. These PAS documents were promoted as the basis for future Recovery Plans and effort was directed toward prioritising actions. The PAS have provided an opportunity to accelerate the process of species recovery planning by identifying actions that are common to a range of species. However, there are several shortcomings with this process, which have not been addressed to date:

1. Funding for most recovery actions has yet to be identified and seems to depend on *ad hoc* funding decisions by individual land management agencies in different districts.

2. The effective management of many NSW bat species depends on surveys or research that will take years to complete, yet there are no timetables for funding or initiation of the PAS. Seed funding is not provided by the State Government land manager.

3. A further 19 species of NSW bats do not have a PAS. These are also impacted by the continuing loss and degradation of habitats in addition to the growing effects of climate change. While the study of threatened species has obvious merit, it should be acknowledged that the study of more common species can provide ecological context and the basis for comparison with patterns worldwide because they are more amenable to yielding statistically significant results and are more readily studied. Furthermore, the study of more common species can help prevent them entering threatened lists, and may better define ecological needs in the context of Key Threatening Processes.

Despite these serious shortcomings, the PAS has allowed managers to address official recovery actions on all of NSW's Threatened bats rather than evaluating *ad hoc* individual accounts, and represents a precursor to the larger task of implementing the identified actions. In addition, it accounted for species and threatening processes that were relevant in NSW. In contrast, relatively few bat species found in NSW were listed in the Commonwealth's 'Action Plan for Australian Bats' (Duncan et al. 1999), which precluded attention and funding given to them (Lunney et al. 2003). The state level process was less exclusive, considered local context and allowed far more issues to be examined. However, overall, it suffers from the same inadequate levels of funding and action as national Recovery Plans.

The Commonwealth is already aware of the need to increase the effectiveness of Recovery Plans.

The Commonwealth Government recently commissioned a study into the effectiveness of single-species Recovery Plans, which found that very few species had improved sufficiently for them to be delisted (Bottrill et al. 2011a,b). In general terms, most apparent improvements derived from increases in known population size simply because greater survey effort had been given to species with Recovery Plans. The study pointed out that the effectiveness of Recovery Plans was diminished because of a lack of legal obligation to fund the plans and that guidelines in plans were rarely linked to actions. There has been little action noted since this study.

c. management of critical habitat across all land tenures;

The inadequate management and lack of protection of vital habitat for threatened bat species is an area in which the recovery process is patently failing.

Many Australian bat species are highly colonial and congregate in large roosts to rest and breed. Failure to actively protect these sites leaves these roosts at risk of inadvertent or deliberate damage and destruction. Large scale vegetation clearance for agriculture and development (e.g. in Queensland), poor fire and land management all increase the risk of highly detrimental impacts on roosts on both public and private land. In some cases, such as the Critically Endangered southern bent-winged bat, one of the two remaining maternity roosts is located on private land with no protection and at the whim of an owner that is unsympathetic to the plight of the species. Other roost sites in old mines and caves are well known, have featured in the literature and been identified in management plans but there has been no concerted effort to protect these and ensure continuing functioning of implemented measures such as bat-friendly gates. It is vital that provisions are made by both State and Commonwealth Governments to protect sites such as these.

The Commonwealth's *EPBC Act 1999* makes clear provision for the protection of critical habitat, yet the failure to promote this provision has rendered it ineffective.

Since the commencement of the *EPBC Act* in July 2000, critical habitats have been listed for only five threatened species – three albatross, the black-eared miner and the Ginninderra peppercress. Two of the three Critically Endangered bats have not had critical habitat recognised and protected (the exception being the Christmas Island pipistrelle, which was present in a national park, but is now presumed extinct), nor have the remaining six listed species. The destruction of roost sites has been identified as a primary threat to all Commonwealth listed species of bat – but a failure to protect these across tenures and regardless of development pressures certainly increases the risk of extinction of these species. In some cases such as the Pilbara leaf-nosed bat, acquiring lands and implementing effective and ongoing management might help to downgrade or even delist this species.

The situation of flying-fox colonies is often surrounded by a complex set of issues, but there has been no set of clear guidelines that allows for the protection of large aggregations of the two listed species. The disturbance of camps is an identified threat to the survival of the grey-headed flying-fox. In order to address this threat, the recovery team formed in 2006 determined a range of criteria by which camps could be classified for their importance to the

species. Of the 216 camps subsequently assessed, 166 were deemed to be of critical importance by these criteria and recommended for protection in the draft Recovery Plan. However, no camps were recognised as critical habitat under the *EPBC Act* and the Recovery Plan was never finalised and remains in draft today. The grey-headed flying-fox remains vulnerable (and is likely to be increasingly impacted by climate change) while none of its roost sites have to date been formally protected.

An ecosystem approach to Threatened species management is not likely to improve their conservation status if specific actions are not implemented.

Policy shift by both the Commonwealth and some States (e.g. Queensland) in recovery planning from a focus on single species to an ecosystem approach has been problematic for bats. While an ecosystem conservation approach is intuitively more efficient, it can neglect the needs of individual species within the system and thereby fail to protect that species. Critical habitat can be a relatively minor and restricted feature of the landscape, and broad-scale approaches to management may not adequately address these. For example, installing and maintaining bat-friendly gates on old mines is a specific action that would address protection of critical roost sites very effectively, but such actions have been ignored or implemented haphazardly and not maintained.

The case of the Christmas Island pipistrelle appears to have prompted a shift in government conservation policy. In September 2009, Minister Garrett announced his belief that resources would be better focussed on ecosystems rather than single species, and that it may be too late to save some species from extinction (Lunney et al. 2011a). Whether one agrees with this view or not, it is depressing that the Minister at the time made these comments based on his recent experience with the Christmas Island pipistrelle—a species that did not require an unacceptably large amount of money to assist, and one that had been allowed to progress too far into the extinction vortex before the Government began to act. The ABS maintains that there should always be effort given to saving species, and Governments could achieve more by working with private entities. In the case of the Christmas Island pipistrelle, management of its critical habitat in the face of the invasive ant problem was a daunting task (and remains so for the other Threatened species on the island), however other solutions had been proposed.

d. regulatory and funding arrangements at all levels of government;

Debates about species triage is an indication that Governments are not committing enough resources to the protection and management of Australia's Threatened species and communities. We feel that the Australian Government at all levels has failed to promote the importance of Australian species and ecological communities. Conservation is rarely high on political agendas and funding for research and recovery of threatened species and communities is completely inadequate. This is exemplified by the current wave of discussion about adopting triage in respect of 'saving' threatened species. We should not have to choose whether to save a species or not, and advancing a concept based on the reality of triage means accepting that we should be comfortable with current levels of funding and inefficient processes. As a society, the ABS will not accept species extinction, and our first hand experience with a recent extinction on Christmas Island has made us painfully aware that they are preventable, and economically so, especially if Governments work with private entities.

The ABS is concerned that there appears to be no clear strategy for the allocation of recovery funds, neither in relation to conservation status nor likelihood of recovery success.

The main means by which reasonably prompt funding allocation is triggered appears to be related to the amount of media coverage the species has received (e.g. the orange-bellied parrot). As bats often have an unjustly poor public image, allocation of funds on the basis of public support is unlikely. The bias towards allocating funds towards popular and high-profile species discounts the often greater value of less high-profile species in Australia's ecosystems. For example, the important roles by flying-foxes of seed dispersal, pollination and the genetic maintenance of isolated forest patches means that their conservation is integral to maintaining native forests across their ranges. However, the poor and imbalanced representation of flying-foxes in the media means that conserving them has been of low priority across all levels of government, especially in Queensland (*see next point below*). This is inconsistent with the greater emphasis on corridor and ecosystem conservation for the large number of ecosystems for whom flying-foxes perform a critical role.

The proposed devolvement of regulatory responsibilities currently under the *EPBC Act* to the States would be a disaster.

States governments are under-resourced and are under more pressure to fast-track approvals for developments. It is worrying that the Commonwealth is considering devolving some environmental powers to States, when these States have demonstrated very recently that they do not understand the importance of the biodiversity they have a responsibility to protect.

The reintroduction of shooting in Queensland as a control measure for flying-foxes on orchards under Damage Mitigation Permits is a case in point. This State also considered proposals to declare flying-foxes as pests (Queensland Land Protection Legislation (Flying-fox Control) Amendment Bill 2012), though fortunately rejected. The burden of proof for demonstrating the effectiveness of shooting should rest with those who wish to promote it—there is no science behind the strategy of shooting to demonstrate its effectiveness, or its relative effectiveness in comparison to other more intelligent, non-lethal, cost effective and humane methods. Compounding the complexity of this particular situation is that two flying-fox species that may be shot are listed as Threatened by the Commonwealth, which is effective demonstration that States do not have national interests in mind. Furthermore, the method is inconsistent with more comprehensive animal ethics requirements for research scientists and, for example, the strict requirements for kangaroo culling which require clean kills. The ABS feels strongly that the Commonwealth should not give its regulatory power to State Governments that demonstrate a willingness to erode their environmental protections. The Commonwealth Government must continue to maintain its own specific role in the protection of nationally threatened species and its willingness to intervene where the interests of threatened flora and fauna are being neglected at State or Territory level.

e. timeliness and risk management within the listings processes;

Most (8 of 10) bat species on the Commonwealth Threatened list were included soon after the adoption of the new *EPBC Act*, hence timeliness of the listings process has not been identified as an issue by the ABS. The upgrade in status from Conservation Dependent to Critically Endangered for the southern bent-winged bat was relatively quick, perhaps because under the *EPBC Act* there is a requirement for good timeliness with upgrades. The Christmas Island pipistrelle was subject to a relatively long period of 7 years between recommendations of immediate recovery actions in 1997 and 1999 (Lumsden et al. 1999)

and when it was moved from the Endangered to the Critically Endangered category in September 2006.

Perhaps the most important comment the ABS can make here is in relation to the Threatened Species Scientific Committee, the membership of which is relatively small and voluntary, and therefore we enquire whether it needs to be better resourced given the number of submissions they deal with.

f. the historical record of state and territory governments on these matters;

We would have liked further time to respond to this point because we think it would have been instructive to review in detail how the States and Territories have dealt with listed species. In general, we have little confidence in State and Territory Governments to adequately fund and direct basic threatened species research and recovery. As support for this statement, we provide several examples of the shortfalls of the States:

1. We are aware that the South Australian Government has dropped its "No Species Loss" programme within a few years of its proposal and that the important bioregional survey program has all but been abandoned.

2. South Australia has also adopted Queensland's 'Back on Track' species priority program, which is widely considered to be based on a poorly derived set of criteria.

3. In early September 2012, the Queensland Government reintroduced shooting as a lawful means with which to control flying-foxes on crops. This is not based on any science that suggests that shooting will be effective, is seen as a retrograde step that panders to extremist views, and ignores the alternative humane, intelligent, non-lethal and cost effective solutions for excluding flying-foxes from crops.

4. The public service cuts introduced by the Newman Government in Queensland reduced the department charged with managing that State's lands and biodiversity. While the cost of previous natural disasters is one reason given in justification for cuts to jobs, we question how effective this Government will be if it was given increased power from the devolvement of Commonwealth responsibilities, and whether both the job cuts and the devolvement of powers will lead to an increase in the effectiveness of Threatened species management in this State. Other state government environment

departments have also suffered severe staff cuts, including in the Threatened species areas.

5. Under *term of reference b*, we made comment that the New South Wales Priorities Action Statements had had limited effectiveness since their adoption, mainly because of lack of funding, implementation of actions and outcomes monitoring.

g. any other related matter.

What the ABS would like to see.

- A clearer strategic plan for funding and implementation of recommended actions for the recovery of Threatened species, and one driven by government rather than individuals, volunteers or societies, though drawing upon their expertise;
- More regular updates of Action Plans;
- More regular updates of the Threatened species website;
- Finalise and adopt draft Recovery Plans as a priority, and develop a strategic plan for the Pilbara leaf-nosed bat;
- One 'port of call' where monitoring of progress against Recovery Plans can be followed;
- More consistent dealing across the States for nationally listed Threatened species;
- Prompt action to identify and find effective solutions for the protection of critical habitat of bat species, especially those that congregate in caves, mines and camps;
- Resistance to calls from business interests to weaken Australia's environmental laws, processes and protections;
- A better integrated approach to both species and ecosystem focussed conservation priorities and management, ensuring that identified key threats are addressed at the level of species (especially for Threatened listed species) and at the landscape scale (to manage wide ranging threats that could contribute to species listed as Near Threatened qualifying for a higher conservation status).

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Appendix 1

About the Australasian Bat Society, Inc

The ABS is a professional body comprising around 300 members, representing research scientists in universities and government, students, wildlife rehabilitators, environmental consultants and members of the public with a general interest in bats. We aim to promote the conservation of all populations of all species of bats in Australasia, and our activities extend from grass roots advocacy to scientific research, and the development of standards and the provision of conservation advice at State and Commonwealth level.

Our members have been instrumental in the development of Commonwealth documents and resources such as "The Action Plan for Australian Bats", "Survey guidelines for Australia's threatened bats", entries in the Species Profile and Threats Database, and several Recovery Plans for Threatened-listed species.

Through its members, the ABS has strong links with similar societies in other countries such as Bat Conservation International and the South East Asian Bat Conservation Research Unit, and our members contribute our specialist knowledge to international organisations including the International Union for the Conservation of Nature, Flora and Fauna International, the World Wildlife Fund and Conservation International.

http://abs.ausbats.org.au

Appendix 2

Actions required under national Recovery Plans for five Commonwealth listed species, and some indication of whether these have been funded or completed.

Actions required	Actions completed
Southern bent-winged bat *Miniopterus schreibersii bassanii* ($4,140,000)	
• Develop techniques to accurately estimate population numbers, survival rates and breeding success.	Partly
• Undertake an intensive program at both maternity sites, and other key sites, to regularly estimate numbers, so that current status and population trends can be determined.	Partly
• Monitor the health of individuals in key roosting sites, especially at the Naracoorte maternity cave.	Partly
• Determine survival rates of various age and sex cohorts.	No
• Undertake direct observations at maternity caves to assess breeding success.	No
• Determine the microclimatic conditions within maternity caves.	Partly
• Undertake a strategic survey program at non-breeding sites to regularly estimate numbers, so that current status and population trends can be determined.	Partly
• Undertake surveys to locate additional unidentified roosting sites.	No
• Determine availability of foraging resources.	No
• Investigate dietary requirements.	No
• Investigate the impact of pesticides.	No
• Investigate the impact of wind farm developments.	No
• Determine a bat gate design suitable for use on caves.	No
• Undertake a threat assessment to establish which are the most pressing threats, and develop a process to implement resulting actions.	No
• Prepare and implement management plans for the two maternity sites.	Partly
• Prepare and implement management plans/agreements for all key non-breeding sites.	No
• Control introduced animals.	No
• Erect/maintain signs to restrict or discourage access to important cave roosting sites.	Partly
• Provide information and advice to local councils for inclusion in planning processes.	Partly
• Provide information to state government agencies for inclusion in fire planning processes.	Partly
• Develop and promote a code of conduct for cave visits.	Partly
• Protect key areas of foraging habitat around the breeding sites and key non-breeding sites.	No
• Restore and enhance foraging habitat.	No
• Clarify the taxonomy of bent-wing bats in southern Australia.	Partly
• Clarify the extent of geographic range based on genetic studies.	Partly
• Develop a field identification tool to distinguish between the two subspecies.	No
• Improve understanding of population structure to inform recovery actions.	No
• Compile, maintain and assess information on bat roosting sites.	Partly
• Develop a project register.	No
• Design and implement a long term monitoring program within an adaptive management framework.	No
• Develop and implement a communication plan to raise awareness in the general community.	No
• Change perceptions of landowners towards pesticide use.	No
• Maintain and strengthen partnerships with community organisations interested in caves and the conservation of Southern Bent-wing Bat	Partly
• Increase broader community participation in revegetation of foraging habitat and the protection and restoration of roosting caves.	No
• Develop closer links with indigenous groups to ensure multi-objective management is undertaken at caves with cultural heritage values.	Partly
• Establish a Southern Bent-wing Bat Recovery Team.	No
• Conduct a mid-term review of the implementation of the Recovery Plan to assess if the recovery is on-track.	No
• Review the implementation of the Recovery Plan and re-assess the status of the sub-species at the end of the five-year period.	No

Bare-rumped sheath-tailed bat *Saccolaimus saccolaimus nudicluniatus* ($259,000)	
• Obtain voucher echolocation calls from individuals confirmed to be the bare-rumped sheathtail bat.	Partly (private)
• The echolocation call of the species in Australia is characterised in a format that can be applied in targeted surveys.	Partly (private)
• Review libraries of reference calls of bats collected in the north-eastern Queensland and the Top End of the Northern Territory for the presence of this species.	No
• Conduct targeted surveys using a range of techniques in the wet season.	No
• Increase public and landholder awareness of the species through the production and distribution of an information sheet to assist in the location of roosts.	No
• Protect all roosts located within and outside conservation reserves.	No
• On availability, supply researchers, departmental staff and consultants with voucher echolocation calls.	No
• Determine the roosting requirements during both the non-breeding and breeding seasons.	No
• Identify the diet in the dry and wet seasons.	No
• Establish sites for bi-annual monitoring to document the seasonality of occurrence of the species.	No
• Conduct a genetic study investigating the taxonomic status of populations in northeastern Queensland and the Northern Territory.	Partly (current)
• Conduct a genetic study comparing the taxonomic status of Australian populations with those from New Guinea, Timor and elsewhere within the species' distribution.	Partly (current)
Semon's leaf-nosed bat *Hipposideros semoni* ($994,000*) *shared with *R. philippinensis*	
• Undertake review of information and targeted surveys for species.	No
• Identify natural cave systems that require survey.	No
• Locate and map abandoned mines that require survey.	No
• Locate other roost structures that require survey.	No
• Undertake field surveys to assess possible roost/ maternity sites.	No
• Identify dietary requirements and other ecological factors.	No
• Analyse survey data and other information.	Partly?
• Prioritise sites for on-ground conservation management work.	No
• Install bat gates and carry out other management as required to protect sites in collaboration with relevant stakeholders.	No
• Undertake follow-up monitoring work at sites where management strategies have been instigated.	No
• Provide information through local radio and newspaper media to advise progress and to increase awareness.	No
• Hold recovery team meetings every two years, and less formal communication on a more regular basis.	No
• Encourage and assist other community groups to join the recovery team.	No
Greater large-eared horseshoe bat *Rhinolophus philippinensis* ($994,000*) *shared with *H. semoni*	
• Undertake review of information and targeted surveys for species.	No
• Identify natural cave systems that require survey.	No
• Locate and map abandoned mines that require survey.	No
• Locate other roost structures that require survey.	No
• Undertake field surveys to assess possible roost/ maternity sites.	No
• Identify dietary requirements and other ecological factors.	No
• Analyse survey data and other information.	Partly?
• Prioritise sites for on-ground conservation management work.	No
• Install bat gates and carry out other management as required to protect sites in collaboration with relevant stakeholders.	No
• Undertake follow-up monitoring work at sites where management strategies have been instigated.	No
• Provide information through local radio and newspaper media to advise progress and to increase awareness.	No
• Hold recovery team meetings every two years, and less formal communication on a more regular basis.	No
• Encourage and assist other community groups to join the recovery team.	No

Continued over ...

South-eastern long-eared bat *Nyctophilus corbeni* ($1,310,000)	
• Investigate if there are more effective field techniques, particularly ultrasonic detection, to survey for the South-eastern Long-eared Bat and determine detection probability using conventional trapping techniques.	No
• Clarify the distribution patterns of the species using targeted surveys.	No
• Identify broad habitat requirements of the South-eastern Long-eared Bat.	Partly
• Determine the roosting requirements during both the non-breeding and breeding seasons.	Partly
• Determine the diet and foraging habitat.	No
• Identify population demographics.	No
• Identify key populations based on genetic isolation of the species across its range.	No
• Identify key populations based on high densities as indicated by high recording rates across its range.	No
• Incorporate information on key populations (as identified in 3.2), into relevant land management plans and processes.	No
• For all other populations (i.e. those not identified as key populations in 3.2), incorporate information into relevant land management plans and processes, and protect where possible.	No
• As a precautionary approach, while detailed information is being collected on the appropriate fire regimes for this species (Action 4.2), map all areas of old growth mallee within the range of this species, and protect these from wildlife and fuel reduction burns.	No
• Investigate the impact of fire frequency and intensity, including fuel reduction burns and wildfires on the South-eastern Long-eared Bat and incorporate this information into fire management plans across the species' range.	No
• Investigate the impact of timber harvesting practices on this species.	Partly
• Incorporate findings from this research into forest management.	?
• Investigate the impact of commonly-used agrichemicals on the South-eastern Long-eared Bat.	No
• Investigate approaches to minimise exposure of key populations of the South-eastern Long-eared Bat to agrichemicals.	No
• Investigate the impact of coal seam gas and mineral sands exploration and extraction in forested areas on the South-eastern Long-eared Bat.	No
• Investigate approaches to minimise exposure of key populations of the South-eastern Long-eared Bat to impacts of coal seam gas and mineral sands extraction.	No
• Identify populations that occur in discontinuous forest habitat across the species' range.	No
• Assess the possibility of linking isolated populations and, where feasible, undertake habitat renewal actions to link these to larger forested tracts supporting known populations or potential habitat.	No
• Assess the impact of feral animals.	No
• Implement control programs of feral species identified as having a known or potential impact on key populations.	No
• Conduct a threat analysis.	No
• Design and implement a long term monitoring program within an adaptive management framework.	No
• Identify opportunities for community involvement in the conservation of the South-eastern Long-eared Bat.	No