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The Secretary  
Standing Committee on Environment, Communications,  
Information Technology and the Arts  
Legislation Committee  
email [ecita.sen@aph.gov.au](mailto:ecita.sen@aph.gov.au)

Dear Secretary,

**Environment & Heritage Legislation Amendment Bill (No. 1) 2006**

We make the following comments on the above Bill.

While the Environment Protection and Biodiversity Conservation Act (1999) has the potential to provide the necessary protection of threatened species and communities once we are aware of their location, it provides no guidance to proponents of potentially threatening development activities about survey requirements. Nowhere in the Act or schedules are there protocols for determining the presence or absence of species in areas facing habitat alteration or destruction, nor does it require that proponents identify and implement a survey strategy of sufficient rigour to detect a species with an acceptably high probability if it is, in fact, present. Similarly, there is no minimum statistical power requirement for monitoring schemes established under the Act to detect unacceptable changes in threatened species populations, exposing species to the risk of unnoticed declines. The lack of guidance in the Act about minimum acceptable survey efforts renders it vulnerable to naive mis-use and even abuse.

There is now a substantial body of literature documenting issues associated with detectability of plants and animals under standard survey conditions and the power of monitoring designs to detect changes in threatened species populations resulting from habitat alteration. Factors shown to influence faunal detectability include temporal, climatic and environmental variables, while plant detectability is likely to be affected by variables such as the observer, search method, habitat management regime, lifeform and lifestage of the plant, and other characteristics affecting the visibility of the plant.

It is unreasonable to assume perfect detection in a flora or fauna survey and it is no longer acceptable for threatened species legislation to fail to address this issue. In the attached review, we have highlighted that estimated single-visit detection probabilities range from 0.20 to 0.84 for birds, and 0.14 to 0.55 for owls and arboreal marsupials. This

means that for some species, significant survey effort is required to have any confidence that the species is in fact absent from a site.

We attach a review of this literature in the context of threatened species legislation in Australia and elsewhere and provide examples of how suitable survey protocols could be established for a range of species, based on what is known about their detection rates in standard surveys. We recommend the inclusion of requirements in schedules to the Act that set minimum standards on the power of surveys for detecting species and important changes in species populations.

We do not mind our names and address being made public. We request a chance to address the Committee in relation to this inquiry.

Yours faithfully,

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