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**SPECIES LISTING AND PRECAUTION UNDER THE
*ENVIRONMENT PROTECTION AND BIODIVERSITY
CONSERVATION ACT 1999 (Cth)* ***

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* This paper is based on the current legislation. The Environment and Heritage Legislation Amendment Bill (No. 1) 2006 is currently before the Senate (6/11/2006) and, if passed, will impact on the listing methodology outlined in this paper although the precautionary considerations are no less relevant.

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I INTRODUCTION

The process of listing and delisting of species for the purpose of conservation of biodiversity is complex and the subject of considerable debate.¹ The consequences of listing may have an environmental benefit but there are also social, economic and cultural implications and as a result the decision makers work within a volatile environment. One of the important issues to be resolved is how decisions for listing are made in the face of scientific uncertainty and the role of the precautionary principle in the decision making process.²

The use of the precautionary principle in environmental decision making is not new. It has been the subject of extensive debate as to its meaning, relevance and application which is beyond the scope of this paper.³ This paper considers the contextual background to the use of precaution in the species listing regime and, in particular, some issues relating to species listing and precaution under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act).

Species listing is an area that lends itself to the use of the precautionary principle. The potential for serious or irreversible damage is high if incorrect decisions are made about the characterisation or status of a species. There is often scientific uncertainty in relation to the ecology of the species and the potential impacts of activities on the species. The decision making process is open to challenge when the available

¹ See, eg, J B Ruhl, 'The Battle over Endangered Species Act Methodology', (2004) 34 *Environmental Law* 555; Hiroyuki Matsuda, 'The Importance of Type 11 Error and Falsifiability' (2005) 11 *Human and Ecological Risk Assessment* 189; George Stankey and Bruce Shindler, 'Formation of Social Acceptability Judgments and Their Implications for Management of Rare and Little- Known Species' (2006) 20 *Conservation Biology* 28.

² See, eg, Chris Dickman 'The Scientific Committee under the NSW Threatened Species Conservation Act 1997: seven years of debate' in Pat Hutchings, Daniel Lunney and Chris Dickman (eds), *Threatened Species Legislation: is it just an Act?* (2004) 68, 70.

³ See the recent decision of *Gray v The Minister for Planning and Ors* [2006] NSWLEC 720 (27 November 2006). For a general introduction see Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (2005); Jacqueline Peel, *The Precautionary Principle in Practice: Environmental Decision-making and Scientific Uncertainty* (2005). For further discussion see for example Julian Morris (ed), *Rethinking Risk and the Precautionary Principle* (2000); Rosie Cooney & Barney Dickson (eds), *Biodiversity & the Precautionary Principle: Risk and Uncertainty in Conservation and Sustainable Use* (2005); Poul Harremoës et al (eds), *The Precautionary Principle in the 20th Century: Late Lessons from Early Warnings* (2002).

scientific evidence is inadequate or inexact. The decisions are generally science based and the nexus between science and policy is confusing. Decisions are often made against a background of hostility or potential conflict as there are numerous stakeholders affected by the outcomes.

This paper argues that the precautionary principle should be used under the EPBC Act in both the preparation of scientific advice to the Minister and in Ministerial decision making. The underutilised s 190 of the EPBC Act is identified as a possible vehicle for the application of a precautionary approach.⁴

II PRECAUTION UNDER THE EPBC ACT

The precautionary principle was one of the key elements of the National Strategy for Ecologically Sustainable Development developed in Australia between 1991 and 1993.⁵ It was incorporated into the Intergovernmental Agreement on the Environment⁶ signed by all levels of Australian government from the national level to the local level.

The object provisions of the EPBC Act include the promotion of ecologically sustainable development (ESD)⁷ and s 3A(b) identifies the precautionary principle as part of the principles of ESD. The principle is then given a working definition under s 391(2):

‘The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage’.⁸

⁴ This section is unaffected by the Environment and Heritage Legislation Amendment Bill (No. 1) 2006.

⁵ Commonwealth of Australia, National Strategy for Ecologically Sustainable Development 1992.

⁶ Intergovernmental Agreement on the Environment [3.5.1]. The Agreement is set out in the Schedule to the *National Environment Protection Council Act 1994* (Cth).

⁷ EPBC Act, s 3.

⁸ *Ibid*

III THE PRECAUTIONARY PRINCIPLE AND BIODIVERSITY CONSERVATION

Originally the precautionary principle was raised in the context of industrial or 'brown' issues in areas such as pollution, toxic waste and food quality and to a large extent the environmental debate on the principle has been informed by the original approaches to precaution. The area of biodiversity conservation presents a different context for the application of the principle. The uncertainty to be evaluated is qualitatively and quantitatively different, the institutions and the scientific disciplines, the procedures and mechanisms for dealing with risk expose a new set of considerations in the debate. The original arguments about the principle often had a Northern Hemisphere focus polarising European and United States views or pitting environment against corporations.

The biodiversity agenda goes beyond these bounds. Biodiversity conservation is most critical in the developing world and Australia which account for the majority of the world's biodiversity. No longer is it industry that may be challenged by the principle, the new stakeholders can be communities struggling to eke a living out of the land or the sea, property developers or local councils wishing to expand or merchants wishing to trade in wildlife. Biodiversity conservation impacts on a vast array of socio-cultural systems and institutions.

Some of the most informative discussion on precaution and biodiversity comes from Precautionary Principle Project.⁹ Even in the face of heated debated and concessions being made to many and varied stakeholders the principle was identified as a valid response to uncertainty in biodiversity conservation and it was acknowledged that the principle 'provides an important policy basis to anticipate, prevent and mitigate threats to the environment'.¹⁰

⁹ The Precautionary Principle Project is a joint initiative of the World Conservation Union. (IUCN), Fauna & Flora International, ResourceAfrica and TRAFFIC
<<http://www.pprinciple.net/>> at 9 February 2007.

¹⁰ The Precautionary Principle Project Guidelines for Best Practice
<http://www.pprinciple.net/PP%20Guidelines_english.pdf> at 9 February 2007.

IV THE CATEGORY SYSTEM

One of the main strategies for conservation of biodiversity has focused on the protection of individual populations or species.¹¹ Although there is considerable debate about the appropriateness of a species approach to biodiversity conservation¹² lists form the basis of many conservation measures and influence the allocation of resources.¹³

The overall objective of the species listing legislation is biodiversity conservation¹⁴ through the prevention of extinction and the recovery of threatened species, populations or communities as well as protection of critical habitat of the threatened species and elimination of processes that may threaten the listed species. Although there can be a downside to listing¹⁵ there are benefits to having the status of the 'special'. Generally the 'listing' is the trigger for all protective measures under the legislation, with listing come the 'spoils'.

Listing stimulates both a reactive response, in the control of human behaviour and requirements for development impact assessments, and proactive response through the potential allocation of resources, plans for habitat protection, recovery and threat abatement plans and identification of key threatening processes.

The international benchmark for listing is the World Conservation Union (IUCN) Red List of Threatened Species and all Australian legislation is 'based on the criteria developed by the IUCN and in the Red List Categories'.¹⁶ The IUCN approach to

¹¹ There are numerous texts explaining approaches to biodiversity conservation, see, eg, William Sutherland (ed) *Conservation Science and Action* (1998).

¹² See, eg, Holly Doremus, 'Biodiversity and the Challenge of Saving the Ordinary' (2002) 38 *Idaho Law Review* 325; Daniel Lunney et al, 'Australian Bat Research: the Limitations of the Action Plan for Australian Bats in Determining the Direction of Research' (2003) 8 *Pacific Conservation Biology* 255.

¹³ Bonnie Burgess, *Fate of the Wild: the Endangered Species Act and the Future of Biodiversity* (2001).

¹⁴ See, eg, s 3 of the *Threatened Species Conservation Act 1995* (NSW).

¹⁵ For example a listed species can be a liability to a stakeholder who may be tempted to take steps to eradicate the species prior to development applications being submitted.

¹⁶ Pat Hutchings, 'Invertebrates and Threatened Species Legislation' Pat Hutchings, Daniel Lunney and Chris Dickman (eds), *Threatened Species Legislation: is it just an Act?* (2004) 88.

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2006 Refereed Conference Papers**

species listing is recognised in Australia as a significant reference point and in some cases is the prescribed the listing methodology.¹⁷ At the Commonwealth level the listing guidelines indicate that the IUCN guidelines ‘inform the considerations of the Committee in applying their guidelines’.¹⁸

The IUCN developed its system of categorisation to ensure objectivity and transparency, it is science based and the criteria are clearly quantitative in nature.¹⁹ There must be a consistency of application of the criteria which ensures that the system can be applied uniformly by different people, clear guidance on the criteria ensures objectivity and enables comparison across taxons. The majority of assessments are made by IUCN Species Survival Commission Specialist Groups or other suitably qualified authorities,²⁰ the essential feature being that assessments are made by ‘scientific’ experts.

This approach means that the nomination process is quite complex with nominations being supported by sound scientific evidence using best available data concerning numbers, trends and distribution. Although quantitative evidence is a requirement for the IUCN the absence of high-quality data is not necessarily a deterrent as methods involving estimation, inference and projection are acceptable provided there is consistency of application and clear guidance on how to evaluate the evidence.

The IUCN listing criteria is represented in Table 1.

¹⁷ See, eg, *Territory Parks and Wildlife Conservation Act 2000* (NT) Territory Wildlife Regulations, Regulation 2 Prescribed Classifications.

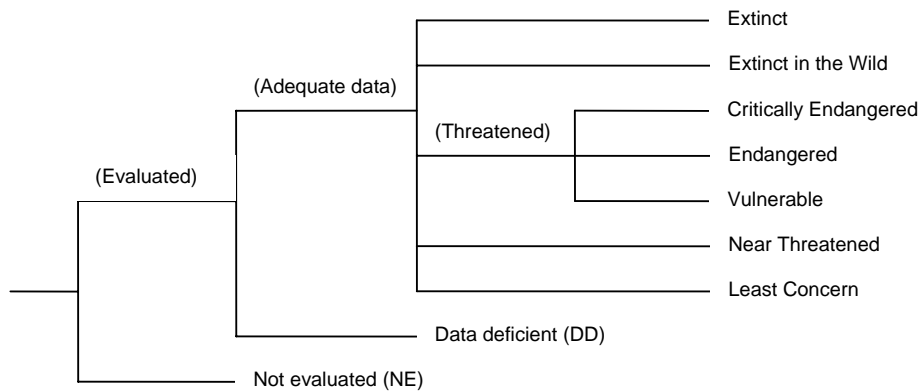
¹⁸ Threatened Species Scientific Committee, Threatened Species Nomination Form - for listing, changing the status, or delisting a native species under the EPBC Act, Attachment B – Threatened Species Scientific Committee (TSSC) Guidelines and IUCN 2000 Guidelines
<<http://www.deh.gov.au/biodiversity/threatened/nominations/pubs/species-nomination-form.doc>> at 9 February 2007.

¹⁹ Standards and Petitions Working Group of the IUCN SSC Biodiversity Assessment Subcommittee, *Guidelines for Using the IUCN Red List Categories and Criteria* (version 6.2) (December 2006)
<<http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf>> at 9 February 2007.

²⁰ The IUCN Red List Of Threatened Species: The Assessment Process
<http://www.iucnredlist.org/info/assessment_process> at 9 February 2007.

**Australasian Law Teachers Association - ALTA
2006 Refereed Conference Papers**

Table 1: Red List of Threatened species 2001 Categories & Criteria (version 3.1) ²¹



When it comes to the application of the precautionary principle there are two areas of interest in the IUCN Guidelines, the approach to uncertainty and the role of the Data Deficient and, to a lesser extent, Not Evaluated listing.

As to uncertainty the IUCN observes:

The data used to evaluate taxa against the criteria are often estimated with considerable uncertainty. Such uncertainty can arise from any one or all of the following three factors: natural variation, vagueness in the terms and definitions used, and measurement error...²²

When faced with uncertainty the IUCN recommends a precautionary approach:

When interpreting and using uncertain data, attitudes toward risk and uncertainty may play an important role.... assessors need to consider whether they have a precautionary or evidentiary attitude to risk (known as risk tolerance). A precautionary attitude will classify a taxon as threatened unless it is certain that it is not threatened, whereas an evidentiary attitude will classify a taxon as threatened only when there is strong evidence to support a threatened classification. **Assessors should resist an evidentiary**

²¹ IUCN Red List of Threatened Species 2001: Categories & Criteria (version 3.1) <http://www.iucnredlist.org/info/categories_criteria2001> at 9 February 2007.

²² Ibid 11 Preamble [8].

attitude and adopt a precautionary but realistic attitude to uncertainty ... ²³
(emphasis added)

When a nomination fails to meet the rigorous quantitative requirements stipulated in the categorisation descriptions then a listing of Data Deficient or Not Evaluated could result. Uncertainty of data does not mean that the taxon is not threatened it means that it cannot be established that the taxon is threatened. The IUCN approach to this situation is again precautionary:

The IUCN describes a taxon is Data Deficient:

...when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate...²⁴

A taxon is Not Evaluated when it is has not yet been evaluated against the criteria.

The listing in the categories of Data deficient and Not Evaluated:

...indicates that no assessment of extinction risk has been made, though for different reasons. Until such time as an assessment is made, taxa listed in these categories should not be treated as if they were non-threatened. **It may be appropriate (especially for Data Deficient forms) to give them the same degree of attention as threatened taxa, at least until their status can be assessed.**²⁵ (emphasis added)

The IUCN provides an example of a situation where taxa with poorly known populations that would qualify as Data Deficient:

²³ Ibid Annex 1.

²⁴ Ibid IV Categories.

²⁵ Ibid 11Preamble [9].

Doratogonus liberatus is a South African endemic millipede species. This species has only been collected from two localities, one in the suburban area of Bloemfontein, and one approximately 100 km away in the Caledon Nature Reserve. The habitat between the two localities is not entirely transformed, but **it is not known whether this species does occur more widely, or whether the population is declining or fragmented**. The taxonomy of genus *Doratogonus* was revised in 2000. Species within this genus are large-bodied (8–20 cm long), conspicuous, and occur in forest habitat. They may reflect patterns of endemism and threat common in ground-dwelling, flightless invertebrates.²⁶ (emphasis added)

Within the Australian context Whelan and others support the proposition that Data Deficient (if available) could trigger a precautionary approach:

We argue that it would be valuable to include a schedule to the TSCA [*Threatened Species Conservation Act 1995* (NSW)] for ‘Data Deficient’ species. Listing on this schedule would trigger a SIS [Species Impact Statement] if a listed taxon were deemed likely to occur in the area of a development proposal...²⁷

V HOW HAVE OTHER JURISDICTIONS TREATED DATA DEFICIENT?

The Northern Territory follows the IUCN listing criteria²⁸ and it is illuminating to observe the approach to listing under these criteria. An application for listing was considered for the Oenpelli whip scorpion *Charon oenpelli* who ‘looks a bit like a bizarre flattened spider’:

...there is a lack of information on population trends. The first specimen was discovered in 1992 and only about a dozen or so specimens have since been collected.

²⁶ Standards and Petitions Working Group of the IUCN SSC Biodiversity Assessment Subcommittee above n 17, 58 (10.3.2).

²⁷ Rob Whelan, Claire Brown and David Farrier, ‘The Precautionary Principle: what is it and how might it be applied in threatened species conservation?’ in Pat Hutchings, Daniel Lunney and Chris Dickman (eds), *Threatened Species Legislation: is it just an Act?* (2004).

²⁸ Department of Natural Resources, Environment and the Arts, ‘Overview of the new threatened species list and the classification and listing process’ <<http://www.nt.gov.au/nreta/wildlife/threatened/classification.html>> at 9 February 2007.

**Australasian Law Teachers Association - ALTA
2006 Refereed Conference Papers**

Many of the caves in the region have yet to be systematically searched. Accordingly, the species qualifies as Data Deficient.²⁹

As a result of this classification research and management priorities were then identified including investigation of whether populations occur elsewhere in western Arnhem Land or Kakadu National Park and safeguarding the existing known population through communication of the need to preserve the caves in their natural state.³⁰

In Western Australia the Threatened Fauna Scientific Advisory Committee prepares a 'Reserve List' including animal taxa for which there is insufficient information for the Committee to make an assessment of their status. This list is reviewed every three years.³¹ This is an internal working list that is used to raise the profile of particular species so that more effort is made to monitor or locate populations so that the Department of Environment and Conservation can better determine if there is a need to list them as threatened.

VI LISTING AND PRECAUTION UNDER THE EPBC ACT

In Australia listing is legislatively prescribed at both Commonwealth and State levels.³² The protections are modeled in part on the United States Endangered Species Act 1973³³ and include the creation and maintenance of a list of endangered and threatened species and processes that threaten a listed species, the identification and

²⁹ Colin Wilson, Parks and Wildlife Commission Northern Territory Threatened Species of The Northern Territory Oenpelli Whip Scorpion *Charon Oenpelli* [Feb 2002] 2.
<http://72.14.253.104/search?q=cache:NBOENbAj1jMJ:www.nt.gov.au/nreta/wildlife/threatened/pdf/oenpelli_whip_scorpion_dd.pdf+charon+oenpelli&hl=en&ct=clnk&cd=1&gl=au> at 19 February 2007.

³⁰ Ibid 3.

³¹ Department of Conservation and Land Management Policy statement no. 33 *Conservation of Threatened and Specially Protected Fauna in the Wild*. May 1991.

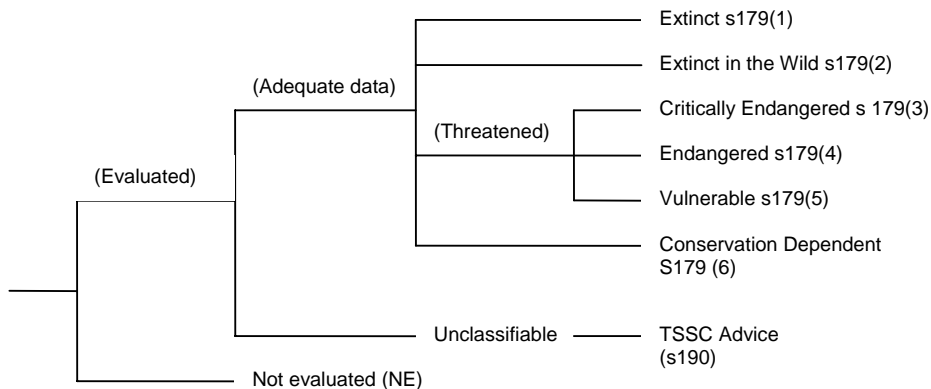
³² *Environment Protection and Biodiversity Conservation Act 1999* (Cth); *Nature Conservation Act 1980* (ACT); *Threatened Species Conservation Act 1995* (NSW); *Fisheries Management Act 1994* (NSW); *Territory Parks and Wildlife Conservation Act 2000* (NT); *Nature Conservation Act 1992* (QLD); *National Parks and Wildlife Act 1972* (SA); *Threatened Species Protection Act 1985* (TAS); *Flora and Fauna Guarantee Act 1988* (VIC); *Wildlife Conservation Act 1950* (WA). Although there are numerous differences in the legislation the overall objectives are the same.

³³ 16 U.S.C. 1531-1544 (2000).

protection of habitat that is critical to the welfare of the listed species and development of recovery programs for the listed species.

Under the EPBC Act the categories to be used for listing are shown in Table 2. The operative categories for listing purposes are Critically Endangered, Endangered and Vulnerable. The notable difference between the Commonwealth and IUCN categories is the use of Unclassifiable and the omission of the Data Deficient category found in the Red List. When a taxon is Unclassifiable then there is a provision for scientific advice under s 190. To date there has never been a formal s 190 advice given under this section.

The nomination process under the EPBC Act is complex and perusal of the nomination form³⁴ demonstrates that any application for listing needs to be supported by verifiable data demonstrating a scientifically rigorous approach to listing consistent with the relevant IUCN Guidelines. Table 2. EPBC Act criteria.³⁵



The Minister makes the decision to list³⁶ and a Threatened Species Scientific Committee (TSSC) is appointed³⁷ to advise the Minister, inter alia, on the amendment

³⁴ Department of the Environment and Heritage, Threatened Species Nomination Form - for listing, changing the status, or delisting a native species under the EPBC Act <<http://www.deh.gov.au/biodiversity/threatened/nominations/pubs/species-nomination-form.doc>> at 9 February 2007.

³⁵ The categories for threatened species can be found in s 179 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and the statutory criteria can be found in Division 7.1 of the Regulations 2000.

³⁶ EPBC Act, s 178.

and updating of the lists.³⁸ The TSSC prepares the advice and to this extent it may obtain advice from experts³⁹ but ‘must not consider any matter that does not relate to the survival of the native species or ecological community concerned’.⁴⁰ These provisions imply the requirement of the use of sound science and other matters such as economic, social or cultural issues cannot be taken into account unless they relate to the question of ‘survival’.

VII SCIENTIFIC COMMITTEE ADVICE

The first precautionary issue to consider is whether the Committee is able to follow the precautionary principle in the provision of the advice to the Minister pursuant to s 189(3). From a legislative perspective the Committee has no more guidance than that provided s 189 although the listing application form indicates that ‘the IUCN guidelines inform the considerations of the Committee in applying their guidelines’.⁴¹

There is, however, a healthy debate within the scientific community as to what is a relevant consideration from a scientific perspective⁴² and it is arguable that, under certain circumstances, a scientific assessment could be precautionary.

Professor J B Ruhl in his seminal work *The Battle over Endangered Species Act Methodology*⁴³ considers the difficulty for scientists who are required to make decisions faced with uncertainty and suggests a reference framework for evaluating the decision making methodology in the listing environment, identifying three possible scenarios.⁴⁴ The decision maker should decide on the degree on certainty required and has the option of using a ‘Scientific Method’ involving rigorous

³⁷ Ibid s 502 (1).

³⁸ Ibid s 503 (b).

³⁹ Ibid s 189(2).

⁴⁰ Ibid s 189(3).

⁴¹ Department of the Environment and Heritage, above n 33, Attachment B.

⁴² See, eg, Holly Doremus, ‘The Purposes, Effects and Future of the Endangered Species Act’s Best Available Science Mandate’ (2004) 34 *Environmental Law* 397.

⁴³ J B Ruhl, above n 1.

⁴⁴ Under the EPBC Act the TSSC is not making a decision but providing advice however Ruhl’s observations as to methodological approaches are still informative.

empirical testing which would result in a high level of confidence before action was taken to protect the species. A Professional Judgment Method could be used where the Scientific Method is too costly or, in the absence of sufficient data, the decision could be discretionary and guided by experts in the field and a Precautionary Principle Method could be used for situations where the evidence under the previous two approaches would suggest a certain decision but the consequence of that decision being wrong could be severe. Under these circumstances caution may be used to resist the weight of evidence. Ruhl describes this as the where the fear of a mistake and its consequences actually 'motivates the decision'.⁴⁵

Ruhl concludes that the Professional Judgment Method using the 'best available scientific evidence' is the legitimate workhorse of decision making however there are also circumstances where a Scientific or a Precautionary approach could be justified.

Ruhl maintains that a precautionary method should be discretionary where the evidence is inconclusive or even points against taking protective measures but there is evidence that the decision could be wrong and lead to path of extinction. These situations would not be common and no doubt the approach would need to be triggered. Significantly Ruhl observes there would need to be a structure to guard against 'arrogance and ambition disguised as the precautionary principle'.⁴⁶

Under the EPBC Act the TSSC is not able to use Data Deficient and tap the potential of the IUCN approach to such a listing. However, in the absence of the Data Deficient category the TSSC still has the ability to foreshadow problems and suggest a precautionary approach. Under ss 178-179 the TSSC can make a recommendation for a conservation dependant category although this category requires a 'conservation plan' for the species and is of limited application. Section 190 provides that the TSSC may give advice to the Minister concerning any action that is necessary to prevent the species or community becoming threatened where that species is or community is not eligible to be listed under ss 178 or 181. The Minister 'is to have regard to any advice'

⁴⁵ J B Ruhl, above n 1, 556.

⁴⁶ Ibid 578.

**Australasian Law Teachers Association - ALTA
2006 Refereed Conference Papers**

given under this section in performing any function, or exercising any power, under the Act relevant to the species or community.

To date there is no evidence that this section has been used by the TSSC although there is no reason why this section could not be used to highlight the Committee's concerns and provide precautionary recommendations. The following examples demonstrate instances where this approach may have been valuable.

The Scientific Committee considered a proposal to list 'Changes to plant-pollinator associations caused by Large Earth Bumblebees, *Bombus terrestris*' as a key threatening process.⁴⁷ The bumblebee in question was an exotic and its introduction could threaten native animals by competing for food, reduce pollination of native plants and, by pollination of exotic plants adapted to bumblebees, there would be a proliferation of the exotic plants namely weeds.⁴⁸ The first recording of the Large Earth Bumblebees in Australia was in Tasmania in 1992, and there was no sound evidence of the existence of the bumblebee on the mainland.

The committee found difficulties in assessing this process because the arrival of the bumblebees was only a recent event and there was no strong evidence to prove that they caused a negative effect only 'a possible potential to threaten listed species and broader ecological processes'.⁴⁹

The Committee was confronted with conflicting expert evidence from 'no evidence to justify listing' to 'a clear potential for impacts' and that 'the nomination was comprehensive and balanced' and warnings that 'waiting for compelling evidence

⁴⁷ Threatened Species Scientific Committee 'Changes to plant-pollinator associations caused by bumblebees, *Bombus spp.*' Advice to the Minister for Environment and Heritage from the Threatened Species Scientific Committee on a public nomination of a Key Threatening Process under the EPBC Act.

<<http://www.deh.gov.au/biodiversity/threatened/nominations/bumblebees.html>> at 9 February 2007.

⁴⁸ Although the exotic bumble bee has a local supporter in the Australian Hydroponic & Greenhouse Association (AHGA) which wants to import the bumblebees on to the Australian mainland to pollinate greenhouse tomato crops; Steven Carruthers, 'Bumblebees for Pollination of Greenhouse Tomato Crops in Australia' *Practical Hydroponics and Greenhouses* (2006) 88 May/June.

⁴⁹ Threatened Species Scientific Committee, above n 47

would mean leaving *Bombus terrestris* unchecked and that listing and abatement should occur as a precautionary measure.’⁵⁰ Whilst observing ‘the introduction of any exotic species as a potential environmental risk’ and that ‘in Tasmania, the bumblebee has become widespread in both modified and natural systems’ the Committee recommended the process was not eligible for listing as a Key Threatening Process as the data available did not disclose sufficient impact. Disturbingly, the TSSC was then moved to urge:

...that **extreme caution be shown in considering any proposal to introduce this species to the mainland.** In taking this position, it highlights the concern that many native species are dependent on native pollinators, **so it could potentially be a threat in the future**⁵¹ (emphasis added)

Why did this process not attract listing? One can only surmise that the Criteria were being applied rigidly and ‘scientifically’. Could not a precautionary approach have been taken? The Scientific Committee did not list the introduction of the bumblebee as a key threatening process and then, as a post script, highlighted its concern about its introduction to the mainland. What does ‘could potentially be a threat in the future’ mean?

In recommending against the listing of the Torresian Flying Fox as endangered under Criterion 1: Decline in numbers, the TSSC decided that:

There **is little known about the abundance** of the Torresian Flying-fox. There are no verified colonies for this species. In 1990, a colony of flying-foxes was located on the north side of Moa Island. Although the identity of the species inhabiting the colony was not certain, it was considered most likely to be Torresian Flying-fox. **A survey in difficult conditions** estimated that this colony contained less than 1000 individuals. There was **possibly a second colony site** on nearby Iem Islet that would have accommodated 200 individuals. The nomination estimates the population to be less than 2000 individuals. There is no further information on population size and no

⁵⁰ Ibid.

⁵¹ Ibid 49.

indication that a reduction in numbers has occurred. Therefore, the species is not eligible for listing as under this criterion.⁵² (emphasis added)

In both instances there was a lack of data but also cautionary trends that could have triggered a precautionary approach. This approach could have meant no more than a s 190 recommendation to monitor and review. The failure to list means that the applications have failed and no further action will be taken. An advice to the Minister under s 190 recommending 'action' such as continued monitoring would have at least left the applications under a pale spotlight.

VIII THE MINISTER DECIDES

The Minister must consider advice from Scientific Committee⁵³ and decide if a species is to be listed. Section 391 (3) of the EPBC Act lists the decisions which require the Minister to consider the precautionary principle. Absent from the list are ss 178, 180, the Minister is not required to consider the precautionary principle in determining an application to list a species or a key threatening process.

A weak argument could be raised that by listing areas for mandatory consideration the maxim '*expressio unius est exclusio alterius*' could be applied whereby the s 391 list actually precludes the Minister from considering the principle under other circumstances.

Lopes LJ in *Colquhoun v Brooks* observed that the maxim:

...is often a valuable servant, but a dangerous master to follow in the construction of statutes or documents. ...the maxim ought not to be applied, when its application,

⁵² Threatened Species Scientific Committee Torresian Flying-fox (*Pteropus banakrisi*) Threatened Species Scientific Committee Torresian Flying-fox (*Pteropus banakrisi*) Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee (TSSC) on Amendments to the list of Threatened Species under the EPBC Act, Department of the Environment and Heritage,
<<http://www.deh.gov.au/biodiversity/threatened/species/p-banakrisi.html>> at 9 February 2007.

⁵³ EPBC Act, s 189(1).

**Australasian Law Teachers Association - ALTA
2006 Refereed Conference Papers**

having regard to the subject-matter to which it is to be applied, leads to inconsistency or injustice.⁵⁴

There is no benefit in considering the maxim under these circumstances. The objects of the EPBC Act are underpinned by Principles of Ecologically Sustainable Development⁵⁵ and s 3A identifies the precautionary principle as one of these principles. The weight the principle has in Ministerial determination is clearly debatable⁵⁶ but the ability to apply the principle is not inhibited in any way by the mandatory language of s 391.

The Ministerial approach to application of the principle is not clear however recent decisions do not indicate a strong inclination towards the application of the principle in the listing regime.

In an application relating to the Southern Bluefin Tuna (*Thunnus maccoyii*)⁵⁷ the Scientific Committee was faced with overwhelming evidence of decline and risk to the Southern Blue Fin Tuna (SBT) population. The Bureau of Rural Sciences had classified SBT as being 'overfished' within the Australian SBT Fishery every year since the first BRS fishery status report was produced in 1992.⁵⁸

There was evidence of widespread agreement regarding the historical decline of SBT spawning biomass, however there was 'major disagreement among scientists about

⁵⁴ *Colquhoun v. Brooks* (1888) 21 QBD 52, 65 followed in *Ryland Bros (Aust) Ltd v Morgan* (1927) 27 SR (NSW) 161.

⁵⁵ EPBC Act, s 3.

⁵⁶ See generally Gerry Bates, *Environmental Law in Australia* (6th ed, 2006) 102. The question of weighting is considered in *Greenpeace Australia Limited v Redbank Power Co Ltd* (1994) 86 LGERA 143 where the principle was found to be one factor to take into account but did not outweigh other considerations.

⁵⁷ Threatened Species Scientific Committee, Southern Bluefin Tuna (*Thunnus maccoyii*) Advice to the Minister for the Environment and Heritage from the Threatened Species Scientific Committee (TSSC) on Amendments to the list of Threatened Species under the EPBC Act, Department of the Environment and Heritage, 7 September 2005
<<http://www.deh.gov.au/biodiversity/threatened/species/southern-bluefin-tuna.html>> at 9 February 2007.

⁵⁸ The Bureau of Rural Sciences (BRS) Fishery Status Reports review the status of fish stocks managed by the Australian Government and describe trends in the status.

the most likely longer-term trend ...⁵⁹ It was clear that the mature population of SBT had declined significantly over its last three generations and was 'currently at a very low level.'

The TSSC concluded that the species was eligible for listing as endangered under the Act pursuant to Criterion 3:

The estimated total number of mature individuals is very low, low or limited and: (a) evidence suggests that the number will continue to decline at a particular rate; or (b) the number is likely to continue to decline and its geographic distribution is precarious for its survival.⁶⁰

In a curious twist the TSSC then proceeded to provide 'non scientific' advice to the Minister:

The Committee notes the importance of Australia's leadership within CCSBT to achieve long-term conservation outcomes for the SBT. In particular, the Committee recognises the need for international co-operation to address fishing impacts on the species' spawning ground. The Committee is concerned that the listing of SBT under the EPBC Act at this time may be detrimental to the survival of the species, as it may weaken Australia's ability to influence the global conservation of the species, and by implication, its conservation in Australian waters.⁶¹

This approach represents a generous interpretation of s189 (3) by the Committee and it is questionable whether the comments provided are within the limits of the legislation.

In any event, faced with scientific advice that the species was eligible for listing and policy comment diluting that advice, the Minister elected not to list the species concluding that the listing of the SBT as a threatened species would be 'detrimental to

⁵⁹ Threatened Species Scientific Committee, above n 55.

⁶⁰ Ibid.

⁶¹ Ibid 59

the survival of the species, as it may weaken Australia's ability to influence both the management of the global fishing effort and the global conservation of the species.⁶² One can only speculate as to the considerations the Minister took into account in refusing to list as these were not expanded upon in his decision, but a precautionary approach to listing was clearly overwhelmed by other more pragmatic considerations. In August 2005 the Minister rejected a TSSC recommendation that the *Notopala sublineata* (River Snail) was eligible for listing under the EPBC Act as critically endangered.⁶³ The Committee had noted:

From the information currently available, the Murray-Darling Basin population of the River Snail appears to have declined markedly in its geographic distribution, and is believed to be confined to artificial habitat within its original range of occurrence. The snail has recently been recorded in a few irrigation pipelines in the Murray-Darling Basin but population numbers and the full geographical distribution of these subspecies within irrigation pipelines has not yet been determined. However, direct threats to the River Snail in these pipes have been identified. There has been an observed decline in the quality of the species natural habitat and a dramatic decline in the species natural area of occupancy.⁶⁴

After noting the TSSC advice the Minister considered that there was 'sufficient uncertainty' about the nomination that he was not satisfied it was eligible for listing under the EPBC Act. A TSSC recommendation of critically endangered (one level below extinction) suggests a high degree of concern on the part of the scientific advisors. It is difficult to understand the Minister's reliance on 'sufficient uncertainty' to justify a refusal to list.

⁶² Ibid.

⁶³ Minister for the Environment and Heritage decision on advice from the Threatened Species Scientific Committee on Amendments to the list of Threatened Species under the EPBC Act River Snail (*Notopala sublineata*)

<<http://www.deh.gov.au/biodiversity/threatened/species/river-snail.html>> at 9 February 2007.

⁶⁴ Ibid

IX CONCLUSION

This paper has considered the relationship between the precautionary principle and species listing and concluded that the precautionary principle is contextually relevant in the species listing regime. The paper then considered the use of the principle under the EPBC Act and concluded that it is open to both the TSSC and the Minister to have regard to the principle in both the preparation of listing advice and the listing determinations.

To date the TSSC has not taken a precautionary approach to listing relying instead on a strict application of the Criteria. The TSSC is not limited to a purely 'scientific' or even a 'professional' approach in the preparation of its advice and a precautionary approach is an acceptable scientific methodology under the appropriate circumstances. In the absence of the Data Deficient category at a Federal level serious consideration needs to be given to the potential of the underutilised s 190 of the EPBC Act as a suitable vehicle for the precautionary advice to the Minister by the TSSC.

The Minister has the discretion to apply the principle in making listing determinations but has shown a reluctance to either consider the principle or give the principle priority over other considerations. It is proposed that if a precautionary advice were provided to the Minister under s 190 this would send a clear message to the Minister that a precautionary approach is being recommended by the TSSC. This has the potential of influencing the weighting of the principle in Ministerial determinations as the Minister is required to consider s 190 advice.

Naturally the discussion cannot end here. There are still many problems to be resolved in relation to definition, determining the actual triggers for the use of the principle and how the principle is to be weighed against factors such as economic, social and cultural considerations. However, the threshold issue of the 'ability' to use the principle by both the TSSC and the Minister under the EPBC Act seems beyond doubt.