Environment East Gippsland v VicForests
Supreme Court proceeding number 8547 of 2009

STATEMENT OF EVIDENCE

Dr Charles Meredith

2 February 2010

1.0 AUTHOR'S STATEMENT

1. Name and address:

Dr Charles Meredith
Biosis Research Pty. Ltd., 38 Bertie Street, Port Melbourne

2. Qualifications and experience:

Dr Meredith holds a Bachelor of Science in Botany and Genetics and a Doctorate of Philosophy in Zoology. He has over 25years experience in environmental management, flora and fauna survey and management, conservation value assessment, biodiversity issues, and conservation and land-use planning and policy. He has served on a broad range of committees, including the Victorian Coastal Council Expert Panel, the Scientific Advisory Committee to the Flora and Fauna Guarantee Act, the Monash University Department of Biological Sciences Advisory Committee and the Editorial Advisory Board for Groundwork, the quarterly journal of the Australian Minerals & Energy Environment Foundation. Charles is an Inaugural Fellow of the Environment Institute of Australia and New Zealand, and is a Member of the Ecological Society of Australia and the Royal Society of Victoria.

3. Area of expertise:

- biodiversity survey
- rare and threatened species/communities assessment
- rare and threatened species/communities management
- habitat assessment
- sites of significance studies
- conservation issues assessment
- environmental design guidelines
- environmental impact statement – natural environment
- impact minimisation (mitigation) guidelines
- benchmarking – environmental management and practice
- regional environmental planning

4. Expertise to make the report:

Dr Meredith has worked on a broad range of projects relating to East Gippsland and Victoria's fauna and forest ecology, including:

- review of the impacts of timber harvesting on flora and fauna, for the Victorian Timber Industry Inquiry

- assessment of the ecological values of Victoria's river and streams, for the Victorian Environment Assessment Council

- preparation of management plans for Victoria's Heritage Rivers and Natural Catchments, for the Victorian Environment Assessment Council

- ecological assessment of alternative sites for a proposed pulp mill in East Gippsland, for North Limited

- ecological assessment of the proposed Very Fast Train route, Orbost to Bonang section, for VFT Consortium

- ecological and impact assessment for the Eastern Gas Pipeline, Longford-Sydney, for BHP Petroleum

- a study of the arboreal mammals of Chiltern State Park, for Parks Victoria.

5. Instructions defining the scope of the report:

I was commissioned by Bleyer Lawyers on behalf of Environment East Gippsland (EEG) to provide further expert opinion in accordance with the instructions below:

Qualifications and Experience

1. Please provide a complete description of your qualifications and experience and in particular those relating to the Long-footed Potoroo (*Potorous longipes)*. In relation to your general qualifications and experience, it is acceptable for this to be done by way of attaching an up to date curriculum vitae.
2. Please provide details of any particular knowledge or experience you have concerning the identification of, life history and ecology of, habitat of and threats to Long-footed Potoroos.
3. Please list any publications which you have authored or co-authored that are relevant to your field of expertise, and particularly in relation to the Long-footed Potoroo. If you have research or publications in preparation but not completed, you should list these separately.
4. Your report should identify by name and date any previous report/s that you have prepared in respect of the Brown Mountain Forestry Coupes and identify the person/s or bodies who requested that you prepare that/those report/s (if any).

The Species

5. Can you describe the species the Long-footed Potoroo, its characteristics and distribution within Australia.
   (a) Are there sub species?
   (b) If yes to (a), what are the similarities and differences between the sub species?
6. On answering question 1, we ask you to describe, to the extent relevant:
   (a) the type and range of habitat in which they live;
   (b) reproductive cycles of the Long-footed Potoroo, fertility and fecundity.

Distribution

7. Describe where in Victoria the Long-footed Potoroo is found.
   (a) Can you produce a map which shows the locations in which it has been found?
   (b) In what type or types of habitat has it been found in Victoria?
   (c) Please briefly describe the surveys which were undertaken to locate the records of Long-footed Potoroos – in terms of when and why they were undertaken, by whom, how accurate you consider the available location information to be.
   (d) Does the presently available location information about the Long-footed Potoroo in Victoria in your opinion accurately reflect all the sites:
      i) at which it is likely to be present; and
      ii) which it is likely to use, or traverse over.
   (e) What, if any, deficiencies exist in the presently available information about the location of the Long-footed Potoroo in Victoria and the habitat it uses?

Conservation Status

8. What is the conservation status of the Long-footed Potoroo in Victoria and what in your opinion does this status mean in terms of actions required for this species?
9. What is the conservation status of the Long-footed Potoroo at the federal level and what in your opinion does this status mean in terms of actions required for this species?
10. In your opinion, is the conservation status at either the State or federal level likely to change in the foreseeable future, and if so in what way and why?
11. Are there any threats to the continued survival of the species?
    (a) If yes, what are those threats and what processes are involved?

i) Do those threats exist equally throughout the species' range in Victoria, or are the threats different in different parts of the State?
ii) Please explain your answer by reference to examples.

(b) If yes, are there measures in place to reduce or avoid those threats in Victoria?
(c) If yes, are there measures in place to reduce or avoid those threats in East Gippsland?
(d) If yes, in your opinion are the measures in place likely to be effective to reduce the threats to the Long-footed Potoroo in Victoria?
(e) If yes, in your opinion are the measures in place likely to be effective to reduce the threats to the Long-footed Potoroo in East Gippsland?

12. Do forestry operations have an impact on the habitat of the species and/or an impact on the species itself?
    (a) If yes, can you identify what aspects of forestry operations have the potential to impact the habitat of the species or the species itself?
    (b) If yes, can you describe or quantify the impact?
    (c) If yes, can you explain the impact with particular reference to the prospects of the Long-footed Potoroo successfully breeding and raising young to adulthood, and those adults surviving to breed successfully?

East Gippsland

13. Is the Long-footed Potoroo present in the area of East Gippsland?
    (a) If so where and to what extent are they found?
    (b) Can you produce a map which shows the locations in which it has been found?
14. As to each area in which it is found in East Gippsland:
    (a) How secure is its habitat over its range in that area?
    (b) What are its population levels? That is, stable, increasing or declining?
    (c) Please include any other observations you believe are relevant about the security of the Long-footed Potoroo populations in the East Gippsland area.

Brown Mountain

15. On the basis of the information with which you have been provided (namely, the two digital still and video recording of animals in two of the Brown Mountain Forestry Coupes):
    (a) Are either of both of the animals captured on these recordings Long-footed Potoroos in your opinion?
    (b) If yes, how confident are you about your opinion and why?
    (c) What opinion (if any) do these recordings enable you to express about whether Long-footed Potoroos are present in any or all of the Brown Mountain Forestry Coupes?
16. Taking into account the recording referred to in paragraph 11, what other steps are necessary if any in order to ascertain whether or not Long-footed Potoroos are, or are likely to be, present in or near the Brown Mountain Forestry Coupes?
17. On the basis of a site visit or visits to and surveys of each of the Brown Mountain Forestry Coupes (which you are requested to undertake as part of the preparation of this report), together with whatever other information you deem necessary for you to form your opinion:
    (a) are Long-footed Potoroos present in any or all of the four Brown Mountain Forestry Coupes? If so, please explain in which of the Brown Mountain Forestry Coupes and explain the reason for your opinion.
    (b) If you are unable to form an opinion as to (a), is it likely that the Long-footed Potoroo is present in any or all of the four Brown Mountain Forestry Coupes? If so, please explain in which of the Brown Mountain Forestry Coupes and explain the reason for your opinion.
    (c) Are Long-footed Potoroos likely to be using or traversing any or all of the four Brown Mountain Forestry Coupes? If so, please identify which of the Brown Mountain Forestry Coupes and explain the reason or reasons why the Long-footed Potoroo would use and or traverse those coupes, and explain the reason for your opinion.
18. With what level of confidence are you able to predict whether or not the species will be present in, likely to be present in, or using or traversing the Brown Mountain Forestry Coupes? What factors, presence or absence of information, influence your level of confidence?
19. Would the logging of any or all of the four Brown Mountain Forestry Coupes have any impact on the Long-footed Potoroo as a species, the local population or individual members of the species? If so, can you estimate what the nature and level of impact will be?

20. To the extent that you find there to be an impact by reason of the intended logging operations, will the Long-footed Potoroo recover from that impact and if so over what time would you expect that recovery to occur?
21. You are asked to assume that VicForests will, prior to logging the coupes:
    (a) create a 100m stream-side buffer for the steam that runs along the eastern boundary of coup[e number 840-502-0015;
    (b) in coupes adjacent to Brown Mountain creek Department of Sustainability and Environment staff with appropriate expertise in biodiversity management will guide the identification of hollow-bearing habitat trees in consultation with VicForests and the harvesting contractors:
        i) trees with a DBHOB (diameter breast height over bark) greater than 250cm will be retained where it is safe to do so;
        ii) at least five hollow-bearing habitat trees per hectare will be retained assuming the presence of sufficient numbers and if it is safe to do so;
        iii) where more than six retained hollow-bearing habitat trees are resent in a concentrated area (less than one quarter of a hectare) harvesting machinery should minimise traffic in that area and other trees may be harvested; and
        iv) harvesting debris and other fuels are to be removed from within 20cm of the base of retained hollow-bearing trees or from around groups of retained hollow-bearing habitat trees to reduce the impact of regeneration burning where it is safe to do so.

    Assuming VicForests adheres to the prescriptions in (a) and (b) above, and assuming logging is carried out in the coupes, would that affect your answerers to questions 15 and 16 above? If so, in what way?

<u>The Management Plan</u>

22. Please look at the East Gippsland Management Plan.
23. What management prescriptions if any are provided for in the Management Plan that apply in respect of the Long-footed Potoroo and its habitat?
24. What do you understand these prescriptions to require?
25. In terms of "confirmed sites" for the Long-footed Potoroo:
    (a) Is 400-500 ha around a "confirmed site" a sufficient area?
    (b) In practice, do you know how the 400-500 ha is derived (e.g. is it radically drawn from a detection site)?
    (c) How should it be derived?
    (d) Have any confirmed sites been identified?
    (e) If so, do you know how they were identified?
    (f) How many are there in East Gippsland and where are they?
    (g) How many to your knowledge are based on actual and accurate records that Long-footed Potoroos are currently present in, or currently use, those areas?
    (h) Have there been follow up surveys to ascertain whether the species actually use these sites?
    (i) Have any "confirmed sites" been burnt by fire since they were allocated as "confirmed sites"?
    (j) What is the total area (in hectares) of the "confirmed sites"? How many individuals should this provide habitat for?
    (k) In your opinion, how many hectares are required to adequately provide for the long term survival of the Long-footed Potoroo?

<u>The Action Statement</u>

26. You are asked to assume that an action statement for the Long-footed Potoroo has been made under s 19 of the FFG Act in the form attached to this letter.
27. What management actions are provided for in the Action Statement that apply in respect of the Long-footed Potoroo and its habitat?
28. What do you understand these management actions to require?
29. Do you consider that the "management actions" are adequate to meet the "targets" under "objective I"?
30. Do you consider the "targets" to be adequate to meet "objective I"?
31. To your knowledge, to what extent have the "management actions" under "objective I" been implemented on public land?
32. In relation to Action 1:
    (a) Can you identify on a map the 40,000 ha of conservation reserves and State forest SPZs in East Gippsland (the "Core Protected Area")?

(b) How much of this area is good quality habitat for the Long-footed Potoroo?
(c) In your opinion, how many individuals would this area support? Please support your answer with reasons.

33. In relation to Action 4 (and Appendix 1): To your knowledge, have any Long-footed Potoroo's been detected since the date of publication of the Action Statement?
34. Have any additional protected areas been established? If so, please describe where they have been established? Do those areas meet the requirements of the Action Statement?
35. Provide comment on objectives II and III (and the associated targets and actions) to the extent that they are relevant to determining the current level of knowledge about, and threats to, the Long-footed Potoroo.

The Precautionary Principle

36. What is your understanding of the precautionary principle?
37. Having regard to:
    (a) the East Gippsland Forest Management Plan;
    (b) the Action Statement made under the FFG Act in relation to the Long-footed Potoroo;
    (c) your opinion about the present threats to the Long-footed Potoroo and its habitat in East Gippsland and in Victoria;
    (d) your opinion on the presence of or likely presence of the Long-footed Potoroo in the proposed coupes, or its use or traversing of those coupes;
    (e) any other matter that you regard as relevant (and which you should identify expressly in answering this question),

    would the proposed logging be consistent with the application of the precautionary principle in respect of the Long-footed Potoroo?
38. Please explain in detail your answer to Question 32.

6. Facts, matters and assumptions upon which the report is based:

These are set out in the following report.

7. Documents and other materials taken into account:

These are set out in the following report.

8. Persons carrying out tests or experiments:

None.

9. Summary of the opinion of the expert:

My opinions are set out in the following report.

10. Statement identifying any provisional opinions:

There are no provisional opinions.

11. Statement identifying any questions falling outside the expert's expertise; statement indicating whether the report is incomplete or inaccurate in any respect.

This report does not address any questions falling outside my expertise and I do not believe the report is incomplete or inaccurate in any respect.

Declaration

Acknowledgement of Expert Witness Code of Conduct

I acknowledge that I have read the Expert Witness Code of Conduct (Rule 44.01) and I agree to be bound by it.

I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld from the Court.

Dr Charles Meredith
2 February 2010

2.0 EVIDENCE

2.1 Qualifications and Experience

1. *Please provide a complete description of your qualifications and experience and in particular those relating to the Long-footed Potoroo (Potorous longipes). In relation to your general qualifications and experience, it is acceptable for this to be done by way of attaching an up to date curriculum vitae.*
2. *Please provide details of any particular knowledge or experience you have concerning the identification of, life history and ecology of, habitat of and threats to Long-footed Potoroos.*
3. *Please list any publications which you have authored or co-authored that are relevant to your field of expertise, and particularly in relation to the Long-footed Potoroo. If you have research or publications in preparation but not completed, you should list these separately.*

My general qualifications are set out in Section 1.0. In relation to the Long-footed Potoroo, I was Project Manager for an extensive fauna survey in East Gippsland as part of the Very Fast Train environmental assessments in 1990 (Biosis Research Pty. Ltd. 1990). The survey area covered a corridor one to several kilometres wide from Orbost to Bonang. The survey particularly targeted the Long-footed Potoroo, as this was one of the species of highest significance likely to occur along the route. The potoroo surveys were designed by me in consultation with key DSE (then DCE) researchers working on the species and involved the full range of techniques known at the time: trapping, predator scat analysis, hair tubing and direct observations. I also made a number of visits to already known Long-footed Potoroo sites to familiarise myself with their habitat.

This study resulted in two definite records of the species, and two further probable records (the hair samples were not able to be definitely identified but were most likely Long-footed Potoroo). All these records were from new sites for the species, expanding the knowledge of the species' range significantly at the time.

I also undertook a detailed impact assessment of the species in relation to the proposed Very Fast Train project, including reviewing published and unpublished ecological information (Biosis Research Pty. Ltd. 1990). I have maintained an interest in the ecological literature relating to the species since then.

In the course of conducting fauna surveys and through bushwalks (often off track) over the last 30 years I have visited many of the locations the LFP inhabits in both East Gippsland and the Great Dividing Range.

4. *Your report should identify by name and date any previous report/s that you have prepared in respect of the Brown Mountain Forestry Coupes and identify the person/s or bodies who requested that you prepare that/those report/s (if any).*

I have prepared two previous reports at the request of Bleyer Lawyers, acting on behalf of Environment East Gippsland:

> Meredith, Charles. 2009a. *Assessment of Critical Habitat for Six Species Under the Flora and Fauna Guarantee Act in the Bonang-Goongerah Area, East Gippsland, Victoria*. Biosis Research Pty Ltd., Melbourne
>
> Meredith, Charles. 2009b. *Assessment of Critical Habitat Under the EPBC Act for Three Species in the Bonang-Goongerah Area, East Gippsland, Victoria*. Biosis Research Pty Ltd., Melbourne

2.2 The Species

5. *Can you describe the species the Long-footed Potoroo, its characteristics and distribution within Australia.*
    (a) Are there sub species?
    (b) If yes to (a), what are the similarities and differences between the sub species?
6. *On answering question 1, we ask you to describe, to the extent relevant:*
    (a) the type and range of habitat in which they live;
    (b) reproductive cycles of the Long-footed Potoroo, fertility and fecundity.

The Long-footed Potoroo (LFP) is a small, ground-dwelling kangaroo (rat-kangaroo), with a head-body length of about 400 mm and a tail around 320 mm, and weighing around two kilograms. The species was only formally described in 1980 and is one of the rarest mammals in Australia. There are no sub-species.

Although the species is quite localised in its distribution, when viewed in terms of standard vegetation units or forest types, it occurs in a wide range of habitats, including Temperate Rainforest, Wet Forest, Damp Forest, Riparian Forest, Lowland Forest, as well as secondary habitats in some drier forests. The species largely eats fungi, and the most common habitat requirements seem to be sheltered areas with moist soil conditions (suitable for reliable fungal growth) in combination with a dense understorey (at least in the vicinity) for day-time shelter. Its habitat is hard to define using standard vegetation classifications, as it is probably responding to local physical and microclimate conditions, not just to floristic or structural composition.

Like most kangaroos, LFPs have a single young that remains in the pouch for about 145 days. Births can occur all year but peak in late winter/early spring. Young remain “at heel” with their mother for about 20 weeks, and then stay a further 12 months or more in the natal territory. Some then disperse, while others remain in the territory.

2.3 Distribution

7. *Describe where in Victoria the Long-footed Potoroo is found.*
    (a) Can you produce a map which shows the locations in which it has been found?
    (b) In what type or types of habitat has it been found in Victoria?
    (c) Please briefly describe the surveys which were undertaken to locate the records of Long-footed Potoroos – in terms of when and why they were undertaken, by whom, how accurate you consider the available location information to be.
    (d) Does the presently available location information about the Long-footed Potoroo in Victoria in your opinion accurately reflect all the sites:
        i) at which it is likely to be present; and
        ii) which it is likely to use, or traverse over.
    (e) What, if any, deficiencies exist in the presently available information about the location of the Long-footed Potoroo in Victoria and the habitat it uses?

The LFP only occurs in eastern Victoria and south-eastern New South Wales. Figure 1b from Meredith (2009a) shows the total distribution of the LFP (attached). The population in NSW is small and highly localised to a small area near the Victorian border (NPWS 1999). In Victoria, there are two sub-populations, one in East Gippsland and one in the Barry Ranges area of the Great Divide. The habitats in which it occurs were discussed in the previous section.

There has been considerable survey for the LFP. In NSW, there was a decade of targeted survey carried out between 1986 and 1996 (Broome *et al.* 1996). Since then, surveys have been much less frequent and generally not specifically targeted at the species. There has only been one record of the species NSW since 1993 (DSE 2009).

In Victoria, survey effort has been considerable since 1980, although survey effort has varied as has the geographical focus over this time. The past survey effort is well summarised in the revised LFP Action Statement (DSE 2009). These surveys were largely undertaken using the best techniques known at the time and by skilled professionals. In many cases, areas with previous LFP records have been surveyed again, and several areas have had a series of surveys over time. Results of re-surveys have been mixed, with the species not recorded again at some sites, but found to be still present at others.

The species is very difficult to detect and it is fair to say that areas surveyed prior to the widespread introduction of hair tubing or that did not use this technique are likely to have produced negative results at some sites where the species actually occurred. Even with hair tubing, and utilising the full range of survey techniques, false negatives will occur. Recently, automated digital cameras have been introduced as a survey technique, triggered by heat and motion sensors, and these have been very successful (DSE 2009). However, relatively few areas have been surveyed yet with this new technique.

Given these provisos, it is my view that the broadscale distribution of the LFP in Victoria is relatively well documented and consistent. Other populations are likely to be found but it would be surprising (although not impossible) if major range extensions were found. However, at a more detailed level, there are likely to be sites that have been surveyed and produced false negatives (LFP actually present but not recorded). At this scale, there are also many sites that have never been surveyed that are within the current known range of the species.

2.4 Conservation Status

8. *What is the conservation status of the Long-footed Potoroo in Victoria and what in your opinion does this status mean in terms of actions required for this species?*
9. *What is the conservation status of the Long-footed Potoroo at the federal level and what in your opinion does this status mean in terms of actions required for this species?*
10. *In your opinion, is the conservation status at either the State or federal level likely to change in the foreseeable future, and if so in what way and why?*
11. *Are there any threats to the continued survival of the species?*
    - *(a) If yes, what are those threats and what processes are involved?*
      - *i) Do those threats exist equally throughout the species' range in Victoria, or are the threats different in different parts of the State?*
      - *ii) Please explain your answer by reference to examples.*
    - *(b) If yes, are there measures in place to reduce or avoid those threats in Victoria?*
    - *(c) If yes, are there measures in place to reduce or avoid those threats in East Gippsland?*
    - *(d) If yes, in your opinion are the measures in place likely to be effective to reduce the threats to the Long-footed Potoroo in Victoria?*
    - *(e) If yes, in your opinion are the measures in place likely to be effective to reduce the threats to the Long-footed Potoroo in East Gippsland?*
12. *Do forestry operations have an impact on the habitat of the species and/or an impact on the species itself?*
    - *(a) If yes, can you identify what aspects of forestry operations have the potential to impact the habitat of the species or the species itself?*
    - *(b) If yes, can you describe or quantify the impact?*
    - *(c) If yes, can you explain the impact with particular reference to the prospects of the Long-footed Potoroo successfully breeding and raising young to adulthood, and those adults surviving to breed successfully?*

The LFP is listed as **threatened** in Victoria under the *Flora and Fauna Guarantee Act 1988* (FFG Act), as **endangered** in Victoria on DSE's "Advisory List of Threatened Vertebrate Fauna – 2007"

A listing on the DSE Advisory List does not directly invoke any statutory requirements for protection of the species, but would generally be a factor taken into account in any environmental or planning assessment made under the Planning and Environment Act. The listing is developed using the standard IUCN status criteria and is based on the most current expert knowledge at the time of each review, so it carries considerable scientific weight.

An Action Statement must be prepared by the Department of Sustainability and Environment for each item for each item listed as threatened under the FFG Act. Action Statements provide some background information about the species, including its description, distribution, habitat, life history, the reasons for its decline and the threats which affect it. They also state what has been done to conserve the species and what will be done. Action Statements are designed to apply for three to five years, after which time they will be reviewed and updated. Listing also allows the declaration of Critical Habitat for that species and, within Critical Habitat, the imposition of Interim Conservation Orders.

The LFP is listed as **endangered** in Australia under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Listing under the EPBC Act means that, with certain exceptions, actions which will or may have a significant impact of a listed species require approval under the Act. Forest harvesting under a Regional Forest Agreement (RFA) are one exemption.

Both the State and Federal listings are based on scientific consideration of a large amount of research and survey. I consider that none of these listings are likely to change in the foreseeable future.

There are a range of threats to the survival of the LFP. These are discussed below.

(i) Reduction in dispersal and migration between populations

The Long-footed Potoroo occurs in small, isolated, low density populations. Population viability assessment for this species under a range of carrying capacities indicates that small populations of this species (> 50) have a low risk of extinction provided dispersal and migration between these populations can occur (Saxon et al. 1990). Populations of less than 50 individuals are "extremely susceptible to extinction" (p.11).

This species is likely to be reliant on dispersal between these isolated sub-populations for survival (Saxon et al. 1994) and habitat disturbance potentially threatens the ability of the species to move between colonies (DEWHA 2009). Fragmentation within sub-populations is of great concern. Within reserved areas, this threat is well managed, as disturbance and damage to habitat and connections is absent or minimal. In those parts of the LFPs range where logging is still undertaken, the potential for increased fragmentation and reduced dispersal remains a threat.

The location of the Brown Mountain coupes in an unreserved area that links between the major reserves of the Snowy River National Park and the Errinundra National Park is significant in this regard, as this area is likely to be an important ecological link zone.

(ii) Predation

Predation by introduced predators has been a major cause of decline in many small to medium sized marsupials. Approximately 40% of reliable records for the Long-footed Potoroo have come from scat analysis of dogs and foxes (VFD 2007). It is not known whether this indicates a high level of predation or merely the cryptic nature of the species in dense habitat meaning it is less likely to be observed or trapped. However Scotts & Seebeck (1989) believed that predator avoidance was a factor determining habitat selection in the species and that the Long-footed Potoroo selected sites with dense vegetation for this reason. Recent data have also indicated that at the Bellbird study area there has been an approximate doubling of the number of individuals utilising the trapping area after predator control was implemented (DNRE 2000).

Predation on this species is likely to be higher when dense understorey vegetation is opened up (DEWHA 2009) as dogs and foxes are known to forage along tracks and in open areas. Activities associated with logging, including construction of roads and removal of biomass from logging and burning of logging residue, are likely to benefit predators such as dogs and foxes, and lead to increased predation pressure upon Long-footed Potoroos in areas subject to logging. Large tracts of undisturbed land with a dense understorey provide better protection from predation (Saxon et al. 1994).

Predation is a threat throughout the species' range. In the last five years, important ongoing predator control programs have covered the whole of the East Gippsland population of the LFP (the Southern Ark program), while another program covers parts of the Great Dividing Range population. I believe

that these programs are effective and very valuable measures contributing to the conservation of the species.

(iii) Habitat Disturbance and Impacts on Food Sources

The effects of land management practices, and other forms of disturbance, on hypogeal fungi, the food source of the Long-footed, is not well understood and often contradictory (Saxon et al. 1994, DSE 2009).

Logging and fire can alter forest composition by replacing damp forest communities with drier ones which in turn can effect sporocarp production by hypogeal fungi. Logging is thought to reduce the availability of mycorrhizal colonies through loss of host plants, compaction of soil and resultant burning of logging residue (see Saxon et al. 1994).

The densest populations of the species are found in old-growth forests in north-eastern Victoria (DEWHA 2009). These populations are also the most productive biologically with more off-spring, and with less time spent foraging. This information suggests that old-growth forests provide more productive habitat for this species (DEWHA 2009), despite a number of records from logging re-growth (Saxon et al. 1994, DSE 2009).

Overall, logging is an ongoing impact on the LFPs habitat in both the East Gippsland and the Great Dividing Range sub-populations. While the impacts of logging on the species are not clear cut and it clearly can survive in some areas after timber harvesting, it is likely that there are overall negative impacts on the species from logging as compared to areas of unlogged habitat. Impacts from logging can be expected to increase with further harvest rotations. Moreover, the likely increase in disturbance from major fires will mean that the retention of undisturbed habitat will become more critical to the species' survival in the future.

2.5 East Gippsland

13. Is the Long-footed Potoroo present in the area of East Gippsland?
- *(a) If so where and to what extent are they found?*
- *(b) Can you produce a map which shows the locations in which it has been found?*

14. As to each area in which it is found in East Gippsland:
- *(a) How secure is its habitat over its range in that area?*
- *(b) What are its population levels? That is, stable, increasing or declining?*
- *(c) Please include any other observations you believe are relevant about the security of the Long-footed Potoroo populations in the East Gippsland area.*

See previous sections.

2.6 Brown Mountain

15. On the basis of the information with which you have been provided (namely, the two digital still and video recording of animals in two of the Brown Mountain Forestry Coupes):
- *(a) Are either of both of the animals captured on these recordings Long-footed Potoroos in your opinion?*
- *(b) If yes, how confident are you about your opinion and why?*
- *(c) What opinion (if any) do these recordings enable you to express about whether Long-footed Potoroos are present in any or all of the Brown Mountain Forestry Coupes?*

16. Taking into account the recording referred to in paragraph 11, what other steps are necessary if any in order to ascertain whether or not Long-footed Potoroos are, or are likely to be, present in or near the Brown Mountain Forestry Coupes?

17. *On the basis of a site visit or visits to and surveys of each of the Brown Mountain Forestry Coupes (which you are requested to undertake as part of the preparation of this report), together with whatever other information you deem necessary for you to form your opinion:*
    - *(a) are Long-footed Potoroos present in any or all of the four Brown Mountain Forestry Coupes? If so, please explain in which of the Brown Mountain Forestry Coupes and explain the reason for your opinion.*
    - *(b) If you are unable to form an opinion as to (a), is it likely that the Long-footed Potoroo is present in any or all of the four Brown Mountain Forestry Coupes? If so, please explain in which of the Brown Mountain Forestry Coupes and explain the reason for your opinion.*
    - *(c) Are Long-footed Potoroos likely to be using or traversing any or all of the four Brown Mountain Forestry Coupes? If so, please identify which of the Brown Mountain Forestry Coupes and explain the reason or reasons why the Long-footed Potoroo would use and or traverse those coupes, and explain the reason for your opinion.*
18. *With what level of confidence are you able to predict whether or not the species will be present in, likely to be present in, or using or traversing the Brown Mountain Forestry Coupes? What factors, presence or absence of information, influence your level of confidence?*
19. *Would the logging of any or all of the four Brown Mountain Forestry Coupes have any impact on the Long-footed Potoroo as a species, the local population or individual members of the species? If so, can you estimate what the nature and level of impact will be?*
20. *To the extent that you find there to be an impact by reason of the intended logging operations, will the Long-footed Potoroo recover from that impact and if so over what time would you expect that recovery to occur?*
21. *You are asked to assume that VicForests will, prior to logging the coupes:*
    - *(a) create a 100m stream-side buffer for the steam that runs along the eastern boundary of coup[e number 840-502-0015;*
    - *(b) in coupes adjacent to Brown Mountain creek Department of Sustainability and Environment staff with appropriate expertise in biodiversity management will guide the identification of hollow-bearing habitat trees in consultation with VicForests and the harvesting contractors:*
        - *i) trees with a DBHOB (diameter breast height over bark) greater than 250cm will be retained where it is safe to do so;*
        - *ii) at least five hollow-bearing habitat trees per hectare will be retained assuming the presence of sufficient numbers and if it is safe to do so;*
        - *iii) where more than six retained hollow-bearing habitat trees are resent in a concentrated area (less than one quarter of a hectare) harvesting machinery should minimise traffic in that area and other trees may be harvested; and*
        - *iv) harvesting debris and other fuels are to be removed from within 20cm of the base of retained hollow-bearing trees or from around groups of retained hollow-bearing habitat trees to reduce the impact of regeneration burning where it is safe to do so.*

    Assuming VicForests adheres to the prescriptions in (a) and (b) above, and assuming logging is carried out in the coupes, would that affect your answerers to questions 15 and 16 above? If so, in what way?

The image and video labelled DJS4 ASL3 EMP1 provide clear shots of a potoroo that has the thick tail and heavier body form that are typical of the Long-footed Potoroo as compared to the more common Long-nosed Potoroo. The other images provided are less clear but are definitely a potoroo and appear to be of similar morphology. It is my view that it is highly likely one animal is a Long-footed Potoroo, and it is probable that both are.

I have compared the videos and images to other still images of both Long-footed and Long-nosed Potoroos to arrive at this conclusion. However, the identification of the species from video and photographs is not a trivial matter and I can claim no experience in this area.

In order to confirm the presence of the LFP at these coupes, these videos and images should be assessed by researchers who have been regularly working with such imaging techniques. Alternatively, further automatic camera surveys could be undertaken. Hair tube surveys would also provide the potential to resolve the issue, although they carry a greater chance of a false negative than the camera surveys.

I have not been able to visit the coupes so I cannot comment in detail on the extent of habitat for the LFP within the coupes, or differences in habitat between the coupes.

On the balance of probabilities, given the presence of several LFP records in the vicinity of these coupes and the high likelihood from the automatic camera surveys that there is at least one record of the species from within one coupe, I believe that it is highly probable that the LFP occurs within at least one of the coupe areas.

Assuming a population of the LFP is present, then logging of these coupes has the potential to impact on that local population through:

- increase in predator pressure through creation of tracks and in the more open environment present during and for the initial years after logging
- decrease in the availability of shelter, also due to the opening up of the vegetation for this period
- decline in the abundance of hypogeal fungi, the species' main food, due to drier microclimatic conditions once the tree cover and dense understorey is removed.

The medium and long term impacts of logging on the species are not clear from the research so far undertaken (Chick *et al.* 2006; DSE 2009). The species has been recorded in areas that have been logged at various times in the past, but not in others post-logging. The difficulty in finding comparable sites and the multiplicity of factors that vary between sites makes these results very difficult to interpret. Despite it now being over 30 years since the discovery of the species, the lack of longitudinal studies is notable.

There is good evidence for short term impacts of logging on the species (Chick *et al.* 2006). There may be medium to long term impacts of logging on the LFP, especially where areas are re-logged in the future on the ecologically-short rotation times proposed. However, even if you assume that there are only short term effects, these have to be considered not just at the coupe scale but at the landscape scale. Logging (and wildfires) has changed the forests of Victoria fundamentally, from a forest landscape where the forests were generally older aged and with major disturbance a regular but very infrequent factor, to a landscape where older forests are uncommon, and major disturbance is frequent and widespread. This change means that, at any one time, much of the forest is in a recently disturbed condition, reducing the amount and quality of habitat available to the LFP as compared to more natural conditions. Each coupe containing LFP habitat that is logged contributes to this ongoing cumulative impact.

If it is assumed that the prescriptions in Instruction 21 are adhered to, then there will be a reduction in potential impacts on the LFP, largely due to the creation of the 100 m streamside buffer, as the species generally prefers wetter areas on the lower slopes of a site. The buffer will not, however, contain all the habitat within the coupes for the LFP, so there will still be an impact on theses species from the logging. The other prescriptions relate to hollow-bearing trees and have little relevance to the habitat needs of the potoroo.

2.7 The Management Plan

22. Please look at the East Gippsland Management Plan.

23. What management prescriptions if any are provided for in the Management Plan that apply in respect of the Long-footed Potoroo and its habitat?

24. What do you understand these prescriptions to require?

25. In terms of "confirmed sites" for the Long-footed Potoroo:

(a) Is 400-500 ha around a "confirmed site" a sufficient area?

(b) In practice, do you know how the 400-500 ha is derived (e.g. is it radically drawn from a detection site)?

(c) How should it be derived?

(d) *Have any confirmed sites been identified?*
(e) *If so, do you know how they were identified?*
(f) *How many are there in East Gippsland and where are they?*
(g) *How many to your knowledge are based on actual and accurate records that Long-footed Potoroos are currently present in, or currently use, those areas?*
(h) *Have there been follow up surveys to ascertain whether the species actually use these sites?*
(i) *Have any "confirmed sites" been burnt by fire since they were allocated as "confirmed sites"?*
(j) *What is the total area (in hectares) of the "confirmed sites"? How many individuals should this provide habitat for?*
(k) *In your opinion, how many hectares are required to adequately provide for the long term survival of the Long-footed Potoroo?*

The Forest Management Plan for the East Gippsland Forest Management Area (DCNR 1995) sets out Conservation Guidelines for the LFP on page 29. Under the guideline:

- The species' management strategy and the FFG Action Statement will govern its management
- 400-500 ha around confirmed sites will be protected, using sub-catchment units containing suitable habitat
- Timber harvesting, new roading and most fuel-reduction burning will be excluded from these areas
- These areas will be included in the Special Management Zone (SMZ) or the Special Protection Zone (SPZ) in public forest
- Once 17,500 ha has been protected for the LFP (based on an estimate that this is sufficient habitat for 1000 individuals), new LFP records may cause the zoning scheme to be adjusted, but there will no net increase in the total area of SMZ or SPZ.

The size of the protected area (400-500 ha) is based on the recommendations of the interim LFP management strategy (Saxon *et al.* 1994), and is a reasonable figure. The use of sub-catchment units to define the boundaries is the most appropriate approach.

In relation to Instruction 25, I have commented on some of these issues in this section already, but I do not have access to the detailed information required to provided a response to all the questions.

2.8 The Action Statement

26. You are asked to assume that an action statement for the Long-footed Potoroo has been made under s 19 of the FFG Act in the form attached to this letter.
27. What management actions are provided for in the Action Statement that apply in respect of the Long-footed Potoroo and its habitat?
28. What do you understand these management actions to require?
29. Do you consider that the "management actions" are adequate to meet the "targets" under "objective I"?
30. Do you consider the "targets" to be adequate to meet "objective I"?
31. To your knowledge, to what extent have the "management actions" under "objective I" been implemented on public land?
32. In relation to Action 1:
(a) *Can you identify on a map the 40,000 ha of conservation reserves and State forest SPZs in East Gippsland (the "Core Protected Area")?*
(b) *How much of this area is good quality habitat for the Long-footed Potoroo?*
(c) *In your opinion, how many individuals would this area support? Please support your answer with reasons.*
33. In relation to Action 4 (and Appendix 1): To your knowledge, have any Long-footed Potoroo's been detected since the date of publication of the Action Statement?

34. *Have any additional protected areas been established? If so, please describe where they have been established? Do those areas meet the requirements of the Action Statement?*
35. *Provide comment on objectives II and III (and the associated targets and actions) to the extent that they are relevant to determining the current level of knowledge about, and threats to, the Long-footed Potoroo.*

The management objectives and actions from the revised LFP Action Statement (DSE 2009) are set out in the box below.

Long term objective

To ensure that the Long-footed Potoroo can survive, flourish and retain its potential for evolutionary development in the wild.

Intended Management Actions

The intended management actions listed below are further elaborated in DSE's Actions for Biodiversity Conservation (ABC) system. Detailed information about the actions and locations, including priorities, is held in this system and will be provided annually to land managers and other authorities. It is intended that the targets specified below be met within the five year timeframe of this Action Statement.

Objective I To protect populations or habitat from potentially incompatible use

Targets: Sufficient habitat identified and protected in both East Gippsland and the Great Dividing Range to provide for a substantial and viable population of Long-footed Potoroos.

Timber harvesting and other activities managed to protect potoroo habitat at Long-footed Potoroo detection sites outside Core Protected Areas.

In the following Actions, a Special Protection Zone (SPZ) is an area of State forest managed primarily for conservation purposes. Special Management Zones (SMZs) are areas of State forest jointly managed for conservation and timber production, and General Management Zones (GMZs) are primarily utilised for timber production.

In both of East Gippsland and the Great Dividing Range, the areas in which the Long-footed Potoroo is known to occur have been delineated by a 'distributional polygon' (one for each population) within which the measures outlined below apply. The distributional polygons will change with new information about Long-footed Potoroo distribution. The measures described below will apply within the distributional polygon.

'Core Protected Areas' are defined as areas of Long-footed Potoroo habitat protected in State forest SPZs and in conservation reserves such as national parks and other statutory reserves. Core Protected Areas will replace the previous 'Special Management Areas' (SMAs). 'Additional Protected Areas' are defined as areas of State forest and other public land tenures where Long-footed Potoroos have been recorded outside of the Core Protected Area, which are then protected in SMZs or equivalent categories in other tenures. 'Sites' are specific places where Long-footed Potoroos have been detected.

Action 1 - Implement Long-footed Potoroo Core Protected Area for East Gippsland

A network of protected areas of primary habitat in East Gippsland has been identified, comprising in excess of 40,000 ha of conservation reserves and State forest SPZs. This Core Protected Area will replace the current SMA-based approach and will consist of existing conservation reserves, existing and proposed SPZs and proposed new and expanded conservation reserves. This area is considered sufficient to support more than 2000 individuals, based on a conservative estimate of Long-footed Potoroo density (0.05 animals per ha).

Responsibility: DSE

Action 2 - Implement Long-footed Potoroo Core Protected Area for the Great Dividing Range area

A network of protected areas of primary and secondary habitat in the Great Dividing Range area has been identified, comprising in excess of 40,000 ha of conservation reserves and State forest SPZs. This Core Protected Area will replace the previous SMA-based approach. All primary habitat within the Long-footed Potoroo distribution will be included in the Core Protected Area. Primary habitat currently within SMZ or GMZ will be included in SPZ. Secondary habitat within existing reserves or SPZ will make up the remainder of the Core Protected Area. This area is considered sufficient to support 2000 individuals, based on a conservative estimate of Long-footed Potoroo density (0.05 animals per ha). Changes to State forest zoning will be implemented. If significant, new information regarding the habitat requirements or preferences of the Long-footed Potoroo arises during the life of this Action Statement, a formal review will be initiated.

Responsibility: DSE

Action 3 - Protect populations and their habitat in parks or reserves

Ensure that park and reserve management plans recognise and protect areas of habitat identified in Actions 1 and 2. New roads and facilities should not be constructed close to Long-footed Potoroo detection sites.

Responsibility: Parks Victoria

Action 4 - Protect Long-footed Potoroo habitat at detection sites on public land outside the Core Protected Area

Establish additional protected areas where Long-footed Potoroos have been detected in State forest or other public land outside the Core Protected Area. In State forest, apply the protection measures specified in Appendix I. The protection measures will be formally reviewed in 2014.

Responsibility: DSE, VicForests

Action 5 - Protect Long-footed Potoroo habitat at detection sites on private land

Where Long-footed Potoroos are detected on private land, encourage landholders to protect the area (and especially primary habitat) and to undertake active management such as predator control. Incentives to assist landholders should be made available wherever possible. If extension efforts do not achieve a satisfactory result, use provisions under local government planning schemes to place conditions on any proposed clearing of native vegetation so as to achieve a result equivalent to the Special Management Zones described in Action 4. Recognise Long-footed Potoroo sites on private land in local government planning overlays, such as the Environmental Significance Overlay. Delineate these areas by applying the same principles used to define Special Management Zones as in Action 4.

Responsibility: DSE, Local Government

Objective II To protect populations from potentially threatening processes

Targets: The risk of extensive wildfire within the distribution of the Long-footed Potoroo is reduced by strategic fuel reduction and aggressive first attack on unplanned fires.

The abundance of exotic predators is reduced to a level that allows an increase in the Long-footed Potoroo population and is maintained at that level.

Action 6 - Manage fire regimes

Management of fire within the Long-footed Potoroo distribution will be considered as part of regional ecologically-based fire management planning processes. Fuel reduction burning in Core Protected Areas and SMZs for Long-footed Potoroos will be low intensity and will be concentrated in less-preferred Long-footed Potoroo habitat through use of fuel moisture differentials to avoid burning primary habitat such as gullies and damp forest. Strategic fuel breaks will not be built through Core Protected Areas and SMZs for Long-footed Potoroos unless based on existing roads and there are no practical alternatives. Wildfire control in or near Long-footed Potoroo sites will be undertaken using the most environmentally sensitive technique appropriate for the circumstances and the risk posed by the fire.

Responsibility: DSE, Parks Victoria

Action 7 - Control predators

Red Foxes will be controlled across as large a part of the Long-footed Potoroo distribution as possible. In East Gippsland the entire distribution is included within the Southern Ark fox control project area. Long-footed Potoroo population monitoring will continue in selected areas with predator control, especially Bellbird Track. In the Great Dividing Range area,, DSE and Parks Victoria will continue to implement strategic fox control programs to protect the main concentration of known Long-footed Potoroo sites and primary habitat. Wild dogs will be controlled where they are demonstrated to be posing a threat to Long-footed Potoroos. Feral cats will be controlled at Long-footed Potoroo sites on an *ad hoc* basis by trapping and humane disposal until a viable cost effective broad scale control technique is available. This technique should then be applied to as many sites as possible. A protocol specifying trigger points to initiate dog or cat control measures and the appropriate design of control programs will be developed.

Responsibility: DSE, Parks Victoria

Action 8 - Undertake threat monitoring

Monitor introduced predator densities at key Long-footed Potoroo sites in East Gippsland and the Great Dividing Range area to determine whether trigger points for control have been reached and whether control programs are effective.

Responsibility: DSE, Parks Victoria

Objective III To improve knowledge of biology, ecology and management requirements

Targets: Monitoring protocol has been reviewed and updated.

New protocol has been fully implemented.

Reliable information has been obtained on population trends.

Substantial improvement has occurred in our understanding of biology, habitat requirements and response to disturbance.

Action 9 - Monitor populations

In light of the effectiveness of remote cameras in detecting Long-footed Potoroos, review the current protocols for surveying and monitoring, and implement revised protocols. Maintain long-term monitoring activities, such as those at Bellbird Creek in East Gippsland, as far as possible.

Responsibility: DSE

Action 10 - Undertake research

Undertake further research on the effects of habitat disturbance (especially by fire) on the Long-footed Potoroo and its food sources. Encourage other ecological research on the Long-footed Potoroo consistent with priorities identified in the National Recovery Plan, including interrelationships between Red Foxes, Wild Dogs, feral Cats and Long-footed Potoroos.

Responsibility: DSE, Parks Victoria

Action 11 - Undertake population modelling

When sufficient information on Long-footed Potoroo population biology is known, undertake population modelling to refine our understanding of the probability of the species thriving under various scenarios. The results of the modelling should be used to revise habitat protection arrangements if necessary.

Responsibility: DSE

Action 12 - Captive management

The captive Long-footed Potoroos at Healesville will be re-established for display and educational purposes if the opportunity arises to deposit orphaned, sick or injured animals that cannot be rehabilitated to the wild. If established, these animals will be available for ecological research. No new healthy wild-sourced Long-footed Potoroos will be taken into captivity at Healesville Sanctuary due to the risk of the animals acquiring avian tuberculosis. Other options for captive management will only be considered for approval following rigorous assessment of conservation and animal welfare risks and benefits.

Responsibility: DSE, Zoos Victoria

Objective IV To increase community awareness and support

Target: Opportunities for involvement have been identified, promoted and supported.

Action 13 - Develop and distribute community awareness material

Information on the need for special management of the Long-footed Potoroo and on the species' ecology will continue to be distributed to the community, especially in East Gippsland (including the Dargo area) and north-east Victoria. The unique occurrence of the Long-footed Potoroo in these areas should be included as part of the promotion of ecotourism, forest management and the wildlife of the regions. Liaison with deer hunting associations (and especially hunters who use hounds) will be increased to improve their understanding of the importance of the baiting program for the great Dividing Range population and to try to develop mechanisms to minimise the risks of baiting to hunters' dogs. Fact sheets should be added to the DSE website to increase the accessibility of information.

Responsibility: DSE, Parks Victoria

Action 14 - Involve the community in recovery activities

Involve the community in the management of the Long-footed Potoroo by providing opportunities for volunteers to assist with field work if appropriate.

Responsibility: DSE

In relation to State forest, these actions are significantly different from the previous Action Statement and the guidelines in the East Gippsland Forest Management Plan. There will now be a network of protected areas of primary habitat in East Gippsland, comprising more than 40,000 ha of conservation reserves and SPZs (Core Protected Area). This area is considered sufficient by DSE to support more than 2000 individuals.

Where LFPs are detected on public land outside the Core Protected Area, additional protected areas will be established, and, in State forest, protection measures specified in Appendix 1 of the Action Statement will apply. These are:

> *1.Each Long-footed Potoroo (LFP) detection site outside the Core Protected Area will generate a Special Management Zone (SMZ) of approximately 150 ha.*
>
> *2. As far as possible, SMZ boundaries will follow recognisable landscape features such as ridges, spurs and watercourses.*
>
> *3. Within each SMZ, at least one third (~50 ha) will be protected from timber harvesting and new roading.*
>
> *4. This will be known as Long-footed Potoroo Retained Habitat.*
>
> *5. The LFP Retained Habitat will include the best LFP habitat in the SMZ, which will generally be in gullies and on lower, sheltered slopes.*
>
> *6. The LFP Retained Habitat may include areas otherwise unavailable for timber harvesting due to restrictions under the Code of Practice for Timber Harvesting.*
>
> *7. The SMZ will also have a general restriction of one third of the total area that can be harvested in any three year period. If more than one coupe is to be harvested in an SMZ in the same year, the coupes must be separated by at least the equivalent of another coupe width.*
>
> *8. The SMZ, with the LFP Retained Habitat clearly delineated, will be shown as part of the Forest Management Area zoning scheme.*
>
> *9. The SMZ will be designed by DSE, in consultation with VicForests, and approved by DSE.*
>
> *10. If the ~150 ha area includes any part of an existing conservation reserve or Special Protection Zone (SPZ), these areas will retain their existing reservation or zoning status but will be considered for inclusion as part of the area of retained habitat. In such cases, the final area designated as SMZ may be correspondingly smaller.*

These prescriptions are a significant reduction on those applying prior to the revised Action Plan. I have not been able to find a published map of the Core Protected Area for East Gippsland, so I can only assess the concept on the basis of its description in the Action Statement. While the Core Protected Area is a good concept, it would seem that it largely represents the status quo with only small additions (e.g. “icon” areas). It includes a range of areas that are not priority LFP habitat and excludes some important areas, such as the Brown Mountain link area. It therefore does not appear to provide the sort of significantly improved conservation outcome for the species that might justify a reduction on the prescriptions for new LFP sites. I therefore conclude that these changes will not improve the management of the LFP in areas subject to logging and will therefore make it more difficult rather than easier to achieve Objective 1.

Other than the likely records from the EEG photographs from the coupes, I am not aware whether there have been further records of the LFP since the publication of the revised Action Statement.

In relation to Objectives 2 and 3 of the Action Statement, the actions set out under these objectives are all important actions that, if implemented, would enhance the viability of the species and our knowledge of its ecology. The on-going predator control program is a very valuable management action (Action 7). The management of fire regimes (Action 6) is also of great importance, but I would note that most of the actions are relatively minor and not particularly prescriptive; the management of landscape level wildfires will require a much broader and proactive approach.

2.9 The Precautionary Principle

36. What is your understanding of the precautionary principle?

37. Having regard to:

(a) the East Gippsland Forest Management Plan;

(b) the Action Statement made under the FFG Act in relation to the Long-footed Potoroo;

(c) your opinion about the present threats to the Long-footed Potoroo and its habitat in East Gippsland and in Victoria;

(d) your opinion on the presence of or likely presence of the Long-footed Potoroo in the proposed coupes, or its use or traversing of those coupes;

(e) any other matter that you regard as relevant (and which you should identify expressly in answering this question),

would the proposed logging be consistent with the application of the precautionary principle in respect of the Long-footed Potoroo?

38. Please explain in detail your answer to Question 32.

In Australia, the precautionary principle is usually expressed in the following terms, as set out in the Intergovernmental Agreement on the Environment:

> *Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*
>
> - *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and*
> - *an assessment of the risk-weighted consequences of various options.*

Essentially, the precautionary principle means that if an action or policy has suspected risk of causing harm to the environment, in the absence of a scientific consensus that harm would not ensue, the burden of proof falls on those who would advocate taking the action.

It is my view that the proposed logging of these coupes is not consistent with the precautionary principle because:

(i) there is scientific uncertainty about the impacts of logging on the LFP, but enough evidence to suggest that negative impacts are likely

(ii) there is sufficient evidence to indicate that the LFP is present or is highly likely to be present in the coupes

(iii) the species is listed as endangered in Australia and threatened in Victoria, so the consequences of any impact are potentially serious or irreversible

(iv) the localised impacts form part of a pattern of cumulative broadscale impacts

(v) the location of the coupes is within an unreserved area that forms part of an important ecological link between two major permanent reserves, so is a critical location for allowing long term dispersal

(vi) there is no positive for the environment or the LFP in taking the action; the consequences can only be negative.

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