

**IN THE SUPREME COURT OF VICTORIA
AT MELBOURNE
COMMON LAW DIVISION
JUDICIAL REVIEW AND APPEALS LIST**

No. 8547 of 2009

BETWEEN

ENVIRONMENT EAST GIPPSLAND INC

Plaintiff

and

VICFORESTS

Defendant

Date of document:	24 March 2010	
Filed on behalf of:	Plaintiff	
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**PLAINTIFF'S FINAL SUBMISSIONS: EVIDENCE AND
ARGUMENTS ON NON COMPLIANCE**

EVIDENCE

Plaintiff's evidence

1. The plaintiff called the following witnesses:
 - (a) Jill Redwood.¹ Ms Redwood's evidence goes to three matters in issue in this proceeding. First, the standing of EEG. Second, the collection of hair tube samples from Brown Mountain, and in particular one in February 2009, and their identification by Ms Barbara Triggs, an expert in hair analysis and identification. Third, the process by which EEG sought to draw the conservation values of Brown Mountain to the attention of VicForests, DSE and the

¹ Ms Redwood swore 3 affidavits, dated: 28 August 2009, 17 November 2009, 17 February 2010 adopted at T 223.

Minister for Environment, including obtaining Dr Meredith's report, Assessment of Critical Habitat for Six Species under the Flora and Fauna Guarantee Act.²

- (b) Ms Barbara Triggs is a qualified zoologist.³ Her specialist area of expertise is the identification of hair samples from mammals. Both DSE and groups and individuals use her services. She gave evidence that in or about February 2009 she identified a hair tube sample sent to her from Ms Redwood as coming from a Long-footed Potoroo. She was not cross examined.
- (c) Andrew Lincoln.⁴ Mr Lincoln is the volunteer surveyor who placed a camera in coupe 15, and on or about 24 August 2009 retrieved the SD card from the camera with footage of a Long-footed Potoroo on it.
- (d) Shelly McLaren.⁵ Ms McLaren is the volunteer surveyor who placed a camera in or around coupe 26, and between 3 and 6 September 2009 retrieved the SD card from the camera with footage of a Long-footed Potoroo on it.
- (e) Mr David Treasure.⁶ Mr Treasure is a qualified land surveyor who plotted the GPS co-ordinates from Ms McLaren's affidavit, and also from the log book which she gave evidence had been filled in on or about 3 September 2009. He was not cross examined.
- (f) Mr Dave Scotts.⁷ Mr Scotts is one of Australia's most experienced zoologists on the Long-footed Potoroo. He was involved in some of the earliest research into the species. He confidently identified each piece of footage (from Mr Lincoln and Ms McLaren) as showing a Long-footed Potoroo.

² Exh 22.

³ Affidavit dated 8 February 2010, Exh 20

⁴ Affidavit dated 24 August 2009, adopted T 262.18

⁵ Affidavit dated 15 October 2009, adopted T 333.29

⁶ Affidavit dated 12 March 2010, Exh 46

⁷ Affidavit dated 24 November 2009, Exh 35

- (g) Ms Eliza Poole.⁸ Ms Poole is a qualified zoologist who has worked with Long Nosed Potoroos. She identified the footage taken by Mr Lincoln as showing a Long-footed Potoroo. She was not cross examined.
- (h) Dr Charles Meredith.⁹ Dr Meredith was retained by EEG well before this proceeding commenced, for a different purpose: namely, to prepare a critical habitat report to support an application by EEG¹⁰ to have Brown Mountain declared under s 20 of the FFG Act as critical habitat for a number of species. After these proceedings were commenced, and after Mr Scotts informed the Plaintiff's lawyers he did not have time to prepare a report on the potoroo, Dr Meredith was asked to prepare one, which he did.¹¹ As he readily conceded in cross examination,¹² he is not "the" expert in Long-footed Potoroos, but he is certainly 'an' expert – in no small part due to being the Chair of the Threatened Species Committee established under the FFG Act at the time the LFP was listed, and participating in that recommendation. Dr Meredith also prepared a report on the threatening process of the loss of hollow bearing trees.¹³
- (i) Dr Graeme Gillespie, a Director of Zoos Victoria and an expert on the Large Brown Tree Frog and the Giant Burrowing Frog.¹⁴
- (j) Dr Rohan Bilney, an expert on the Powerful Owl and Sooty Owl.¹⁵ Dr Bilney also carried out some of the EEG fauna surveys,¹⁶ and

⁸ Affidavit dated 24 August 2009, Exh 42.

⁹ Letter of instructions dated 9 February 2009 (Exh 21), Report on Critical Habitat (Exh 22), Letter of instructions dated 7 July 2009 (Exh 23), letter of instructions dated 9 November 2009 (Exh 24), Report dated 1 February 2010 on the Loss of Hollow Bearing Trees (Exh 25), Report dated 2 February 2010 on the Long-footed Potoroo (Exh 27).

¹⁰ Made while there was a publicly announced moratorium on logging at Brown Mountain.

¹¹ Exh 27.

¹² T 410.22-27.

¹³ Report by Dr Meredith dated 1 February 2010 on the Loss of Hollow Bearing Trees (Exh 25).

¹⁴ Report by Dr Gillespie on the Large Brown Tree Frog (Exh 3), Report by Dr Gillespie on the Giant Burrowing Frog (Exh 5).

was the person who saw and identified two sightings of a Square Tailed Kite.¹⁷ He also carried out some surveys of densities of Yellow Bellied Gliders and Greater Gliders for Dr Andrew Smith.¹⁸

- (k) Dr Andrew Smith, an expert on Gliders.¹⁹
- (l) Mr Rob McCormack, an expert on freshwater crayfish.²⁰
- (m) Dr Chris Belcher, one of Australia's leading experts on the Spot Tailed Quoll.²¹
- (n) Dr Steve Debus, an expert on the Square Tailed Kite.²²

The Defendant's evidence

2. The Defendant called the following witnesses:

- (a) Mr Lachlan Spencer, Tactical Planning Manager from VicForests.
- (b) Mr Cameron McDonald, the former Director Strategy and Corporate Affairs of VicForests
- (c) Mr Lee Meizis, Director Forests, Forests and Parks Division of DSE.
- (d) Professor Ian Ferguson, an expert in forestry.
- (e) Mr Jonathan Kramersh, a partner at HWL Ebsworth, solicitors for VicForests.

General submissions on witnesses

3. There were few actual intersections between the evidence of the Plaintiff and the evidence of the defendant. Even on questions of fact, there was little overlap. Most of the defendant's factual evidence concerned its

¹⁵ Report by Dr Bilney on the Sooty Owl and Powerful Owl, December 2009 (Exh 30), Reply by Dr Bilney to the report by Professor Ferguson (Exh 31).

¹⁶ Exh 33.

¹⁷ Affidavit of Dr Bilney dated 1 March 2010 on the Square-tailed Kite, Exh 32. Dr Bilney's field observations of the Square-tailed Kite are Exh 34.

¹⁸ See Exh 17.

¹⁹ Exh 13. Reply to Professor Ferguson Exh 14.

²⁰ Exh 37, Report on the Morphological Comparisons of Different Crayfish Species (Exh 38)

²¹ Exh 40.

²² Exh 44, Map of VEB-8 (Exh 45)

forestry planning and operations processes. Its oft repeated evidentiary position was that it lacked any ecological expertise and responsibility for conservation and ecology rests with DSE. Its witnesses were given ample opportunity to identify the steps it took to identify and act on conservation measures²³.

4. The plaintiff's relevant factual evidence (aside from standing evidence) largely concerned detections of the species in issue.
5. On factual issues, the plaintiff's evidence is generally reliable. All witnesses who gave evidence of detections were directly and personally involved in those detections. In that sense, the plaintiff's evidence was the best evidence which could have been adduced.
6. Only the plaintiff called witnesses with recognised expertise in the species in issue in this proceeding. The defendant relied on concessions by the plaintiff's experts in their reports, and in cross examination to assist its case.
7. Thus, the plaintiff's expert evidence remains uncontradicted, except insofar as concessions were given or obtained. Its experts were of high quality and expertise, and their evidence was reliable and independent. The Court should accept it, and should be all the more comfortable in doing so since VicForests adduced no expert evidence to contradict it.
8. Further, evidence from DSE and VicForests' documents containing both fact and opinion from DSE zoology and conservation biology/ecology experts, was also not contradicted by VicForests, nor did VicForests submit the documents were inaccurate or not genuine. Almost all such documents were tendered unopposed. The Court can and should accept what these documents say as accurate and reliable reflections of what the authors' observations actually were, and what opinions they formed based on those observations; alternatively as accurate and reliable reflections of the honest opinions held by those scientists.
9. Mr Kramersh's evidence establishes several propositions:

²³ Eg T 780, 791, 808-809, 827 (Spencer).

- (a) VicForests approached in excess of 20 individuals, to see if they would act as expert species witnesses in this proceeding and was not able to secure any such witnesses, except one Mr Gary Daly, in relation to the Large Brown Tree Frog. However, he was never called and the reason for that was not explained by the defendant's evidence.
- (b) An arrangement was reached fairly early in the preparation for trial that Mr Meizis could be called as a witness, under subpoena.
- (c) VicForests tried unsuccessfully to have a large range of experts from DSE and the Arthur Rylah Institute give evidence as expert witnesses for the defendant in this proceeding.
- (d) Apart from Mr Meizis, DSE sought to impose conditions on the calling of any of its employees, by way of an undertaking that before any subpoena was issued to any DSE witness as to fact or opinion, both the witness and Dr Peter Appleford, the CEO of DSE, must consent. VicForests by its lawyers was prepared to give such an undertaking as to expert witnesses, but not witnesses of fact. In the end it called neither witnesses of fact from DSE, nor any experts.
- (e) VicForests, through Mr Kramersh, elected to agree to an undertaking that before any subpoena was issued to Mr Steve Henry, both the Mr Henry and Dr Peter Appleford, the CEO of DSE, must consent. Mr Kramersh spoke to Mr Henry for some considerable time on Monday 1 March 2010, the first day of this trial. He did not contact Mr Henry again until Friday 12 March 2010 and on that day Mr Henry refused to give his permission to give evidence. No subpoena was issued because VicForests, through Mr Kramersh, had put itself in apposition where it could not do so consistently with its undertaking.
- (f) Mr Ryan Chick from ARI had been given a subpoena. However, it was not called on, despite Dr Meredith being cross examined on Mr

Chick's report, and despite Dr Meredith not accepting all the propositions put to him about what could be drawn from Mr Chick's report.

- (g) VicForests would not call any witness from DSE without first understanding precisely what evidence they would give – in Mr Kramersh's words, it would not call them 'cold'. This is despite VicForests having access to the same documents as the plaintiff, in terms of what these experts had said and done at relevant times.
10. The propositions which emerge from Mr Kramersh's evidence mean that the Court can be very comfortable in accepting both the plaintiff's experts, and the contents of contemporaneous documents containing opinions from DSE experts and scientists, as accurate and reliable. VicForests left no stone unturned in its attempts to secure evidence to contradict that adduced by the plaintiff. It could not secure any, and would not call a DSE witness without knowing exactly whether what that witness would say would assist VicForests or not.

SOME CRITICAL ISSUES OF CHRONOLOGY

- 11. It may tend to mislead to continually emphasise the plaintiff's correspondence with the Minister and DSE early in 2009. That correspondence was about other powers under the FFG Act. It is impossible to review a decision (regarding critical habitat) which has not yet been made.
- 12. More importantly, the plaintiff's eventual proceeding focussed on the agent of harm – VicForests, and the imminent harm – logging. This proceeding was brought about by the Minister's sudden announcement on 21 August that logging in these coupes could proceed, and by VicForests' insistence that it would. Arguing about the lawfulness of any decision DSE asserts was or was not made about glider Special Protection Zones (SPZs), or Long-footed Potoroo retained habitat was then hardly to the point if the coupes had been logged.

VICFORESTS' COMPLIANCE OBLIGATIONS AND ITS LACK OF COMPLIANCE

Breach of s 4(2) of the FFG Act

13. Section 4(2) creates enforceable obligations. Unlike the examples referred to by the defendant, it does not speak of general "duties". Rather, s 4(1) defines a term – "Flora and fauna conservation and management objectives". That defined term sets the scope of the duty imposed by s 4(2). There is nothing general or aspirational about s 4(2). Mandatory language is used and an obligation familiar to the law – "have regard to" is employed.
14. VicForests admits by its Defence that it is a public authority for the purposes of s 4(2).
15. As a whole, the evidence shows that VicForests conducts itself on the basis that once timber resources are released to it under the TRP, those resources are "locked in" for it to use in harvesting,²⁴ and it thereafter trenchantly resists any intrusion of conservation measures into 'its' coupes.
16. Not only is VicForests entirely reactive rather than proactive in finding out whether there are threatened species in the coupes it proposes to harvest, when such species are detected it either ignores the detections, tries to discredit them,²⁵ tries to avoid the legal consequences of such detection (as with the gliders) or falls back on reserve protection even when (as for the Sooty and Powerful owls) the reserve protection has not in fact been achieved.
17. It consciously and deliberately adopts a strategy of 'don't look, don't find', refuses to employ or engage qualified conservation biologists, ecologists or zoologists and instead has its forest planners and managers draw up

²⁴ In meetings between VicForests and DSE on 7 April 2009 (Exh 52), VicForests noted that an equivalent area to any new SPZ would have to be "swapped back" to GMZ.

²⁵ Email from Barry Vaughan to Lee Miezi dated 13 March 2009, Exh 60.

habitat retention proposals and try to force DSE to do as little as possible if a new measure or prescription seems unavoidable.²⁶

18. The evidence in this case shows that VicForests pays no regard to and has consistently flouted the objectives in s 4(1) of the FFG Act in relation to these coupes, and the Court should find it has not performed, and does not intend to perform, its duty pursuant to s 4(2) in relation to these coupes.
19. Amongst the best evidence is VicForests assertion to this Court in August /September 2009 (through Mr McDonald) that it would log coupes 15 and 19 within a week, despite (the evidence now shows) it being fully aware of two confirmed potoroo detections – one by hair tube in January 2009 and one by camera footage in August 2009, and despite there being not even an interim Retained Habitat and Special Management Zone (SMZ) in place under the Action Statement.
20. On the evidence, in October 2009, VicForests sought and obtained from Mr Miezis the information in LAM 36 and from then on knew about the Sooty and Powerful Owl targets not having been met, and yet VicForests continued to put to this Court that they are met, and no action needs to be taken in relation to the Owl detections in these coupes. This also demonstrates no regard is paid by VicForests in the way it conducts itself to the s 4(1) objectives.
21. The non observance of the duty in s 4(2) provides a strong foundation for the Court to be satisfied, including in the exercise of its discretion to grant or withhold relief, that in the absence of a coercive order such as an injunction, VicForests will not perform its obligations in relation to the protection of threatened species in these coupes.

²⁶ Email from Lachlan Spencer to Barry Vaughan dated 25 September 2009 (Exh 56) and from Jason Hellyer to Peter Jones dated 25 September 2009 (Exh 57) in relation to the size and design of the Long-footed Potoroo SMA.

SOOTY OWLS AND POWERFUL OWLS

Biology of the two species

22. The Powerful Owl is Australia's largest forest owl characterised by bright yellow, large, forward directed eyes.²⁷ It has a characteristic double note call, "whoooooo-hoooo". It is an opportunistic nocturnal hunter that preys on arboreal mammals and prefers older forests where large tree hollows provide nesting sites and support high arboreal mammal densities.²⁸ It is hollow-dependent for breeding and roosting within the foliage of trees.²⁹ Each pair mates for life and the young can remain dependent for up to 8 months.³⁰ It has very low breeding success in East Gippsland (potentially linked to low prey availability).³¹
23. The Sooty Owl is a sedentary, territorial nocturnal predator that consumes mammalian species up to 1.5kg in weight, including Greater Gliders and Yellow-bellied Gliders. It is a habitat specialist and is associated with tall open-forests with understorey and middle storey plants such as Silver Wattle and Tree-Ferns³² and old-growth forest, being hollow dependent for nesting and roosting.³³ They exist in low population densities with a population in Eastern Victoria of between 400-900 breeding pairs.³⁴

Conservation status and threats

24. Both species are listed as threatened under s 16 of the FFG Act: Sooty Owl (AB 533) and Powerful Owl (AB 531).

²⁷ Powerful Owl Action Statement, AB 589

²⁸ Ibid, AB 590, Dr Bilney's Report on Sooty Owls and Powerful Owls, exh 30, 4 & 6.

²⁹ Dr Bilney's Report, exh 30, 4

³⁰ Powerful Owl Action Statement, AB 590

³¹ Dr Bilney's Report, exh 30, 5

³² Sooty Owl Action Statement, AB 572

³³ Dr Bilney's Report, exh 30, 2-3.

³⁴ Sooty Owl Action Statement, AB 572

25. As the Sooty Owl is dependent on tall, open-forests, clearing and logging of those habitats has probably removed or modified a significant proportion of the Sooty Owl's former habitat.³⁵ Probable population decline means that the Sooty Owl is more susceptible to catastrophic events. The FFG Act Scientific Advisory Committee determined, in 1991, that the Sooty Owl is "*significantly prone to future threats which are likely to result in extinction*".³⁶ These threats include decline in availability of suitably large hollows. Further, where habitat is fragmented, this can lead to reduced dispersal opportunity and genetic isolation.³⁷ Dr Bilney notes that the coupes form an important corridor between two national parks.³⁸
26. In relation to the Powerful Owl, permanent loss of habitat has led to population decline and "*fragmentation of the original continuous population into a series of small residential populations, each of which is at risk of becoming locally extinct*".³⁹ Lack of suitable large hollows is again a limiting factor to the species' survival, breeding success and population recruitment. Prey densities are also an important factor in determining territory size and breeding success. The FFG Act Scientific Advisory Committee determined, in 1994, that the Powerful Owl is significantly prone to future threats which are likely to result in extinction and very rare in terms of abundance and distribution.⁴⁰
27. According to Dr Bilney, the main threats to both species involve actions that impact on key resources being: 1) large tracts of contiguous forests; 2) hollow-bearing trees; and 3) sufficient densities of prey to support breeding.⁴¹
28. According to Dr Bilney, clearing and habitat fragmentation can transform the landscape "*into an unusual sate for Sooty Owls and Powerful Owls*" and

³⁵ Sooty Owl Action Statement, AB 573

³⁶ Sooty Owl Action Statement, AB 573

³⁷ Sooty Owl Action Statement, AB 573

³⁸ Bilney Report, Exh 30, page 24

³⁹ Powerful Owl Action Statement, AB 590

⁴⁰ Ibid.

⁴¹ Dr Bilney, exh 30, page 10.

impacts on *"critical resources required by owls ... in both the short and long-term"*.⁴² Logging severely *"depletes the densities of hollow-bearing trees... which includes the removal of nesting and roosting sites of owls and other hollow-dependent species ... many of which are important prey species for both owls"*.⁴³

29. Regrowth forests *"provide limited value"* to both species and Dr Bilney's study in 2009 of radio-tracking two Sooty Owls in East Gippsland indicated the Sooty Owl has *"strongly avoided"* even 40-50 year regrowth.⁴⁴
30. Predation by foxes on the owls' prey species, where such predation increases in harvested areas, *"is likely to pose one of the greatest threatening process (sic) to owls"*.⁴⁵

Presence

31. Sooty Owls and Powerful Owls are present in the Brown Mountain coupes. A Sooty Owl roosting site is within coupe 15 or surrounding forest.⁴⁶
32. The defendant's submission⁴⁷ that Dr Bilney could not state with any confidence that there is a roost site within coupe 15 is an incomplete summary of his evidence. At T 519, Dr Bilney stated that *"there's a high chance there are several roots around, in and around that area"* (namely within or just nearby coupe 15).
33. Dr Bilney's surveying technique of call-playback was not questioned in cross-examination.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Ibid., page 11.

⁴⁵ Ibid., page 14.

⁴⁶ Bilney report, exhibit 30, page 22 and DSE survey, AB 1052 in relation to the Powerful Owl.

⁴⁷ Defendants written Submission para 222

34. Both owls were recorded in the Brown Mountain coupes by Dr Bilney in January 2009 and Dr Bilney placed one record near Brown Mountain creek.⁴⁸
35. Sooty Owls responded to playback twice in coupe 15 and a Powerful Owl was heard calling towards the northern end of coupe 15.
36. Sooty Owls were heard calling after dusk in January 2009 and again in November 2009 indicating roosts on both occasions either in coupe 15 or surrounding areas. Dr Bilney gave further viva voce evidence that "*there's a high chance there are several roosts around, in and around that area*" being coupe 15.⁴⁹
37. A Powerful Owl was recorded by DSE surveys on 12 March 2009, recorded as "distant" (AB 1060). This record is not on map 14 of the agreed maps (showing records and overlays). The coupe overlay reports, as part of the desk top assessments, do not indicate either an SPZ or Special Management Zone overlay for the protection of this Powerful Owl record, or the January records, in form of a 3.5km radius SPZ (which is approx 800ha).

Brown Mountain coupes are high quality habitat

38. The four Brown Mountain coupes high quality habitat for roosting, nesting and prey for both the Sooty Owls and Powerful Owls.⁵⁰ All four coupes contain high densities of arboreal mammals.⁵¹
39. It is admitted that the Greater Gliders and Yellow-bellied Gliders are present in the coupes and are prey for both Owls.⁵²

⁴⁸ Exh 30, page 22.

⁴⁹ T 519.15

⁵⁰ Exh 30, page 23.

⁵¹ Ibid.

⁵² Defence, paragraphs 49-52.

40. In fact, according to Stephen Henry from the DSE, the densities of the arboreal mammals are rare and unlikely to be found elsewhere in East Gippsland.⁵³
41. According to Dr Bilney, the coupes contain *"virtually the highest quality habitat for Sooty Owls, being old-growth (with high densities of hollow-bearing trees) wet forest... with high prey (small mammal) densities"*.⁵⁴
42. While the coupes may form a fraction of the area the owls use (in their home ranges), the 81.4ha *"represents the only substantial unlogged old-growth habitat remaining within the (approximate) 500ha area adjacent to the Errinundra National Park"* and so represents a *"large proportion of habitat used by Sooty Owls and Powerful Owls"* and important link between two conservation reserves as an *"important corridor"*.⁵⁵

Compliance with standards, conditions and measures

The East Gippsland FMP

43. The FMP prescribes the standard that
 - (a) Good quality habitat will be maintained to support at least 100 pairs of Sooty Owls and a 100 pairs of Powerful Owls in the FMA.⁵⁶
 - (b) Good quality habitat is defined for Sooty Owls as approximately 500 hectares of forest dominated by old trees within 1000 hectares of forest including the detection site.
 - (c) Good quality habitat for Powerful Owls is defined in the FMP as approximately 800 hectares of forest dominated by old trees within a 1500 hectare of forest including the detection site.
 - (d) In applying the FMP guideline, regard is to be had to the status of the species and quality of habitat the area might provide to that species.

⁵³ Exh 52, p 2

⁵⁴ Exh 30, 27

⁵⁵ Exh 30, p 24

⁵⁶ AD 410

44. Notably, the Powerful Owl Action Statement provides⁵⁷ that "The Powerful Owl conservation strategies established in existing plans are generally consistent with this Action Statement and will be maintained until the plans are reviewed".

Action Statements

45. The Action Statement notes that the existing park and reserve system may not provide sufficient suitable habitat to meeting the management objectives identified in the Action Statement.⁵⁸ Dr Bilney agrees that traditional conservation reserves alone cannot provide sufficient habitat to guarantee the long-term conservation of both species.⁵⁹
46. The Sooty Owl Action Statement provides as follows:
- (a) Identify 500 SOMAs on public land across the known Victorian range, with a 'notional breakdown' of 131 SOMAs in East Gippsland.⁶⁰
 - (b) Where clear-fell or seed-tree systems harvesting is used, establish SOMAs based on specific records that will comprise an SPZ within a 3.5km radius of the record⁶¹ where the 500ha should maximise the habitat known to be used by the Sooty Owl⁶².
 - (c) Protect all confirmed nesting and roosting sites utilised recently and frequently located outside a SOMA by a 3 hectare Special Protection Zone around the site and a 250-300m radius Special Management Zone buffer around identified localities.⁶³
47. Powerful Owl Action Statement provides as follows:

⁵⁷ AD 595

⁵⁸ AD 591

⁵⁹ Exh 30, page 9.

⁶⁰ AD 574

⁶¹ Nb., this suggests they can create a SOMA in the reserves, where the SOMA is within 3.5km of the detection.

⁶² AD 575

⁶³ AD 575

- (a) Identify at least 500 sites on public land across the known Victorian range, with a notional breakdown of 100 POMAs for East Gippsland.⁶⁴
- (b) Inclusion in the 500 target is accorded by priority: with confirmed nest trees in last 5 years, confirmed roost trees in last 5 years, repeated sighting or vocalisation during the past five years, incidental sighting and vocalisation during past 5 years, historic record not confirmed in past 5 years, potential habitat area (modelled).⁶⁵ Once regional targets are met, new POMAs are to be established on the basis of records of a higher priority.⁶⁶
- (c) Where clear-fell or seed-tree systems harvesting is used, delineate and protect a core area of suitable habitat of at least 500ha (dependent on habitat type) as SPZ within a 3.5km radius (approximate area of 800ha) for each Powerful Owl Management Area. Suitable habitat is an area dominated by old trees and areas likely to support high densities of prey species. The size of the SPZ is determined by assessing the suitability of existing forestry habitat and regrowth forest in relation to prey densities⁶⁷;
- (d) Protect all confirmed nesting and roosting sites by a 3ha Special Protection Zone around the site and a 250-300m radius (or equivalent linear area) Special Management Zone buffers around identified localities.

Non compliance

48. Sooty Owl:

- (a) In East Gippsland, there are 100 separate SOMAs,⁶⁸ the rest is only modelled habitat. New sites not within existing SOMAs should be

⁶⁴ AD 594

⁶⁵ AD 594

⁶⁶ AD 594

⁶⁷ There is no evidence of the quality of habitat in nearby reserves nor in relation to the prey densities in regrowth forest surrounding the coupes.

⁶⁸ Although the Defendant's evidence has not identified where they are

substituted for modelled sites until the 133 based on records is reached. Thus, 33 more sites need to be identified to reach the target.⁶⁹

- (b) Dr Bilney's uncontested opinion is that there is a 'high chance' there are roosting sites in and around the coupes.⁷⁰ In January 2009, he detected a Sooty Owl on the boundary of coupe 19, and within coupe 15.⁷¹ His opinion was the calling in coupe 15, especially given it was after dusk, indicated a roost in or around coupe 15.⁷² In November 2009, his evidence is he heard calling 500 metres south of coupe 15 on dusk, indicating that on occasion a roosting site also exists outside the proposed coupe area.⁷³
- (c) His opinion is the areas fall within the territory of a Sooty Owl.⁷⁴ Cumulatively, this evidence should be taken as sufficient for a confirmed roosting site because he is an expert on this species, and because to require more would make the Action Statement rarely if ever capable of application.⁷⁵

49. Powerful Owl:

- (a) In East Gippsland, records in good habitat fall into about 80 POMAs, so there is a 20 POMA shortfall : LAM 36.
- (b) Dr Bilney detected a Powerful Owl within coupe 15 from the direction of Brown Mountain creek.⁷⁶ In his report, he stated this

⁶⁹ LAM 36

⁷⁰ T 519.15-16

⁷¹ Exh 33

⁷² Exh 30 p.22

⁷³ Exh 30, p 23

⁷⁴ Exh 33.

⁷⁵ See Dr Bilney's reply report: *"Applying the Ferguson logic means that virtually all state forest can be logged because there are no known sooty owl nests in these areas, ... Locating sooty owl nests is a particularly difficult process, which is why less than 12 nests have ever been located in south-eastern Australia... Preserving owl nests is therefore virtually an impossible conservation measure to apply in practice"*.

⁷⁶ Exh 33

was towards the northern end of coupes 15 and 19, and close to coupe 26.⁷⁷

- (c) While on the walking track between coupes 15 and 19 (ie Transect 3) DSE detected a Powerful Owl in its March survey.⁷⁸
- (d) Dr Bilney did not detect a Powerful Owl in his surveys in November 2009 but his evidence is that 18 call playback surveys are required to provide confidence (90%) that a Powerful Owl does not exist in the area, and that they rarely call in Spring and Summer.⁷⁹

- 50. It was put in cross-examination of Dr Bilney that the targets had been reached⁸⁰ and he was shown the table of targets in the 1995 FMP.⁸¹ The FMP is not evidence that the targets have been reached. Notwithstanding, Dr Bilney agreed that he had 'read reports' indicating the targets have been reached.⁸² It is now evident from LAM 36 that the targets have not been met, and VicForests knew this to be the case after a specific inquiry from it to DSE in October 2009.
- 51. There are multiple, expert detections for both the Sooty and Powerful Owls spread over 2009. In the past, detections of much less quality have triggered management actions (see Agreed Maps). The preference exhibited by the Action Statement for records based on detections is a standard with which VicForests is required to comply. The targets based on records in East Gippsland have not been met, and the Action Statement requires these detections to be included in the targets and to generate a SOMA and a POMA. Logging the coupes would not comply with the SOMA and POMA standards.

⁷⁷ Exh 30, p 22

⁷⁸ AD 1060

⁷⁹ Exh 33, p 23

⁸⁰ Of the target of 131 SOMAs and 120 POMAs, T 517.12

⁸¹ AD 502

⁸² T 517.13

52. There is a Special Protection Zone (890/06) in the Gap Scenic Reserve.⁸³ It is unclear which species this is for. Mr McDonald suggests it is for the Sooty Owl, but the agreed maps put a Powerful Owl record in that area.
53. Dr Bilney gave evidence that the proportion of SOMAs based on modelling was "fairly high"⁸⁴ and he had never read a statement confirming how many were based on records and how many were based on modelling (T 531.17). Dr Bilney referred to research by Stephen Henry in 2002 which indicated that 67 SOMAs were based on records (Bilney, T 531.16).
54. VicForests alleges, in its defence, that the Action Statements do not impact upon, or prevent VicForests from harvesting the coupes because:
 - (a) DSE is the entity responsible for 'declaring' POMAs and SOMAs;
 - (b) 100m buffer will run along Brown Mountain Creek; and
 - (c) the new prescriptions will result in additional habitat trees being retained.
55. Dr Bilney's report states:
 - (a) In respect of the 100m buffer, that both species of owls forage, roost and nest throughout their environment, rather than just or concentrating in a riparian strip (Exh 30, 18).
 - (b) In respect of the modified tree prescriptions, that regrowth forests "provide limited value" to both species and Dr Bilney's study in 2009 of radio-tracking two Sooty Owls in East Gippsland indicated the Sooty Owl has "strongly avoided" even 40-50 year regrowth (Exh 30, p 11).
 - (c) Logged coupes are *"unlikely to ever provide suitable sites for nesting or roosting... especially if the intention is to harvest the forest again within the next 200 years (until hollows form). Powerful Owls in particular are unlikely to ever nest in a retained habitat tree, due to*

⁸³ MacDonald affidavit sworn 2 September 2009, [14-16]

⁸⁴ T 531.20

their requirements of suitable foliage roosting locations nearby to a nest tree... which is not catered for in logged coupes" (Exh 30, p 26).

- (d) Even if harvesting adheres to the modified tree prescriptions, *"there will still be a significant reduction in hollow densities... (and) it is unlikely that population densities of hollow-dependent mammalian prey will ever recover"* (Exh 30, p 26).
- (e) In Dr Meredith's report on hollow-bearing trees (Exh 25) he noted that the coupes contain relatively high densities of hollows and their removal would significantly reduce the value of the coupe areas for hollow-requiring wildlife.⁸⁵ Survival of retained trees within logged coupes is significantly reduced as the trees are susceptible to damage from logging operations and post-harvest burning and so are prone to early mortality.⁸⁶ In addition, safety considerations may mean that trees are not retained, when they might otherwise be and so safety concerns can compromise the level to which the prescriptions can be met.⁸⁷ The use of retained trees may also be reduced if other habitat requirements (such as prey) are lost. At the same time, there can be increased competition for hollows among resident fauna, which can increase as retained habitat trees die.⁸⁸
- (f) In Dr Bilney's report to Professor Ferguson's report (Exh 31), he disagrees that the modified tree prescriptions provide "substantial additional protection" to those set out in the Action Statement because impacts to nesting and roosting sites and food resources are still dramatically affected.⁸⁹ Further, from a conservation perspective, Dr Bilney notes that retaining only 5 hollow-bearing

⁸⁵ Meredith Report on Hollows, Exh 25, p 8.

⁸⁶ Ibid.

⁸⁷ Ibid., p 9.

⁸⁸ Ibid., page 10.

⁸⁹ Exh 31, Bilney Reply, page 2 under question 2.

trees is not an "appropriate" number of trees from a forest that is likely to contain greater than 20 such trees per hectare.⁹⁰

Precautionary Principle

56. In relation to the precautionary principle, Dr Bilney notes the importance of surveys and conservation measures outside reserves, where a lack of surveying undermines the required level of conservation. He states *"conservation areas ... alone do not provide sufficient habitat for numerous threatened species, which is why it is recognised that important habitat features can occur outside already existing conservation areas, and if located should be protected.... If surveys are not conducted and these key habitat features are not located these conservation measures cannot be implemented. ...The failure to even look for these values before logging does not satisfy that the 'precautionary principle' has been met."*⁹¹
57. Logging of these coupes is likely to cause serious and irreversible damage to the owls. Harvesting causes irreversible damage to the forest itself and as a source of habitat to the owls. Harvesting can make areas (that currently support the Owls) *"virtually unusable or at least there can be a significant reduction in habitat quality which means that an animal's ability to use it has been compromised"*.⁹²
58. Further the damage is irreversible because:
 - (a) if there is a *"significant loss of hollow-bearing trees, then there will be a significant decline in the number of greater gliders and therefore unless that food is somehow replaced by an additional prey item, it's going to have potentially long-term consequences to the owl"*⁹³;
 - (b) *"irreversible damage can be complete change in the structure and composition of forests"* with some species starting to dominate to

⁹⁰ Ibid., page 3, under question 3.

⁹¹ Exh 31, page 3 under question 4.

⁹² Dr Bilney T 534.16

⁹³ T 534.26-535.9

the detriment of more important species. For example silver top ash, which has low nutrient qualities and greater gliders seem to avoid for food, is a "great example" of a species that loves disturbance (T 535.2 and 535.15-21).

59. Application of the precautionary principle is designed to avoid these consequences.
60. VicForests has not established (whether before this proceeding or during it) that there is no threat of serious or irreversible damage to the owls from the logging of these 4 coupes, and does indeed rely on scientific uncertainty about the effectiveness of the SOMAs and POMAs, although no-one was able to tell the Court where the SOMAs and POMAs actually are, nor how many owls occupy them as at 2010. Any scientific certainty which could have attached to the existence of SOMAs and POMAs as adequate protection is undermined by the evidence from Mr Henry about the targets having not been met in East Gippsland.
61. Further, Dr Smith gave evidence that more information is needed to determine the quality of the habitat in the reserves and in fact, the best habitat for gliders, for example, is often not within existing reserves.⁹⁴
62. Mr Bilney stated that *"conservation areas ... alone do not provide sufficient habitat for numerous threatened species, which is why it is recognised that important habitat features can occur outside already existing conservation areas, and if located should be protected.... If surveys are not conducted and these key habitat features are not located these conservation measures cannot be implemented. ...The failure to even look for these values before logging does not satisfy that the 'precautionary principle' has been met."*⁹⁵

⁹⁴ T 377.24 – 378.3

⁹⁵ Exh 31, page 3 under question 4.

GREATER GLIDER AND YELLOW-BELLIED GLIDER

Biology, conservation status and threats

63. The Greater Glider is a cat sized nocturnal arboreal gliding marsupial which occurs in tall, wet forests. During the day, it sleeps in hollows in large old trees and it feeds at night on young leaves on trees associated with fertile and productive soils.⁹⁶ It is most abundant in old growth forests and scarce or absent in recently logged forests or mature forests with few or no hollows.⁹⁷ The abundance of Greater Gliders generally increases linearly with density of tree hollows.⁹⁸ It is an important prey item for the Spot-tailed Quoll and large forest owls.⁹⁹ A pair of Powerful Owls may take up to one glider per night.¹⁰⁰
64. Threats to the Greater Glider include timber harvesting, wildfire and fragmentation and isolation, primarily from timber harvesting.¹⁰¹ Greater Gliders are generally eliminated by intensive logging practices such as those proposed in the Brown Mountain coupes but may persist in selectively logged coupes. Greater Gliders are also slow to recolonise previously logged areas, due to low reproductive rate (0.2 young per adult per year), and so may be scarce or absent for the 8 years following harvesting and only return to half of pre-harvesting levels after 85 years.¹⁰²
65. Current conservation measures for the Greater Glider, such as protection in reserves, are not adequate to protect the species. High density populations are not being protected by current measures due to both inadequate surveying and damage to habitat trees during post logging burns.¹⁰³

⁹⁶ Smith report, Exh 14, paragraph 3.1.1

⁹⁷ Smith report, Exh 14, q 3.1.3

⁹⁸ *ibid.*

⁹⁹ *ibid.*, paragraph 3.1.4.

¹⁰⁰ *Ibid.*

¹⁰¹ *ibid.*, q 3.1.5

¹⁰² *Ibid.*, paragraph 3.1.7

¹⁰³ *Ibid.*, paragraph 3.1.8

66. The Yellow-bellied Glider is the largest of the specialist sap and nectar feeding, nocturnal, arboreal gliders. It sleeps during the day in family groups in large old hollows in tall, wet, productive forests.¹⁰⁴ Photos of the feed trees found in coupes 15 and 19 are in the agreed photos of the view¹⁰⁵ and Dr Smith's photos.¹⁰⁶ The Yellow-bellied Glider has a low fecundity raising a single young in each or alternate years (leading to a "precarious existence") and spends up to 90% of its time searching for food.¹⁰⁷
67. While it is not listed as threatened in Victoria, the Yellow-bellied Glider is threatened in NSW and the oldgrowth mixed species and wet forests of East Gippsland are a "*stronghold and core population*" for the Yellow-bellied Glider and one of "*the most important target areas for establishing a large, continuous viable conservation reserve for this species*".¹⁰⁸
68. The Yellow-bellied Glider is "*oldgrowth dependent and intolerant of intensive harvesting on short rotations (< 40-85 years)*".¹⁰⁹ The Yellow-bellied Glider is most abundant in oldgrowth and scarce or absent from recently logged forests. There is no evidence that the Yellow-bellied Glider reoccupies regrowth forests.¹¹⁰ They may persist in selectively logged areas but are "*likely to be eliminated by intensive logging practices (clearfelling and post logging burning) such as those proposed in the study area*".¹¹¹
69. Conservation of the Yellow-bellied Glider depends on reservation of oldgrowth and mixed age forest with a diverse range of seasonal food resources. Measures to protect the species in NSW includes retention of

¹⁰⁴ Ibid., paragraph 3.2.1

¹⁰⁵ Exh 7, photos 4 and 5.

¹⁰⁶ Exh18.

¹⁰⁷ Ibid., paragraph 3.2.1

¹⁰⁸ Ibid., paragraph 3.2.2

¹⁰⁹ Ibid., paragraph 3.2.4

¹¹⁰ Ibid., paragraph 3.2.3

¹¹¹ Ibid., paragraph 3.2.3. Note, Mr Redd put that the harvesting is not clear fell but seed tree harvesting, to which Mr Smith correctly replied that it is clearfell with retention of seed tree (T 391.4)

riparian and ridge habitat, flowering eucalypts, protection of feed trees and pre-logging surveys.¹¹² Conservation measures in Victoria such as protections under the FMP, the reserve system and as a result of protecting habitat for other species (such as the owls) have not been "*adequately implemented in timber production forests adjacent*" to the coupes and the Yellow-bellied Glider is "*likely to be eliminated from all areas subject to standard intensive harvesting and post logging burning*".¹¹³ The size and shape of the reserves, such as Errinundra National Park, are inadequate and lacking in appropriate design. They have large edge to area ratios and associated edge effects (where edges are a source of invasion).¹¹⁴

The Brown Mountain Coupes contain high quality habitat for the gliders

70. The coupes contain uneven aged forest, being forest that has developed its structure from a series of disturbances. Research data indicates that gliders prefer and "*reach peak abundance*" in uneven aged forests with an oldgrowth component.¹¹⁵
71. Greater gliders use the large trees for hollows and as a platform for gliding and the leaves from younger trees for feeding.¹¹⁶ Yellow-bellied Gliders also prefer uneven aged old growth structures.¹¹⁷

Presence of the Gliders

72. It is admitted that the Yellow-bellied Glider and Greater Glider are present in the Brown Mountain forestry coupes.
73. In fact, East Gippsland is a stronghold for the Yellow-bellied Glider in Australia¹¹⁸ and the Brown Mountain coupes contain high densities of both the Yellow-bellied Glider and Greater Glider.

¹¹² *ibid.*, paragraph 3.2.4

¹¹³ *ibid.*, paragraph 3.2.5

¹¹⁴ *ibid.*, paragraph 3.2.5 and T 367.7

¹¹⁵ Dr Smith, T 366.10.

¹¹⁶ Dr Smith, T 366.16-23.

¹¹⁷ Dr Smith, T 366.26.

74. In the DSE surveys over January to March 2009, the highest number of species of Greater Gliders recorded was 11/km and 7 per km of the Yellow-bellied Glider on 12 March 2009. These levels are above the triggers in the FMP and occurred in the walking path from coupe 15 across the creek and then through coupe 19.
75. During Dr Bilney's and Dr Smith's surveys, the highest number of species of Greater Gliders was 12.5/km and for the Yellow-bellied Glider, 12/km. See **attached** table. Triggers were met for the Yellow-bellied Glider in coupes 15 and 26. Triggers were met for the Greater Gliders in coupes 15 and 27.¹¹⁹
76. DSE's, Dr Smith's, Dr Bilney's figures are likely to be conservative as spotlighting generally underestimates the actual Greater Glider numbers (as not all gliders are active and some are not visible being hidden by foliage or trees).¹²⁰ Greater Glider densities can be in the order of 1.8 times higher than the numbers determined by spotlighting.¹²¹
77. These densities show that the triggers set by the FMP have been reached in the coupes. Further, they show that the site is a site rich in mammal species (particularly when combined with the surveys for other mammals).
78. Throughout the DSE surveys, emails from Stephen Henry and Ryan Incoll supported the view that the triggers had been met.

¹¹⁸ Dr Smith, Exh 14, page 15.

¹¹⁹ Smith Report, Dr Bilney's survey for the Yellow-bellied Glider heard 4 in coupe 15; 2 in coupe 19; and 1 in coupe 27 in December 2009 (Exh 14, paragraph 4.1.3, page 22-23). In addition, Dr Bilney's survey in coupe 15 in January 2009 and November 2009, resulted in the following findings of Greater Gliders:

- heard more than 4 on 24 January 2009;
- observed and heard > 2 on 11 November 2009;
- heard > 3 on 23 January 2009; and
- heard > 2 on 11 Nov 09 (4.1.4, Table 4 p 23-24).

Dr Bilney's survey of Greater Gliders in December 2009 observed 6 in coupe 15; 8 in coupe 19; and 5 in coupe 27 (exhibit 14, paragraph 4.1.3, page 22-23).

¹²⁰ Smith report, exh 14, page 25.

¹²¹ Ibid.

- (a) Ryan Incoll wrote to Lee Miezis that the *"evidence gathered supports the application of the prescription. The spotlighting results achieve the prescription thresholds for Greater Gliders and Yellow-bellied Gliders"* and the figures from 12 March 2009 (when the trigger was met) are conservative as conditions were not optimal (with rain and full moon).¹²²
 - (b) Even with adverse surveying conditions, Mr Henry specifically noted of the survey on 12 March 2009, that the *"abundance and visibility of YBs was particularly notable, both in terms of sheer numbers in a small area and our ability to distinguish separate individuals. ... The prescription requires the creation of approx 100ha of SPZ around this site"*.¹²³
 - (c) Even without the third night of surveying, Mr Incoll's preliminary view on 6 February 2009 was that the *"thresholds for glider prescriptions are met by the survey results"*.¹²⁴
79. The densities of both gliders:
- (a) is *"exceptionally high"*¹²⁵ and *"extremely rare"* (Smith, 404.23) being a density he has encountered in only 2 other places over the past 30 years (T 404.24); and
 - (b) rare and very high on any scale (Stephen Henry, DSE meeting 7 April 2009, Exh 52)
80. VicForests' response to all this evidence was to question the DSE survey methodology and challenge the DSE findings, before it translated *"into a further loss of resources available to the timber industry"* and seek Lee Miezis' and DSE's 'support' on this issue.¹²⁶ Mr MacDonald gave evidence

¹²² Email from Ryan Incoll to Lee Miezis dated 13 March 2009 at 3.01pm, LAM-23 and email from Stephen Henry to Ryan Incoll dated 13 March 2009 at 11.26am.

¹²³ Email from Stephen Henry to Ryan Incoll dated 13 March 2009 at 11.26am, LAM-23.

¹²⁴ Exh 66, email from Ryan Incoll to Lee Miezis dated 6 February 2009 at 3.11pm.

¹²⁵ Where the density is adjusted to account for the limitations of spotlighting to result in 3.4 GG/ha: Smith report, exhibit 14, p 25

¹²⁶ Exh 60, email from Barry Vaughan, Regional Manager for East Gippsland, who attended on the first night the surveys, to Lee Miezis and copied to Cameron Mac Donald dated 13 March 2009. T 909.5. Mr MacDonald agreed with the concerns raised by Mr Vaughan in the email (T 911.15).

that after the DSE surveys and DSE determining not to declare an SPZ, the ball was "*in DSE's court*" and the issue had gone off his desk.¹²⁷

81. Mr MacDonald refused to acknowledge that the densities were "rare"¹²⁸. He had no scientific (or even anecdotal) basis for doing so, but his persistent denials are consistent with the stubborn refusal to engage with conservation values and strong evidence of VicForests intention to act only where there is irrefutable evidence and scientific certainty. Even then its conduct demonstrates a complete priority to commercial rather than conservation interests.

The Gliders are Prey for the Owls

82. It is admitted that the Gliders are prey for the Owls and the Quoll.
83. There is an association between records of Powerful Owls, Sooty Owls and wetter, more productive forests, which in turn are preferred by Greater Gliders (and Yellow-bellied Gliders).¹²⁹ Sustainable levels of the Yellow-bellied Glider and Greater Glider must be maintained for the Spot-tailed Quoll, Sooty Owl and Powerful Owl to continue to occupy, hunt or forage and successfully breed. The gliders are major prey items for the Sooty (43%) and Powerful Owls (up to 70%) and the Spot Tailed Quoll (51% of diet biomass)¹³⁰.
84. VicForests have failed to conduct any surveys or scientific investigations into whether the coupes provide suitable habitat for the Spot-tailed Quoll, or Sooty and Powerful Owls.

Compliance with standards, conditions and measures

The FMP

85. For each 'occurrence' specified in the FMP, approximately 100 ha of suitable habitat is to be included in the SPZ: AD 410. There is no

¹²⁷ T 909.6, 909.12

¹²⁸ T 918

¹²⁹ Dr Smith, T 373.14.

¹³⁰ Exh 14 p 3, 4

discretion, the FMP Guideline (which relevantly sets a standard and imposes a condition namely that there be no logging within the 100ha, binding on VicForests) simply operates on the detections of Gliders at specified levels.

86. These triggers and the conservation guideline in the FMP are designed to reflect a relatively rare occurrence.¹³¹ The trigger has not been applied before.¹³²
87. The East Gippsland FMP also requires that well documented sites that are particularly rich in mammal species will be included in the Special Protection Zone wherever practical (AB 410).

Action Statement on Hollows

88. The Action Statement for the Loss of Hollow-bearing Trees requires VicForests to:
 - (a) identify significant areas or stands of hollow-bearing trees in State forest; and
 - (b) implement measures to maintain or enhance the extent and density of hollows in State forest where this is known to be limiting the distribution and abundance of hollow dependent species, and apply forest management zones as provided in FMPs¹³³

Non compliance with the FMP

89. VicForests does not recognise the operation of the FMP 100 ha SPZ. Instead it relies on a 'decision' by DSE (of which there is no actual evidence) not to 'create' or 'declare' a SPZ. Both VicForests and DSE misconstrue the way the Arboreal Mammal Guideline operates, on its plain words. It contains no discretion: it is a standard to be applied when

¹³¹ The triggers are based on the 1983-1993 surveys: paragraph 20 of the 18 June 2009 briefing note. Typical densities for Greater Gliders is a range from 0.6 to 0.8/ha and up to 4/ha in wet forests (Dr Smith, exhibit 14, paragraph 3.1.2).

¹³² Exh 52, 7 April meeting.

¹³³ AB 579, page 6 paragraph 7.

the preconditions it sets out are met and imposes a condition, in the form of a prohibition.

90. The SPZ exists. Whether it has been mapped is simply an administrative issue.

Non compliance with the Hollow-bearing Tree Action Statement

91. Despite the presence of significant numbers of hollow bearing trees in the coupes and gliders in high densities in the coupes, and where reducing the number of hollow-bearing trees is known to adversely affect the distribution and abundance of gliders as major prey for threatened species such as the Sooty and Powerful Owls, VicForests has failed to identify significant stands of hollow bearing trees in the coupes and failed to implement measures to maintain or enhance the extent and density of hollows in the coupes.
92. The measures it does propose do not meet the objectives of the Action Statement. In these coupes, given their particularly high quality for hollows, their particular abundance of arboreal mammals, and the detections of forest owls, logging these coupes is not compliant with this Action Statement.

The 100m buffer is not an adequate conservation measure

93. VicForests claims that the creation of 100m buffer will protect and conserve the levels of arboreal mammals in coupes and is evidence of its compliance with the precautionary principle.
94. There is no evidence on where the 100m buffer starts in coupe 27 and so whether it provides any protection to the gliders in that coupe.
95. Further, Mr MacDonald gave evidence that on 16 June 2009 VicForests put forward the 100m buffer as an additional protection to those in the Management Procedures in coupe 15, as the "arboreal mammal

population appeared to be more concentrated around the lower slopes and stream side".¹³⁴

96. Through a series of communications, a fiction was perpetuated that the DSE survey found that the gliders were concentrated in the gully or within 100m of Brown Mountain Creek.
 - (a) The Briefing Notes to the Minister on the decision not to declare an SPZ claims the gliders were "mostly located near the Brown Mountain Creek" and most animals were found within the 100m buffer.¹³⁵ The map annexed to the DSE surveys was not in turn provided to the Minister.
 - (b) While Mr Henry indicated on 6 February 2009 (prior to the surveys concluding) that a pattern was "*emerging that the higher densities are concentrated on the lower slopes*", he went on to say, "*I would have expected the animals to be more evenly distributed, but they aren't... I think we will just plot our records over the several surveys and let the data do the talking*".¹³⁶
 - (c) When mapped, in Exh 62¹³⁷, it clear that the animals are not concentrated within 100m of the creek. In fact, Mr Henry noted on 23 June 2009 in an email to Mr Vaughan that "*Greater Gliders were reasonably spread along the transect but appear to be a bit more concentrated on the lower slopes within about 200m of the creek.*"
97. In response to this information, VicForests did not raise the adequacy of the buffer nor seek to increase the 100m buffer proposed a week earlier on 16 June 2009.
98. VicForests was aware that the 100m buffer, as a conservation measure, was inadequate. Further, that there was no scientific evidence supporting the assumptions on which the buffer rests.

¹³⁴ CM-11, LAM-26 Email from Barry Vaughan to Lee Miezi dated 16 June 2009 at 1.53pm.

¹³⁵ Briefing for the Minister on the decision not to declare an SPZ, paragraphs 8, 50, and 53. LAM-30.

¹³⁶ Exh 66, email from Stephen Henry to Ryan Incoll dated 6 February 2009, at 12.47pm

¹³⁷ Email from Mr Henry to Mr Vaughan dated 23 June 2009.

99. Dr Smith noted *"I haven't seen any evidence that most mammals were found within a hundred meters."*¹³⁸ In fact, position in gullies does not occur, to Dr Smith's knowledge as a *"reliable predictor of the density"* of gliders.¹³⁹
100. Dr Smith recalled that the Yellow-bellied Gliders occurred on the mid slopes, the upper part of the transect as well as the lower transect.¹⁴⁰ There might be a slightly higher density in a gully where the gully is slightly more productive. However, the Yellow-bellied Gliders have seasonal requirements and so move around to where the trees are flowering¹⁴¹ and gullies are not an important predictor from topographical modelling studies.¹⁴² Accordingly, Dr Smith *"would not assume for the purposes of planning that protecting gullies is going to conserve these species."*¹⁴³
101. In addition, VF and DSE repeatedly asserted that the gliders are common.¹⁴⁴

The reserves do not provide alternatives sources of suitable habitat

102. As already noted, by its Defence, VicForests does not plead reliance on the existence of the reserves as being relevant to the breaches pleaded against it for these species. To that extent, the issue does not arise. In any event, the evidence does not assist the Defendant.
103. VicForests claims suitable habitat to support a high density population of Greater Gliders and Yellow-bellied Gliders is *"extensively represented in areas in close proximity to the Brown Mountain that are already excluded*

¹³⁸ T 380.20

¹³⁹ T 381.11

¹⁴⁰ T 403.10.

¹⁴¹ T 403.19-24

¹⁴² T 403.27

¹⁴³ T 403.28

¹⁴⁴ Briefing Note to the Minister, 18 June 2009, LAM-30, paragraphs 28-29, 35.

from timber harvesting".¹⁴⁵ In cross examination, counsel for VicForests put that suitable habitat to support the species exists in the reserves and so Secretary had decided not to create an SPZ in response to the DSE surveys.¹⁴⁶ No evidence was led to support this assertion. Further, Dr Smith disagreed with this statement. Rather, in his view the best habitat is not within existing reserves.¹⁴⁷

104. Dr Smith noted that Greater Gliders are clustered around the Victorian / NSW border, predominantly in areas that are forests available for harvesting. More specifically and in comparison to the Brown Mountain coupes, there are a low number of records of Greater Gliders in national parks to the immediate west and east of the Brown Mountain coupes.¹⁴⁸ This supports the view that the national parks are not necessarily alternative, let alone good quality habitat for the gliders (or indeed, for the other species). In Dr Smith's view, the reason for the difference in records is that national park areas are "*generally of low site quality... the low value land.*"¹⁴⁹ He commented that "*Greater Gliders in particular, and to a lesser extent yellow-bellied gliders, favour the higher site quality forests, which occur on the more fertile, more productive soil.*"¹⁵⁰
105. A high proportion of the new ALP Icon Reserves (up to 2/3) is, in Dr Smith's view, "*not suitable structurally for gliders*" as only a third is modelled as old growth.¹⁵¹ Specially, the area to the west of the coupes included in the ALP Reserves and mapped as unlogged forest does not

¹⁴⁵ Briefing Note to the Minister, 18 June 2009, LAM-30, paragraph 50.

¹⁴⁶ 18 June 2009 briefing note, [50]

¹⁴⁷ T 377.24 – 378.3

¹⁴⁸ Dr Smith, T 370.3-24 and exhibit 19, enlargement to Smith's records maps.

¹⁴⁹ T 370.10. See also Dr Debus in relation to the poor ecological quality of national parks: at T 683.1-9

¹⁵⁰ T 370.17. Further that both species of gliders are oldgrowth forest dependent and the neighbouring parks appear to lack such oldgrowth, based Spencer maps 16: T 372.10.

¹⁵¹ T 372.20

provide adequate protection for the population of gliders, without knowing more about the floristics.¹⁵²

The Modified Tree Prescriptions do not provide sufficient conservation protection

106. The modified tree prescriptions do not provide any meaningful form of conservation protection for the gliders and other hollow-dependent, oldgrowth dependent fauna.¹⁵³
107. Even with the revised Management Procedures, Dr Smith considers the style of timber harvesting practices undertaken in coupe 20, being clear felling with retained feed and habitat trees, is not consistent with the aims of the procedures and the measures set out by either the 2007 Management Procedures or the 2009 Management Procedures. The style of clearfelling by intense post logging burning which kills most of the retained trees gives *"no regard to biodiversity conservation"* and is inconsistent with the FMP requirements which seek to protect high density populations of Greater and Yellow-bellied Gliders.¹⁵⁵ Dr Smith notes of coupe 20 that *"post logging burning has been so severe that most retained trees have been killed; and the density of retained habitat trees is only about half the requirement of at least 5 such trees per hectare"*.¹⁵⁶ Dr Smith states:

*"Dead habitat trees are of little long term value for hollow-dependent wildlife as they decay rapidly and are short lived. ... if the logging (in coupe 20) is an example of habitat tree protection and retention achieved (after guidance from DSE trained in biodiversity) then in my opinion the intent of the management procedures has failed".*¹⁵⁷

¹⁵² T 385.29 and 387.3. Dr Smith explained floristics at T 400.28 to mean the tree and shrub species composition.

¹⁵³ T 400.3-.21 and Dr Smith's report, exh 14, page 27, paragraph 5.11.

¹⁵⁵ Exh 14, page 27, paragraph 5.9.

¹⁵⁶ Exh 14, page 10, paragraph 3.1.8.

¹⁵⁷ Exh 14, page 12.

108. In coupe 20, Smith estimated that 85 of 227¹⁵⁸ trees were alive (133 appeared to be dead and 7 were already dead).

Failure to apply the precautionary principle

109. In Dr Smith's view, harvesting under the modified tree prescriptions would still *"lead to the permanent or long term elimination of Yellow-bellied Gliders and Greater Gliders and other oldgrowth dependent fauna, and would significantly reduce the carrying capacity of this habitat for Powerful and Sooty Owls"*.¹⁵⁹
110. In addition, the coupes are *"an important ecological refuge area for protection of Yellow-bellied Gliders, Greater Gliders, large forest owls... and other oldgrowth dependent fauna"* from the effects of climate change, intensive wildfire and timber harvesting. It is a narrow corridor that links the Snowy River and the Errinundra National Park.¹⁶⁰
111. High density populations are not being protected as pre-logging surveys do not occur.¹⁶¹ The current conservation measures of both species are inadequate, despite their importance as prey for threatened species.
112. Logging of these coupes as both optimal habitat, and habitat in fact being used by some of the highest densities of Gliders ever observed is likely to cause serious and irreversible damage to not only the Gliders, but to those threatened species in the area which prey on them including Sooty and Powerful Owls, and the quoll.¹⁶²
113. It is serious damage because the surveys from both DSE, Bilney and Smith indicate that the oldgrowth mixed species and wet forest in the Brown Mountain coupes are part of the stronghold population for the Yellow-bellied Glider and Greater Gliders. The coupes are one of the most important target areas for establishing a *"large, continuous viable*

¹⁵⁸ Exh14, page 13.

¹⁵⁹ Smith report, exh 14, paragraph 5.11, see also T 400.4

¹⁶⁰ Ibid., page 26, paragraph 5.4.

¹⁶¹ Dr Smith, exhibit 14, page 10.

¹⁶² Smith Exh 14, p 7-8

conservation reserve for the species".¹⁶³ The damage may be irreversible because the nearby reserves quite likely do not provide such optimal habitat,¹⁶⁴ and because habitat tree prescriptions appear to substantially fail when implemented. The damage may be irreversible because the 3 species which prey on the Gliders may have insufficient food resources after logging (and certainly in the short term) and therefore their breeding and population status could be affected. It is most obviously irreversible because the logging rotation means hollows will not form again in trees which regrow in the coupes. Application of the precautionary principle is designed to avoid these consequences.

114. VicForests has not established (whether before this proceeding or during it) that there is no threat of serious or irreversible damage to the Gliders or the species which prey on them from the logging of these 4 coupes, and does indeed rely on scientific uncertainty about the adequacy of the habitat in the reserves, whether the same gliders densities are present and indeed whether the two owls and the quolls are present in those reserves as a reason justifying logging.

THE LARGE BROWN TREE FROG AND THE GIANT BURROWING FROG

115. Each of the two frog species: the Large Brown Tree Frog and Giant Burrowing Frog (*Litoria littlejohn*) and the Giant Burrowing Frog (*Heleioporus australiacus*) were the subject of a separate report from Dr Graeme Gillespie¹⁶⁵. Dr Gillespie is the Director of Wildlife Conservation and Science, Zoos Victoria, a Victorian Government agency. He is highly qualified and an expert both in conservation ecology and in the particular frog species. It is noted that VicForests retained, but did not call, an expert in relation to frogs.
116. Although there is some overlap the ecology of the two species is different and it is convenient to deal with them separately.

¹⁶³ Dr Smith, Exh 14, page 15.

¹⁶⁴ T 372, 377-378

¹⁶⁵ LBTF Report Exh 3 and GBF Report Exh 5

Large Brown Tree Frog

Biology

117. This species is a member of a group of morphologically, ecologically and behaviourally similar tree frog species in south-Eastern Australia¹⁶⁶. In Victoria, populations are general associated with Wet and Damp Forest ecological vegetation classes, rarely Dry Forest and never Coastal woodlands. It breeds in either temporary or semi-permanent stationary water bodies.
118. Within its range, along the Eastern side of the Great Dividing Range from near Wyong in NSW to north of Bruthen in East Gippsland, the species is uncommon with only 279 independent records in NSW and 79 in Victoria. It appears to have low fecundity relative to other similar sized frogs in the same genus and its fertility and survivorship rates are unknown.
119. The Long Brown Tree Frog is a generalist pond breeding species and does not spend its life near breeding sites, visiting only during suitable breeding conditions: most of the time such species are dispersed, foraging and sheltering through the surrounding landscape¹⁶⁷. Dr Gillespie suggests that a lack of records away from breeding sites may reflect an inherent low population, density, cryptic behaviour or use of habitats that limit detection (eg forest canopy or under tree bark).

Conservation Status

120. The Long Brown Tree Frog is listed as threatened under the FFG Act and vulnerable under the EPBC Act. Despite the statutory obligation under the FFG Act no Action Statement has been prepared for this species. Dr Gillespie opined that an Action Statement should be prepared which identifies the steps that need to be taken to adequately address gaps in knowledge about current distribution and ecological requirements, factors that limit distribution and abundance and threatening processes.

¹⁶⁶ Exh 3 p 2

¹⁶⁷ Exh 3 p 6

121. He noted that the conservation status will not change in the foreseeable future because of the lack of information but any change is likely to be adverse to the species given the general trends in amphibian declines and that there are several potentially threatening processes that operate in East Gippsland including timber harvesting, associated forest management practices, fire management, emergent disease, drought and climate change¹⁶⁸.
122. Timber harvesting is a threatening process for reasons given by Dr Gillespie including:
- (a) The species is forest dependent and the types of forests in which the species occurs are subject to timber harvesting;
 - (b) Most of the known localities are outside of protected areas;
 - (c) The species does not have highly generalised ecological requirements and does not thrive in disturbed environments.

Presence

123. Dr Gillespie concluded that all the remaining unlogged coupes contain highly suitable habitat for the Long Brown Tree Frog. He observed potential breeding sites. He concluded that the Long Brown Tree Frog is likely to be present and expressed his level of confidence as reasonably high (above 60%) because:
- (a) The habitat is suitable;
 - (b) There are historic records of the species nearby; and
 - (c) No surveys or other assessment have been undertaken to diminish the likelihood of the species is present.
124. It was not suggested to Dr Gillespie in cross examination that his estimate was wrong or could not be accepted. There is no contrary expert evidence. His opinion on this point, (and more generally) should be accepted.

¹⁶⁸ Exh 3 p 11.

VicForests has not applied the precautionary principle

125. Given the state of the species and the loss of suitable habitat within its range, the loss of high quality habitat is likely to cause serious or irreversible damage because of the loss of individual members of the species and loss of suitable habitat. Because, there is no evidence that the species will recolonise logged habitat, which will be subject to future logging cycles, it is likely that any damage will be irreversible.
126. There is no Action Statement, which itself calls for additional caution in any logging of suitable habitat.
127. VicForests proposes to log without undertaking any surveys or investigations despite Dr Gillespie's opinion and expertise.
128. Logging of these coupes which contain high quality habitat for the Long Brown Tree Frog and which, a leading expert has concluded are being used by the Long Brown Tree Frog will cause habitat disturbance and the loss of individual members of the species.
129. The Long Brown Tree Frog is known to have occurred in the vicinity of the coupes, and based on current knowledge the forests are high quality habitat for the species. It is therefore highly likely that the species resides and traverses the area of proposed operations¹⁶⁹. The habitat has been identified as critical to the survival of the species¹⁷⁰.
130. The Long Brown Tree Frog will not survive the regeneration burn¹⁷¹. Further, there is unlikely to be recolonisation because there is no reliable evidence of the Long Brown Tree Frog in regenerated forest and because they are sedentary and likely to move no more than a few hundred meters, perhaps 500 metres, in their entire life¹⁷².
131. Further, the 100m buffer and habitat tree prescriptions are inadequate¹⁷³. The available evidence suggests that this species is not associated with

¹⁶⁹ Exh 3 p 19

¹⁷⁰ Exh 3 p 20

¹⁷¹ T 298

¹⁷² T 299

¹⁷³ T 306; 308

riparian zones for its breeding¹⁷⁴. There is no evidence that the 100m buffer is adequate to protect the hydrological integrity of the sub catchment¹⁷⁵.

132. Dr Gillespie expressly rejected the opinion of Professor Ferguson on the adequacy of the measures, which in turn was based on Professor Ferguson's erroneous view that the species preferred habitat is "probably near water"¹⁷⁶. The opinion of Dr Gillespie should be preferred.

Giant Burrowing Frog

Presence and impact from harvesting

133. Dr Gillespie's report¹⁷⁷ records his opinion that the Giant Burrowing Frog is present in the coupes. That opinion is based on:
- (a) The habitat is suitable;
 - (b) There are historic records of the species nearby; and
 - (c) No surveys or other assessment have been undertaken to diminish the likelihood of the species is present.
134. He observed that it is highly likely that logging will impact individual members of the species. He also notes that the coupes provide a potentially critical mature wet forest link between the Snowy and Errinundra National parks. Further, logging these forests will increase the fragmentation and isolation of Giant Burrowing Frog populations and logging these coupes is likely to be far greater than just the loss of habitat itself¹⁷⁸.
135. Retention of 100m buffer is not adequate to conserve the ecological requirements of the species¹⁷⁹. Retention of 100m along the stream will protect some habitat important to the species but the species utilizes

¹⁷⁴ T 308

¹⁷⁵ T 306

¹⁷⁶ T 315.26

¹⁷⁷ Exh 5

¹⁷⁸ Exh 5 p9

¹⁷⁹ T 550

habitat up to 250m from streams in which they breed. Dr Gillespie stated that based on scientific evidence he could not see any relationship between the 100m buffer and the biological requirements of the Giant Burrowing frog¹⁸⁰. He noted that the literature recommended a 300m exclusion zone along all water courses that contained potential habitat for the spotted tree frog and that this was relevant to the Giant Burrowing frog given similarities in ecology¹⁸¹.

136. VicForests seeks to rely on the Penman paper to establish the proposition that where there are non-known breeding sites standard prescriptions will suffice. Dr Gillespie did not agree with that proposition¹⁸². The evidence of Dr Gillespie should be accepted in circumstances where VicForests has not called the authors of the report it relies on and the opinions have not been tested.
137. Further, Dr Gillespie could not recall any specific reserves for this species¹⁸³, and VicForests have not identified any.

Action Statement

138. The Action Statement¹⁸⁴ identifies intended management action (rather than action that is needed) and is based largely on recorded sites.
139. Dr Gillespie observed that given the nature of the species and the state of knowledge the absence of detection sites is virtually meaningless because there is a significant but unknown probability of the species being present at a site without it being detected¹⁸⁵.
140. The research and monitoring required by the Action Statement has not been done¹⁸⁶. This is a 'measure' specified in the Action Statement and there has been no compliance.

¹⁸⁰ T 566.14-20

¹⁸¹ T 323-324

¹⁸² T 554.22

¹⁸³ T 555.24

¹⁸⁴ AD 602

¹⁸⁵ Exh 5 p 4

¹⁸⁶ T 568

VicForests has not applied the Precautionary Principle

141. Given the state of the species and the loss of suitable habitat within its range, the loss of high quality habitat is likely to cause serious or irreversible damage because of the loss of individual members of the species and loss of suitable habitat. There is no evidence that the species will recolonise logged habitat, which will be subject to future logging cycles, and therefore it is likely that any damage will be irreversible.
142. Damage may be irreversible because the coupes will not be restored to their current ecological status and because they presently form an important ecological link between two known populations.
143. The current state of scientific knowledge does not allow any firm conclusion about the gravity of the harm that is possible and the likelihood of the harm¹⁸⁷. However, it is clear that the proposed stream side buffer and retained trees are inadequate to protect the ecological needs of the species¹⁸⁸. There is no scientific evidence to support the relationship between the 100m buffer and the biological requirements of the species¹⁸⁹. To the extent there is scientific evidence it suggests a 300m buffer would be required.

THE NEW CRAYFISH TAXON¹⁹⁰

144. Mr McCormack is a NSW based expert in crayfish. He has extensive field and scientific expertise on crayfish. He has lectured at the Hunter Institute of Technology since 1987 and is the Research and Aquaculture Director of Australian Aquatic Biological Pty Ltd. He is the President of the NSW Aquaculture Association and has served on the Aquaculture Research Advisory Committee, the CSIRO-RIRDC steering committee and

¹⁸⁷ T 565

¹⁸⁸ T 566

¹⁸⁹ T 566

¹⁹⁰ The plaintiff does not put any separate submission on protections for the Orbost Spiny Crayfish, on the basis of Mr McCormack's unchallenged evidence that a) it is unlikely to be present in Brown Mountain creek and b) a new taxon is present.

the Land Based Aquaculture Consultative Group. His organisation is conducting the Australian Crayfish Project, a project that aims to survey and increase the knowledge of crayfish.

Biology

145. Mr McCormack's surveys did not detect the Orbost Spiny Crayfish. They did discover a new taxon of *Euastacus* crayfish. The specimens found in Brown Mountain Creek have several unique morphological features and in Mr McCormack's view, it is a new, as yet undescribed species.¹⁹¹
146. While the species is yet to be genetically analysed and given a taxonomic description, it has been morphologically described in a scientific manuscript and the process of naming is being progressed in the United States.¹⁹² Notwithstanding the status of the naming process, Mr McCormack is confident the species is a new species and his evidence on this was not challenged.¹⁹³
147. The new species has a maximum occipital carapace length (OCL) of 39.01mm and a restricted altitudinal range of between 700m to 900m above sea level. This contrasts to the *Euastacus bidawalus*' OCL of 48mm and lowland range of between 50m to 450m above sea level.¹⁹⁴ Unlike *Bidawalus*, the new species is a stream crayfish, rather than a burrowing crayfish, and so is vulnerable to stream predators.

The Brown Mountain Creek is critical habitat for the new species

148. In Mr McCormack's view, the Brown Mountain Creek is a critical habitat area. The new species does not occur upstream where the flow is intermittent nor downstream where the flow is strong and the stream is deeper and home to predators.¹⁹⁵

¹⁹¹ Exh 37, Mr McCormack's Report, page 13.

¹⁹² T 591

¹⁹³ T 600.1.

¹⁹⁴ Exh 37, Mr McCormack's Report, page 17 and 18.

¹⁹⁵ Ibid., page 19.

149. The distribution of the new species is severely restricted. It was found in Brown Mountain Creek and a tributary of the Bonang River. Specimens taken from Result Creek, which is in a reserve, have not been confirmed as the new species.¹⁹⁶ Mr McCormack agreed that specimens taken from the Bonang River picnic area, in a reserve, are the specimens of the new species. These two locations (the Bonang River tributary and Brown Mountain Creek) are both at elevations above 700m, above the distribution for the more common *Euastacus Bidawalus*.

Harvesting is not consistent with the precautionary principle

150. The species' limited distribution¹⁹⁷ means it is exceptionally vulnerable to localised environmental disturbances¹⁹⁸ including changes in the temperature of the stream. In Mr McCormack's view, the new taxon is intolerant of warmer temperatures. The Brown Mountain Creek is currently sheltered from the sun by a high eucalypt canopy and a lower soft tree fern. Changes upstream, such as clearing, can impact downstream temperatures. Even with a 100m buffer, run off from fire accelerants or other impacts that alter water flow could adversely impact on the new species. This includes sediment pulses generated by forestry and road construction in the vicinity of the coupes.¹⁹⁹
151. Mr McCormack agreed that a 100m buffer would minimize detrimental effects. However, there is no scientific certainty on the adequacy of this measure nor the impact of surrounding forestry activities immediately beyond the 100m buffer. The impact of changes in sediment (caused by forestry activities nearby) on the stream structure and its capacity to carry the new species is unknown. In Dr Gillespie's view, a 300m exclusion zone is appropriate for amphibians and species that breed in

¹⁹⁶ T 578.14-21

¹⁹⁷ Exh 37, page 29.

¹⁹⁸ Ibid.

¹⁹⁹ Ibid., page 30.

streams in order to protect the flow regimes and micro habitat of the stream.²⁰⁰

152. Logging of coupes 15 and 19 could have the potential to "exterminate the species from this tributary" if the logging operations "*disturb the fragile balance in any way. With a small habitat area and small population size, any alteration could rapidly lead to the extinction of the species within that creek.*"²⁰¹

THE LONG-FOOTED POTOROO

Biology

153. The Long-footed Potoroo (LFP) is a medium sized terrestrial rat-kangaroo of the marsupial family Potoroidae. There are two sub-populations in Victoria: one in East Gippsland and the other straddling the Great Dividing Range in the upper Ovens, Buckland, Buffalo and Wonnangatta catchments. Within its broad areas of distribution potoroos are likely to occur in only a relatively small proportion of the area.
154. The preferred sites appear to be characterised by sheltered aspects with moist soils, supporting a mixed-species overstory and a dense understorey. The Long-footed Potoroo is primarily a fungivore, feeding on the sporocaps of hypogeous and sub-hypogeous fungi. The majority of fungi are soft and unlikely to persist in dry soils.
155. The species is very difficult to detect²⁰². There is a significant and known risk of false negatives: where the Long-footed Potoroo is actually present but not recorded²⁰³. Hair tubing and automated digital cameras are both accepted methods of detection.
156. The dispersal behaviour of the Long-footed Potoroo is very poorly understood and only one dispersal event involving a movement of about 3 m to a new home range has been documented.

²⁰⁰ T 323.26-324.10

²⁰¹ Exh 37, page 28.

²⁰² Exh 27 Meredith Report p 10

²⁰³ Exh 27 p 10; DSE Survey Report at AB 1062

Conservation Status

157. The Long-footed Potoroo is listed under the FFG Act. It is considered "endangered" in Victoria according to the DSE "Advisory List of Threatened Vertebrate Fauna in Victoria 2007"²⁰⁴. The procedure used to assess which taxa are eligible for listing is that recommended by the IUCN Species Survival Commission (Species Survival Commission 2001). Accordingly, "endangered" means the species is considered to be facing a very high risk of extinction in the wild.

Threats

158. The sub-populations appear to be disjunct increasing the vulnerability of the species to threatening processes including predation and habitat disturbance.
159. The major threats operating are predation (especially by foxes) and habitat destruction or degradation from timber harvesting and fire.

Conditions, standards and measures

Action Statement

160. Under the Action Statement²⁰⁵ the long term conservation objective is to ensure that the LFP can survive, flourish and retain its potential for evolutionary development in the wild.
161. Four objectives are identified. The first is to protect populations or habitat from potentially incompatible use. Its targets are:
- *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 activity managed to protect potoroo habitat at Long-footed Potoroo detection sites outside Core Protected Areas.*

²⁰⁴ AD 525

²⁰⁵ AB 542 (Revised 2009)

162. In East Gippsland the areas in which the Long-footed Potoroo is known to occur will be delineated by a distributional polygon. Within that distributional polygon, the Action Statement requires "Core Protected Areas" and "Additional protected Areas". Core Protected Areas replace the previous designation of Special Management Areas (SMA's).
163. Additional Protected Areas are designed to protect LFP habitat outside of the Core Protected Areas and the Action Statement requires that DSE and VicForests:
- 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.*
164. Appendix 1²⁰⁶, which appears to have its genesis in an agreement between DSE and VicForests²⁰⁷, requires a Special Management Zone of approximately 150ha for each detection site outside of the Core Protected Area.
165. The following is required for each detection site:
- (a) As far as possible Special Management Zone boundaries will follow recognisable landscape feature;
 - (b) Within each Special Management Zone at least one third (~50ha) will be protected from timber harvesting and new roading, known as LFP retained habitat;
 - (c) The Retained Habitat will include the best LDP habitat in the Special Management Zone which will generally be in gullies and on lower, sheltered slopes;
 - (d) The Special Management Zone will have a general restriction of one third of the total area that can be harvested in any 4 year period.

²⁰⁶ AB 554

²⁰⁷ CAM 28 and 29, Affidavit of McDonald 27/11/09 at [34]

LFP Detection Sites on Brown Mountain

166. There are three detection sites²⁰⁸ on Brown Mountain:

- (a) Detection in late January 2009 (reported to DSE on 3 February 2009) using hair tube collected within 100m of Brown Mountain Creek at approx grid ref 6560 E58744 on western side of Brown Mountain Creek on edge of proposed coupe 19. Hair confirmed by expert Barbara Triggs as belonging to Long-footed Potoroo;
- (b) Detection on 21 August 2009 on video captured in coupe 15 at location 55H 0655834///5874892;
- (c) Detection on around 6 September on video captured in coupe 26.

167. In respect of each detection the Court should make findings as follows.

The Hair Tube Detection

168. On 3 February 2009, EEG advised DSE of the result of hair tubing²⁰⁹. Dr Triggs, who is an expert in the field has deposed to testing the hair. She concluded that it belonged to a Long-footed Potoroo. Her expertise is unquestioned and she was not cross-examined.

169. Mr Henry does not record any doubt about the record observing that the presence of Long-footed Potoroo is expected and noting nearby records. In the light of the record, Mr Henry recommended that an interim SMA including both coups 15 and 19 be put in place²¹⁰. This was endorsed by Mr Incoll²¹¹. Mr Henry refers to a "convention" to put in place an interim measure and undertake surveys to "confirm the record" in circumstances where the Long-footed Potoroo is detected "by a conservation group in the course of there (sic) efforts to stop logging".

²⁰⁸ Sites are specific places where Long Footed Potoroos have been detected

²⁰⁹ LAM 19

²¹⁰ LAM 19

²¹¹ LAM 14

170. The proposal for an interim SMA was not progressed, perhaps because VicForests agreed that there would be no logging until after the DSE survey.
171. An Long-footed Potoroo survey was conducted by DSE using remote cameras at 6 sites spaced out across the survey area. They were left in place for two sessions of 16 days and 11 days²¹². The Report refers to an attached map setting out the sites of the Long-footed Potoroo survey, that map is not in evidence and has not been produced by VicForests or by DSE under subpoena.
172. The DSE Report noted that no Long-footed Potoroo's were detected. However, the significance of that fact was heavily qualified in the Report. It stated:

The non-detection of Long-footed Potoroos must be interpreted with caution. The survey was implemented using standard methodology and level of effort and it had a high probability of detecting the species if it was present. However, the species can be very difficult to detect – often detections are not confirmed until a third or even fourth return visits to a site, despite the presence of diggings which are strongly suggestive of the species presence. Some diggings of this type were seen in the study area, and the forest type was assessed as good quality habitat for Long-footed Potoroos. A confirmed Long-footed Potoroo site also occurs immediately to the west of the study area, on the other side of Legge Rd, and thus it is plausible that that the species may be present at the site.

173. Following that report, which was provided to Mr Miezi in April 2009 but not released publically until 21 August 2009, no steps were taken by either VicForests or DSE in relation to the hair tubing record.

The August Detection

²¹² DSE Survey Report AB 1060

174. Mr Lincoln deposed²¹³ that he placed a remote camera at coordinates 55H 0655834//5874892 in Coupe 15 on or about 14 August 2009. He recovered the camera on 22 August and viewed the footage in situ within coupe 15 at those coordinates. He observed what he thought was footage of an LFP.
175. The coordinates have been mapped by a professional surveyor and confirmed as being within coupe 15²¹⁴.
176. On 23 August 2009, Mr Lincoln sent an email to Mr Henry of DSE advising of the detection and enclosing an electronic version of the still photo and 5 second video footage²¹⁵.
177. On 25 August 2009, Mr Trotter and Mr Clarke both of DSE went to the location with Mr Lincoln and confirmed the location of the site as within coupe 15 and within 6 metres of the coordinates supplied by Mr Lincoln. That was done at the request of Mr Miezis²¹⁶.
178. Mr Miezis said in evidence that he accepted that the footage was of a Long-footed Potoroo as soon as he got the email from Mr Henry on 24 August 2009²¹⁷.
179. Both Mr Scotts and Dr Poole identified the animal in the footage as being an Long-footed Potoroo. In evidence Mr Scotts said he was 100% confident in the identification and explained why he had reached that view by reference to the morphology and movement of the animal²¹⁸. In his cross-examination, it was not suggested to Mr Scotts that he was mistaken. Ms Poole was not required for cross-examination. Dr Meredith, although circumspect about his own qualifications to identify

²¹³ McDonald affidavit 24/8/09, and T 262.8

²¹⁴ Affidavit of David Treasure.

²¹⁵ Exh 46

²¹⁶ LAM 31

²¹⁷ Exh LAM 31 TS 1050

²¹⁸ T 544

the animal by video also identified the animal as an LFP observing that it was highly likely the Lincoln video was of an LFP²¹⁹.

180. The defendant did not call any evidence about the identification of the animal. Nor did it suggest that Mr Lincoln was either not telling the truth or was mistaken about his evidence, which placed the camera in coupe 15.
181. It is noted that in its Defence to the Amended Statement of Claim dated 4 March 2010, the defendant has affirmatively denied the presence of the LFP in all or some of the coupes.

The September Detection

182. Ms McLaren deposed to placing a camera in coupe 26 and retrieving it on 3 September 2009. In evidence she explained that:

- (a) She was familiar with the area having lived in Goongerah for 7 years;
- (b) She went by car from Goongerah up to Bonang Road, turned right on to Gap Road and then right again on to Errinundra Rd. She proceeded a couple of hundred metres along the road to a place where the car was parked, she walked about 100 meters into the forest²²⁰;
- (c) There were 6 cameras in the coupe, 3 on the east side and 3 on the west side. The camera that took the footage was roughly one hundred metres from the creek²²¹;
- (d) She knew that the coupe where the camera was placed was in a coupe that VicForests proposed to harvest²²²; and
- (e) The camera was on the eastern side of the gully²²³.

²¹⁹ Exh 27 p 13

²²⁰ T 332

²²¹ T 333

²²² T 335

²²³ T 350

183. She watched the video on Brown Mountain and knew that it was significant²²⁴. The SD card holding the footage was taken to Ms Redwood's house and downloaded.
184. Ms McLaren's evidence that she recovered the footage on 3 September is not consistent with the recording on the footage which show the picture was taken on 6 September. She acknowledged in evidence that she could be wrong²²⁵. Further, the coordinates in her affidavit are similar to but not exactly the same as the notation in the log book²²⁶ which she said were not in her handwriting. The coordinates in the logbook are obviously incorrect and record a location outside of Victoria. On the other hand, the coordinates in the log book in Ms McLaren's handwriting record locations within coupe 26.
185. It is submitted that the Court should accept that footage of a Long-footed Potoroo was taken by a camera placed by Ms McLaren in coupe 26 and it was taken on a date in early September 2009 and most probably on 6 September 2009.

The Responses to the 3 Detections

186. Apart from negotiating with Mr Miezis over any Special Management Zone and retained habitat that might be introduced in response to the second detection (and at the same time disputing without any foundation its authenticity), VicForests has done nothing about any of the three detections. Thus, to the minimal extent that it has participated in the process, it has not sought to increase or champion the protection of Long-footed Potoroo habitat but to minimise the impact that any decision might have on its harvesting operations. It maintains that any steps are to be taken by DSE and not it, and its objective has been to minimise protection.

²²⁴ T 331

²²⁵ T 341

²²⁶ Exh C

The First Detection

The DSE Response

187. The DSE response to the hair tubing was to undertake the Long-footed Potoroo survey in March 2009. That process was said to be for the purpose of confirming or verifying the detection²²⁷. In other words, DSE would not treat the record as a detection site unless a Long-footed Potoroo was subsequently observed in the DSE survey.
188. To require that there be a positive sighting in a subsequent survey in order to verify an earlier sighting does not entail a process of verification but replication or duplication. There are a number of problems with that approach and it does not accord with the Action Statement.
189. First, the species can be difficult to detect. That means that a survey may say little about whether a Long-footed Potoroo was present within the area at an earlier point in time. That is almost certainly the case with Brown Mountain. There is now incontrovertible evidence that a Long-footed Potoroo was present on 21 August 2009 in coupe 15. No LFPs were observed in the DSE survey, although evidence they were using the area was noted specifically by the authors of the survey.
190. Secondly, to reject the detection site that was based on the hair tubing sample on the basis of the subsequent Long-footed Potoroo survey does not take account of the qualifications contained in the DSE report itself, that the coupes comprise suitable habitat and there are accepted records (by hair tubing) nearby: see Agreed Maps.
191. Mr Miezis underplayed the qualifications contained in the Report in his briefings both to Mr Appleford and the Minister.²²⁸ This demonstrates a reluctance on the part of DSE to fairly consider and act on sightings of the Long-footed Potoroo on Brown Mountain where those sightings have the potential to affect harvesting operations. That is not to say it is an ingredient of the plaintiff's case that the Court must translate DSE

²²⁷ Eg Miezes affidavit Exh N, para 63 and 65

²²⁸ T 1026

reluctance into 'unlawfulness' – the fact is that there remains at the date of these submissions no compliance with the Action Statement, based on three detections. Whose 'fault' that is, and whether the non compliance is because of reluctance or sheer stubborn refusal may explain the continued non compliance but does not affect the material facts.

192. Thirdly, the Action Statement operates where there is a detection site. The approach taken by DSE requires multiple detections rather than a single detection before the protections are engaged. This is inconsistent with both the language and intent of the Action Statement.

The VicForests response

193. VicForests has done nothing in relation to the first detection.

The Second Detection

194. There is no doubt that the second detection accurately records the presence of a Long-footed Potoroo in coupe 15 on 21 August 2009.
195. By 25 August 2009, Mr Miezis had accepted that the animal was an LFP and that the site was within coupe 15 as advised by Mr Lincoln²²⁹.
196. Mr Miezis said in evidence that the record could not be confirmed because all of the footage taken by the camera had not been provided²³⁰. Significantly:
- (a) Mr Miezis decided himself that the images from Mr Lincoln and the verification from Mr Trotter as to the site were inadequate. He did not seek guidance from anyone in the Biodiversity section of DSE²³¹;

²²⁹ T 1050-1051

²³⁰ T 1048 Miezes Affidavit para 90-91

²³¹ T 1054

- (b) Mr Miezis said that "we applied a standard to verify the site"²³². He acknowledged that the "standard" was not in writing and had never been applied before;
 - (c) Apart from saying additional footage could determine whether the footage was "legitimate" Mr Miezis did not identify any particular tests or processes that could be undertaken. He admitted that he has no expertise in the relevant field²³³.
 - (d) VicForests who have had access to and been in possession of the entire footage since late last year, have adduced no evidence to challenge its authenticity, nor was any EEG witness cross examined to that effect; and
 - (e) In the absence of verification according to Mr Miezis' unwritten standard, Mr Miezis said that "was no reason for [DSE] to take action under the action statement"²³⁴ and that it would not have prevented the logging from taking place as threatened by VicForests.
 - (f) Further, DSE took no steps to implement even an interim Special Management Zone leaving it to the Applicant to seek an injunction from the Supreme Court, in the face of threats by VicForests to log the coupes the following week.
197. In the circumstances there was no basis to demand to see the entire footage and no genuine or cogent reason has been advanced. It is notable that on 25 August 2009 Mr Appleford cancelled a meeting with Ms Redwood of EEG about Brown Mountain and its conservation issues because of this proceeding, yet DSE expected EEG to hand over key parts of its original evidence in this proceeding.
198. It is also telling that management decisions are based on records that are far less reliable, given both age of record and methods of detection, than

²³² T 1055

²³³ T 1049

²³⁴ T 1054

that provided by Mr Lincoln. For example, the CIS system records a potoroo SMA based on records to the west of the relevant coupes. Agreed Map 14 (ex 12) shows that two potoroos were identified by hair tube samples in September and October 2001. These form the basis of the SMA that was proposed in January 2008 and recorded in Spencer Slide 32.

199. To similar effect, agreed map 14 shows that the system used detections of a Diamond Dove from February 1999, Lace Goannas seen in November 2001 and January 2000 and a Powerful owl recorded in October 1979. These were ultimately discounted in the coupling up process because they were outside of the coupes but demonstrate that both VicForests and DSE are content to rely on records that are out of date and of dubious relevance as evidencing a conscientious attempt to identify and protect threatened species but stubbornly refuse to recognise recent and cogent evidence where it might impact on immediate logging ventures.
200. In short, neither DSE nor VicForests has accepted that there was a detection of the LFP on 21 August 2009 in coupe 15. The attitude of Mr Miezi in the face of overwhelming evidence of the presence of the potoroo despite no challenge to the authenticity of the footage sent to DSE, demonstrates a mind that is hostile to the protection of threatened species in logging coupes. The plaintiff was given no reason to believe DSE would deal any differently with the McLaren detection, than it had with the hair tubing and the Lincoln detection. Despite exchanging a great deal of information (and evidence) with DSE in this proceeding, VicForests has chosen not to share (or at least not to disclose to the Court that it has shared) any of the detection evidence with DSE – for the purposes of its defence to this proceeding, despite VicForests and DSE being the responsible authorities under the regulatory scheme. It might have been thought that disclosing that detection evidence could have led VicForests to an informed decision whether it had any reasonable and rational basis at all to be putting forward to this Court an affirmative defence that the LFP is not present in these coupes.

The Response from VicForests

201. The response of VicForests was to try and avoid the injunction and log the coupes as soon as possible.
202. Mr MacDonald gave evidence that within a short period of time after 26 August 2009 he had a copy of the video and still image taken by Mr Lincoln and had confirmation from Mr Miezis about the location at which it was taken²³⁵. He also said that he was proceeding at that time on the basis that the animal in the footage was a LFP.
203. Bearing in mind that Mr Trotter had confirmed the location on 25 August 2009 and that Mr Miezis and Mr Macdonald spoke about the matter on 26 August 2009 and that Mr MacDonald had provided Mr Miezis with a draft reason Special Management Zone at 5.54pm on 26 August²³⁶ it is extremely likely that by 26 August 2009, Mr MacDonald was aware that the animal was an LFP and the site was within coupe 15.
204. On 31 August, in opposition to the injunction, Mr MacDonald swore an affidavit in which deposed, in paragraph 38, to the steps taken by Mr Miezis to get hold of all of the footage taken by the camera. In paragraph 39 he refers to the "alleged location" of the camera. He also swore that Mr Miezis had told him that given the 100m buffer, no further area of coupe 15 would need to be protected from harvesting. Earlier he swore, in paragraph 23, that VicForests intended to commence harvesting in coupes 15 and 19 the following week.
205. It is clear that VicForests wanted to go into evidence on the injunction application but Mr MacDonald chose not to give a full or fair account of the information held by VicForests about the presence of the LFP. He did so as he explained to "put forward the information that [he] felt was relevant to the defence's case"²³⁷. Despite having significant knowledge about the presence of the species he stated in evidence that:

²³⁵ T 933

²³⁶ Exh 63

²³⁷ T 339

"I felt at the time it was the plaintiff that was alleging the sighting of the potoroo so it wasn't appropriate for me to necessarily discuss that"

206. Further, Mr MacDonald did not disclose that the documentary requirements including the coupe checklists had not been completed for the coupes. Mr Spencer could not say how long it would take to complete those matters saying that Mr Long or Mr Vaughan would know. Neither of those men gave evidence.
207. There were two additional reasons why logging of coupe 15 could not be undertaken in August 2009 neither of which were disclosed by VicForests in the injunction application.
208. First, Mr Spencer gave evidence that a draft LFP SMA was created in January 2008 that extended over half of coupe 15²³⁸. This is shown in slide 32 of the Spencer Slides²³⁹. Mr Spencer explained that from January 2008 on an interim basis at least harvesting was prohibited within the pink hatching on Slide 32²⁴⁰. That remained the position until the reserves were finalised in October or November 2009. In fact the reserves were not finalised until enacted in December 2009. However, it is noted that in the agreed maps VicForests has chosen November 2009 as the date at which the comparison between the pre ALP reserves and post ALP reserves is to be observed.
209. A second and related matter is that there had been an agreement with DSE not to log coupes 15 and 26 until the boundaries of the ALP Reserves had been settled. This is recorded in Mr Spencer's affidavit at paras 103 to 110.
210. Mr MacDonald said that in swearing his first affidavit he relied on Mr Vaughan to tell him that coupes 15 and 19 were ready to be logged²⁴¹.

²³⁸ T 736

²³⁹ Exh L

²⁴⁰ T 736

²⁴¹ T 939

Again, it is noted that Mr Vaughan did not give evidence although he was present in Court in Sale during the trial. His evidence that the ALP Boundary reserves had been settled by 21 August 2009 is inconsistent with Mr Spencer's evidence, and with the agreed maps.

211. VicForests was trying to avoid the injunction so that it could immediately log coupes 15 and 19. It is clear that Mr MacDonald put the commercial interests of VicForests above candour to the Court and above the interests of the endangered Long-footed Potoroo.

The Drafting of the Special Management Zone

212. Despite swearing in his 1st affidavit of 31 August 2009, that coupes 15 and 19 were ready to log "next week", and despite Mr Miezis' evidence that DSE still has not accepted the Lincoln footage, from 26 August until 28 September 2009, VicForests and DSE negotiated a proposed Special Management Zone and retained habitat for the potoroo based on the location of the detection in coupe 15.
213. The evidence shows that:
- (a) VicForests sought to negotiate with Mr Miezis about the location of the Special Management Zone and its enclosed retained habitat;
 - (b) Those negotiations centred around the 100m buffer, which formed the starting point for both Miezis and MacDonald;
 - (c) The 100m buffer was chosen because VicForests was already committed to it in response to the Gliders and had, from as early as January 2009, assessed the buffer as having minimal impact on its operations²⁴²;
214. The BES officers within DSE were marginalised in this process. It is clear that both Maclean and Henry were ignored.

The Third Detection: response

215. No steps have been taken by either DSE or VicForests in relation to the detection in coupe 26.

²⁴² Long email 8 Jan 2009, CM 30, T 899

Non compliance with standards, conditions and measures

216. In breach of the Action Statement, there has been no Special Management Zone nor Retained Habitat put in place around any of the three detection sites.
217. This in itself supports an injunction. There is no occasion to limit the injunction as to time. On the current state of the evidence the logging would be unlawful. VicForests has had since August to establish a regime that complies with the Action Statement. It has not done so and maintains its express denial as to the presence of the species and the existence of any obligations.
218. If the Court is satisfied that the logging would, if conducted now, be unlawful an injunction should issue. It would be for VicForests to seek to discharge or vary the injunction, on proper material, on the basis of a material change in circumstances.

Failure to apply the Precautionary Principle

219. Logging of these coupes as both optimal habitat, and habitat in fact being used by Long-footed Potoroo s is likely to cause serious and irreversible damage to the species²⁴³. It is serious because the localised impacts from logging these 4 coupes form part of a pattern of cumulative broad scale impacts on the population of the Long-footed Potoroo.²⁴⁴ It may be irreversible because these coupes, the last 4 old growth coupes in this area, form part of an important ecological link between two major permanent reserves and are a critical location for long term dispersal of the Long-footed Potoroo.²⁴⁵ Application of the precautionary principle is designed to avoid these consequences.

²⁴³ Meredith Report, Exh 27 at p. 20

²⁴⁴ Meredith, Exh 27, p.20

²⁴⁵ *ibid*

220. VicForests has not established (whether before this proceeding or during it) that there is no threat of serious or irreversible damage to the Long-footed Potoroo from the logging of these 4 coupes, and does indeed rely on scientific uncertainty about the effects of timber harvesting on the Long-footed Potoroo,²⁴⁶ and the effectiveness of the 'core protected area' of 40,000 ha for the Long-footed Potoroo, to justify logging.²⁴⁷ The Action Statement recognises the Core Protected Area could only support a population of 2,000 out of an estimated 7,000 animals in East Gippsland.²⁴⁸

THE SPOT TAILED QUOLL

221. The tiger or spotted-tail quoll *Dasyurus maculatus* is the largest extant marsupial carnivore on mainland Australia. It is a solitary medium sized forest dependent species and an adept climber. It is forest-dependent and considered to be dependent on mature or old growth forest.²⁴⁹ High prey densities, including gliders, is a significant indicator of optimal habitat²⁵⁰.

Conservation Status

222. The spotted-tail quoll is listed under the FFG Act and is classified "endangered" in the DSE Advisory List.
223. There are three populations in Victoria: Mt Eccles, the Great Otway National Park and East Gippsland²⁵¹. According to Dr Belcher, the first two populations are "functionally extinct"²⁵², which means that the populations are so low within the eco-system that they no longer play the role that they would normally play in that eco-system. He added that for

²⁴⁶ The Chick Report is a) drawn from a statistically insignificant sample and b) does not establish there are no negative impacts from timber harvesting on the LFP, and c) was not able to be tested because the subpoena to Chick was not called upon.

²⁴⁷ para 76 to the Defence.

²⁴⁸ AD p 545, 549

²⁴⁹ Exh 40 Report of Dr Belcher

²⁵⁰ Exh 40 p 10; TS 630

²⁵¹ Exh 41 Draft National Recovery Plan p 6

²⁵² T 607

Northeast Victoria and the Central Highlands they are getting close to becoming functionally extinct²⁵³.

224. Dr Belcher observed that if the existing decline in the East Gippsland area continues then the prognosis if current management is continued will be that the species will become extinct²⁵⁴.
225. The species is the subject of a draft recovery plan under the *Environment Protection and Biodiversity Conservation Act (EPBC)* which has been adopted by the Commonwealth and States and is currently out for public consultation²⁵⁵. A recovery plan can be made for species that are listed as threatened under the EPBC Act. Once made they bind the Commonwealth²⁵⁶. Under s 269 where, as is the case with the Quoll, the recovery plan applies outside of Commonwealth areas the Commonwealth must seek the co-operation of the State or Territory with a view to implementing the plan jointly with the State or Territory to the extent to which the plan applies in the State or Territory²⁵⁷.
226. According to Dr Belcher the Recovery Plan has been approved by all of the States, the Plan carries the Government logo for Victoria, NSW, ACT, Queensland and Tasmania and it is stated at p 3 that "it is intend that local plans and actions for recovery will conform to this national plan".

Threatening Processes

227. The major threats to the species are continued loss and modification of habitat and fragmentation of remaining suitable habitat through silvicultural practices, resulting in smaller genetically isolated fragmented populations, baiting, inappropriate fire regimes, predation and poisoning²⁵⁸.

²⁵³ T 627

²⁵⁴ T 627

²⁵⁵ T 606

²⁵⁶ s 268 EPBC Act

²⁵⁷ s 269(2)

²⁵⁸ Belcher Report Exh 40 p 8; Exh 41 p 3, 8-13

228. Given the precarious state of the species in East Gippsland even small elevated mortality rates may markedly affect population viability²⁵⁹. Dr Belcher observed in evidence that because most of the populations surviving in Victoria are small and fragmented they are at risk of extinction with any increased mortality rate²⁶⁰.

229. Under the heading "Management Practices the Draft Recovery Plan states:

The recovery of the Spotted-tailed Quoll is primarily dependent on the protection of its existing habitat. Practices or developments that destroy this habitat, or alter it to the extent that the species' density is reduced, will be detrimental to the conservation of the species. In particular, any further clearance or fragmentation of habitat should be avoided, as should forestry practices or burning regimes that exceed the habitat disturbance threshold of the species. Practices that directly or indirectly reduce the density of prey within a habitat patch also have the capacity to affect the density of Spotted-tailed Quolls and the ability of the habitat to support breeding females.

.....

There are no mitigating measures that can reduce the immediate impact of habitat clearance on Spotted-tailed Quoll populations. In the long-term, revegetation of equivalent-sized areas may prevent net habitat loss; however, the benefits of this habitat will not be fully realized until the forest has matured to support a full complement of prey-species and den sites. Based on the formation of tree hollows, this may not be for at least 120-180 years (Gibbons & Lindenmayer 2002). Consequently, any clearance of habitat can be viewed as having serious long-term implications for Spotted-tailed Quolls.

Standards, conditions and measures

230. There is an Action Statement for the Spot-tailed quoll written in 2003²⁶¹. It refers to some conservation measures being initiated but that their effectiveness is not known. It continues: "it seems likely that, in some

²⁵⁹ Exh 41 p 10-11; T 608

²⁶⁰ T 608-609, 624,

²⁶¹ AB 555

parts of Victoria isolated Quoll populations may be critically small and perhaps facing local extinction”²⁶².

231. The objectives are stated to be:

- (a) To develop a reliable standardised method for detecting Quolls;
- (b) To investigate habitat use and a predictive habitat model to ensure sufficient habitat is protected to ensure that a viable population of Quolls can survive; and
- (c) To investigate the threats to Quolls and to develop and implement threat control procedures.

232. In light of those objectives, it is clear that most of the actions are directed towards obtaining further information about Quoll habitat as a springboard for further protection. The Action Statement requires that a standard habitat prescription of 500ha SPZ and a 1000haa Special Management Zone be implemented for all confirmed Quoll records in State forest up to targets specified in individual FMPs²⁶³. The Action Statement increases the number of quoll sites protected from 50 set out in the FMP to 75.

233. The Action Statement requires that there be a periodic review of the section of Quoll records to be afforded protection to ensure that once targets are reached and as new records accrue or other information becomes available the network of protected habitat in each FMA is optimal for Quoll conservation. It also requires that guidelines be developed for the substitution of protected Quoll sites based on the extent and quality of habitat and on the currency, reliability and type of record.

234. The Action Statement followed the FMP which identified the Quoll as a featured species. Under the conservation guideline it was stated in 1995:

Until further work on habitat requirements is completed a precautionary approach of protecting areas of undisturbed forest as foraging habitat will be adopted

²⁶² AB 561

²⁶³ AB 562

235. The National Recovery Plan refers to the need to develop guidelines on minimum habitat requirements that can be used to direct the formation of habitat retention prescriptions. That has not yet occurred²⁶⁴.

Non compliance

236. Dr Belcher noted the four coupes provide suitable habitat for Spotted-tail Quolls, particularly for breeding females because the coupes contain unlogged mature multi-aged forest, with high ground, understory and canopy cover, ample den sites and high prey densities. He also said in his Report that as the Quolls have been recorded to the East and West of the coupes it would be reasonable to expect that quolls would be using the four coupes to move between known populations²⁶⁵.
237. He said that he expected the species to be present unless previous management has resulted in their extirpation. Significantly, his own survey was conducted at the least appropriate time and a survey conducted at a different period would determine whether they are present with a probability of detection if the species are present of 70 to 80%²⁶⁶.
238. As at the date of trial the requirement in the Action Statement to review protected Quoll sites based on new detections and new information to ensure optimal habitat is protected has not occurred²⁶⁷. There is no monitoring to determine whether the protected quoll sites are still being used by Quolls. Those sites extend back at least to 1995 and the life expectancy of a Quoll is a maximum of 5 years. In 2003 the Action Statement recognised that the effectiveness of the 45 records to that date was unknown. The National Recovery Plan requires the development of guidelines on the minimum habitat requirements. That has not occurred.

Non compliance with Action Statement

²⁶⁴ T 629

²⁶⁵ Ex 40 p 11

²⁶⁶ T 610

²⁶⁷ T 626

239. The review required by the Action Statement has not occurred. Those requirements are required to be performed before and not after the destruction of optimal habitat.
240. It follows that harvesting operations will prevent the meaningful fulfilment of the measures specified in the Action Statement because there would be a further loss of optimal habitat before the results of research designed to identify and protect such habitat. The purpose of the Action Statement is to identify optimal habitat in current use by Quolls before it is destroyed.

Precautionary principle

241. Logging of these coupes as optimal habitat is likely to cause serious and irreversible damage to the species²⁶⁸. It is serious because of the perilous population status of the quoll and its severely contracted distribution. It is serious because it will contribute to the species' decline.²⁶⁹ It may be irreversible because of habitat loss and fragmentation,²⁷⁰ uncertainty about location of existing populations and their levels of ecological functioning. It may be irreversible because even small elevated mortality rates may markedly affect population viability.²⁷¹ Application of the precautionary principle is designed to avoid these consequences.
242. VicForests has not established (whether before this proceeding or during it) that there is no threat of serious or irreversible damage to the quoll from the logging of these 4 coupes, and does indeed rely on scientific uncertainty about the quoll's presence, and the effectiveness of the 75 identified quoll sites, to justify logging.²⁷²

²⁶⁸ T 608; 623-624;

²⁶⁹ Belcher, Exh 40, p.13

²⁷⁰ Belcher, Exh 40 p 30.

²⁷¹ Exh 41, p.11, T p 608, 624.

²⁷² Para 77 to the Defence.

243. As Dr Belcher noted,²⁷³ 75 sites (especially with no details of how they will are protected) are inadequate to protect a viable population of Quolls in East Gippsland.
244. The modified prescriptions are inadequate²⁷⁴.
245. The criticisms of Dr Belcher's evidence²⁷⁵ are unjustified. First, they were never put to Dr Belcher: a lack of independence is a serious matter that fairness demanded Dr Belcher be allowed to answer. Further, the transcript references relied on do not support the contention advanced. A fair reading of all of the relevant exchange starting at the bottom of T 614 and through TS 615 does not show any unreasonableness on the part of the witness. The evidence of Dr Belcher is fair, balanced, impartial and reveals a high level of expertise. That expertise is in no way matched by Professor Ferguson.

SQUARE-TAILED KITE

Biology

246. The Square-tailed Kite is a medium-sized, reddish-brown soaring hawk with a prominent white cap and banded wingtips. It characteristically sails low over and around the tree canopy with its wingtip feathers widely spread.²⁷⁶ Its distribution in Victoria is sparse. Dr Debus estimates there to be 5 pairs of Square-tailed Kites in East Gippsland.²⁷⁷ In Victoria, the Kite is listed as threatened.²⁷⁸
247. The Square-tailed Kite breeds as solitary, well-dispersed pairs in defended territories with a single clutch of two or three eggs. It has a low fecundity of less than one young raised per pair per year combined with a

²⁷³ Exh 40, p 13.

²⁷⁴ T 622 -624

²⁷⁵ Defendant's submissions para 216

²⁷⁶ Exh 43, Dr Debus' report, question 1.

²⁷⁷ T 677.30

²⁷⁸ This status is separate from its classification nationally, due to the low population levels in Victoria, T 677.18

high juvenile mortality.²⁷⁹ The Kites hunt by soaring over the canopy and searching the foliage for a food item.²⁸⁰ They have a large range in order to support the required levels of prey, being small animals, rather than single larger species.²⁸¹

248. Threats to the Kite include loss of habitat for foraging and nesting and decline of good quality habitat, through timber clearing.²⁸²
249. The Kite was listed as threatened under the FFG Act in December 2000. An Action Statement has not been produced.

The Brown Mountain Coupes contain high quality habitat for the Kite

250. From photos of the coupes provided to Dr Debus, he concludes the coupes contain suitable habitat and nest trees for the Kite.²⁸³ In addition, the coupes contain the required open canopy structure of the forest.²⁸⁴ Dr Debus noted the importance of habitat being ecologically productive in terms of high densities of prey.²⁸⁵ While the Kite has a large home range, in Dr Debus' view, the coupes may represent a higher proportion of the Kite's habitat requirements.²⁸⁶
251. In Dr Debus' view, based on the agreed photos and photos provided by Dr Smith, the coupes are suitable habitat for the Kite. Specifically, *"the trees are large and they have substantial horizontal or near horizontal branches that could support a large stick nest, and they have the sort of canopy structure, an open sort of canopy structure, that would permit the kites to manoeuvre and so on. So they appear to be suitable nesting habitat for the kite."*²⁸⁷

²⁷⁹ Exh 43, question 2(b), T 681.26-682.7.

²⁸⁰ T 681.1-.9

²⁸¹ T 682.8-.20

²⁸² Exh 44, question 7(a).

²⁸³ Exh 44, question 12.

²⁸⁴ Exh 44, question 12, T 635.9

²⁸⁵ T 682.29

²⁸⁶ T 658.7

²⁸⁷ T 634.1, 635.28

252. In contrast, there is no evidence that there is undisturbed old growth nearby, or other suitable habitat for small birds to nest in, or for the Kite to nest in, which would provide alternative sources of suitable habitat for the Kite.

Presence

253. Dr Debus was provided with a report by Dr Bilney²⁸⁸ of his observations of a bird soaring over coupe 20. Exh 34 is Dr Bilney's field note of his observations of the bird from coupe 20 soaring towards and over the areas of coupes 15 and 19.²⁸⁹ Based on Dr Bilney's description of the bird, its characteristic marks and pattern of flight, Dr Debus is confident (100%) the Square-tailed Kite traverses the coupes and is highly likely to use the coupes at least for foraging (90% confident).²⁹⁰
254. Dr Debus' evidence is that there are only 5 pairs of Kites in East Gippsland and likely to be one pair using the area including the coupes.

Standards, conditions and measures

FMP

255. The purpose of the conservation guidelines in the FMP include the planned protection for sensitive and threatened species in order to meet the requirements of the FFG Act and the precautionary principle.²⁹¹
256. The FMP requires that for diurnal raptors such as the Square-tailed Kite, all known nest sites will be included in a Special Management Site with a 250m radius around the site.²⁹²
257. While conservation measures focus on protecting nest sites, in Dr Debus' experience, he is aware of only one nest site. Further, from the ground or a vantage point, it is difficult to find a nest and he has not, in his

²⁸⁸ Exhibited to Dr Bilney's affidavit which is exhibit 32.

²⁸⁹ T 525-526.

²⁹⁰ Exh 44, question 13.

²⁹¹ AB 408. The conservation goals in that strategy include managing the forest so as to conserve the full suite of values that a forest can provide, including biological diversity (p 5) and protection of endangered and vulnerable species (p 6).

²⁹² AB 411

experience, ever found one.²⁹³ In Dr Bilney's view, it is like finding a needle in a haystack and only a few have been ever found in Victoria.²⁹⁴ Accordingly, protecting Kite nests as a conservation measure will not be enough, although it may be all the Action Statement expressly requires.

The precautionary principle

258. In Dr Debus' view, in the absence of an action statement, conservation measures should also include actions to conserve the Kite's status by minimizing actions that have an adverse impact on its foraging habitat and prey or that may disturb its nest sites during breeding. This is in the context of only 5 pairs presently being estimated to exist in East Gippsland.
259. The proposed harvesting is not consistent with the precautionary principle. Dr Bilney's eight minute sighting over the coupes was unusual, yet it is being discounted. The coupes have not been surveyed by those with relevant biodiversity and raptor experience to identify and so protect a potential nest site. This is the 'don't look, don't find' mentality. Further, there remains scientific uncertainty on the impact of harvesting on the Square-tailed Kite. There is a lack of "*ecological information on the Kite's response to logging and its breeding success under the various harvesting regimes*". Further information is required to determine the scale and intensity of logging the Kite may survive, if at all.²⁹⁵ Breeding success is, of course, the key to recovery of a threatened species.
260. Dr Debus gave evidence of a study in NSW in relation to harvesting dispersed in space and time where Kites were observed in logged coupes which retained 30% of the basal area, seed trees, habitat trees and gully reserves. VicForests did not lead evidence on the extent of habitat and tree retention that will occur (in terms of basal retention) under the modified tree prescriptions. Dr Smith's evidence stands alone about the extremely poor survival rates of trees retained in harvested coupes in this

²⁹³ T 636.24

²⁹⁴ T 528.13

²⁹⁵ Ibid., question 19 and 20.

area. Further, and as Dr Gillespie noted in relation to the frogs (recalling his example about koalas on the road), that Kites were observed over regrowth does not support a finding that the Kite may survive and continue to breed successfully if its habitat consists principally of harvested coupes. The Eden study is not evidence that the Square-tailed Kite(s) present in and around coupes 15 and 19 may survive the harvesting of those coupes and continue to live in that area.

261. In fact and as Dr Debus notes in his report, harvesting and post-harvesting burns can remove foraging habitat and prey which in turn can result in food stress and territory abandonment. Food stress can also mean a reduced chance of producing eggs or the Kite surviving to successfully breed in the future.²⁹⁶

DATED 24 March 2010

D S MORTIMER

R M NIALL

P KNOWLES

²⁹⁶ Exh 44, question 8(a)-(c).