

TERMS OF LICENCE UNDER THE
THREATENED SPECIES CONSERVATION
ACT 1995

EDEN

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THIS LICENCE IS ISSUED SUBJECT TO THE LICENCE HOLDER COMPLYING WITH THE CONDITIONS AND REQUIREMENTS SET OUT IN THE LICENCE. A CONTRAVENTION OF THE TERMS OF THIS LICENCE MAKES THE PERSON CARRYING OUT THE FORESTRY OPERATIONS LIABLE FOR AN OFFENCE UNDER THE <i>NATIONAL PARKS AND WILDLIFE ACT 1974</i> FOR EG. HARMING A THREATENED SPECIES UNDER SECTION 118A OF THE <i>NATIONAL PARKS AND WILDLIFE ACT 1974</i>	
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Preamble

Authorisation

This licence is issued to the Forestry Commission of New South Wales and any person carrying out forestry operations defined in the Integrated Forestry Operation Approval (IFOA) under Part 4 of the *Forestry and National Parks Estate Act 1998* of which this licence is Annexure B.

This licence commences on the day on which the IFOA is granted by the Ministers in accordance with Part 4 of the *Forestry and National Parks Estate Act 1998* and is to apply to the conduct of the forestry operations covered by the IFOA within the **Eden region**.

This licence authorises the conduct of forestry operations on SFNSW estate within the **Eden region** (as shown on Map 1 of the IFOA) that are likely to result in:

1. Harm to a threatened species (being an animal) or protected fauna;
2. The picking of a threatened species (being a plant) or a protected plant; or
3. Damage to the habitat of a threatened species.

This licence does not authorise the carrying out of an activity that is likely to:

1. Harm an endangered population or an endangered ecological community (as far as animals are concerned);
2. Result in the picking of a plant that is part of an endangered population or endangered community;
3. Damage critical habitat; or
4. Damage to the habitat of an endangered population or endangered community.

This licence is issued subject to the licence holder complying with the conditions and requirements set out in the licence. A contravention of the terms of this licence makes the person carrying out the forestry operations liable for an offence under the *National Parks and Wildlife Act 1974* for eg. harming a threatened species under Section 118A of the *National Parks and Wildlife Act 1974*.

Intent

The objectives of this licence are to set out the minimum measures to protect threatened species and protect the habitat of threatened species from activities associated with timber harvesting.

The licence sets out habitat protection measures that are to apply across the forest estate in the form of general conditions. Protection of features such as: rainforest, Rare Old Growth Forest Communities, habitat trees and riparian habitats make substantial contribution to the conservation of a range of threatened species, protected fauna and protected native plants.

For those species that have been assessed as not being adequately protected by the general conditions of this licence, a series of species-specific conditions are required to ensure significant habitat features are protected around known occurrences of these species.

For those species which are particularly rare or poorly known such that it could not be determined if the general conditions were adequate for the conservation of the species and appropriate species-specific conditions could not be developed, appropriate protective measures will be developed on a case by case basis where these species occur on SFNSW estate.

An integral part of the licence is the requirement for SFNSW to conduct operational and pre-logging and pre-roading surveys to assess presence of species requiring species-specific or site-specific conditions.

Qualifying notes

Notes provided in this licence are in italicised text within parentheses. These notes are provided to assist in the interpretation of the condition. They do not constitute a condition of the licence and, as such, are not enforceable.

Definitions and Abbreviations

Words and abbreviations used in this licence have the meaning provided below, unless otherwise stated in a particular Condition of the licence.

“AMG” means Australian Map Grid co-ordinates. This definition continues to apply to any future updated system of geographical coordinates.

“Boundary to area ratio” means the length of the boundary of an area relative to the size of the area, expressed as a proportion.

“Bumper trees” means trees used as pivot points for logs being snigged during timber extraction.

“Buffer zone” means a protective area where specified harvesting activities may only be conducted if in accordance with the relevant Condition.

“Cliff” means a rocky slope greater than 70 degrees steep and greater than three metres in height.

“Commencement date” means the date on which the IFOA is granted by the relevant Ministers in accordance with Part 4 of the FNPE Act.

“Compartment” means an area of forest designated for forestry management purposes, principally for the cutting and removal of timber. In the case of Crown-timbered Land, compartment means an area to which SFNSW conducts, permits or authorises specified forestry activities. A compartment is an area of forest identified by a compartment number and a State Forest name. Compartment boundaries are delineated on SFNSW Geographic Information System (GIS). The term may be used to describe a group of compartments or a part of a compartment covered by a single Harvesting Plan.

“Coupe” is a sub-section of a compartment. Harvesting operations are undertaken in alternate coupes within a compartment with the remaining coupes harvested in a subsequent harvesting cycle.

“Critical habitat” means critical habitat as defined by the TSC Act.

“Critical weight range” or “CWR” means the following species: Bush Stone-curlew, Eastern Bristlebird, Brush-tailed Phascogale, Spotted-tailed Quoll, Eastern Quoll, Southern Brown Bandicoot, Long-footed Potoroo, Long-nosed Potoroo, Brush-tailed Rock Wallaby, Smoky Mouse and White-footed Dunnart.

“Dam” means a body of water held by a barrier constructed to hold back water, forming a reservoir.

“Daytime” means the time of day between sunrise and sunset.

“Den” (other than a den of a Spotted-tailed Quoll), means tree hollows and other holes, crevices or fissures in trees into or out of which the subject species is seen entering or leaving. Dens are used by mammals for roosting, sleeping, resting, breeding, raising young and communal congregations.

“Diameter at breast height over bark” or “dbhob” means the measurement of the diameter of a tree, made at a height of 1.3 metres above the ground on the uphill side of the tree, at right angles to the axis of the tree. Where the tree is branched or deformed at 1.3 metres above the ground, the measurement must be taken above or below this point where the stem becomes more cylindrical.

“Dusk” means that time of the afternoon when the sun is below the horizon however there is still soft light in the sky.

“Early morning” means the time of day between sunrise and up to three hours after sunrise.

“EPA” means the Environment Protection Agency.

“Eucalypt feed tree” means mature or late mature individuals of any of the following eucalypt species: *Eucalyptus agglomerata*, *E. globoidea*, *E. maidenii*, *E. tereticornis*, *E. dalrympleana*, *E. viminalis*, *E. robusta*, *E. macrorhyncha*, *E. ovata*, *E. paniculata*, *E. tricarpa*, *Corymbia gummifera*, *C. maculata*.

“Exclusion zone” means a protective area where specified forestry activities, unless excepted, are prohibited under the terms of this licence.

AMENDMENT 6
1 March 2013
Definition of 'EPA'
added

AMENDMENT 6
1 March 2013
Definition of
'FCNSW' added

"FCNSW" means Forestry Corporation of New South Wales.

"First order stream": Refer to Schedule 1 of this licence for definition and determination of stream order.

"Flying-fox camp" means an area where more than a hundred flying foxes congregate to roost on tree branches. These camps may contain a single species or more than one species of flying-fox.

"FNPE Act" means the *Forestry and National Park Estate Act 1998*.

"Forest Agreement" means an agreement made under Part 3 of the *Forestry and National Park Estate Act 1998*.

"Forest types" or "FT" means forest type as defined and described in "*Research Note No. 17 Forest types in New South Wales*" *Forestry Commission of New South Wales, Sydney 1989*, and/or mapped on Forestry Commission of New South Wales forest type maps.

"Fourth order stream": Refer to Schedule 1 of this licence for definition and determination of stream order.

AMENDMENT 6
1 March 2013
Definition of
'Gliding possum'
added

"Gliding possum" means a possum of a species belonging to the genus *Petaurus*, such as a squirrel glider (*Petaurus norfolcensis*), yellow-bellied glider (*Petaurus australis*) and sugar glider (*Petaurus breviceps*).

"Gross area" means the total area of land within a compartment (in hectares).

"Harvesting machinery" means all self propelled mechanical equipment used in the forest for harvesting operations.

"Harvesting operations" means timber felling (except miscellaneous forestry operations), construction and operation of log dumps, construction and operation of snig tracks, road construction and road re-opening.

"Hazard reduction work" has the same meaning as "bush fire hazard reduction work" as defined in the *Rural Fires Act 1997*.

"Heath and scrub" means areas dominated (greater than 50% crown cover, where crown cover is the area of ground covered by projecting the outline of the crown vertically to the ground) by woody shrubs and graminoids generally less than two metres tall at maturity, but up to seven metres tall. Heath and scrub include, but are not limited to, all areas of FT "heath" (FT no. 223) and "scrub" (FT no. 224).

AMENDMENT 6
1 March 2013
Definition of
'Hollow-bearing
tree' replaced

"Hollow-bearing tree" means a live tree in the net logging area where the base, trunk or limbs contain hollows, holes and cavities that have formed as a result of decay, injury or other damage. Such hollows may not be visible from the ground; but may be apparent from the presence of deformities such as burls, protuberances or broken limbs, or where it is apparent the head of the tree has been lost or broken off.

(Note: "Hollow-bearing tree" is also defined in Condition 5.6 (a))

"Integrated Forestry Operations Approval" or "IFOA" means an approval granted under Part 4 the *Forestry and National Park Estate Act 1998* for the Eden Region to which this licence forms a part.

"Integrated harvesting (regeneration)" means timber harvesting operations implemented in multi-aged or mature stands, in order to remove most of the mature canopy and prepare the site for regeneration. This involves the harvesting of sawlogs and pulpwood in a single operation.

"KB floristic assemblage" means floristic assemblages as described and mapped in: Keith, D.A. and Bedward, M. (1999) *Native Vegetation of the South East Forests Region, Eden, New South Wales. Cunninghamia*, 6: 1-218. The KB floristic assemblages are also depicted on the Geographic Information System digital "edenext4" shape theme in the sub-directory "KB Eden Extant Veg" on the CD ROM labelled "Eden TSL Data" dated 17 December 1999.

"Known or potential habitat" where it relates to flora means:

- i. a compartment with a record of the species; OR
- ii. areas consistent with "likely habitat" within the species' "distribution", as described in Schedule 2 of this licence.

"Known habitat" where it relates to fauna means:

- i. the area within a two kilometre radius of a record (except for Spotted-tailed Quoll and microchiropteran bats where the area within a five kilometre radius of a record constitutes known habitat);
- ii. a record referred to in i. above includes, in addition to other types of records, a record of a species in a scat.

“Late afternoon” means the time of day between three hours before sunset and sunset.

“Late mature” means, using the modified Jacobs growth stage classification system, a tree which exhibits the following structural characteristics: crown shape irregular; a proportion of limbs dead or dying, but not fallen; branch hollows may be common, but are small to medium size. Refer to Schedule 3 of this licence.

“Log dump” means an area within a compartment where timber and other forest products are collected for processing and sorting prior to loading onto a truck.

“Mature” means, using the modified Jacobs growth stage classification system, a tree which exhibits the following structural characteristics: crown opening up with crown limbs healthy; dead branches are few throughout the crown, and when present are small; few branch hollows, and when present are very small. Refer to Schedule 3 of this licence.

AMENDMENT 6
1 March 2013
Definition of
'Mechanised
harvesting
operation' added

“Mechanised harvesting operation” is an operation that involves felling trees using mechanised harvesting machinery rather than an operation that relies on felling trees using a chainsaw.

“Miscellaneous forestry operations” means the felling of timber for the construction of causeways and bridges for the purposes of forest management; OR cutting of posts for internal or boundary fencing.

AMENDMENT 6
1 March 2013
Definition of
'Monthly advice'
added

“Modeled habitat” means an appropriate habitat model as agreed jointly by NPWS and SFNSW.

“Monthly advice” means the written advice prepared, or required to be prepared, each month by FCNSW, on forestry operations, as referred to in clause 9A of the IFOA (including Condition 3 (a) of Appendix B of this IFOA)

“NPW Act” means the *National Parks and Wildlife Act 1974*.

“NPWS” means the New South Wales National Parks and Wildlife Service.

“Nest”: A nest includes, but is not limited to, a structure built by birds, or a tree-hollow, or a site on the ground or in a cave used by birds for the purposes of the incubation and/or rearing of young. A nest also includes a site where the actual nest can not be seen or found, however there is clear evidence of breeding nearby and it is considered likely that a nest occurs nearby (ie. within 50 metres).

“Net logging area” means, unless specified, the gross area of a compartment less Preferred Management Priority or subsequent Forest Management Zones where timber harvesting is prohibited, Stream Exclusion Zones, Ridge and Headwater Habitat exclusion zones, Rainforest, Rainforest exclusion zones, Rare Old Growth Forest Communities and Rare Forest Ecosystems.

“Net survey area” means the net logging area less areas of the following mapped features: inherent hazard level 4 and mapped drainage filter strips (as defined in the relevant Pollution Control Licence), and physically inaccessible areas.

“Nighttime” means the time between sunset and sunrise when it is dark.

“Outcropping rock cover” means escarpments, scree slopes (i.e. slopes covered with small loose stones), and rock outcrops (i.e. areas where rocks or exposed boulders cover more than 70% in any 0.1 hectare area).

AMENDMENT 6
1 March 2013
Definition of
'Permanent
stream' omitted

“Post-logging burning” means burning associated with the cutting and removal of timber which is carried out within 18 months of the timber being cut and removed.

“Potential habitat” where it relates to fauna means:

- i. modeled habitat; or
- ii. “macrohabitat” and “microhabitat” within the species “distribution”, all as defined in Schedule 4 of this licence.

“Protected fauna” means those species defined as protected fauna under the *National Parks and Wildlife Act 1974*.

“Protected native plants” means those species listed on Schedule 13 of the *National Parks and Wildlife Act 1974*.

“Rainforest” means all areas of Eden Comprehensive Regional Assessment air photograph interpretation rainforest, KB floristic assemblages 1, 5, 6, 7, & 8, and all areas of RN 17 Rainforest. RN 17 Rainforest includes forest types 1 to 26, inclusive. The KB rainforest floristic assemblages are depicted on the Geographic Information System digital “kb rainforest” shape theme in the sub-directory “KB Rainforest” on the CD ROM labelled “Eden TSL Data” dated 17 December 1999.

“Rare forest ecosystems” means KB floristic assemblages Type 20 Bega Dry Grass Forest, Type 21 Candelo Dry Grass Forest, Type 23B Monaro Basalt Grass Woodland¹, Type 36 Dune Dry Shrub Forest, Type 38 Southern Riparian Scrub, Type 39 Northern Riparian Scrub, Type 40 Riparian River Oak Forest, Type 58 Swamp Forest. The rare forest ecosystems are depicted on the Geographic Information System digital “rareecos” shape theme in the sub-directory “Rare Forest Ecosystems” on the CD ROM labelled “Eden TSL Data” dated 17 December 1999.

“Rare Old Growth Forest Communities” means those areas depicted on the Geographic Information System digital “og_prtcl” theme in the sub-directory “Rare Old Growth Forest” on the CD ROM labelled “Eden TSL Data” dated 17 December 1999.

“Record”:

- Where the record pertains to fauna, includes an observation of a live or dead individual of a species, or any part of an individual (hair, feathers, skin, bone, teeth or eggs), or a sign that indicates the species’ presence (species’ call heard, tracks, diggings, incisions, species’ scat, raptor pellet, owl pellet, nest, roost or den); that is:
 - i. recorded on the NPWS Atlas of NSW Wildlife with a record reliability of 1 - 5 (1 = specimen in a public museum; 2 = specimen in other collection; 3 = voucher specimen; 4 = specialist reliability; 5 = standard reliability) and collected in the period 20 years prior to the approval of the Harvesting Plan by the relevant SFNSW Regional Manager; or
 - ii. recorded by SFNSW during pre-logging and pre-roading surveys (as required in Condition 8 of this licence), during compartment mark-up surveys (as required in Condition 5.2 of this licence), during harvesting operations; or
 - iii. any other reliable record held on SFNSW files.
- Where the record pertains to flora, any part of a plant including, but not limited to, roots, stems, branches, leaves, fruits, seeds and flowers; that is:
 - iv. recorded on the NPWS Atlas of NSW Wildlife with a record reliability of 1 - 5 (1 = specimen in a public museum; 2 = specimen in other collection; 3 = voucher specimen; 4 = specialist reliability; 5 = standard reliability) and collected in the period 20 years prior to the approval of the Harvesting Plan by the relevant SFNSW Regional Manager; or
 - v. recorded by SFNSW during pre-logging and pre-roading surveys (as required in Condition 8 of this licence), during compartment mark-up surveys (as required in Condition 5.2 of this licence), during harvesting operations; or
 - vi. any other reliable record held on SFNSW files.

A record remains valid until NPWS and SFNSW jointly agree that that record is invalid or, in the case of flora records surveys are carried out to the satisfaction of the NPWS that demonstrate the plant is no longer at the location or cannot be located.

Where a species requiring the application of a species-specific prescription is identified from within a predator scat or pellet, SFNSW may consult with the NPWS to determine where the prescription shall be applied.

¹ May include some commercial forest types which are available for harvesting.

A record can relate to a single individual or a number of individuals. The definition of a record relates to all previously existing and new records.

AMENDMENT 6
1 March 2013
Definition of
'Record' modified

- Where the presence of a fauna species is determined from analysis of hair or scat samples conducted by a suitably experienced person, a result of 'definite' or 'probable' must be counted as a record where it refers to a threatened species listed on Schedule 1 of the TSC Act. A result of 'definite' must be counted as a record where it refers to a threatened species listed on Schedule 2 of the TSC Act.

“Recovery Plan” means a recovery plan as defined under the TSC Act or the *Endangered Species Protection Act 1992*.

AMENDMENT 6
1 March 2013
Definition of
'Recruitment tree'
replaced

“Recruitment tree” means a live tree of a mature or late mature growth stage (using the modified Jacobs growth stage assessment as depicted in Schedule 3) within the net logging area that is not suppressed prior to harvesting and has good potential for hollow development and long term survival.

(Note: “Recruitment tree” is also defined in Condition 5.6 (a))

“Regrowth zone” means all areas of integrated harvesting (regeneration) regrowth established prior to 1994, even aged fire regrowth and timber stand improvement areas. A Geographic Information System digital theme depicting the regrowth zone must be developed by SFNSW and agreed to by the NPWS within three months of the commencement date.

“Relevant Act” means an act of Parliament referred to in Section 33 of the *Forestry and National Parks Estate Act 1998*.

AMENDMENT 6
1 March 2013
Definition of
'Ridge and
Headwater
Habitat' added

“Ridge and Headwater Habitat” means the land identified in maps provided to EPA for the purpose of condition 4.1 (d) subject to any variations or exceptions noted from time to time as approved by EPA. The latest version of the map, at any given time, will be held by EPA.

“Relevant Licence” means a licence referred to in Section 33 of the *Forestry and National Park Estate Act 1998*.

“RN 17” or “Research Note 17” means the publication: “*Research Note No. 17 Forest types in New South Wales*” *Forestry Commission of New South Wales, Sydney 1989*.

“Road” means any route used for vehicular access to, and the transport of logs from, a log dump within a compartment.

“Road construction” means the construction of a road where no road previously existed.

AMENDMENT 1
1 Dec 2001
Definition modified
Ref Appendix D

“Road re-opening” means the clearing, scraping or treating of a revegetated road where any of the trees growing on the road have a dbhob of 20cm or more.

“Rocky outcrop” means an area where rocks or exposed boulders cover more than 70% of any 0.1 hectare area (30 metres by 30 metres); OR areas with skeletal soils (areas with shallow soils where rocks are exposed), supporting heath or scrub (sometimes with occasional emergent trees); OR a combination of both. These sites may occur where the geology varies from the surrounding area (e.g. rhyolite outcrops). Rocky outcrops include, but are not limited to, all areas of FT “rock” (FT no. 234).

“Roost”: Where the roost relates to a microchiropteran bat tree roost, “roost” includes: a tree or stag where there is clear evidence that a microchiropteran bat has roosted, such as a tree with a hollow at its base within which there is an accumulation of bat excreta; OR a tree where a microchiropteran bat has been seen flying into or out of a hollow, crevice or other hole in the tree. (This definition does not relate to ‘subterranean roost sites’.)

Where the roost relates to a threatened owl roost, “roost” includes a site where an owl has been observed roosting (that is sheltering or resting during the day); OR a site where there is clear evidence that an owl has roosted such as where there are owl pellets, remains of prey, or owl excreta; OR both.

“ROTAP” means Rare or Threatened Australian plant as listed and defined in “*Rare or Threatened Australian Plants*” by J.D. Briggs and J.H. Leigh, *CSIRO Australia, 1995*.

AMENDMENT 1
1 Dec 2001
Definition modified
Ref Appendix D

“Routine road maintenance” means the clearing, scraping or treating of a revegetated road where all of the trees growing on the road have a dbhob of less than 20 cm.

Explanatory Note

Identical amendments to the above are made by this instrument to the Integrated Forestry Operations Approvals for the Eden and Lower North East Regions (Schedules 1 and 2).

AMENDMENT 6
1 March 2013
Definition of 'Sap
feed tree' replaced

"Sap feed tree" means a living tree that exhibits incisions, including V-notch incisions, made by a gliding possum for the purpose of feeding on exuding sap, which have not been fully occluded by bark or scar tissue at the time of compartment mark-up.

"Second order stream": Refer to Schedule 1 of this licence for definition and determination of stream order.

"SEPP 14" means State Environment Planning Policy No. 14 - Wetlands.

"SEPP 26" means State Environment Planning Policy No. 26 - Littoral Rainforest.

"SFNSW" means State Forests of New South Wales which is the trading name of the Forestry Commission of New South Wales.

"SFNSW estate" means land vested in the control of SFNSW.

"Snig track" means a route along which logs are hauled or dragged from the location of felling to a log dump, landing or stockpile.

"Soaks, seepages and bogs" means a depression in the ground in which water collects, on or below the surface; a place where water oozes slowly out of the ground; or a place where the ground is usually wet and spongy.

"Species new to science" means a species, sub-species or variety of plant or animal that is uniquely distinct from any other species, sub-species or variety and has not been previously described.

"Specified forestry activities" means:

- i. Timber felling (excluding miscellaneous forestry operations);
- ii. Construction and operation of log dumps;
- iii. Construction and operation of snig tracks;
- iv. Road construction (NB. routine road maintenance is not a specified forestry activity);
- v. Road re-opening;
- vi. Commercial collection of firewood;
- vii. Bush fire hazard reduction work; and
- viii. Grazing activities;
- ix. Thinning.

AMENDMENT 6
1 March 2013
Definition of
'Specified forestry
activities' modified

"Spotted-tailed Quoll latrine site" means any site where three or more Spotted-tailed Quoll scats are detected within a five metre radius, or a site where a Spotted-tailed Quoll scat has been noted on more than one occasion within a five metre radius. For the purposes of this licence Spotted-tailed Quoll scats detected on roads will not constitute a latrine site. Once a latrine site has been identified it will be considered as such for the duration of this licence.

"Spotted-tailed Quoll maternal den" means any den which is used by a female Spotted-tailed Quoll with young which the juvenile Spotted-tailed Quoll occupy after becoming free from the teat until independence. For the purposes of this licence any Spotted-tailed Quoll den is considered a maternal den if it is being used during the period June to November, unless it can be demonstrated to the satisfaction of the NPWS that the individual using the den is male or that the female using the den does not have young. Once a maternal den has been identified it will be considered as such for the duration of this licence.

"Spotted-tailed Quoll permanent den" means any den site that is used by Spotted-tailed Quoll on more than one occasion. For the purposes of this licence any Spotted-tailed Quoll den is considered a permanent den unless there is documented evidence that the individual that used the den was a transient animal. Once a permanent den has been identified it will be considered as such for the duration of this licence.

AMENDMENT 6
1 March 2013
Definition of 'Stag'
deleted

AMENDMENT 6
1 March 2013
Definition of
'Statutory
reserves' modified

"Statutory reserves" means lands reserved (or gazetted) under the *National Parks and Wildlife Act 1974* as National Parks, Nature Reserves, Karst Conservation Reserves, Wilderness Areas, Wild and Scenic

Rivers and State Conservation Areas and Regional Parks; and lands reserved (or gazetted) as Flora Reserves under the *Forestry Act* 1916.

“Stream” means any stream or watercourse shown on the relevant topographic map(s) for the compartment, from a 1:25,000 map sheet produced by the Land Information Centre (formerly the Central Mapping Authority). Where a 1:25,000 map sheet is not available for the compartment, then the best available scale map sheet produced by the Land Information Centre must be used. Determination of stream order is provided in Schedule 1 of this licence.

“Third order stream”: Refer to Schedule 1 of this licence for definition and determination of stream order.

“Threatened species” means any species of plant or animal listed in Schedule 1 Part 1 (endangered species), Part 4 (presumed extinct) and Schedule 2 (vulnerable species) of the *Threatened Species Conservation Act 1995*.

“TSC Act” means the *Threatened Species Conservation Act 1995*.

“Wetland” means a vegetated depression with a seasonal, permanent or intermittent water table at or slightly above the floor of the depression. The vegetation type in a wetland typically indicates a wetter micro-environment than the surrounding country. Wetlands include, but are not limited to, all areas of SEPP 14 wetlands and all areas of FT “swamp mahogany” (FT no. 30), “paperbark” (FT no. 31), “swamp oak” (FT no. 32), “mangrove” (FT no. 33), “swamp” (FT no. 231), and “water surfaces” (FT no. 235).

1. Species Considered

1.1. Species requiring ameliorative prescriptions

- a) The Conditions of this licence apply to the threatened species of fauna and flora listed in Schedule 5 of this licence, Condition 1.2 a) i. of this licence and Condition 6.16 of this licence, and those species listed in Schedule 1 Part 4 of the TSC Act as presumed extinct.
- b) The Conditions of this licence also cover Protected Fauna and Protected Native Plants.

(Note: Schedule 5 of this licence includes tables detailing threatened fauna species that are considered adequately covered by the General Conditions and threatened fauna species that require Species-specific Conditions.)

1.2. Species requiring Site-specific Conditions

- a) The following species require the development of Site-specific Conditions in accordance with Conditions 1.2 b) and c) of this licence:
 - i. *Litoria booroolongensis*, Broad-toothed Rat, Eastern Bristlebird, Eastern Quoll, Long-footed Potoroo, Rosenberg's Monitor and maternity roosts of *Miniopterus schreibersii*.
 - ii. Species to which condition 1.3 (a) applies;
 - iii. Species listed on the TSC Act Schedule 1 Part 4 as presumed extinct; and
 - iv. Threatened species other than those listed in Schedule 5 of this licence, and in addition to those species listed in Conditions 1.2 a) i. and 1.2 a) ii. of this licence recorded within the compartment, or within five kilometres outside the boundary of the compartment, which are likely to be affected by forestry activities.
- b) If, while compiling data pursuant to Condition 8.5, SFNSW become aware of a record of a species listed in Condition 1.2 a) of this licence within the compartment or within 100 metres outside of the boundary of the compartment (or in the case of Eastern Quoll within five kilometres outside of the boundary of the compartment), the following must apply:
 - i. The NPWS must be notified by SFNSW within two working days of the record being made in order to develop an appropriate Site-specific Condition.
 - ii. Specified forestry activities must not commence in the compartment until a Site-specific Condition has been developed by the NPWS and agreed to by SFNSW.
 - iii. SFNSW must consult with the NPWS to consider: if the record is valid; if the record is indicative of a permanent territory or regular habitat use; appropriate management actions; and any other relevant matters.

(Note: the NPWS will consult with SFNSW in the development of a site-specific prescription. This prescription must be agreed to within 30 working days of notification, or longer if agreed.)

- c) If a species listed in Condition 1.2 a) of this licence is recorded during the carrying out of specified forestry activities in a compartment, or within 100 metres outside of the boundary of the compartment (or in the case of Eastern Quoll within five kilometres outside of the boundary of the compartment), the following must apply:
 - i. Specified forestry activities must immediately cease within the compartment and within 100 metres outside the boundary of the compartment.
 - ii. The NPWS must be notified by SFNSW within two working days of the record being made in order to develop an appropriate Site-specific Condition.
 - iii. Within one week of the NPWS being notified of the record, the NPWS must consult with SFNSW in preparing a preliminary determination on whether specified forestry activities may re-commence in the compartment.

AMENDMENT 6
1 March 2013
Condition 1.2 a) ii.
replaced and
following numbers
renumbered

- iv. Unless otherwise agreed in writing by the NPWS, specified forestry activities must not recommence in the compartment until a Site-specific Condition has been developed by the NPWS and agreed to by SFNSW.
- v. SFNSW must consult with NPWS to consider: if the record is valid; if the record is indicative of a permanent territory or regular habitat use; appropriate management actions; and any other relevant matters.
- vi. Any Site-specific Condition developed under this section must be implemented.

(Note: NPWS will consult with SFNSW in the development of a site-specific prescription. This prescription must be agreed to within 30 working days of notification, or longer if agreed.)

- d) A Site-specific condition developed under this condition may specify that it applies to either a single record of the species concerned, or that it applies to all relevant records of the species concerned within a particular geographic area, such as the compartment or the IFOA Region.
- e) Where a Site-specific condition is issued for the IFOA Region it may include requirements for FCNSW to survey for that species.

AMENDMENT 6
1 March 2013
Conditions 1.2 d)
and e) added

1.3. Threatened Species Conservation Act – New Listings

- a) FCNSW must comply with sub-conditions (a) and (b) in respect of a species which is present or likely to be present in the Eden Region or in any area likely to be affected by the carrying out of Forestry Operations if:
 - i. the Scientific Committee has made a determination for the provisional listing of the species as endangered or critically endangered on an emergency basis as provided for by Division 4 of the *TSC Act*; or
 - ii. the Scientific Committee has made a preliminary determination that a proposal to insert the species into Schedule 1, 1A or 2 of the *TSC Act* should be supported; or
 - iii. a final determination listing the species as endangered, critically endangered or vulnerable under Schedule 1, 1A or 2 of the *TSC Act 1995* has been published in the NSW Government Gazette; or
 - iv. FCNSW receives a written notification from EPA that a species is new to science and conditions 1.3 (b)-(e) must apply until further notice.
- b) FCNSW must, as far as is reasonably practicable, mitigate any adverse effect of forestry operation on animals or plants of the species and develop Site-Specific Conditions for the species in accordance with condition 1.2;
- c) In determining, for the purposes of condition 1.3 (b), how to mitigate or minimise any adverse effect of forestry operations on animals or plants of the species concerned, FNSW must be guided by any relevant advice provided by EPA.
- d) In this condition 1.3 “adverse effect” in relation to a species (or an animal or plant of a species): includes:
 - i. harm to;
 - ii. the picking of; or
 - iii. damage to any habitat of;
 the species concerned (or an animal or plant of the species concerned).
- e) Condition 1.3 (b) continues to apply until:
 - i. with respect to a species to which condition 1.3 (a) i. applies - a notice is published in the NSW Gazette to the effect that the Scientific Committee has made a final determination that the species should not be listed in Schedule 1, 1A or 2 of the *TSC Act* or 12 months has passed since the provisional listing, whichever occurs first;

AMENDMENT 6
1 March 2013
Condition 1.3
replaced

- ii. with respect to a species to which condition 1.3 (a) ii. applies - a notice is published in the NSW Gazette to the effect that the Scientific Committee has made a final determination not to insert the species in Schedule 1, 1A or 2 of the *TSC Act*;
 - iii. with respect to a species to which condition 1.3 (a) iii. applies – a determination is published in the NSW Gazette to omit the species from Schedule 1, 1A or 2 of the *TSC Act*;
 - iv. with respect to a species to which condition 1.3 (a) iv. applies - FCNSW receives a notice from EPA indicating that the notice given under condition 1.3 (a) iv. no longer applies.
- f) For the sake of clarity, in the event that a species to which condition 1.3 (a) i. or ii. later becomes a species to which condition 1.3 (a) iii. applies, condition 1.3 (b) will continue to apply despite condition 1.3 (e) i. and iii.

2. General and Transitional Provisions

2.1. General

- a) This licence has effect from 1 January 2000 to 31 December 2018.
- b) Where the application of these conditions results in twenty percent or more of the area of net logging area of a compartment being made unavailable because of exclusion zones, SFNSW may request that NPWS review the conditions applying to that compartment. Areas retained in lieu of conducting pre-logging and pre-roading surveys as described in Condition 7 b) of this licence must not be counted towards the twenty percent. In compartments where exclusion zones have been retained under Condition 6.9.2 of this licence (Large Forest Owl Landscape Approach), a maximum of 3% of the area specifically retained in the compartment as owl exclusion zones can be counted towards the twenty percent. Areas of the net logging area that are made unavailable due to the prohibition of new roads and snig tracks through Rare Old Growth Forest Communities can be included in calculations towards the 20% threshold.
- c) All specified forestry activities and miscellaneous forestry operations must be conducted in accordance with the conditions of this licence.
- d) All specified forestry activities and miscellaneous forestry operations to which this licence applies must be carried out in a competent and reasonable manner.
- e) SFNSW must ensure that all employees, contractors, sub-contractors, agents or SFNSW licensees engaged in any aspect of specified forestry activities or miscellaneous forestry operations covered by this licence understand the conditions applying to the specified forestry activities or miscellaneous forestry operations prior to their involvement in those activities.
- f) SFNSW must ensure that a SFNSW employee is present at each compartment while harvesting operations are occurring under this licence for the purposes of ensuring compliance with this licence, for at least the equivalent of one full working day per week per harvesting operation.
- g) Where there is a conflict between the conditions of this licence and the documents with which this licence requires compliance, the conditions of this licence prevail.
- h) Where there is a conflict between the conditions set out in this licence and the conditions set in any other relevant licence issued to SFNSW under the *Forestry and National Parks Estate Act 1998*, SFNSW must consult with the NPWS and the agency responsible for the administration of the relevant legislation to resolve the conflict.
- i) Where a record has been on the NPWS Atlas of NSW Wildlife for greater than ten years, it may be reviewed by SFNSW as to whether it can be omitted from triggering requirements for protective measures. SFNSW must consult with NPWS in conducting this review. This review must consider:
 - i. Original collection information;
 - ii. Subsequent surveys or records;
 - iii. Species Life History;
 - iv. Relevant research; and

- v. Distribution.
- j) Where a review of a NPWS Wildlife of NSW Atlas record greater than ten years old is undertaken by SFNSW in accordance with Condition 2.1 i) above, the NPWS must approve in writing the review conducted by SFNSW prior to the rejection or acceptance of the record.

(Note: Where a condition of this licence requires a matter to be notified to the NPWS, approved by the NPWS, or some other action by the NPWS, then NPWS means the Manager, Conservation Planning and Programs, Southern or their delegate, unless stated otherwise. Condition 2.1 h) refers to conflict between conditions set out in this licence and conditions of Pollution Control Licence administered by the Environmental Protection Authority and Threatened Fish Species Conservation Protocols administered by New South Wales Fisheries.)

2.2. Transitional provisions

- a) The following definition applies for the purpose of this condition:
 “Amendment” means any amendment made to this licence under *Forestry and National Park Estate Act 1998 s. 31*.
- b) Transitional provisions taking effect following an Amendment are contained in schedule 9 of this licence.

AMENDMENT 6
 1 March 2013
 Condition 2.2 (a)
 replaced with
 conditions 2.2 a)
 and b)

3. Planning Documentation

- a) SFNSW must prepare planning documentation that demonstrates that operational planning has taken account of the requirements of the Conditions of this licence. This must include showing all exclusion zones and buffer zones on the relevant harvesting plan operational map, except where the scale of the map does not allow small area features to be adequately represented; in which case the location of the zone should be adequately indicated. The harvesting plan operational map legend must, to the greatest extent practicable, indicate to which feature or species the exclusion or buffer zones relates.
- b) The Harvesting or Operational Plan must state which Species-specific Conditions will be applied in the area of operations.
- c) The Harvesting or Operational Plan must contain the Site-specific Conditions relevant to the area of operations as approved by and provided in writing by NPWS (as per Condition 1.2 of this licence).
- d) The Harvesting or Operational Plan and any relevant planning documentation must be kept on file at the relevant SFNSW Regional Office.
- e) All the requirements of Conditions 3a), 3b), 3c) and 3d) of this licence, including any variations approved by the NPWS, must be met prior to specified forestry activities commencing in the compartment.
- f) All records, documentation and registers required by this licence must be kept for at least three years after the action or event took place in respect of which the record has been created.
- g) All records, documentation and registers must be kept in a legible form.
- h) Copies of records, documentation and registers requested in writing by NPWS must be received by the nominated NPWS office within ten working days of the request, unless otherwise agreed.

4. Reporting and Information Requirements

4.1. Provision of Data to the NPWS

SFNSW must provide the NPWS with:

- a) Harvesting Plans or Operational Plans, approved by the relevant FCNSW Regional Manager or Planning Manager, Pre-logging and Pre-roading Survey Reports, registers and maps (including electronic Geographic Information System themes and metadata) showing exclusion zones and

AMENDMENT 2
 28 April 2003
 Condition 4.1(a)
 modified
 Ref Appendix D

AMENDMENT 6
 1 March 2013
 Conditions 4.1 a),
 b), c) and d)
 replaced

protection zones, as requested by EPA within ten working days of the request. These can be provided as hard copy or electronically.

- b) FCNSW must provide a colour copy of the operational and location map in accordance with Clause 9A (14 – 16) of the non licence terms of the IFOA.
- c) FCNSW must give the monthly advice to EPA in accordance with the requirements set out in clause 9A of the non-licence provisions of the IFOA and must undertake operations in compliance with the obligations in clause 9A of the non licence provisions.
 - (i) For the avoidance of doubt, full compliance with the obligations in clause 9A of the non-licence provisions of the IFOA is an essential condition of this licence.
 - (ii) FCNSW is only required to, and may only, submit one monthly return in satisfaction of this clause and any other requirements to submit a monthly return under any other clause in the IFOA. Any monthly advice received by EPA for any given month will be taken to be the monthly advice for the purpose of this clause and any other clause under the IFOA requiring the submission of a monthly return.
- d) Maps at an appropriate scale showing the location of Ridge and Headwater Habitat (as per Condition 5.8 of this licence) within the Eden Region by 31 July 2000. Where this mapping has been subsequently amended with the approval of EPA (in accordance with condition 5.8 (g)), amended Geographic Information System themes and metadata must be provided to EPA within 21 days of the amendment.
- e) Records suitable for the NPWS Atlas of NSW Wildlife for all threatened species recorded on SFNSW estate. These must be forwarded by agreed electronic means to NPWS Head Office GIS Unit at three monthly intervals. These data should be provided prior to specified forestry activities commencing in the area surveyed.
- f) Information held within a register of non-compliance. Each Regional Manager responsible for the land to which this licence applies must keep a register of every incident of non-compliance with the conditions of this licence. The register must contain the following information known to SFNSW:
 - i. the date, time and duration of the non-compliance;
 - ii. the date upon which SFNSW became aware of the non-compliance;
 - iii. the exact location of the non-compliance, either marked on the operational map or in the form of Australian Map Grid co-ordinates;
 - iv. the name of the person who caused the non-compliance;
 - v. the nature of the non-compliance;
 - vi. the reasons for the non-compliance;
 - vii. whether the non-compliance resulted in any environmental harm;
 - viii. any remedial action taken by SFNSW or any other person in relation to the non-compliance and the dates upon which it was taken;
 - ix. any disciplinary action taken by SFNSW against any of its contractors, employees, licensees or agents and the dates upon which it was taken; and
 - x. any measures taken or proposed to be taken to prevent or mitigate the recurrence of such a non-compliance.
 - xi. the name of the Supervising Forestry Officer that was responsible for the supervision of SFNSW staff and other people involved in the forestry operation that caused the non-compliance;
 - xii. a full report from the officer causing the non-compliance; and
 - xiii. what pre harvesting audit and post harvesting audit check were carried out to check compliance.

AMENDMENT 6
1 March 2013
Condition 4.1 f)
modified

4.2. Availability of Data

- a) Copies of the following documents must be made available for inspection by any person at the SFNSW Regional Office or relevant operational centre responsible for land to which this licence applies:
 - i. this licence; and
 - ii. all planning documentation and registers relating to harvesting operations, including Harvesting and Operational Plans and Site-specific Conditions.
- b) Copies of all planning documentation for harvesting operations which are the responsibility of the SFNSW Regional Office or relevant operational centre must be made available to any person for photocopying at a reasonable cost.
- c) Condition 4.2 a) does not apply where SFNSW have received a direction in writing from NPWS that certain specified documents that reveal the location of a threatened species are not to be disclosed.
- d) SFNSW shall not disclose or provide any person not directly involved in the planning or the conduct of the specified forest activities with any documentation or information for which a notice under Condition 4.2 c) has been issued.

5. General Conditions

5.1. Operational Requirements

- a) For all exclusion zones implemented under the Conditions of this licence the following must apply (except where otherwise indicated in this licence):
 - i. All specified forestry activities are prohibited in exclusion zones.
 - ii. Trees must not be felled into exclusion zones. If a tree falls into an exclusion zone, then no part of that tree can be removed from the exclusion zone.

(Note: the NPWS does not intend to take proceedings where SFNSW can demonstrate that the tree was accidentally felled into the exclusion zone. The tree will not be considered to have been accidentally felled if the felling is a result of poor judgement on the part of the feller.)

- iii. Harvesting machinery is prohibited from operating in exclusion zones, except for
 - road re-opening and road maintenance;
 - the construction and operation of roads and snig tracks in accordance with conditions 5.1 b), 5.3 d), 5.4 e), 5.5 e) and 5.7 i); and
 - the traversing of exclusion zones on existing roads.

- b) The construction and operation of tracks used for the purpose of snigging and the construction of roads in exclusion zones implemented under Conditions 5.13 Bird Nest and Roost Site Protection, 5.14 Bat Roost Protection, 6.1 Green and Golden Bell Frog, 6.2 Stuttering Frog, 6.2A Giant Burrowing Frog, 6.2B Littlejohn's Tree Frog, 6.3 Masked Owl, Sooty Owl, Barking Owl and Powerful Owl, 6.5A Southern Brown Bandicoot, 6.8A Smoky Mouse, 6.9 Brush-tailed Phascogale, 6.10 Spotted-tailed Quoll, 6.11 Koala, 6.12 Squirrel Glider, 6.13 Yellow-bellied Glider, 6.14 Golden-tipped Bat, 6.18 Flora Prescription B is only permitted with the prior written approval of the NPWS. Matters that SFNSW must address in order to seek NPWS approval are detailed in Schedule 6 of this licence.
- c) An approval granted under condition 5.1 (b) may be issued subject to conditions. The conditions that form part of that approval also form part of the conditions of this licence. NPWS may apply conditions for the mitigation or amelioration of impacts as it determines appropriate.
- d) Buffer zones must be managed in accordance with the relevant Conditions in this licence.
- e) All distances must be measured on the ground independent of slope.

AMENDMENT 2
28 April 2003
Condition 5.1(b)
replaced
Ref Appendix D

AMENDMENT 4
Until 29 Feb 08
Inserted reference
to condition 6.2A,
6.5A & 6.8A

AMENDMENT 5
7 July 08
Removed "Giant
Burrowing Frog
and" from 6.2
and deleted
interim
arrangement
from 6.2A, 6.5A
& 6.8A and
deleted 6.5 and
6.8
Ref Appendix D

AMENDMENT 6
1 March 2013
Condition 5.1 b)
modified

- f) All exclusion zone and buffer zone boundaries must be marked in the field, except where specified forestry activities will not come within 50 metres of such boundaries. The outer edge of lines shown on the map is considered to represent the boundary of the mapped feature when marking the feature in the field.
- g) Subject to the statutory requirements under the *Rural Fires Act 1997*, hazard reduction work must not be conducted in exclusion zones and buffer zones.
- h) Marking-up must be conducted at least 100 metres in advance of harvesting operations, road construction and road re-opening operations (unless otherwise specified in this licence) so relevant exclusion and buffer zones can be implemented prior to harvesting, road construction and road re-opening occurring.
- i) SFNSW must develop a standard tree marking-up code to apply to all operations, unless specifically excluded, by 30 June 2000. The code must include, but not be limited to, tree marking criteria for the following: exclusion zone boundaries, buffer zone boundaries, hollow-bearing trees, recruitment trees, eucalypt feed trees, Yellow-bellied Glider and Squirrel Glider sap feed trees.
- j) Where a provision in this licence allows the re-opening or the construction of a road or snig track that provision is also taken to authorise the use of the road or use of the track for the purpose of snigging unless that use is specifically prohibited or restricted.

5.2. Compartment Mark-up Surveys

- a) An adequately trained person must conduct a thorough search for, record and appropriately mark the following threatened and protected species features during or before the marking-up of a compartment.
 - i. Nests and roosts for those species listed in Condition 5.13 of this licence;
 - ii. Dens of the following species: Yellow-bellied Glider, Squirrel Glider and Brush-tailed Phascogale;
 - iii. Koalas and Koala scats;
 - iv. Flying-fox camps;
 - v. Latrine and den sites of the Spotted-tailed Quoll;
 - vi. Distinctive scats (e.g. Spotted-tailed Quoll, Koala);
 - vii. *Allocasuarina* or *Casuarina* spp. with chewed cones beneath;
 - viii. Yellow-bellied Glider and Squirrel Glider sap feed trees;
 - ix. Microchiropteran bat tree roosts;
 - x. Microchiropteran bat subterranean roosts (caves, tunnels and disused mineshafts);
 - xi. Swift Parrot and Regent Honeyeater feed or nest trees;
 - xii. Permanent soaks and seepages in *Heleioporus australiacus* potential habitat;
 - xiii. Threatened flora species and protected native plants likely to occur in the compartment requiring protection under Conditions 6.16, 6.17, 6.18 and 6.19 of this licence;
 - xiv. Rocky outcrops and cliffs;
 - xv. Heath and scrub; and
 - xvi. Wetlands.
- b) Searches for threatened species features must be conducted within that portion of the net logging area where harvesting will occur, and within 50 metres outside this area.
- c) Harvesting operations are prohibited in areas which have not been subject to compartment mark-up surveys.
- d) Where any of these features are found, the feature must be recorded, the Harvesting Plan (including the Operational Map) must be amended accordingly and the appropriate Condition applied.

AMENDMENT 6
1 March 2013
Condition 5.2 a)
modified

5.3. Rare Old Growth Forest Communities

- a) Specified forestry activities, except road and snig track construction in accordance with condition 5.3 (d), and road re-opening, are prohibited within all areas of Rare Old Growth Forest Communities.
- b) Trees must not be felled into Rare Old Growth Forest Communities. If a tree falls into an area of Rare Old Growth Forest Community, then no part of that tree can be removed from that area.
- (Note: NPWS does not intend to take proceedings where SFNSW can demonstrate that the tree was accidentally felled into areas of Rare Old Growth Forest Communities. The tree will not be considered to have been accidentally felled if the felling is a result of poor judgement on the part of the faller.)*
- c) Harvesting machinery is prohibited within areas of Rare Old Growth Forest Communities, except for the purpose of routine road maintenance, road and snig track construction in accordance with Condition 5.3 d), and road re-opening.
- d) A road and snig track may be constructed, and snigging may be carried out, in any area that is, or is within, Rare Old Growth Forest Communities, but only where:
- i. there is no practical alternative site available for the purposes of the road or snigging;
 - ii. prior to the construction or snigging, the SFNSW Regional Manager that is responsible for managing the land on which the construction or snigging is proposed to be carried out (or a more senior officer), has prepared a report addressing the matters in Schedule 6 of this licence and has authorised the construction or snigging in writing;
 - iii. all practicable measures are taken to minimise any adverse impacts of the construction or snigging on the environment; and
 - iv. such areas are not in exclusion zones relating to threatened species referred to in condition 5.1 (b) unless carried out in accordance with condition 5.1 (b).
- e) A copy of the written approval of the SFNSW Regional Manager must be faxed to the NPWS, which address the matters raised in Schedule 6 of this licence, as soon as possible after the approval has been issued.
- f) In the construction and operation of snig tracks in Rare Old Growth Forest Communities in accordance with Condition 5.3 d), hollow-bearing trees must not be used as pivot or bumper trees for moving logs.
- g) Where an exclusion zone referred to in condition 5.1 b) as it relates to a threatened species is located either wholly or partially within an area of Rare Old Growth Forest Community, then SFNSW is only permitted to construct roads and snig tracks in accordance with condition 5.1 b).
- h) The boundary on the ground of Rare Old Growth Forest Communities shall be identified using the line work from the Geographic Information System digital theme labelled “og_prtcl” in the “Rare Old Growth Forest” sub-directory on the CD ROM titled “Eden TSL data”.

AMENDMENT 6
1 March 2013
Condition 5.3 d) ii.
omitted and
following numbers
renumbered

5.4. Rainforest

- a) The on-ground location of rainforest must be determined during pre-logging surveys and harvest planning. The location of rainforest to be protected by this condition must be shown on the harvesting plan operational map. SFNSW must include written justification in the harvesting plan where the extent of the rainforest shown on the harvesting plan operational map differs from the extent of the KB rainforest floristic assemblages.
- b) A 20 metre wide exclusion zone must be implemented around all areas of Rainforest.
- c) Specified forestry activities, except road and snig track construction in accordance with Condition 5.4 f), and road re-opening, are prohibited within all areas of Rainforest and Rainforest exclusion zones.

- d) Trees must not be felled into Rainforest or Rainforest exclusion zones referred to in Condition 5.4 c) above. If a tree falls into an area of Rainforest or a Rainforest exclusion zone, then no part of that tree can be removed from that area.

(Note: NPWS does not intend to take proceedings where SFNSW can demonstrate that the tree was accidentally felled into Rainforest. The tree will not be considered to have been accidentally felled if the felling is a result of poor judgement on the part of the faller.)

- e) Harvesting machinery is prohibited within areas of Rainforest and Rainforest exclusion zones, except for the purpose of road and snig track construction in accordance with Condition 5.4 f), and road re-opening.

- f) A road and snig track may be constructed, and snigging may be carried out, in any area that is, or is within, Rainforest or Rainforest exclusion zone, but only where:

- i. there is no practical alternative site available for the purposes of the road or snigging;
- ii. prior to the construction or snigging, the SFNSW Regional Manager that is responsible for managing the land on which the construction or snigging is proposed to be carried out (or a more senior officer), has prepared a report addressing the matters in Schedule 6 of this licence and has authorised the construction or snigging in writing;
- iii. all practicable measures are taken to minimise any adverse impacts of the construction or snigging on the environment; and
- iv. such areas are not in exclusion zones relating to threatened species referred to in condition 5.1 (b) unless carried out in accordance with condition 5.1 (b).

- g) A copy of the written approval of the SFNSW Regional Manager must be faxed to the NPWS, which address the matters raised in Schedule 6 of this licence, as soon as possible after the approval has been issued.

- h) In the construction and operation of snig tracks in Rainforest or Rainforest exclusion zones in accordance with Condition 5.4 f), hollow-bearing trees must not be used as pivot or bumper trees for moving logs.

- i) Where an exclusion zone referred to in condition 5.1 b) as it relates to a threatened species is located either wholly or partially within an area of Rainforest, or wholly or partially within a Rainforest exclusion zone, then SFNSW is only permitted to construct roads and snig tracks in accordance with condition 5.1 b).

5.5. Rare Forest Ecosystems

- a) Specified forestry activities, except road and snig track construction in accordance with Condition 5.5 e) and road re-opening, are prohibited within all Rare Forest Ecosystems.
- b) The on-ground identification as to whether Rare Forest Ecosystem Type 23B Monaro Basalt Grass Woodland contains commercial forest types available for harvesting must be determined during pre-logging surveys and harvest planning. Where Rare Forest Ecosystem Type 23B is determined to contain commercial forest types the location of the commercial and non-commercial areas of this Rare Forest Ecosystem must be shown on the harvesting plan operational map. SFNSW must include written justification in the harvesting plan where Rare Forest Ecosystem Type 23B is determined to contain commercial forest types that will be subject to specified forestry activities.
- c) Trees must not be felled into Rare Forest Ecosystems. If a tree falls into an area of Rare Forest Ecosystem, then no part of that tree can be removed from that area.

(Note: the NPWS does not intend to take proceedings where SFNSW can demonstrate that the tree was accidentally felled into the Rare Forest Ecosystem. The tree will not be considered to have been accidentally felled in the felling is a result of poor judgement on the part of the faller.)

- d) Harvesting machinery is prohibited within areas of Rare Forest Ecosystems, except for the purpose of road and snig track construction in accordance with Condition 5.5 e) and road re-opening.
- e) A road and snig track may be constructed, and snigging may be carried out, in any area that is, or is within, Rare Forest Ecosystems, but only where:

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- i. there is no practical alternative site available for the purposes of the road or snigging;
 - ii. prior to the construction or snigging, the SFNSW Regional Manager that is responsible for managing the land on which the construction or snigging is proposed to be carried out (or a more senior officer), has prepared a report addressing the matters in Schedule 6 of this licence and has authorised the construction or snigging in writing;
 - iii. all practicable measures are taken to minimise any adverse impacts of the construction or snigging on the environment; and
 - iv. such areas are not in exclusion zones relating to threatened species referred to in condition 5.1 (b) unless carried out in accordance with condition 5.1 (b).
- f) A copy of the written approval of the SFNSW Regional Manager must be faxed to the NPWS, which address the matters raised in Schedule 6 of this licence, as soon as possible after the approval has been issued.
- g) In the construction and operation of snig tracks in Rare Forest Ecosystems in accordance with Condition 5.5 e), hollow-bearing trees must not be used as pivot or bumper trees for moving logs.
- h) Where an exclusion zone referred to in condition 5.1 b) as it relates to a threatened species is located either wholly or partially within an area of Rare Forest Ecosystem, then SFNSW is only permitted to construct roads and snig tracks in accordance with condition 5.1 b).

5.6. Tree Retention

- a) The following definitions apply for the purpose of this condition:
- i. “Hollow-bearing tree” means a live tree in the net logging area where the base, trunk or limbs contain hollows, holes and cavities that have formed as a result of decay, injury or other damage. Such hollows may not be visible from the ground; but may be apparent from the presence of deformities such as burls, protuberances or broken limbs, or where it is apparent the head of the tree has been lost or broken off.
 - ii. “Recruitment tree” means a live tree of a mature or late mature growth stage (using the modified Jacobs growth stage assessment as depicted in schedule 3) within the net logging area that is not suppressed prior to harvesting and appears to have good potential for hollow development and long term survival.
- b) The number of hollow-bearing trees and recruitment trees to be retained in the net harvest area must be determined according to the following habitat quality ranking. These habitat quality classes are depicted on the Geographic Information System digital “high habitat quality”, “modhab”, “low habitat quality” and “kb 42” shape themes in the sub-directory “Habitat Quality Classes” on the CD ROM labelled “Eden TSL Data” dated 17 December 1999.

Habitat quality	KB floristic assemblage	Dominant tree species
HIGH	9	<i>Eucalyptus nitens</i> , <i>E. fastigata</i>
	10, 12	<i>E. fastigata</i> , <i>E. cypellocarpa</i>
	13	<i>E. cypellocarpa</i>
	14	<i>E. muelleriana</i> , <i>E. cypellocarpa</i>
	11, 15	<i>E. obliqua</i> , <i>E. cypellocarpa</i> , <i>E. fastigata</i>
	16	<i>E. fastigata</i> , <i>E. cypellocarpa</i> , <i>E. radiata</i> , <i>E. viminalis</i>
	17	<i>E. viminalis</i> , <i>E. elata</i> , <i>E. radiata</i>
MODERATE	19	<i>E. elata</i> , <i>E. baueriana</i> , <i>E. globoidea</i> , <i>A. floribunda</i>
	24	<i>E. dalrympleana</i> , <i>E. radiata</i> , <i>E. pauciflora</i> , <i>E. viminalis</i> , <i>E. dives</i>

	25	<i>E. obliqua, E. sp.aff. radiata, E. sieberi</i>
	26	<i>E. globoidea, E. radiata, E. cypellocarpa</i>
	29	<i>E. globoidea, E. cypellocarpa, E. sp.aff. radiata, E. ovata, E. sieberi</i>
	30	<i>E. cypellocarpa, E. globoidea, E. radiata, E. viminalis, E. angophoroides</i>
	32	<i>E. longifolia, E. muelleriana, E. tricarpa, E. agglomerata</i>
	33	<i>E. muelleriana, E. cypellocarpa, E. agglomerata, E. sieberi, E. smithii</i>
	34	<i>E. bosistoana, E. cypellocarpa, E. globoidea, E. longifolia, E. muelleriana</i>
	35	<i>E. maidenii, E. globoidea, E. bosistoana</i>
	37	<i>Angophora floribunda, E. cypellocarpa, E. baxteri, E. globoidea</i>
	42*	<i>E. obliqua, E. sieberi, E. cypellocarpa (where E. cypellocarpa is dominant or where E. elata, E. radiata and E. sp. aff. radiata are present)</i>
	22A, 23B	<i>E. pauciflora, E. rubida, E. viminalis</i>
LOW	27	<i>E. angophoroides, E. globoidea, E. sieberi, E. tricarpa, E. polyanthemus</i>
	28	<i>E. agglomerata, E. maidenii, E. angophoroides</i>
	31	<i>E. globoidea, E. angophoroides, E. cypellocarpa, E. maidenii, E. sieberi</i>
	41	<i>E. fraxinoides, E. sieberi</i>
	42*	<i>E. obliqua, E. sieberi, E. cypellocarpa</i>
	43	<i>E. cypellocarpa, E. globoidea, E. sieberi</i>
	44, 45	<i>E. sieberi, E. globoidea</i>
	46A	<i>E. consideniana, E. sieberi, E. globoidea</i>
	46B	<i>Corymbia gummifera, E. sieberi, E. globoidea</i>
	47	<i>E. sieberi, A. floribunda</i>
	48, 49	<i>E. sieberi, E. agglomerata</i>
	50	<i>E. agglomerata</i>

* see Condition 5.6 d)

- c) The location of High, Moderate and Low Quality Habitat must be determined using a combination of the mapped KB floristic assemblages and on-ground identification during pre-logging surveys and harvest planning. An indicative map of the location of habitat quality classes in a compartment must be included in the harvesting plan.
- d) The identification of the boundary on the ground of High, Moderate and Low Quality Habitat for tree retention purposes must be determined by the SFNSW Supervising Forest Officer during mark-up. The Supervising Forest Officer must map the location of the habitat quality classes and the tree retention rates that are applied. This map must be retained by SFNSW as part of the compartment history.

(Note: the SFNSW Supervising Forest Officer should use the Decision Systems 4 and 5 contained in "A Field Guide to the South East Forests of New South Wales, Volume 2, SFNSW 1998", to assist in determining the on-ground habitat quality classes to be implemented.)

- e) The Habitat Quality for KB floristic assemblage 42 will be determined during pre-logging surveys and harvest planning. KB floristic assemblage 42 is Low Habitat Quality except where *E. cypellocarpa* is dominant or where *E. elata*, *E. radiata* and *E. sp. aff. radiata* are present. Where *E. cypellocarpa* is dominant or where *E. elata*, *E. radiata* and *E. sp. aff. radiata* are present KB floristic assemblage 42 is Moderate Habitat Quality. The location of KB floristic assemblage 42 where it is determined to be Moderate Habitat Quality must be shown on the habitat quality map and included in the harvesting plan.
- f) For compartments outside the Regrowth Zone Conditions 5.6 f) and g) apply. For compartments within the Regrowth Zone Condition 5.6 h) applies.
- g) Non-regrowth Zone Hollow-bearing Tree Retention
- i. In High Quality Habitat a minimum of 12 hollow-bearing trees must be retained in every two hectares of net logging area. Where this density is not available, the existing hollow-bearing trees must be retained plus additional trees must be retained to meet the requirement of 12 in every two hectares. The additional trees retained must be those with the largest dbhob.
 - ii. In Moderate Quality Habitat a minimum of eight hollow-bearing trees must be retained in every two hectares of net logging area. Where this density is not available, the existing hollow-bearing trees must be retained plus additional trees must be retained to meet the requirement of eight in every two hectares. The additional trees retained must be those with the largest dbhob.
 - iii. In Low Quality Habitat a minimum of four hollow-bearing trees must be retained in every two hectares of net logging area. Where this density is not available, the existing hollow-bearing trees must be retained plus additional trees must be retained to meet the requirement of four in every two hectares. The additional trees retained must be those with the largest dbhob.
 - iv. Retained hollow-bearing trees must be selected from the trees with the largest dbhob within the two hectare area and must be live trees and should have good crown development and minimal butt damage.
 - v. Retained hollow-bearing trees must represent the range of hollow-bearing species that occurs in the area. Preference should be given to selecting those species or trees which are most suitable for the threatened species known or likely to occur in the area.
 - vi. Trees retained outside the net logging area must not be counted as hollow-bearing trees. Stags must not be counted as hollow-bearing trees.
 - vii. Hollow-bearing trees must be scattered throughout the net logging area, except where compliance with condition 5.6 f) iv. above prevents such retention.
- h) Non-regrowth Zone Recruitment Tree Retention
- i. In High Quality Habitat a minimum of 12 recruitment trees must be retained in every two hectares of net logging area.
 - ii. In Moderate Quality Habitat a minimum of eight recruitment trees must be retained in every two hectares of net logging area.
 - iii. In Low Quality Habitat a minimum of four recruitment trees must be retained in every two hectares of net logging area.
 - iv. Retained recruitment trees must show potential for developing into hollow-bearing trees. Retained recruitment trees must have good crown development and should have minimal butt damage and should not be suppressed. Mature and late mature trees must be retained as recruitment trees where they are available.
 - v. Retained recruitment trees must represent the range of species in the mature and late mature growth stages that occurs in the area. Preference should be given to selecting those species or trees which are most suitable for the threatened species known or likely to occur in the area.
 - vi. Trees retained outside the net logging area must not be counted as recruitment trees.
 - vii. Recruitment trees must be scattered throughout the net logging area.

i) Regrowth Zone Hollow-bearing and Recruitment Tree Retention

- i. Hollow-bearing and recruitment trees are to be retained at a variable rate in the Regrowth Zone depending on the Habitat Quality [see Condition 5.6 d)] and the number of hollow-bearing trees present per hectare of net logging area. The number of hollow-bearing and recruitment trees to be retained in the Regrowth Zone must be determined according to the following table.

Number of hollow-bearing trees present per/ha of net logging area	Number of hollow-bearing trees to be retained per/ha			Number of recruitment trees retained per/ha			Total number of trees retained per/ha		
	Low HQ*	Mod HQ*	High HQ*	Low HQ*	Mod HQ*	High HQ*	Low HQ*	Mod HQ*	High HQ*
0	0	0	0	4	4	6	4	4	6
1	1	1	1	3	4	6	4	5	7
2	2	2	2	2	4	6	4	6	8
3	2	3	3	2	4	6	4	7	9
4	2	4	4	2	4	6	4	8	10
5	2	4	5	2	4	6	4	8	11
6	2	4	6	2	4	6	4	8	12

* HQ = habitat quality class. Mod = Moderate.

- ii. Hollow-bearing trees retained in accordance with Condition 5.6 h) i. of this licence must meet the requirements of Conditions 5.6 f) iv, v, vi and vii. of this licence.
- iii. Recruitment trees retained in accordance with Condition 5.6 h) i. of this licence must meet the requirements of Conditions 5.6 g) iv, v, vi and vii. of this licence.

j) In this condition “dead standing tree” means a dead standing tree which is greater than 300mm diameter at breast height and greater than 3 metres in height.

- i. Where five or more dead standing trees per hectare occur in the net logging area, a minimum of five dead standing trees must be retained per hectare of net logging area where it is safe to do so. If there are less than five dead standing trees per hectare, then all dead standing trees should be retained where it is safe to do so.
- ii. In a mechanised harvesting operation (being an operation that involves felling trees using mechanised harvesting machinery rather than an operation that relies on felling trees using a chainsaw) where a dead standing tree required to be retained under this condition is removed because it was unsafe, FNSW must ensure that the following information is recorded:
- a description of the hazard posed by the dead standing tree in the context of the operation such as proximity to roads or log dumps,
 - the location of the dead standing tree (by reference to its grid co-ordinates),
 - the date on which the dead standing tree was removed,
 - an estimate of the diameter at breast height of the dead standing tree.

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k) Significant Food Resources

- i. Damage to the following types of trees or shrubs must be avoided or minimised to the greatest extent practicable during harvesting operations:
 - all stands of *Allocasuarina* or *Casuarina* spp.,
 - individual shrubs or trees of *Allocasuarina* or *Casuarina* spp. where there is evidence that glossy black-cockatoos have been feeding on them, such as chewed cones at the base of the trees,
- ii. Specified forestry activities should be conducted in such a manner as to minimise damage to stands where *Allocasuarina* spp. dominate the canopy, sub-canopy or understorey.
(Note: it is not the intention to stop harvesting operations in areas identified in Condition 5.6 j) ii. above.)
- iii. At least six eucalypt feed trees must be retained in every two hectares of net logging area where they occur. Where a retained eucalypt feed tree also meets the requirements of a hollow-bearing or recruitment tree, the eucalypt feed tree can be counted as a hollow-bearing or recruitment tree.
- iv. All Yellow-bellied Glider and Squirrel Glider sap feed trees must be retained. Where a retained sap feed tree also meets the requirements of a hollow-bearing or recruitment tree, the sap feed tree can be counted as a hollow-bearing or recruitment tree.
- v. Damage to flowering or fruiting banksias and *Xanthorrhoea* spp. should be avoided during forestry operations.

l) Protection of retained trees

- i. When conducting specified forestry activities and post-logging burning, damage to trees retained under Conditions 5.6 f), g) and h), of this licence must be minimised to the greatest extent practicable. During harvesting operations, the potential for damage to these trees must be minimised by utilising techniques of directional felling.
 - ii. In the course of conducting specified forestry activities, logging debris must not, to the greatest extent practicable, be allowed to accumulate within five metres of a retained hollow-bearing tree, recruitment tree, stag, *Allocasuarina* with more than 30 crushed cones beneath, eucalypt food tree, or Yellow-bellied Glider or Squirrel Glider sap feed tree. Logging debris within a five metre radius of a retained tree must be removed or flattened to a height of less than one metre. Disturbance to ground and understorey must be minimised to the greatest extent practicable within this five metre radius. Habitat and recruitment trees must not be used as bumper trees during harvesting operations.
 - iii. Retained trees referred to in Conditions 5.6 f), g) and h) of this licence must be marked for retention. The only exception to the marking of the retained trees can occur where there is an impenetrable understorey. SFNSW must clearly document and justify such situations in harvest planning documentation either during pre-planning or as it becomes apparent during compartment mark-up.
- m) After 15 months from the commencement date, SFNSW must conduct an audit of the application of the hollow-bearing tree and recruitment tree conditions (conditions 5.6 a) to h)). The audit must be completed and provided to the NPWS within 18 months of the commencement date. The audit must include:
- i. a list of all compartments where condition 5.6 has been implemented.
 - ii. for each compartment listed for condition 5.6 l) i. above, a map showing the KB floristic assemblage habitat quality classes (as per condition 5.6 a)), the indicative harvesting plan map of habitat quality classes (as per condition 5.6 b)), and the Supervising Forest Officer's map of habitat quality classes that were implemented on-ground (as per condition 5.6 c)). These maps must be at the same scale as the harvesting plan operation map.
 - iii. a calculation of the total area in hectares of high, medium and low quality habitat that was implemented in both the non-regrowth and regrowth zones and a calculation of the

corresponding area in hectares of high, medium and low quality habitat as mapped from the KB floristic assemblages.

- iv. an assessment of the hollow-bearing and recruitment tree retention rate achieved in each compartment and whether the tree retention rate achieved complies with conditions 5.6 f), g) and h).
- v. recommendations for improving the on-ground identification of habitat quality classes and hollow-bearing and recruitment tree retention.
- vi. other matters jointly agreed to by SFNSW and the NPWS.

5.7. Stream Exclusion Zones

- a) Exclusion zones of at least ten metres wide must be implemented on both sides of all first order streams.
- b) Exclusion zones of at least 20 metres wide must be implemented on both sides of all second order streams.
- c) Exclusion zones of at least 30 metres wide must be implemented on both sides of all third order streams.
- d) Exclusion zones of at least 50 metres wide must be implemented on both sides of all fourth and higher order streams.
- e) The width of stream exclusion zones must be measured from the top of the bank of the incised channel or, where there is no defined bank, from the edge of the channel.
- f) Specified forestry activities, except road and snig track construction in accordance with condition 5.7 (i) and road re-opening, are prohibited within Stream Exclusion Zones implemented under conditions 5.7 (a), (b), (c) and (d) above.
- g) Trees must not be felled into Stream Exclusion Zones. If a tree falls into an area of Stream Exclusion Zone, then no part of that tree can be removed from that area.

(Note: NPWS does not intend to take proceedings where SFNSW can demonstrate that the tree was accidentally felled into the Stream Exclusion Zone. The tree will not be considered to have been accidentally felled in the felling is a result of poor judgement on the part of the faller.)

- h) Harvesting machinery is prohibited within Stream Exclusion Zones, except for the purpose of road and snig track construction in accordance with condition 5.7 (i) and road re-opening.
- i) A road and snig track may be constructed, and snigging may be carried out, in any area that is, or is within, Stream Exclusion Zones, but only where:
 - i. there is no practical alternative site available for the purposes of the road or snigging;
 - ii. prior to the construction or snigging, the SFNSW Regional Manager that is responsible for managing the land on which the construction or snigging is proposed to be carried out (or a more senior officer), has prepared a report addressing the matters in Schedule 6 of this licence and has authorised the construction or snigging in writing;
 - iii. all practicable measures are taken to minimise any adverse impacts of the construction or snigging on the environment; and
 - iv. such areas are not in exclusion zones relating to threatened species referred to in condition 5.1 (b) unless carried out in accordance with condition 5.1 (b).
- j) A copy of the written approval of the SFNSW Regional Manager must be faxed to NPWS, which address the matters raised in Schedule 6 of this licence, as soon as possible after the approval has been issued.
- k) In the construction and the operation of snig tracks in Stream exclusion zones in accordance with condition 5.7 (i), hollow-bearing trees must not be used as pivot or bumper trees for moving logs.

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- l) Where an exclusion zone referred to in condition 5.1 (b) as it relates to a threatened species is located either wholly or partially within a Stream exclusion zone, then SFNSW is only permitted to construct roads and snig tracks in accordance with condition 5.1 (b).

5.8. Location of Ridge and Headwater Habitat

- a) For every 500 hectares of areas within the Eden Region as identified in Clause 4 of this approval, FCNSW must implement:
- i. a minimum of two exclusion zones at least 40 metres wide which connect second order streams; or
 - ii. a minimum of one exclusion zone at least 80 metres wide which connects third order streams.
- b) Stream order is to be determined in accordance with Schedule 1 of this licence for the purpose of this condition.
- c) Exclusion zones implemented under condition 5.8 (a) must, wherever possible, establish links between third order streams of different catchments.
- d) Where the Ridge and Headwater Habitat exclusion zones do not link different third order streams of different catchments, a minimum length of 250 metres must be established for each exclusion zone in condition 5.8 (a) i. (e.g. total length 500 metres), or a 500 metres minimum length established for the exclusion zone in condition 5.8 (a) ii.
- e) Exclusion zones implemented under condition 5.8 (a) above should connect the relevant second or third order stream via the associated lower order stream(s). Areas of identified High Conservation Value Old Growth Forest, Rare Non-commercial Forest Types and Rainforest may be used as the basis of exclusion zones.
- f) Ridge and Headwater Habitat exclusion zones must not, to the greatest extent practicable, cross existing roads.
- g) Amendment to the location of Ridge and Headwater Habitat exclusion zones may not be made unless approved by EPA. When applying for an amendment, FCNSW must provide reasons for the proposed amendment and options considered and must address the following matters:
- i. the continuity with exclusion zones applied in any preceding logging operations;
 - ii. the habitat values and forest types of areas linked by the proposed exclusion zones compared to those previously in place;
 - iii. the tenure of the land linked by the proposed exclusion zones compared to those previously in place; and
 - iv. the landuse of areas linked by the proposed exclusion zones compared to those previously in place.
- h) Except as provided by conditions 5.1 and 5.8 , specified forestry activities other than road construction and road re-opening where there is no other practical means of access, are prohibited in these exclusion zones.

5.9. Wetlands

- a) Specified forestry activities are prohibited in all wetlands, irrespective of the size of the wetland and their surrounding exclusion zones.
- b) Exclusion zones of at least ten metres wide must be implemented around all wetlands less than 0.5 hectare (approx. 70 metres x 70 metres) surface area.
- c) Exclusion zones of at least 40 metres wide must be implemented around all wetlands greater than 0.5 hectare (approx. 70 metres x 70 metres) surface area.
- d) Exclusion zones of at least 40 metres wide must be implemented around all SEPP 14 wetlands irrespective of size.
- e) The area of wetlands and their surrounding exclusion zones must be measured from the edge of the current saturated zone or from the outer edge of where the vegetation type indicates a wetter micro-environment than the surrounding country, whichever is larger.
- f) Wetlands less than 0.5 hectare surface area must be marked in the field for protection and recorded as accurately as possible on harvest plan operational maps.
- g) Grazing and associated burning should be excluded from wetlands.

5.10. Heath and Scrub

- a) Specified forestry activities are prohibited from all areas of heath and scrub greater than 0.2 hectares (approx. 45 metres x 45 metres) surface area.
- b) Exclusion zones of at least 10 metres wide must be implemented around all heath and scrub of more than 0.2 hectares surface area.
- c) The area of heath and scrub, and exclusion zones around heath and scrub, must be measured from the outer edge of areas of heath and scrub.

5.11. Rocky Outcrops and Cliffs

- a) Specified forestry activities are prohibited within areas of rocky outcrops and cliffs.
- b) In addition, exclusion zones of at least 20 metres wide must be implemented around all rocky outcrops more than 0.1 hectare (approx. 30m x 30m), and all cliffs.
- c) Exclusion zones of at least 40 metres wide must be implemented around all rocky outcrops more than 0.5 hectare.

(Note: it is not intended to exclude SFNSW from all areas that have a scattered or stony or rocky ground cover. Only those areas where rocks and exposed boulders cover greater than 70% of at least a 0.1 hectare area. Those areas that fall within the definition of Rocky Outcrops and Cliffs are considered to contain likely habitat for threatened flora and fauna.)

5.12. Threatened Frog General Protection Measures

- a) A buffer zone of at least ten metres wide must be implemented around all dams. Trees must not be felled within the buffer zone. Trees should not be felled into the buffer zone. Harvesting machinery must not enter the buffer zone.
- b) Where a group of more than ten male of frogs of a threatened species are detected per hectare, any new stream crossings within 500 metres of that group must, to the greatest extent practicable, be constructed using methods which do not significantly alter stream flow (e.g. bridge or box culvert).

5.13. Bird Nest and Roost Site Protection

- a) The following exclusion zones must be applied around nest and roost sites:
- | | | |
|--------|----------------------------------|-------------------|
| i. | Powerful Owl nest..... | 50 metre radius |
| ii. | Powerful Owl roost | 30 metre radius |
| iii. | Masked Owl nest..... | 50 metre radius |
| iv. | Masked Owl roost | 30 metre radius |
| v. | Sooty Owl nest..... | 50 metre radius |
| vi. | Sooty Owl roost | 30 metre radius |
| vii. | Barking Owl nest..... | 50 metre radius |
| viii. | Barking Owl roost | 30 metre radius |
| ix. | Bush Stone-Curlew nest..... | 100 metre radius |
| x. | Glossy Black-Cockatoo nest | 50 metre radius |
| xi. | Turquoise Parrot nest | 30 metre radius |
| xii. | Osprey nest..... | 100 metre radius |
| xiii. | Square-tailed Kite nest | 100 metre radius |
| xiv. | Regent Honeyeater nest..... | 20 metre radius |
| xv. | Varied Sittella nest | 20 metres radius |
| xvi. | Little Lorikeet nest | 30 metres radius |
| xvii. | Little Eagle nest..... | 100 metres radius |
| xviii. | Flame Robin nest..... | 50 metres radius |
| xix. | Scarlet Robin nest | 50 metres radius |
| xx. | Gang-gang Cockatoo nest | 20 metres radius |
| xxi. | Speckled Warbler nest..... | 5 metres radius |
| xxii. | Black-chinned Honeyeater | 20 metres radius |
| | (eastern sub-species) nest | |
| xxiii. | Hooded Robin nest..... | 50 metres radius |
| xxiv. | Brown Treecreeper nest | 20 metres radius |
- b) Where nests and roosts of Powerful Owl, Masked Owl, Sooty Owl and Barking Owl are recorded after the development of a landscape approach for an area, and they occur outside areas retained as part of that landscape approach, exclusions zones in a) above must be implemented around the roost or nest.
- c) Nest exclusion zones for the following species must be implemented for the duration of this licence: Powerful Owl, Masked Owl, Sooty Owl, Barking Owl and Osprey.
- d) Nest exclusion zones for the following species may be removed where surveys conducted during two consecutive breeding seasons establish to the satisfaction of the EPA that the nest or nest site is not being used: Square-tailed Kite, Albert's Lyrebird, Regent Honeyeater, Glossy Black-Cockatoo, Bush Stone-Curlew, Turquoise Parrot, Varied Sittella, Little Lorikeet, Flame Robin, Scarlet Robin, Little Eagle, Gang-gang Cockatoo, Speckled Warbler, Black-chinned Honey-eater (eastern sub-species), Hooded Robin and Brown Treecreeper.

AMENDMENT 6
1 March 2013
Condition 5.13 a)
xv.-xxiv. added

AMENDMENT 6
1 March 2013
Condition 5.13 d)
replaced

AMENDMENT 6
1 March 2013
Condition 5.13 e)
modified

- e) Trees which contain raptor nests, other than those referred to in a) above, or Grey-crowned Babbler or Diamond Firetail nests must be retained and marked for retention. During harvesting operations, the potential for damage to these trees must be minimised by utilising techniques of directional felling.

AMENDMENT 6
1 March 2013
Condition 5.13 f)
replaced

- f) When ten Glossy Black-Cockatoo nests or ten Gang-gang Cockatoo nests are recorded on FCNSW estate over a two year period separated by at least two kilometres within a 15 kilometres radius, FCNSW may apply to the EPA for a review of this condition.

(Note: the NPWS will advise SFNSW of the recommendation made by the NPWS to the relevant Ministers in relation to the review of Condition 5.13 f), prior to consideration by the relevant Ministers.)

5.14. Bat Roost Protection

5.14.1. Tree Roost Protection

- a) Likely microchiropteran bat roost trees must be inspected prior to harvesting operations commencing within 100 metres of such trees. Likely roost trees are stags greater than 30 centimetres dbhob, large trees with accessible base hollows, or hollow-bearing trees.
- b) If a bat roost tree is located an exclusion zone of at least 30 metres radius must be implemented around the tree roost.

AMENDMENT 6
1 March 2013
Condition 5.14.2 to
4 replaced

5.14.2. Subterranean Roost Protection

Exclusion zones for bats

- a) The following are **exclusion** zones for bats:
- iii. a potential subterranean bat roost,
 - iv. if the potential subterranean bat roost is a disused mine shaft, any area within 40 metres of each entrance to the shaft,
 - v. in the case of a potential subterranean bat roost other than a disused mine shaft, any area within 100 metres of each entrance of the roost.
- b) A potential subterranean bat roost that consists of a disused mine shaft or rock overhang, and the area surrounding it, cease to be bat **exclusion** zones if:
- i. an absence of evidence of bats within the roost is established in at least one inspection survey, and
 - ii. there is no record associated with the roost of a bat of a species that uses roosts of that kind.
- c) The bat **exclusion** zone around each entrance of a potential subterranean bat roost that consists of a cave, mine or tunnel is reduced from any area within 100 metres of the entrance to any area within 50 metres of the entrance if:
- i. an absence of evidence of bats within the roost is established in:
 - at least one inspection survey, if the roost is a mine, and
 - at least two inspection surveys, if the roost is a cave or tunnel, and
 - ii. there is no record associated with the roost of a bat of a species that uses roosts of that kind.

- d) If there is a record of bats in a subterranean site (being a cave, disused mine shaft, mine, tunnel or rock overhang) that is not a potential subterranean bat roost, that site, and any area within 100 metres of each entrance to the site, are bat **exclusion** zones.

Inspection survey

- e) It is not enough that no evidence of bats is found within a roost during an inspection survey for an absence of evidence of bats within the roost to have been established for the purposes of condition 5.14.2 (b) i. or (c) ii. If, for example, the person carrying out the survey was unable to inspect the entire roost, an absence of evidence of bats within the roost is not established for the purposes of condition 5.14.2 (b) i. or (c) ii (as the case may be).
- f) For the purpose of this condition:
- i. an inspection survey is a survey that is carried out by a person with experience in surveying subterranean bat roosts for evidence of bats, and
 - ii. an inspection survey ceases to be an inspection survey 10 years after being carried out (but may have been carried out before the commencement of this approval), and
 - iii. the two inspection surveys referred to in condition 5.14.2 (c) i. (if the roost is a cave or tunnel) are two inspection surveys carried out in different survey seasons, being:
 - October – March,
 - April – September.

Definitions

- g) In this condition:

“disused mine shaft” means a vertical tunnel constructed for the purpose of mining, but no longer used for that purpose;

“evidence of bats” includes, not only a sighting of a bat or bats, but also guano (either whole or powdered) and the distinctive odour of guano;

“mine or tunnel” means an underground cavity that has been created or constructed by people and that is enclosed except for one or more entrances (or exits);

“potential subterranean bat roost” means any of the following:

- i. a cave that meets the following description:
 - at least one entrance has a diameter of 0.5 metres or more, and
 - the diameter of the cave chamber (that is, the longest distance between any two points on the perimeter of the cave’s base) is at least 0.5 metres, and
 - the length of the cave (from entrance to furthest point from the entrance) is at least 3 metres, and
 - the height of a dome of the cave is at least 1 metre higher than the top of an entrance;
- ii. a disused mine shaft that is at least 4 metres deep and that has one or more of the following features:
 - not all faces of the shaft are visible from the surface,
 - it has ledges that are suitable for bats to roost under,

- it links to a horizontal shaft that is at least 1 metre long;
- iii. a mine or tunnel that meets the following description:
- at least one entrance has a diameter of 0.5 metres or more, and
 - the length of the mine or tunnel running horizontally is at least 3 metres, and
 - the cavity is at least 1 metre high at some point;
- iv. a rock overhang with holes or crevices (or both) in the roof or wall protected by the overhang where the overhang protrudes at least 3 metres from the wall of the rock face below it and is at least 3 metres wide; and
- v. “rock overhang” is a rock that projects outward from the rock face below it, protruding at least 3 metres from the wall of the rock face and is at least three metres wide.

5.14.3 Protection of Flying-fox camps

- a) If there is a record of a flying-fox camp in a compartment, or a flying-fox camp is detected during pre-harvest inspections or during harvesting operations, specified forestry activities must be excluded from the full extent of the camp. An exclusion zone of at least 50 metres wide must be implemented around the camp. FCNSW must also consider implementing an exclusion zone of up to 200 metres wide to allow for expansion or movement of the camp.
- b) The geographical boundaries of the camp must be recorded by FCNSW using a Geographic Positioning System. Where the camp is unoccupied at the time of the forestry activity, the boundaries of the camp must be taken from the EPA Flying-fox Camp Database. FCNSW must check the EPA Flying-fox Camp Database when preparing harvest plans.

5.15. Grazing

- a) The areal extent of grazing authorities issued by SFNSW must not be extended except where they fulfill SFNSW responsibilities under the *Rural Fires Act 1997*.
- b) Grazing Management Plans for all SFNSW estate subject to domestic grazing must be prepared by the first five yearly review of the Integrated Forestry Operations Approval. Grazing Management Plans must consider the habitat requirements of threatened species and include management actions to protect threatened species and their habitats. SFNSW should consult with NPWS during the preparation of these Plans.

5.16. Burning

When fulfilling its responsibilities under the *Rural Fires Act 1997*, SFNSW must take account of the following principles:

- a) Hazard reduction work must take account of wildfire history, intensity, frequency and seasonality, and reflect the ecological requirements of any threatened species, or their habitat, known or likely to occur in the area.
- b) Hazard reduction work must be conducted in a manner which promotes and maintains an understorey mosaic which includes significant areas of dense understorey vegetation.
- c) Hazard reduction work must be conducted in a manner which minimises the impact on large fallen logs (greater than 40 centimetres diameter and greater than five metres in length).

(Note: It is acknowledged that hazard reduction work will be covered by a Bush Fire Risk Management Plan and that this plan is required to take into account the impact of burning activities on threatened species including areas where fire intervals are less than five years.)

5.17. Ground Habitat Protection

- a) SFNSW must, to the greatest extent practicable, protect ground habitat from specified forestry activities. Ground habitat includes, but is not limited to, understorey vegetation, ground cover vegetation, thick leaf litter and fallen timber.
- b) Commercial firewood collection must not be permitted in compartments with records of the following species: Brown Treecreeper, Bush Stone-Curlew, Diamond Firetail, Flame Robin, Grey-crowned Babbler, Hooded Robin, Scarlet Robin, Speckled Warbler, Varied Sittella, Brush-tailed Phascogale and Spotted-tailed Quoll.
- c) Domestic firewood collection permits issued by SFNSW must include the following Conditions:
- Firewood may only be collected from within 20 metres of either side of a permanent road or within a 20 metre radius of a log dump. A permanent road is defined as a road shown on a harvesting plan operational map that remains open to public vehicular traffic after the completion of a harvesting operation.
 - Firewood must not be collected from within exclusion zones implemented under the Conditions of this licence to protect the following features: Rare Old Growth Forest Communities, Rainforest, Rare Forest Ecosystems and Stream Exclusion Zones.
 - Only timber that has fallen or has already been felled may be collected. Timber greater than 40 centimetres diameter must not be collected or damaged. Logs with hollows, irrespective of the diameter of the log, must not be collected or damaged. Standing dead trees or stags must not be felled.
- d) In compartments with records of CWR species (other than those listed in part b) above), commercial and domestic firewood licences should specify that fallen hollow logs greater than 40 centimetres diameter must not be collected or damaged during the course of the collection of firewood.

AMENDMENT 6
1 March 2013
Condition 5.17 b)
modified

5.18. Feral and Introduced Predator Control

- a) SFNSW, in consultation with the NPWS, must finalise the Draft Feral and Introduced Predator Control Plan (see Schedule 7 of this licence) by 30 June 2000.
- b) SFNSW must implement the final Feral and Introduced Predator Control Plan within the first five years of the Integrated Forestry Operations Approval.

5.19. Miscellaneous Forestry Operations

- a) Cutting of posts for internal and boundary fencing and the felling of timber for the construction of causeways and bridges for the purposes of forest management must only involve the felling of 50 trees of a maximum 80 centimetres dbhob, at a maximum density of five trees per hectare up to a maximum area of 50 hectares.
- b) When conducting and / or supervising miscellaneous forestry operations, SFNSW must implement Conditions 5.1 Operational Requirements, 5.3 Rare Old Growth Forest Communities, 5.4 Rainforest, 5.7 Stream Exclusion Zones, 5.8 Ridge and Headwater Habitat, 5.9 Wetlands, 5.10 Heath and Scrub, 5.11 Rocky Outcrops and Cliffs, 5.12 Threatened Frog General Protection Measures, 5.13 Bird Nest and Roost Site Protection and 5.14 Bat Roost Protection of this licence in areas where these operations are conducted.
- c) Miscellaneous forestry operations are prohibited in exclusions zones established under the requirements of Conditions 5.4 Rainforest, 5.7 Stream Exclusion Zones, 5.8 Ridge and Headwater Habitat, 5.9 Wetlands, 5.10 Heath and Scrub, 5.11 Rocky Outcrops and Cliffs, 5.13 Bird Nest and Roost Site Protection, 5.14 Bat Roost Protection, 6.2 Stuttering Frog, 6.2A Giant Burrowing Frog, 6.3 Masked Owl, Sooty Owl, Barking Owl and Powerful Owl, 6.5A Southern Brown Bandicoot, 6.8A Smoky Mouse, 6.9 Brush-tailed Phascogale and 6.12 Squirrel Glider, of this licence.
- d) Miscellaneous forestry operations are prohibited in areas of Rare Old Growth Forest Communities referred to in Condition 5.3, Rainforest referred to in Condition 5.4, Rare Forest Ecosystems referred to in Condition 5.5, Wetlands referred to in Condition 5.9, Heath and Scrub referred to in

AMENDMENT 4
Until 29 Feb 08
Inserted reference to
condition 6.2A, 6.5A
& 6.8A in 5.19 (c)

AMENDMENT 5
7 July 08
In 5.19 (c)
Removed "Giant
Burrowing Frog
and" from 6.2 and
deleted interim
arrangement from
6.2A, 6.5A & 6.8A
and deleted 6.5 and
6.8
Ref Appendix D

Condition 5.10, Rocky Outcrops and Cliffs referred to in Condition 5.11 and Flying Fox Camps referred to in Condition 5.14.4.

- e) SFNSW is exempted from the other conditions in this licence when conducting miscellaneous forestry operations other than those conditions mentioned above and those necessary to comply with the above.

5.20. Exclusion Zone Research Program

- a) SFNSW are exempt from the operation of Conditions 5.3 Rare Old Growth Forest Communities, 5.4 Rainforest, 5.5 Rare Forest Ecosystems, 5.7 Stream exclusion zones, 5.8 Ridge and Headwater Habitat, 5.9 Wetlands, 5.10 Heath and Scrub and 5.10 Rocky Outcrops in compartments where:
 - i. SFNSW carry out a research program in accordance with condition 22 of the terms of the licence under the *Protection of the Environment Operations Act 1997* (Appendix A of the IFOA), that has been approved by the NPWS;
 - ii. SFNSW have consulted with and accepted the guidance of NPWS in the development of the program;
 - iii. All activities directly associated with the conduct of the research program must be conducted in accordance with the methodology, location and extent approved by the NPWS; and
- b) The inclusion of species-specific exclusion zones and buffers in the research program must be determined by SFNSW and the NPWS following the completion of the “Timber Availability Study – Impact of Licence Conditions” and before the commencement of the research program.
- c) The research program must include a representative sample of compartments statewide and provide as a minimum the following details:
 - i. A site-specific description of the compartment in which the research program is to be carried out;
 - ii. Results of pre-logging and pre-roading surveys carried out in accordance with condition 8 of this licence in compartments in which the research program is to be carried out;
 - iii. A 1:15,000 topographic map identifying the locations of all exclusion zones required by this licence and the locations of those exclusion zones affected by the research program;
 - iv. The variations to harvesting operations and log extraction techniques to be assessed in the research program;
 - v. An itemised timeframe for the research program;
 - vi. Methods to be used in analysing the results of the research program; and
 - vii. Reporting requirements for the results of the research program.
- d) SFNSW must prepare a report of the results of the research program in accordance with the protocol determined by the NPWS.
- e) SFNSW is to prepare and submit a report to NPWS on any matter relating to the research program as requested by the NPWS.
- f) Hollow-bearing trees must be retained in accordance with condition 5.6 of this licence in site-specific locations where the research program will be carried out as identified in condition 5.20 c) i. above.

6. Species-specific Conditions

6.1. Green and Golden Bell Frog *Litoria aurea*

- a) Where there is a record of *Litoria aurea* in a compartment or within 50 metres outside the boundary of the compartment, an exclusion zone of at least 50 metres radius must be implemented around the record.

- b) In addition, where the record is associated with a wetland or dam, a 50 metre wide exclusion zone must be implemented around the wetland or dam.
- c) The exclusion zone around wetlands must be measured from the edge of the current saturated zone or from the outer edge of where the vegetation type indicates a wetter micro-environment than the surrounding country, whichever is larger.
- d) The exclusion zone around dams must be measured from the highest point of the dam wall or barrier.

Ref Appendix D

6.2. Stuttering Frog *Mixophyes balbus*

AMENDMENT 5
7 July 08
Replaced "these species" with "Stuttering Frog *Mixophyes balbus*"
Ref Appendix D

- a) A exclusion zone of at least 200 hectares must be implemented around each record of "Stuttering Frog *Mixophyes balbus*".
- b) Records within 500 metres of each other and within the same sub-catchment may be considered to be from the same population and can be protected by one 200 hectare exclusion zone.
- c) Exclusion zones are to comply with the following design criteria:
 - i. must be centred on the record;
 - ii. should follow sub-catchment boundaries;
 - iii. must only comprise NPWS and SFNSW tenure (including statutory reserves); and,
 - iv. where condition 6.2 b) applies, the exclusion zone must encompass all records within 500 metres of each other that are considered to be from the same population.

(Note: in some instances adjacent exclusion zones may overlap.)

AMENDMENT 5
7 July 08
Omitted "Heleioporus australiacus and"
from 6.2(d)
Ref Appendix D

- d) SFNSW must consult with the NPWS regarding hazard reduction burning within exclusion zones established for *Mixophyes balbus*.
- e) When 15 Stuttering Frog exclusion zones are implemented within the Eden Region, SFNSW may apply to NPWS for a review of this Condition.

(Note: the NPWS will advise SFNSW of the recommendation made by the NPWS to the relevant Ministers in relation to the review of Condition 6.2 e), prior to consideration by the relevant Ministers.)

AMENDMENT 5
7 July 08
Omitted "15 Giant Burrowing Frog"
from 6.2 (e)
Ref Appendix D

6.2A Giant Burrowing Frog *Heleioporus australiacus*

Note: The following condition was originally inserted in 2006 to identify areas of land to be set aside as exclusion zones for the protection of the Giant Burrowing Frog. When inserted in 2006, the condition was to expire on 29 February 2008. It was amended in 2008 to extend its operation indefinitely. The 2008 amendment was accompanied by the adoption of a Species Management Plan for the Giant Burrowing Frog. That Plan describes a survey and monitoring program for the GBF that Forests NSW is to undertake. The survey and monitoring program is different to the survey methodology that was previously required by condition 8 of this licence to be adopted in relation to the GBF. Accordingly, condition 8 was also amended in 2008 to remove the requirements relating to surveys specifically for the GBF.

AMENDMENT 4
Until 29 Feb 08
Inserted condition
6.2A

AMENDMENT 5
7 July 08
Replaced note
Ref Appendix D

AMENDMENT 5
7 July 08
Deleted 6.2A (a)
Ref Appendix D

AMENDMENT 5
7 July 08
Replaced
Department name
in 6.2A (b)(i)
Ref Appendix D

- a) Deleted.
- b) A Giant Burrowing Frog Exclusion Zone must be established for any area of land:
 - i. depicted in the Geographic Information System theme in ESRI shapefile format called "Giant Burrowing Frog Exclusion Zones", in the sub-directory called "Giant Burrowing Frog Exclusion Zones", on the CD-Rom held by the Department of Environment and Climate Change and having the volume label "060210_1106" dated 10 February 2006; and
 - ii. further described in the corresponding metadata on the CD-Rom.
- c) Despite condition 5.1, low intensity burning may be carried out in a Giant Burrowing Frog Exclusion Zone for the purpose of bush fire hazard reduction.

AMENDMENT 5
7 July 08
Replaced 6.2A (c)
Ref Appendix D

Species Management Plan for the Giant Burrowing Frog

AMENDMENT 5
7 July 08
Inserted 6.2A (d) –
(g)

- d) Forests NSW is to give effect to the Species Management Plan (South Eastern NSW) for the Giant Burrowing Frog (*Heleioporus australiacus*), being IFOA Species Management Plan No. 2, (“SMP for the GBF”), as it applies to Forests NSW on 1 March 2008. In particular, Forests NSW is to carry out the survey and monitoring program as described in the Plan.
- e) Forests NSW is to prepare, at the end of each calendar year (commencing 2008), a written report on the results and findings of its survey and monitoring program for the Giant Burrowing Frog, as carried out in that year, and is to give the Department of Environment and Climate Change a copy of that report.
- f) Forests NSW is to participate in a review of the SMP for the GBF and the application of the terms of this licence to the GBF, in light of the results and findings of the survey and monitoring program, and other actions taken by Forests NSW to give effect to the SMP:
- (a) if the Department of Environment and Climate Change, at any time, seeks such a review (for example, because the data collected in relation to the GBF shows a decline in the population of the GBF in any of the planning management zones (as described in the Plan), and
 - (b) every 3 years, with the first review commencing in March 2011.

Note: It is intended that a 3 yearly review referred to in condition 6.2A (f) (b) will be completed by the end of the calendar year in which the review is undertaken.

- g) Forests NSW may, at any time, review (with the agreement of the Department of Environment and Climate Change) the SMP for the GBF or the application of the terms of this licence to the GBF (or both), in light of the results and findings of the survey and monitoring program, and other actions taken by Forests NSW, to give effect to the SMP for the GBF.

Note: If the SMP for the GBF is amended or replaced as a result of a review, it is intended that the above condition will also be amended to reflect the changes in the content of the Plan.

AMENDMENT 6
1 March 2013
Condition 6.2B
added

6.2B Littlejohn’s Tree Frog *Litoria littlejohni*

Where there is a record of the Littlejohn’s Tree Frog *Litoria littlejohni* within the compartment or within 50 metres outside the boundary of the compartment, the following must apply:

- a) an exclusion zone of at least 50 metres radius must be implemented around the record; or
- b) where the record is associated with a wetland or dam, a 50 metres wide exclusion zone must be implemented around the wetland or dam.
- c) The exclusion zone around wetlands must be measured from the edge of the current saturated zone or from the outer edge the vegetation type that indicates a wetter micro-environment than the surrounding country, whichever is larger.
- d) The exclusion zone around dams must be measured from the highest point of the dam wall or barrier.

6.3. Masked Owl *Tyto novaehollandiae*, Sooty Owl *Tyto tenebricosa* Barking Owl *Ninox connivens*, and Powerful Owl *Ninox strenua*

6.3.1. General

AMENDMENT 6
1 March 2013
Condition 6.3.1 a)
replaced

- a) Where information indicates that Greater Gliders occur at densities of more than one per hectare within any individual compartment (that is, a compartment identified by a compartment number and not a group of compartments) being planned for harvesting, and the compartment is within two kilometres of a Powerful Owl record, eight hollow-bearing trees per hectare must be retained within the net logging area of that compartment.

6.3.2. Landscape Approach

(Note: The landscape approach attempts to ensure that a network of habitat for Masked, Sooty, Barking and Powerful Owls is maintained within the area being planned. The landscape approach is most suitable for large forested areas, especially with numerous records of large forest owls. As part of this approach large areas of habitat are to be protected. Habitat to be retained is to be identified using tables of habitat quality rating included in this Condition. The Condition provides a mechanism for apportioning habitat to be retained between the existing reserves and the production forest.)

- a) The Planning Area should be between 5,000 to 15,000 hectares in size. Smaller or larger planning areas should be avoided, but may be appropriate in particular circumstances. Where SFNSW use smaller or larger planning areas, the justification for this must be clearly documented. This documentation must be kept on the relevant file and be made available on request by the NPWS.
- b) The Planning Area can only contain public lands, private land must not be included.
- c) A minimum of 25% of the Planning Area must be retained in exclusion zones as suitable habitat [as defined in Condition 6.3 g)]. Areas of statutory reserves can be used to meet the requirements of exclusion zones, where consistent with the requirements of Conditions 6.3 d), e), and f) below. Other exclusion zones within State Forest estate outside of statutory reserves (eg., Rare Old Growth Forest Communities, stream exclusion zones etc) can be used to meet the exclusion zone requirements, where consistent with the requirements of Conditions 6.3 d), e), and f) below.
- d) Of the areas to be retained as suitable habitat in Condition 6.3 c) above, a minimum of 15% must be retained as exclusion zones in State Forest estate outside of statutory reserves.
- e) Of the areas to be retained in State Forest estate outside of statutory reserves, referred to in Condition 6.3 d) above, some large patches at least 50 hectares in size should be retained. The shape of exclusion zones should minimise the boundary to area ratio. Long, linear strips must not be counted towards meeting the requirement for large patches.

(Note: Circular or compact areas have the lowest boundary to area ratio, while linear or fragmented ones the highest. Areas which generally conform to a circular or square shape have a low boundary to area ratio. As a guide, "low" could be considered to be an area where the longer axis of the area is less than twice as long as the shorter axis.)

- f) In selecting areas to be retained as suitable habitat exclusion zones within the Planning Area the following design rules must be followed:
 - i. Masked, Sooty, Barking and Powerful Owls must be catered for.
 - ii. The area of retained habitat for each of the species should be based on the proportion of suitable habitat that is present within the Planning Area.
 - iii. Where there are records of nests or roosts of one or more of these species, these must be contained within exclusion zones. Planning and placement of exclusion zones should maximise the inclusion of other types of owl records within exclusion zones.

- g) Suitable habitat includes all forest areas. Suitable habitat does not include large areas of wetland, heath, or non-forest areas. For the purposes of complying with Conditions 6.3 c) and d), unlogged forest has a habitat quality rating of 1.0 which means 1 hectare of unlogged forest equals 1 hectare of suitable habitat. In previously logged forest the amount of suitable habitat to be retained varies according to the intensity of logging and must be determined from the habitat quality rating tables in Condition 6.3 i) below. The tables rate the quality of the logged habitat according to the logging intensity (selective, medium and heavy logging as determined by the level of canopy retention) in comparison to unlogged forest. For example, if an area of forest has a habitat quality rating of 0.5, then 2 hectares of that forest needs to be retained to be equivalent to 1 hectare of suitable habitat.
- h) In applying the Landscape approach the guidelines in Schedule 8 must be followed.
- i) Habitat Quality rating tables for Masked, Sooty, Barking and Powerful Owls:

Masked Owl Habitat Quality Ranking

Forest Type (Yrs after Disturbance)	Selective Logging 10-30%	Medium Logging 30-60%	Heavy Logging 60-85%
Dry Sclerophyll			
0-10	0.8	0.2	0.2
10-20	0.9	0.5	0.3
20-40	1.0	1.0	0.8
Wet Sclerophyll			
0-10	0.8	0.2	0.2
10-20	0.9	0.5	0.3
20-40	1.0	1.0	0.8

Sooty Owl Habitat Quality Ranking

Forest Type (Yrs after Disturbance)	Selective Logging 10-30%	Medium Logging 30-60%	Heavy Logging 60-85%
Dry Sclerophyll			
0-10	0.8	0.1	0.1
10-20	0.9	0.4	0.3
20-40	1.0	1.0	0.8
Wet Sclerophyll			
0-10	0.8	0.2	0.2
10-20	0.9	0.5	0.3
20-40	1.0	1.0	0.8

Barking Owl Habitat Quality Ranking

Forest Type (Yrs after Disturbance)	Selective Logging 10-30%	Medium Logging 30-60%	Heavy Logging 60-85%
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Dry Sclerophyll			
0-10	0.8	0.2	0.2
10-20	0.9	0.5	0.3
20-40	1.0	1.0	0.8
Wet Sclerophyll			
0-10	0.8	0.2	0.2
10-20	0.9	0.5	0.3
20-40	1.0	1.0	0.8

Powerful Owl Habitat Quality Ranking

Forest Type	Selective Logging	Medium Logging	Heavy Logging
(Yrs after Disturbance)	10-30%	30-60%	60-85%
Dry Sclerophyll			
0-10	0.8	0.1	0.1
10-20	0.8	0.5	0.3
20-40	1.0	1.0	0.8
Wet Sclerophyll			
0-10	0.8	0.1	0.1
10-20	0.8	0.3	0.2
20-40	1.0	0.8	0.6

AMENDMENT 6
1 March 2013
Condition 6.4
replaced

6.4. **Swift Parrot *Lathamus discolor*, Regent Honeyeater *Xanthomyza Phrygia*, and Black-chinned Honeyeater (eastern sub-species) *Melithreptus gularis gularis***

Where there is a record of Swift Parrot, Regent Honeyeater or Black-chinned Honeyeater (eastern sub-species) in a compartment, the following must apply:

- At least ten eucalypt feed trees must be retained within every two hectares of net logging area.
- Where a Swift Parrot, Regent Honeyeater or Black-chinned Honeyeater (eastern sub-species) is observed feeding, the tree in which it is feeding must be retained.
- The trees referred to in condition 6.4 (a) and (b) above must be marked for retention. Where retained eucalypt feed trees also meet the requirements of hollow-bearing or recruitment trees, the retained eucalypt feed tree may be counted as a hollow-bearing or recruitment tree.

AMENDMENT 5
7 July 2008
Deleted 6.5
Ref Appendix D

6.5. **CONDITION OMITTED (AMENDMENT 5)**

AMENDMENT 4
Until 29 Feb 08
Inserted condition
6.5A

AMENDMENT 5
7 July 08
Replaced Note
Ref Appendix D

AMENDMENT 5
7 July 08
Deleted 6.5A (a)
Ref Appendix D

AMENDMENT 5
7 July 08
Replaced
Department name
in 6.5A (b)(i)
Ref Appendix D
6.5A (a)
Ref Appendix D

AMENDMENT 5
7 July 08
Inserted
"exclusion" in
6.5A (d)&(e)

6.5A Southern Brown Bandicoot *Isodon obesulus*

Note: The following condition was originally inserted in 2006 to identify areas of land to be set aside as exclusion zones for the protection of the Southern Brown Bandicoot. When inserted in 2006, the condition was to expire on 29 February 2008. It was amended in 2008 to extend its operation indefinitely. The 2008 amendment was accompanied by the adoption of a Species Management Plan for the Southern Brown Bandicoot. That Plan describes a survey and monitoring program for the Bandicoot that Forests NSW is to undertake. The program is different to the survey methodology that was previously required by condition 8 of this licence to be adopted in relation to the Bandicoot. Accordingly, condition 8 was also amended in 2008 to remove the requirements relating to surveys specifically for the Bandicoot.

- a) Deleted
- b) A Southern Brown Bandicoot Exclusion Zone is to be established for any area of land:
- depicted in the Geographic Information System theme in ESRI shapefile format called "Southern Brown Bandicoot Exclusion Zones", in the sub-directory called "Southern Brown Bandicoot Exclusion Zones", on the CD-Rom held by the Department of Environment and Climate Change and having the volume label "060210_1106" dated 10 February 2006; and
 - further described in the corresponding metadata on the CD-Rom.
- c) The boundary of a Southern Brown Bandicoot Exclusion Zone (as required to be established in accordance with condition 6.5A (b)) is to be adjusted in the field, if necessary, so that it reflects the extent of the potential habitat of the Southern Brown Bandicoot. Accordingly, if 80% or more of the basal area of any stand of trees (including any stand that is located only partially within the area described on the relevant CD-Rom referred to in condition 6.5A (b)) is made up of trees of the species *Eucalyptus consideriana* or *Eucalyptus ovata*, the land on which that stand is located is to be included in the Exclusion Zone.

Note: The purpose of condition 6.5A (c) is to ensure that a Southern Brown Bandicoot Exclusion Zone is established for an area where the Bandicoot's potential habitat is located. The existence of that potential habitat is indicated by the dominance by *E. consideriana* or *E. ovata* of the overstorey. Note that condition 6.5A (c) requires dominance by trees of these species to be determined by reference to the proportion of the basal area they occupy.) The relevant floristic assemblages or forest types where *E. consideriana* or *E. ovata* respectively may dominate the overstorey have been variously described in:

- Keith and Bedward (1999)* which describes "Timbillica Dry Scrub Forest" (where *E. consideriana* may dominate) and "Swamp Forest" (where *E. ovata* may dominate); and
- Research Note 17 which lists Forest Type 102, "Yerchuk", as dominated by *E. consideriana* and Forest Type 143, "Swamp Gum etc", as dominated by *E. ovata*.

* Keith D.A. and Bedward M. (1999) *Native Vegetation of the South East Forests region, Eden, New South Wales*. Cunninghamia 6 (1):1-281.

- d) If the boundary of a Southern Brown Bandicoot Exclusion Zone is adjusted under condition 6.5A (c), Forests NSW is to prepare a map showing the adjustment made to the boundary or a written description of the adjustment made. A copy of the map or description is to be kept at the office of Forests NSW responsible for managing land in the Eden Region and is to be provided to the Department of Environment and Conservation at its request.
- e) The boundary of a Southern Brown Bandicoot Exclusion Zone is not required to be marked in the field before a harvesting operation is carried out (despite the requirements of condition 5.1).
- f) Despite condition 5.1, low intensity burning may be carried out in a Southern Brown Bandicoot exclusion zone for the purpose of bush fire hazard reduction.
- g) For the purposes of this condition:
- the basal area of a tree is the cross-sectional area of its trunk measured at 1.3 metres above ground level (that is, at breast height over bark); and

- ii. the basal area of a stand of trees is the sum of the basal areas of the trees in that stand, expressed in square metres per hectare; and
- iii. in calculating the basal area of a stand of trees, only the basal areas of living trees that have a diameter of at least 10 centimetres measured at 1.3 metres above ground level (that is, at breast height over bark) are to be taken into account.

Species Management Plan for the Southern Brown Bandicoot

AMENDMENT 5
7 July 08
Inserted (h) to (k)
in 6.5A

- h) Forests NSW is to give effect to the Species Management Plan (South Eastern NSW) for the Southern Brown Bandicoot (*Isoodon obesulus*), being IFOA Species Management Plan No. 1, (“SMP for the SBB”), as it applies to Forests NSW on 1 March 2008. In particular, Forests NSW is to carry out the survey and monitoring program as described in the Plan.
- i) Forests NSW is to prepare, at the end of each calendar year (commencing 2008), a written report on the results and findings of its survey and monitoring program for the Southern Brown Bandicoot, as carried out in that year, and is to give the Department of Environment and Climate Change a copy of that report.
- j) Forests NSW is to participate in a review of the SMP for the SBB and the application of the terms of this licence to the SBB, in light of the results and findings of the survey and monitoring program, and other actions taken by Forests NSW to give effect to the SMP:
 - (a) if the Department of Environment and Climate Change, at any time, seeks such a review (for example, because the monitoring or survey methodology (as described in the Plan) is not yielding sufficient data), and
 - (b) every 3 years, with the first review commencing in March 2011.

Note: It is intended that a 3 yearly review referred to in condition 6.5A (j) (b) will be completed by the end of the calendar year in which the review is undertaken.

- k) Forests NSW may, at any time, review (with the agreement of the Department of Environment and Climate Change) the SMP for the SBB or the application of the terms of this licence to the SBB (or both), in light of the results and findings of the survey and monitoring program, and other actions taken by Forests NSW to give effect to the SMP for the SBB.

Note: If the SMP for the SBB is amended or replaced as a result of a review, it is intended that the above condition will also be amended to reflect the changes in the content of the Plan.

6.6. Long-footed Potoroo *Potorous longipes*

If the species is located, Condition 1.2 must be applied.

6.7. Long-nosed Potoroo *Potorous tridactylus*

- a) Where there is a record of the species within a compartment, harvesting operations must be excluded from a 5m buffer around six retained trees per hectare within the net logging area.
- b) Post-logging burning should be excluded from the buffers established under a) above.

6.8. Smoky Mouse *Pseudomys fumeus*

Deleted

6.8A Smoky Mouse *Pseudomys fumeus*

Note: The following condition was originally inserted in 2006 to identify areas of land to be set aside as exclusion zones for the protection of the Smoky Mouse. When inserted in 2006, the condition was to expire on 29 February 2008. It was amended in 2008 to extend its operation indefinitely. The 2008 amendment was accompanied by the adoption of a Species Management Plan for the Smoky Mouse. The Plan describes actions for the management of the Smoky Mouse and its habitat that Forests NSW is to undertake, together with a survey and monitoring program that is to be carried out jointly by the Department of Environment and Climate Change and Forests NSW. This program is different to the survey methodology that was previously required by

AMENDMENT 4
Until 29 Feb 08
Inserted condition
6.8A

AMENDMENT 5
7 July 08
Replaced Note
Ref Appendix D

condition 8 of this licence to be adopted in relation to the Smoky Mouse. Accordingly, condition 8 was also amended in 2008 to remove the requirements relating to surveys specifically for the Smoky Mouse.

Condition 6.8A also requires Forests NSW to notify the Department of Environment and Climate Change of any new record of the Smoky Mouse that it discovers outside Nullica and Gnupa State Forests in the Eden Region. Specified forestry activities are prohibited in the vicinity of that record, unless DECC approves them being undertaken.

AMENDMENT 5
7 July 08
Deleted 6.8A (a)

a) Deleted

AMENDMENT 5
7 July 08
Replaced
Department name
in 6.8A (b)(i)
Ref Appendix D

b) A Smoky Mouse Exclusion Zone must be established for any area of land:

i. depicted in the Geographic Information System theme in ESRI shapefile format called “Smoky Mouse Exclusion Zones”, in the sub-directory called “Smoky Mouse Exclusion Zones”, on the CD-Rom lodged with the Department of Natural Resources and having the volume label “060210_1106” dated 10 February 2006; and

ii. further described in the corresponding metadata on the CD-Rom.

AMENDMENT 5
7 July 08
Deleted 6.8A (c)
Ref Appendix D

c) Deleted

Records outside Nullica and Gnupa State Forests (temporary measures for protection of Smoky Mouse)

AMENDMENT 5
7 July 08
Replaced when
records are to be
discovered in 6.8A
(d)
Ref Appendix D

d) If Forests NSW discovers or becomes aware of a record of a Smoky Mouse, Forests NSW is to notify (in writing) the Department of Environment and Conservation (“DEC”), of the record within two working days of discovering or becoming aware of the record. This requirement applies only to records first discovered after 1 April 2006.

e) A specified forestry activity may not be carried out, without the approval in writing of the Department of Environment and Conservation, within 300 metres of any such record (even if that activity is or is part of a harvesting operation that has already commenced).

f) If Forests NSW and DEC jointly determine that:

i. any such record may not be relied on to establish the presence of a Smoky Mouse in the vicinity of the record, having regard to matters such as the source and nature of the record; or

ii. any such record does not indicate the existence of a population of Smoky Mouse that was previously unknown,

condition 6.8A (e) ceases to have effect.

g) DEC’s approval (for the purposes of condition 6.8A (e)) may be given subject to conditions.

Those conditions may require alternate measures, agreed to by Forests NSW, for the protection of the relevant individual or population of the Smoky Mouse to be taken.

h) Condition 6.8A (e) does not give rise to an exclusion zone for the purposes of this licence.

i) Any harvesting plan operational map (referred to in condition 3) must identify any area (contained within the area shown on the map) in which specified forestry activities are prohibited or restricted because of condition 6.8A (e). In addition, the harvesting plan or operational plan (also referred to in condition 3) must set out or include any approval (including conditions) given by DEC for the purposes of condition 6.8A (e) that affects the carrying out of operations in the area to which the plan applies.

j) DEC may, at any time, revoke, or amend, with the agreement of Forests NSW, any conditions to which its approval for the purposes of condition 6.8A (e) may be subject.

k) Conditions 6.8A (d) to (j) inclusive do not apply to records or specified forestry activities within Nullica and Gnupa State Forests. Accordingly, specified forestry activities are not prohibited or restricted:

- i. in Nullica and Gnupa State Forests because of the discovery of a record referred to in condition 6.8A (d) (whether or not the record is located within or outside those Forests); and
- ii. outside Nullica and Gnupa State Forests because of the discovery of a record referred to in condition 6.8A (d) within either of those Forests.

Species Management Plan for the Smoky Mouse

- l) Forests NSW is to give effect to the Species Management Plan (South Eastern NSW) for the Smoky Mouse (*Pseudomys fumeus*), being IFOA Species Management Plan No. 3, ("SMP for the Smoky Mouse"), as it applies to Forests NSW on 1 March 2008. In particular, Forests NSW is to assist in carrying out the survey and monitoring program as described in the Plan.
- m) Forests NSW is to prepare, at the end of each calendar year (commencing 2008), a written report on actions it has taken in that year to give effect to the SMP for the Smoky Mouse (as it applies to Forests NSW) and on the impact of, or information obtained as a result of, those actions. Forests NSW is to give the Department of Environment and Climate Change a copy of that report. Forests NSW is also to assist the Department of Environment and Climate Change (at the Department's request) with the preparation of a written report on the results and findings of the survey and monitoring program, as described in the SMP for the Smoky Mouse, for that year.

Note: Forests NSW and the Department of Environment and Climate Change may prepare a joint report on the implementation of the SMP for the Smoky Mouse for any calendar year.

- n) Forests NSW is to participate in a review of the SMP for the Smoky Mouse and the application of the terms of this licence to the Smoky Mouse, in light of the results and findings of the survey and monitoring program, and other actions taken by Forests NSW to give effect to the SMP for the Smoky Mouse:
 - (a) if the Department of Environment and Climate Change, at any time, seeks such a review (for example, because the monitoring or survey methodology (as described in the Plan) is not yielding sufficient data), and
 - (b) every 3 years, with the first review commencing in March 2011.

Note: It is intended that a 3 yearly review referred to in condition 6.8A (n) (b) will be completed by the end of the calendar year in which the review is undertaken.

- o) Forests NSW may, at any time, review (with the agreement of the Department of Environment and Climate Change) the SMP for the Smoky Mouse or the application of the terms of this licence to the Smoky Mouse (or both), in light of the results and findings of the survey and monitoring program, and other actions taken by Forests NSW to give effect to the SMP for the Smoky Mouse.

Note: If the SMP for the Smoky Mouse is amended or replaced as a result of a review, it is intended that the above condition will also be amended to reflect the changes in the content of the Plan.

6.9. Brush-tailed Phascogale *Phascogale tapoatafa*

Where there is a Brush-tailed Phascogale record in a compartment or within 600 metres outside the boundary of the compartment (unless otherwise specified in this Condition), the following must apply:

- a) A 600 metre radius planning area must be identified. This planning area must be centred on the record or records of Brush-tailed Phascogale. The radius of the planning area must be measured from the record. Where there is more than one record the radius of the planning area must be measured from a point located equidistant from the majority of the records, where possible.
- b) Within this planning area an exclusion zone, or exclusion zones, totaling 50 hectares must be implemented.
- c) Where there are records of Brush-tailed Phascogale dens, these must be contained within exclusion zones. Planning and placement of exclusion zones should maximise the inclusion of other types of Brush-tailed Phascogale records within exclusion zones.
- d) Modeled habitat and Rare Old Growth Forest Communities may be used to meet the exclusion zone requirements.

- e) The shape of exclusion zones should minimise the boundary to area ratio. Where appropriate, exclusion zones should be circular in shape. Long and linear strips should be avoided where possible.
- (Note: Circular or compact areas have the lowest boundary to area ratio, while linear or fragmented ones the highest. Areas which generally conform to a circular or square shape have a low boundary to area ratio. As a guide, "low" could be considered to be an area where the longer axis of the area is less than twice as long as the shorter axis.)*
- f) Where there is a number of Brush-tailed Phascogale records consecutively less than 600 metres apart but collectively spreading over an area greater than 600 metres in any direction then advice on the application of the Condition must be sought from the NPWS.
- g) If a record of Brush-tailed Phascogale is on private property within 200 metres of SFNSW estate, then the equivalent of a 600 metre radius planning area must be located on public land as close as possible to the record.
- h) When ten of these sites are recorded on SFNSW estate over a two year period separated by at least two kilometres within a 15 kilometres radius, SFNSW may apply to NPWS for a review of this Condition.
- (Note: the NPWS will advise SFNSW of the recommendation made by the NPWS to the relevant Ministers in relation to the review of Condition 6.5 h), prior to consideration by the relevant Ministers.)*

6.10. Spotted-tailed Quoll *Dasyurus maculatus*

Where there is a record of Spotted-tailed Quoll in the compartment or within five kilometres outside of the boundary of the compartment, the following must apply:

- a) An exclusion zone of at least 12 hectares must be implemented around Spotted-tailed Quoll maternal den sites. This exclusion zone must be linked to Stream Exclusion Zones implemented in Condition 5.7.
- b) An exclusion zone of at least 3.5 hectares must be implemented around Spotted-tailed Quoll permanent den sites. This exclusion zone must be linked to Stream Exclusion Zones implemented in Condition 5.7.
- c) An exclusion zone of at least 12 hectares must be implemented around Spotted-tailed Quoll latrine sites.
- d) Planning and placement of exclusion zones referred to in parts a), b) and c) above must maximise the inclusion of Spotted-tailed Quoll records.
- e) Stream Exclusion Zones must not be counted towards exclusion zones referred to parts in a) and b) above.

6.11. Koala *Phascolarctos cinereus*

For all specified forestry activities:

- a) When koalas or evidence of koalas are detected in a compartment, habitat will be retained according to this Condition. Habitat retained under this condition must be mapped in the Harvesting Plan.
- b) Where one or two trees with evidence of the presence of a Koala are found during an asterisk survey, integrated harvesting (regeneration) must be excluded from within a 50 metre radius exclusion zone around of each of these trees.
- c) Where three or more trees with evidence of the presence of a Koala are found during an asterisk survey, the area which falls in between these trees and a 50 metre wide exclusion zone outside this area shall be implemented from which integrated harvesting (regeneration) operations must be excluded.

- d) Areas retained under b) and c) must be connected to other retained areas within the compartment (e.g. Rare Old Growth Forest Communities, areas retained for other species, Ridge and Headwater habitat, other non-harvest areas) by a corridor which meets the following specifications:
- i. links Koala use areas with the nearest second or higher order stream exclusion zone;
 - ii. crosses the topographic sequence linking adjacent catchments incorporating representative samples of mid-slope and ridge-top habitats;
 - iii. incorporates one or more of the identified Koala browse tree species; and
 - iv. is a minimum width of 40 metres. Trees retained in Koala exclusion zones or corridors shall not be counted towards the habitat tree retention requirements for the remainder of the compartment.
- e) As far as practicable post-logging burning is to be kept out of the areas retained under b), c) and d) above.
- f) 150 hectares of suitable habitat for Koalas must be retained within 1.5 kilometres of the trees identified with evidence of the presence of a Koala in the asterix survey. No integrated harvesting (regeneration) is to be undertaken within this retained area. Suitable habitat is defined as forest types floristically and structurally similar to the retained areas in the compartment and preferably containing a substantial quantity of one or more of the following Koala browse tree species in sizes greater than 30 centimetres dbh; *Eucalyptus cypellocarpa*, *E. maidenii*, *E. longifolia*, *E. bosistoana*, *E. globoidea*, *E. muelleriana* and *E. consideniana*. If these tree species or forest types floristically and structurally similar to those in the retained area are not present, the NPWS must be consulted regarding the retention of alternative stands.
- g) Browse Tree Retention
- i. In all compartments where Koala evidence has been found, 10 browse trees shall be retained per hectare within the net logging area of the compartment. Koala browse trees must be greater than 30 centimetres dbh and be of the following species: *Eucalyptus cypellocarpa*, *E. maidenii*, *E. longifolia*, *E. bosistoana*, *E. globoidea*, *E. muelleriana* and *E. consideniana*. If these tree species are not present, the NPWS must be consulted regarding the retention of alternative trees.
 - ii. Trees retained to meet other prescriptions (hollow bearing trees, recruitment trees or feed trees) may be counted as Koala browse trees if they have leafy, broad crowns in a range of size classes with a minimum of 30 centimetres dbh and are one of the identified Koala browse species.
 - iii. Specified forestry activities and post-logging burning must be carried out in a way that minimises damage to retained Koala browse trees. The potential for damage should be minimised by techniques of directional felling. Felled heads must be flattened or removed from five metres of stems retained to meet this prescription.
- h) SFNSW must assist the NPWS in a review of Condition 6.11 of this licence. This review must commence within three months of the commencement date of which this licence forms part.
- (Note: SFNSW and the NPWS have agreed to complete the above review by 31 December 2000. The review will involve consultation with relevant stakeholders, including the NSW Koala Recovery Team.)

6.12. Squirrel Glider *Petaurus norfolcensis*

Where there is a Squirrel Glider record in a compartment or within 250 metres outside of the compartment boundary (unless specified otherwise in this Condition), the following must apply:

- a) A 250 metre radius planning area must be identified. This planning area must be centred on the record, or records, of Squirrel Glider. The radius of the planning area must be measured from the record. Where there is more than one record the radius of the planning area must be measured from a point located equidistant from the majority of records, where possible.

- b) Within this planning area an exclusion zone, or exclusion zones, totaling eight hectares must be implemented.
- c) Where there are records of Squirrel Glider dens, these must be contained within exclusion zones. Planning and placement of exclusion zones should maximise the inclusion of other types of Squirrel Glider records within exclusion zones.
- d) Modeled habitat and Rare Old Growth Forest Communities may be used to meet the exclusion zone requirements.
- e) The shape of exclusion zones must minimise the boundary to area ratio. Where appropriate, exclusion zones should be circular in shape. Long and linear strips should be avoided where possible.

(Note: Circular or compact areas have the lowest boundary to area ratio, while linear or fragmented ones the highest. Areas which generally conform to a circular or square shape have a low boundary to area ratio. As a guide, "low" could be considered to be an area where the longer axis of the area is less than twice as long as the shorter axis.)

- f) Where there is a number of Squirrel Glider records consecutively less than 250 metres apart but collectively spreading over an area greater than 250 metres in any direction then advice on the application of the Condition must be sought from the NPWS.
- g) If a Squirrel Glider record is on private property within 100 metres of SFNSW estate, then the equivalent of a 250 metre radius planning area must be located on public land.
- h) When ten of these sites are recorded on SFNSW estate over a two year period separated by at least two kilometres within a 15 kilometres radius, SFNSW may apply to NPWS for a review of this Condition. The NPWS will advise SFNSW of the recommendation to the relevant Ministers, prior to consideration by the relevant Ministers.

(Note: the NPWS will advise SFNSW of the recommendation made by the NPWS to the relevant Ministers in relation to the review of Condition 6.12 h), prior to consideration by the relevant Ministers.)

6.13. Yellow-bellied Glider *Petaurus australis*

- a) A 50 metre radius exclusion zone must be implemented around Yellow-bellied Glider dens.
- b) All Yellow-bellied Glider sap feed trees must be retained. All Yellow-bellied Glider Sap feed trees must be marked for retention.
- c) Where there is a record of a Yellow-bellied Glider in a compartment or within 100 metres outside the boundary of the compartment, the following must apply:
 - i. Within a 100 metre radius of each retained Yellow-bellied Glider sap feed tree, observation or den site record, 15 feed trees must be retained. Yellow-bellied Glider sap feed trees must not be counted towards these 15 feed trees. Retained feed trees must have good crown development, should have minimal butt damage and should not be suppressed. Mature and late mature trees must be retained as feed trees where these are available.
 - ii. Within a 200 metre radius of a Yellow-bellied Glider call detection site record, 15 feed trees must be retained. Retained feed trees must have good crown development, should have minimal butt damage and should not be suppressed. Mature and late mature trees must be retained as feed trees where these are available.
 - iii. The feed trees retained in 6.13 c) i. and ii. should be of the same species as the identified sap feed tree, or be a tree species recognised as a sap feed tree in the area (*Corymbia maculata*, *C. gummifera*, *Eucalyptus botryoides*, *E. cypellocarpa*, *E. viminalis*, *E. fastigata*, *E. ovata*, *E. angophoroides*).
 - iv. The feed trees retained in 6.13 c) ii. and iii. must be marked for retention.

6.14. Golden-tipped Bat *Kerivoula papuensis*

Where there is a record of *Kerivoula papuensis* within a compartment or within 200 metres outside of the boundary of the compartment, the following must apply:

- a) Exclusion zones of at least 30 metres wide must be implemented on both sides of all first order streams and second order streams within a 200 metre radius of the record. Other standard Stream Exclusion Zones apply within this area.
- b) The width of exclusion zones referred to in a) above must be measured from the top of the bank of the incised channel or, where there is no defined bank, from the edge of the channel.

6.15. Condition omitted (Amendment 6)

6.16. Threatened, Poorly Reserved ROTAP and Regionally Rare Flora

The following Conditions 6.17, 6.18 and 6.19 provide the prescriptions that must be implemented for managing the threatened, poorly reserved ROTAP, or regionally rare flora listed in Table 1.

These species were divided into three groups: those that require disturbance, those that do not and those grass species whose response to disturbance requires evaluation. Those that tolerate disturbance are covered by Condition 6.17 Flora Prescription A. Those that do not tolerate disturbance are covered by Condition 6.18 Flora Prescription B. Grass species are dealt with in Condition 6.19 Flora Prescription C.

Once the target number of populations sought to be protected by this condition are reached (refer to Table 1. – residual target), then no further modifications on harvesting operations are required. A NPWS/SFNSW agreed program is to be instigated to monitor the effects of specified forestry activities on those populations of the species listed in Table 1 which are in excess of the residual targets and which are subjected to routine specified forestry activities.

6.17. Flora Prescription A

- a) This prescription will apply to species in the following guilds:
 - i. Obligate seeders, disturbance-adapted, seed bank readily exhausted.
 - ii. TSC Act species which are disturbance adapted.
- b) Surveys in known or potential habitat are required for the species within these guilds.
- c) Damage to individuals of the guilds referred to in condition 6.17 a) in the conduct of specified forestry activities should be avoided to the greatest extent practicable.

6.18. Flora Prescription B

- a) This prescription will apply to the species in the following guilds:
 - i. Any species requiring a long (10 years plus) interval between disturbance to allow recruitment.
 - ii. Species which are highly localised and for which recruitment requirements are unknown, e.g. seasonal geophytes.
 - iii. All other TSC Act species not covered by Prescription A.
- b) Surveys in known or potential habitat are required for the species within these guilds.
- c) A 10 metre radius exclusion zone must be established around all individuals of these species.
- d) Around the exclusion zones established in accordance with condition 6.18 c) above, an additional 10m wide modified harvesting zone must be established. Within this zone, at least 50% of the canopy must be retained. As far as possible, this canopy must be evenly spaced. This Condition does not apply to individual plants or colonies of less than five individuals.

6.19. Flora Prescription C

These grass species where they occur will be widespread. It will thus be difficult to protect individuals. SFNSW must monitor the impact of operations on populations of these species and if necessary modify management practices to ensure that the viability of the species in the region is not compromised.

Table 1. Threatened, ROTAP or regionally rare plant species likely to occur in net harvest areas (* species listed as threatened, ^ species listed as ROTAP)

Species	Residual target	Prescription
<i>Acacia georgensis</i> *	4	A
<i>Allocasuarina diminuta</i> subsp. <i>annectans</i>	5	A
<i>Astroloma pinifolium</i>	5	A
<i>Astrotricha</i> sp. <i>Wallagaraugh</i>	no target set	B
<i>Boronia nana</i> var. <i>hyssopifolia</i>	2	A
<i>Botrychium australe</i>	5	A
<i>Bracteantha viscosa</i>	4	A
<i>Caustit recurvata</i>	5	A
<i>Chamaesyce psammogeton</i>	no target set	B
<i>Correa baeuerlenii</i> *	0	A
<i>Eucalyptus ignorabilis</i> ^	5	A
<i>Eucalyptus pulverulenta</i>	no target set	B
<i>Eucalyptus tereticornis</i>	8	A
<i>Galium australe</i>	no target set	B
<i>Gentiana baeuerlenii</i>	no target set	B
<i>Lasiopetalum parvifolium</i>	5	A
<i>Logania pusilla</i>	1	A
<i>Lysimachia vulgaris</i> var. <i>davurica</i>	no target set	A
<i>Mazus pumilio</i>	3	A
<i>Pomaderris bodalla</i>	no target set	A
<i>Pomaderris parrisiae</i> *	1	A
<i>Prasophyllum canaliculatum</i>	no target set	B
<i>Pseudanthus ovalifolius</i>	no target set	B
<i>Psoralea adscendens</i>	4	A
<i>Pultenaea pedunculata</i>	no target set	B
<i>Rutidosis leptorrhynchoides</i>	no target set	A
<i>Santalum obtusifolium</i>	1	A
<i>Thelymitra atronitida</i>	no target set	B
<i>Thesium australe</i>	no target set	B
<i>Trachymene humilis</i>	4	A

<i>Callistemon forresterae</i> *	no target set	B
<i>Correa lawrenceana</i> subsp. <i>genoensis</i> *	no target set	B
<i>Corybas undulatus</i> *	5	B
<i>Cryptostylis hunteriana</i> *	3	B
<i>Davallia pyxidata</i>	4	B
<i>Eucalyptus parvula</i> *	10	B
<i>Euphrasia scabra</i> *	no target set	B
<i>Pomaderris cotoneaster</i> *	no target set	B
<i>Pomaderris elachophylla</i> *	no target set	B
<i>Deyeuxia accedens</i>	5	C
<i>Festuca asperula</i>	5	C
<i>Festuca hookeriana</i>	5	C
<i>Poa cheelii</i>	3	C
<i>Poa costiniana</i>	4	C

7. General survey requirements

- a) Subject to Condition 7 b), harvesting operations must not be undertaken in any compartment unless pre-logging and pre-roading surveys have been conducted in accordance with Condition 8 of this licence.
- b) Pre-logging and pre-roading surveys are not required for the following species where SFNSW choose to implement the species' prescription, as detailed below.

(Note: SFNSW may choose to implement one or more of the following prescriptions in lieu of survey.)

- ii. **Masked Owl, Sooty Owl, Barking Owl and Powerful Owl:** Implement the Landscape Approach as per Condition 6.3 of this licence.
- iii. **Swift Parrot and Regent Honeyeater:** At least ten eucalypt feed trees must be retained within every two hectares of net logging area. These trees must be marked for retention. Where retained eucalypt feed trees also meet the requirements of hollow-bearing or recruitment trees, the retained eucalypt feed tree can be counted as a hollow-bearing or recruitment tree. Where a Swift Parrot or Regent Honeyeater is observed feeding, the tree in which it is feeding must be retained.
- iv. **Yellow-bellied Glider:** All Yellow-bellied Glider sap feed trees must be retained. Within a 100 metre radius of each retained Yellow-bellied Glider sap feed tree, or within a 200 metre radius of a Yellow-bellied Glider call detection site record, 15 feed trees must be retained. Yellow-bellied Glider sap feed trees must not be counted towards these 15 feed trees. Retained feed trees must have good crown development and should have minimal butt damage and should not be suppressed. Mature and late mature trees must be retained as feed trees where these are available. These retained trees should be a tree species recognised as a sap feed tree in the area (*Corymbia maculata*, *C. gummifera*, *Eucalyptus botryoides*, *E. cypellocarpa*, *E. viminalis*, *E. fastigata*, *E. ovata*, *E. angophoroides*).
- v. **Kerivoula papuensis:** Exclusion zones of at least 30 metres wide must be implemented on both sides of all first order streams and second order streams within the compartment. The width of exclusion zones must be measured from the top of the bank of the incised channel or, where there is no defined bank, from the edge of the channel.

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- c) Where SFNSW chooses to apply a species' condition in accordance with Condition 7 (b) in lieu of pre-logging and pre-reading surveys, that condition must be implemented for the duration of the harvesting operation.

8. Pre-logging and pre-reading Surveys

8.1. Survey requirements

- a) Pre-logging and pre-reading surveys must consist of the following:
- i. Compartment traverse as per Condition 8.7 of this licence;
 - ii. Targeted fauna surveys as per Condition 8.8 of this licence; and
 - iii. The recording of incidental threatened flora and fauna records as per Condition 8.6 of this licence.

- b) Pre-logging and pre-reading surveys must be conducted within the net survey area, and in areas within 50 metres outside the boundary of the net survey area, in compartments where known or potential habitat occurs.

- c) Pre-logging and pre-reading surveys must be carried out in accordance with the following Conditions.

(Note: any variations to the requirements set out in this Condition must be approved in writing by NPWS prior to surveys being conducted.)

- a) Pre-logging and pre-reading surveys must be conducted for those species that require the implementation of species-specific and site-specific surveys as per Condition 1.2 and Condition 6 unless Condition 7 is implemented for that species.
- b) During pre-logging and pre-reading surveys, all practical steps must be taken to direct survey effort in areas of the highest class modeled habitat, where modeled habitat occurs in the compartment.
- c) The pre-logging and pre-reading survey requirements are based on a minimum survey effort for a standard 200 hectares of net logging area. (200 hectares equates to an average compartment size.)

8.1A Special provisions in relation to survey requirements for Giant Burrowing Frog, Southern Brown Bandicoot and Smoky Mouse

AMENDMENT 5
7 July 08
Inserted 8.1A

- a) Despite condition 7 and condition 8.1, targeted fauna surveys are not required, before carrying out a harvesting operation in a compartment, for the following species:
- (i) Giant Burrowing Frog (*Heleioporus australiacus*);
 - (ii) Southern Brown Bandicoot (*Isodon obesulus*);
 - (iii) Smoky Mouse (*Pseudomys fumeus*).
- b) Forests NSW's employees and contractors are not required, under condition 8.6, to identify or record indications that the Giant Burrowing Frog or Southern Brown Bandicoot is present, or has been present, in a compartment.

Note: See conditions 6.2A, 6.5A and 6.8A which require Forests NSW to give effect to Species Management Plans for the Giant Burrowing Frog, Southern Brown Bandicoot and Smoky Mouse respectively. The Plans describe survey and monitoring programs for each species in the Eden Region. The programs require surveying at selected sites irrespective of whether a harvesting operation is proposed for the compartment concerned.

8.2. Survey timing

- a) SFNSW must plan and conduct surveys in the most appropriate "Survey season" (as specified in Schedule 2 for flora species, and as specified in Condition 8.8 below for fauna species).
- b) SFNSW must not conduct or permit the conduct of harvesting operations in compartments where seasonally appropriate surveys have not been carried out unless SFNSW choose to apply condition 7 (b) where the subject species is listed in that condition.

(Note: Different fauna groups require survey during different seasons, with most groups best surveyed during spring-summer. As well as this, different weather conditions are more appropriate for certain groups, for instance it is most appropriate to survey for frogs after rain.)

8.3. Surveyor experience

- a) SFNSW must ensure that persons conducting pre-logging and pre-reading surveys are suitably experienced and trained. Suitable experience and training includes, but is not limited to:
 - i. Extensive experience with flora and / or fauna survey work.
 - ii. Extensive experience in the field identification of flora and / or fauna. Surveyors must be able to identify the threatened species and habitats of threatened species relevant to the region that require species-specific or site-specific conditions, as well as similar species that may be confused with these. Surveyors must be able to identify features referred to in Condition 8.7.3 b).
 - iii. Familiarisation with herbarium or museum specimens of threatened species requiring species-specific or site-specific conditions, if not already familiar.
 - iv. Relevant tertiary qualifications are preferable but not essential if the above criteria are met.
- b) SFNSW must maintain a register of surveyors which details the way in which each surveyor meets the experience criteria specified in part a) above. The entry in the register relevant to the surveyor must be received by NPWS within 10 days of NPWS requesting the entry.

8.4. Survey documentation and reporting

- a) SFNSW must prepare a pre-logging and pre-reading survey report that must include the following:
 - i. Information relating to all of the "Data to Record" sections referred to in this Condition.
 - ii. All raw data sheets.
 - iii. Details of previous reliable surveys including, but not limited to, survey methodology, sampling intensity, sample placement and distribution, season of survey and weather conditions.
- b) The Survey Report must be received by NPWS Conservation Planning and Programs office within ten days of NPWS requesting the report.
- c) All survey durations are to be interpreted as time worked in the field, not inclusive of travel time to and from the survey area.

8.5. Data compilation

- a) The following data must be compiled prior to pre-logging and pre-reading surveys:
 - i. All records of threatened species requiring species-specific or site-specific prescription and all records of the protected species Greater Glider held by, or available to, FCNSW. This must include, but is not limited to, searching the Office of Environment and Heritage Atlas of NSW Wildlife and FNSW documents, records and other sources of information; and
 - ii. Maps of modeled habitat (where available) of those species requiring survey.
 - iii. The information required to be collated in part b) below must be provided to persons conducting pre-logging and pre-reading surveys and harvest planning.

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Condition 8.5 a) i.
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- b) **Data to Record:**
- i. Date(s) of review.
 - ii. Name of Management Area, State Forest name, compartment number.
 - iii. Name of person(s) conducting review.
 - iv. Results of a database search for threatened flora and fauna records within two kilometres or five kilometres, as appropriate, of the compartment boundary. Records with a reliability of 1 to 5, inclusive, must be searched for.
 - v. Results of a check of SFNSW records for threatened species recorded within two kilometres or five kilometres, as appropriate, of the compartment boundary and any other records readily available.
 - vi. A summary of those threatened species records collated iv. and v. above, including species name, Australian Map Grid co-ordinates, date of record, type of record (e.g. observed, heard, road kill, hair analysis), observer's name, and source of record where this information is available.
 - vii. Maps of modeled habitat (where available) of those species requiring survey. These maps are to assist the surveyor in locating potential habitat.
 - viii. Habitat descriptions from Schedule 4 of this licence.

8.6. Incidental Threatened Flora and Fauna Records

- a) All SFNSW employees and contractors must identify and record all indications that a threatened species is present, or has been present, within a compartment. Indications include, but are not limited to, an observation of a live or dead individual of a species, or any part of an individual (hair, feathers, skin, bone, teeth or eggs), or a sign that indicates the species' presence (species' call heard, tracks, definite Koala scratchings, potoroo and bandicoot digs, incisions, species in scat, species' scat, species in raptor or owl pellet, nest, roost or den).
- b) Particular emphasis must be placed on identifying and recording the following species: indications of the presence of Eastern Quoll.
- c) **Data to Record:**
- i. Species name.
 - ii. Number of individuals.
 - iii. AMG (to within a 100m accuracy).
 - iv. Name of State Forest and compartment number that species recorded in.
 - v. Type of record (e.g. observed, heard, road kill).
 - vi. Date(s) recorded.
 - vii. Recorder's name.

8.7. Pre-logging and Pre-roading Compartment Traverse

8.7.1. General

- a) A Compartment Traverse must be conducted to search for threatened and protected flora species and certain threatened and protected fauna features.
- b) Samples of flora species that are unfamiliar to the surveyor must be collected and identified or verified by a relevant herbarium.

<p>AMENDMENT 5 7 July 08 Deleted <i>Heleioporus australiacus</i> in 8.6 (b)</p>

- c) The threatened and protected flora component and threatened and protected fauna features component can both be conducted at the same time if the surveyor is suitably experienced. Where the two components are conducted at the same time, the minimum survey effort required is ten person hours per 200 hectares of net survey area except where Conditions 8.7.1. d) and e) have been applied.
- d) Where there is open ground cover with good visibility on the forest floor (as determined by Condition 8.7.2 and/or field inspection) and data compiled under Condition 8.5 indicates that three or less threatened or protected plant species are likely to occur in the compartment, flora and fauna compartment traverses may be undertaken concurrently. A minimum of six person hours per 200 hectares of net survey area must be conducted when concurrent flora and fauna traverses are undertaken.
- e) When concurrent flora and fauna compartment traverses are conducted and the total time spent searching is less than 10 person hours per 200 hectares of net survey area, groundcover conditions must be documented by recording the dominant vegetation associations and their distribution across the compartment in the pre-logging and pre-roading survey report.

8.7.2. Desktop component

- a) For each 200 hectares of net survey area, a traverse at least four kilometres in distance must be planned within which targeted sampling must be conducted as specified below in Condition 8.7.3 below.
- b) Air photographs and/or forest type maps of a suitable scale (minimum of 1:25,000) must be examined when planning the traverse to identify the full range of forest types and environmental gradients within the compartment. The traverse must cover the full range of forest types and environmental gradients within the compartment.
- c) The traverse route must be mapped on a 1:25,000 forest type map.

8.7.3. Field Methodology:

- a) *Threatened and protected flora component*
 - i. For the threatened and protected flora component of the Compartment Traverse, the surveyors(s) must conduct a search in a random meander along the traverse identified in part 8.7.1 above, searching for and recording those threatened and protected flora species that require species-specific or site-specific conditions. The search should be conducted within the net survey area and in areas 50 metres outside of the boundary of the net survey area.
 - ii. A minimum of six person hours of flora survey per 200 hectares of net survey area must be conducted along the traverse. Threatened and protected flora species requiring species-specific conditions must be searched for continuously along the traverse.
 - iii. If habitats not previously identified in the desktop component are encountered while sampling along the traverse, a proportion of the sampling time should be used to survey these habitats.
 - iv. The timing of the threatened and protected flora component of the compartment traverse should take into account flowering periods of the threatened flora species being surveyed (this is particularly relevant to orchids and annual species). Data on known flowering periods of cryptic species is included in Schedule 2 of this licence where this information is available.
 - v. Where individuals or groups of individuals of threatened and protected plants requiring Conditions are found, the individual or the extent of the group of individuals must be flagged (e.g. with flagging tape) by the person conducting the flora survey. The location of the individual or group of individuals must also be marked on the Harvesting Plan map to assist the Supervising Forest Officer in finding the flagged plant(s) during compartment mark up.
- b) *Threatened and protected fauna features component*
 - i. For the threatened and protected fauna features component of the Compartment Traverse, a minimum of four person hours per 200 hectares of net survey area must be spent

continuously searching for the following features along the traverse identified in 8.7.1 above:

- Nests and roosts for those species listed in Condition 5.13 of this licence;
- Dens of the following species: Yellow-bellied Glider, Squirrel Glider and Brush-tailed Phascogale;
- Flying-fox camps;
- Latrine and den sites of the Spotted-tailed Quoll;
- Distinctive scats (e.g. Spotted-tailed Quoll, Koala);
- Predator scats (these must be collected for analysis);
- *Allocasuarina* or *Casuarina* spp. with chewed cones beneath;
- Yellow-bellied Glider and Squirrel Glider sap feed trees;
- Microchiropteran bat tree roosts;
- Microchiropteran bat subterranean roosts (caves, tunnels and disused mineshafts);
- Swift Parrot and Regent Honeyeater feed or nest trees; and
- Permanent soaks and seepages in *Heleioporus australiacus* potential habitat;

ii. If habitats not previously identified in the desktop component are encountered while sampling along the pre-determined traverse, a proportion of the sampling time should be used to sample these habitats.

iii. Where threatened and protected fauna features are found, these features are to be appropriately flagged or marked in the field by the person conducting the survey. The location of the feature must also be marked on the Harvesting Plan map to assist the Supervising Forest Officer in finding the flagged feature(s) during compartment mark up.

c) **Data to Record:**

- i. Name of Management Area, State Forest name, compartment number(s).
- ii. Date(s) of survey.
- iii. Surveyor(s) name.
- iv. The traverse route clearly marked on 1:25,000 forest type map.
- v. Length of compartment traverse.
- vi. Time spent conducting each component of the field methodology, i.e. flora and fauna.
- vii. Threatened flora and protected taxa recorded and the number of individuals of each (indicate whether count or estimate).
- viii. AMG (to within a 100m accuracy) of threatened and protected flora records and threatened and protected fauna features recorded.
- ix. Locality description (name and distance from nearest road, track, creek, etc.) of threatened flora and protected records.
- x. Locality of threatened and protected flora and threatened and protected fauna features clearly marked on a 1:25,000 forest type map.
- xi. List of additional surveys required.

8.8. Targeted Fauna Surveys

8.8.1. General

- a) The purpose of targeted fauna surveys is to search within compartments that contain known or potential habitat for those fauna species that require site-specific or species-specific conditions as listed in Table 2.
- b) The following methodologies must be used to survey for the relevant species within known habitat and potential habitat.

(Note: any variations to the requirements set in this Condition must be approved in writing by NPWS prior to surveys being conducted.)

- c) For those fauna species requiring targeted fauna surveys, the following applies:
 - i. If no previous reliable survey has been conducted, then pre-logging and pre-roading surveys in accordance with Condition 8 of this licence are required for that species.
 - ii. If a previous reliable survey recorded the species, then pre-logging and pre-roading surveys in accordance with Condition 8 of this licence within the compartment are required for that species.
 - iii. If a previous reliable survey did not record the species, surveys are not required for that species.
- d) A previous reliable survey is defined as a survey conducted in the compartment, or within two kilometres, or within five kilometres in the case of the and Golden-tipped Bat, in similar habitat to the compartment, in the previous ten years that was a survey equal to or better than the survey requirements set out in this Condition with respect to survey methodology, sampling intensity, sample placement and distribution, survey season and weather conditions.
- e) Surveys for particular species are not required where SFNSW has chosen to apply Condition 7 b) above.

AMENDMENT 6
1 March 2013
Condition 8.8.1
numbering
modified

AMENDMENT 6
1 March 2013
Condition 8.8.1 d)
modified

AMENDMENT 5

7 July 08

Deleted references to Giant Burrowing Frog, Smoky Mouse and Southern Brown Bandicoot in Table 2)
Ref Appendix D

AMENDMENT 6

1 March 2013

Condition 8.8.1, Table 2 - title modified

Condition 8.8.1, Table 2 - reference to "hairtube" and "scat and track" surveys deleted

Condition 8.8.1, Table 2 - species modified

Condition 8.8.1, Table 2 - explanation added

Table 2. Protected species requiring pre-logging and pre-roading targeted surveys

Fauna group / Common name	Scientific name	Comments
Frogs		
*Booroolong Frog	<i>Litoria booroolongensis</i>	Riparian frog
*Green and Golden Bell Frog	<i>Litoria aurea</i>	Targeted
Stuttering Frog	<i>Mixophyes balbus</i>	Riparian frog
Reptiles		
Rosenberg's Monitor	<i>Varanus rosenbergi</i>	Incidental, targeted
Birds		
Barking Owl	<i>Ninox connivens</i>	Nocturnal call playback and spotlight ¹
Black-chinned Honeyeater (eastern sub-species)	<i>Melithreptus gularis gularis</i>	Other diurnal birds
Bush Thick Knee	<i>Burhinus grallarius</i>	Call playback and targeted
* Eastern Bristlebird	<i>Dasyornis brachypterus</i>	Targeted
Masked Owl	<i>Tyto novaehollandiae</i>	Nocturnal call playback and spotlight ¹
Powerful Owl	<i>Ninox strenua</i>	Nocturnal call playback and spotlight ¹
* Regent Honeyeater	<i>Xanthomyza phrygia</i>	Other diurnal birds
Sooty Owl	<i>Tyto tenebricosa</i>	Nocturnal call playback and spotlight ¹
Swift Parrot	<i>Lathamus discolor</i>	Other diurnal birds
Turquoise Parrot	<i>Neophema pulchella</i>	Other diurnal birds
Non-flying mammals		
Broad-toothed Rat	<i>Mastacomys fuscus</i>	Remote Camera Survey
Brush-tailed Phascogale	<i>Phascogale tapoatafa</i>	Spotlight, Remote Camera Survey
*Eastern Quoll	<i>Dasyurus viverrinus</i>	Incidental
**Greater Glider	<i>Petauroides volans</i>	Spotlight
Koala	<i>Phascolarctos cinereus</i>	Call playback, targeted
*Long-footed Potoroo	<i>Potorous longipes</i>	Remote Camera Survey
Long-nosed Potoroo	<i>Potorous tridactylus</i>	Remote Camera Survey
Southern Brown Bandicoot	<i>Isodon obesulus</i>	Remote Camera Survey
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>	
Squirrel Glider	<i>Petaurus norfolcensis</i>	Spotlight
Yellow-bellied Glider	<i>Petaurus australis</i>	Nocturnal call playback and spotlight
Flying mammals		
Common Bent-wing Bat	<i>Miniopterus schreibersii</i>	Subterranean roost
Eastern Cave Bat	<i>Vespedelus troughtoni</i>	Subterranean roost
Golden-tipped Bat	<i>Kerivoula papuensis</i>	Targeted

Great Pipistrelle *Falsistrellus tasmaniensis* Subterranean roost

* Species listed in Schedule 1 of the TSC Act.

** Protected fauna species under NPW Act.

8.8.2. Data to Record

For each targeted fauna survey method used the following information must be recorded:

- a) Name of Management Area, State Forest name, compartment number;
- b) Type of survey (including details of methodology used);
- c) Date(s) of survey;
- d) Surveyor(s) name;
- e) Survey location AMG (to within a 100m accuracy);
- f) Description of locality description (ie. name and distance from nearest road, track, creek, etc.);
- g) Survey point or transect clearly marked on 1:25,000 forest type map;
- h) Survey start time and finish time;
- i) Threatened species being targeted;
- j) Threatened species recorded;
- k) Record observation type, e.g. species heard, observed, scat record, track, hair, ultrasonic detection etc. Where bat ultrasonic detection, scat record, the reliability of the record is to be provided also. Name of person conducting bat ultrasonic analysis;
- l) For playback surveys: list species played;
- m) For trapping surveys: describe baits used in any traps;
- n) For riparian and non-riparian frog surveys: mark on map and record time spent at each site surveyed; and
- o) For each day or night of survey, on arriving at the survey location the following is to be recorded:
 - i. Temperature (degrees Celsius).
 - ii. Wind: 0 = calm; 1 = light, leaves rustle; 2 = moderate, moves branches; 3 = strong, impedes progress.
 - iii. Rain: 0 = rain during survey; 1 = evidence of rain in last 24 hours; 2 = no evidence of rain in last 24 hours.
 - iv. Night light: 1 - very dark, no moon + cloud; 2 = dark; quarter moon or moon with heavy cloud; 3 - detail seen, moon and clear sky; 4 = bright, half moon or more and no cloud.
 - v. Date and time these measurements were made.

8.8.3. Frog and reptile surveys

(Note: It would be most effective to undertake a local to regional scale frog survey at the most appropriate time of year and under the best weather conditions. Such a survey could cover breeding sites within or immediately adjacent to compartments scheduled to be logged over the following year.)

8.8.3.1. Riparian frog survey

Riparian frog surveys must target the following species: *Mixophyes balbus*, and *Litoria booroolongensis*.
Riparian frog surveys must be conducted as follows:

- a) Surveys must be conducted for a minimum duration of one person hour for areas up to 200 hectares of net survey area, plus an additional 15 minutes per 50 hectares above 200 hectares. If more than one stream is surveyed, a minimum of 10 minutes must be spent at each separate site.

AMENDMENT 5
7 July 08
Deleted references
to Giant Burrowing
Frog, Smoky
Mouse and
Southern Brown
Bandicoot in Table
2)
Ref Appendix D

- b) Three call playback sessions must be conducted per one hour search. After an initial two minute listening period, calls of target threatened frog species must be played for two minutes followed by a minimum five minutes listening period. When an observer is unsure of a species' identification, the call responses should be taped to allow verification by a suitably experienced frog expert.
- c) Surveys must be conducted twice, on different nights. Surveys must not commence earlier than 30 minutes prior to sunset and must conclude no later than sunrise.
- d) Surveys must not be conducted in cold, windy conditions. All attempts should be made to survey just after rain, during very light rain, or when rain is intermittent.
- e) For *Litoria booroolongensis*, surveys should be repeated during the day with particular attention taken to search rocks and debris by the creeks and vegetation overhanging the creeks (search should be conducted so as to not result in damage to habitat).
- f) Survey season: *Litoria booroolongensis*: November to February. *Mixophyes balbus*: September to March.

8.8.3.2. Non-riparian frog survey

Deleted

8.8.3.3. Giant Burrowing Frog *Heleioporus australiacus* survey

Deleted

8.8.3.4. Green and Golden Bell Frog *Litoria aurea* survey

The following survey methodology is provided as a guide. Any variation to this survey technique must be approved in writing by NPWS prior to surveys commencing.

- a) Permanent wetlands or dams of greater than one hectare surface area must be surveyed for a minimum of 1 hour, both day and night. For large wetlands or dams, survey effort should be proportional to this effort. For smaller wetlands and dams a minimum of 30 minutes survey must be undertaken both day and night.
- b) Night searches must be conducted twice on two separate nights. Surveys must not commence earlier than 30 minutes prior to sunset and must conclude no later than sunrise.
- c) Call playback must be conducted at 50-100m intervals around wetland and/or dam perimeter with call played for two minutes followed by a five minute listening period. When an observer is unsure of a species' identification, the call responses should be taped to allow verification by a suitably experienced frog expert.
- d) Surveys must not be conducted in cold, windy conditions. All attempts should be made to survey immediately prior to significant rainfall, just after rain, during very light rain, or when rain is intermittent.
- e) Survey Season: September to February.

8.8.3.5. Rosenberg's Monitor *Varanus rosenbergi* survey

Additional to the measures required in the threatened fauna features component of the transect survey, the principles to be followed to optimise detection of this species are:

- a) SFNSW staff conducting harvest planning and general operations within the geographic distribution of *Varanus rosenbergi* must be familiar with the species key identification features.
- b) SFNSW staff should examine road kill goannas within the distribution of this species.

AMENDMENT 5
7 July 08
Deleted 8.8.3.2 and
8.8.3.3
Ref Appendix D

AMENDMENT 5
7 July 08
Deleted references
to Giant Burrowing
Frog, Smoky
Mouse and
Southern Brown
Bandicoot in Table
2)
Ref Appendix D

8.8.4. Diurnal bird surveys

8.8.4.1. Eastern Bristlebird survey

Surveys for the Eastern Bristlebird must be conducted as follows:

- a) A minimum 30 minutes duration must be spent searching for the species. These searches must be conducted in conjunction with call playback.
- b) Call playback must consist of calls being played for five minutes followed by a 10 minute listening period. (*Note: Taped calls used in playback should be of local dialect.*)
- c) Care should be taken to avoid playing calls too frequently or too loud during the breeding season.
- d) Each potential site should be surveyed a number of times as birds may not be detected in the first survey.
- e) Surveys should be conducted in the early morning and late afternoon.
- f) Survey Season: Spring, during the breeding season when males call to defend territory.

8.8.4.2. Other Diurnal Birds survey

Surveys for other threatened diurnal birds requiring species-specific or site-specific conditions must be conducted as follows:

- a) Surveys must be conducted for a minimum of one person hour duration for areas up to 200 hectares of net survey area, plus an additional 15 minutes per 50 hectares above 200 hectares.
- b) Surveys must be conducted in the early morning.
- c) The following species must be searched for: Black-chinned Honeyeater (eastern sub-species), Regent Honeyeater, Swift Parrot and Turquoise Parrot.
- d) Surveys should focus on the following features of these species:
 - i. Regent Honeyeater: Surveys must be conducted where recent records (ie. within the previous five years) exist within five kilometres of the compartment boundary. Surveys must focus on any permanent water bodies, dams, flowering eucalypts.
Survey Season: winter to mid summer.
 - ii. Swift Parrot and Turquoise Parrot: Surveys should concentrate on searching winter flowering eucalypts and other species. Particular attention must be paid to searching for nests of the Turquoise Parrot which are seldom more than a metre above the ground in hollows in small trees, dead eucalypts or in holes or stumps, or logs lying on the ground.
Survey season: Swift Parrot surveys are best conducted from May to August; Turquoise Parrot surveys are best conducted during the breeding season (August to December)
 - iii. Black-chinned Honeyeater (eastern sub-species): Survey should focus on upper levels of eucalypt canopy in drier forest types in proximity to streams. Call must be listened for.
Survey Season: anytime of the year.

AMENDMENT 6
1 March 2013
Condition 8.8.4.2
c) modified and d)
iii. added

8.8.5. Nocturnal Call Playback

Nocturnal call playback must target the following species: Masked Owl, Sooty Owl, Barking Owl, Powerful Owl and Yellow-bellied Glider. Nocturnal call playback surveys must be conducted as follows:

- a) Call playbacks must be conducted at two sites for every 200 hectare of net survey area, plus an additional site per 100 hectares above 200 hectares.
- b) Playback sites must be more than 1 kilometre apart. The location of the playback sites should optimise response.

AMENDMENT 6
1 March 2013
Condition 8.8.5
modified

- c) At each call playback site, an initial listening period of 10 minutes should be undertaken, then each target species call must be played for five minutes followed by at least a two minute listening period. After the last call at least 10 minutes must be spent listening. Calls must be played from a good quality portable tape cassette or CD player and amplified through a nine volt megaphone, or equivalent or better. The Powerful Owl call should be played first.
- d) The playback session must be conducted twice, on different nights. Where a species is recorded at a site on the first night of survey, it is not a requirement of this Condition that the call of this species be played at that site on the second night of survey.
- e) Windy and rainy conditions are to be avoided.
- f) Where one transect of two kilometres length is established for spotlighting, call playback can be conducted at the beginning and end of each two kilometre transect. Where two transects of 1 kilometre length are implemented for spotlighting, call playback can be conducted at the beginning or end of each 1 kilometre transect.
- g) Survey season: Anytime of the year, preferably in Spring, Summer and Autumn.

8.8.6. Spotlight survey

Spotlight surveys must target the following species: Brush-tailed Phascogale, Squirrel Glider, Yellow-bellied Glider, Greater Glider, Masked Owl, Sooty Owl, Barking Owl and Powerful Owl.

Spotlight surveys must be conducted as follows:

- a) For areas up to 200 hectares of net logging area, a spotlight transect totaling two kilometres distance, plus an additional 500 metres for each 50 hectares of net logging area above 200 hectares, must be conducted.
- b) Transects must be a minimum 500 metres in length, and should be one kilometre in length.
- c) This / these transects must be spotlighted twice on two separate nights. On one night, the transect(s) must be spotlighted while walking. On the other night, the spotlighting transect(s) may be conducted from a vehicle. Preferably both transects should be done on foot.
- d) In areas of Brush-tailed Phascogale known habitat or potential habitat, both nights' surveys must be conducted while walking.
- e) During vehicle spotlighting, vehicle speed must not exceed five kilometres per hour. Vehicle spotlight must be a minimum 1 hour duration per 200ha.
- f) During walking spotlighting, observers must walk at approximately 1 kilometre per hour. Walk spotlight must be a minimum 1 hour duration per 200ha.
- g) Survey must involve two observers using 100 watt spotlights for vehicle spotlighting and 50 watt spotlights for walking spotlighting.
- h) Windy, cold and rainy conditions should be avoided.
- i) Survey Season: any time of year, preferably in Spring, Summer and Autumn.

(Note: Walking spotlight survey transects can be established along roads. If potential habitat exists away from roads, SFNSW can opt to establish an off-road survey. Spotlight surveys can be conducted prior to call playback.)

8.8.7. Remote Camera Survey

- a) Remote camera surveys are used to target the following species: Broad-toothed Rat, Brush-tailed Phascogale, Long-nosed Potoroo, Long-footed Potoroo and Southern Brown Bandicoot.
- b) Remote camera surveys must be conducted as follows:
 - i. Two cameras must be set per 200 ha net harvestable area for a minimum of seven consecutive nights.

AMENDMENT 5
7 July 08
Deleted sentence
about *Heleioporus*
australiacus
Ref Appendix D

AMENDMENT 5
7 July 08
Deleted Southern
Brown Bandicoot
Ref Appendix D

AMENDMENT 6
1 March 2013
Conditions 8.8.7
and 8.8.8 omitted
and replaced with
new 8.8.7

- ii. Each camera must be placed in an area of the net harvestable area representing the most likely habitat for the target species.
- iii. A lure (bait) suitable to attract the target species must be placed in the centre of the view of each camera.

AMENDMENT 6
1 March 2013
Condition 8.8.9
omitted

8.8.8. Condition omitted (Amendment 6)

8.8.9. Condition omitted (Amendment 6)

8.8.10. Condition omitted (Amendment 5)

8.8.11. Condition omitted (Amendment 6)

AMENDMENT 5
7 July 08
Deleted 8.8.10
Ref Appendix D

8.8.12. Koala survey

Where a Koala has been detected within two kilometres of a compartment boundary in the period since 1980, or local knowledge indicates that koalas are likely to be present, the following survey regimes and habitat protection measures must be implemented.

- a) Consultation with the local community should be undertaken during the harvest planning stage. As a minimum this should include contact and exchange of information with neighbours, local animal welfare and conservation groups.
- b) Transect Survey with Quadrats
 - i. An intensive survey within the proposed logging area will occur prior to harvesting to determine whether koalas use the compartment.
 - ii. The survey will involve traverses in areas to be logged. Areas where logging will not take place (such as wildlife corridors) need not be surveyed.
 - iii. The traverses must uniformly cover the harvesting area with transects between 50 to 100 metres apart (subject to local conditions).
 - iv. At approximately 25 to 50 metre intervals (depending on the distance between transects) quadrat searches are to be conducted. At each search site, four quadrats (quadrat size = 50 centimetres x 50 centimetres) are to be randomly placed within 10 metres of the transect, beneath tree crowns. The quadrats are to be searched for Koala scats
 - v. Trees at the quadrats and between quadrats are to be examined for koala scratches, koala scats, koalas or predator scats.
 - vi. While surveying the transect line, all trees between quadrat sites are to be similarly searched (without using quadrats) for scratches, scats, koalas and predator scats. Possible scratch marks are to be confirmed by quadrat searches for scats.
- c) Asterisk Survey
 - i. This method is to be applied when a koala or evidence of a koala is detected in the transect survey. The method allows an assessment to be made of the level of use of a particular area and in some cases will enable the delineation of an area of regular use.
 - ii. The tree where a koala or evidence of a koala was detected is designated as Centre Tree 1. Transects are run on the four cardinal compass points from the centre tree. The transects are 100 metres long. All trees within 15 metres of the transect line are inspected for signs of koala use, i.e. scratches, scats, koalas.

- iii. Trees having scratches but, on first inspection, no scats, are searched using 0.25 m² quadrats placed on the ground under the crown. A minimum of four to eight quadrats are searched depending on the size of the crown. Any tree under which scats are found is designated as a centre tree and numbered sequentially if it is more than 20 metres from the previous centre tree. Further transects are then established around the new centre tree on those cardinal points which do not coincide with a transect from a previous centre tree. The process continues until no further centre trees are identified.
 - iv. Additional transects are then established from each of the peripheral centre trees on any of the four intermediate compass points (NE, SE, SW, NW) which do not overlap previous transects.
 - v. Once all transects are completed and no further evidence of Koalas is found a koala use area is delineated by connecting the outermost points from which Koala evidence has been recorded.
 - vi. Additional information is to be recorded from each centre tree according to the following method:
 - Plots are established around each centre tree consisting of the centre tree and its nine nearest neighbours in each of two size categories (above and below 30 centimetres dbhob). There is a search limit of 25 metre radius for each size category and if no trees occur within this limit, only one tree in the category is recorded.
 - In the plots tree species, dbhob or diameter class and Keady Crown Class are recorded for each tree greater than or equal to 10 centimetres dbhob. Where diameters are estimated, they are allocated to the following classes: 10-29 centimetres; 30-59 centimetres; 60-89 centimetres; 90-109 centimetres; 110 centimetres or greater.
 - The height of the centre tree and the tallest tree in each of the two categories is also recorded. Where the tallest tree on the site is judged not to represent the site potential, site height is estimated
 - The distance to the furthest tree in each of the two categories is recorded as is the distance to the next tree further out in each category.
 - Aspect slope and topographic position are recorded and the floristic, structural and historical attributes of the site are described.
 - Scats of koala or other species are noted and koala scats are examined for freshness and uniformity of appearance.
- d) Survey Results
- i. The results of Transect and Asterix surveys will be recorded on the standard data forms.
 - ii. The approximate location of the transects and all asterix survey centre trees are to be recorded on a map.
- e) Reporting
- i. Koala surveys are to be reported as part of the threatened species pre-logging and pre-roading survey report and provided to the NPWS at least 10 days prior to the commencement of specified forestry activities in the compartment.
 - ii. All survey results must be archived by SFNSW on the compartment history.
 - iii. All Koala sightings will be incorporated into SFNSW database with subsequent transfer to the NPWS.
- f) SFNSW must assist the NPWS in a review of Condition 8.8.12 of this licence. This review must commence within three months of the commencement date of which this licence forms part.
- (Note: SFNSW and the NPWS have agreed to complete the above review by 31 December 2000. The review will involve consultation with relevant stakeholders, including the NSW Koala Recovery Team.)*

AMENDMENT 6
1 March 2013
Condition 8.8.13.1
omitted

8.8.13. Microchiropteran bat surveys

8.8.13.1. Conditon Omitted (Amendment 6)

8.8.13.2. Golden-tipped Bat *Kerivoula papuensis*

Surveys for *Kerivoula papuensis* and must be conducted as follows:

- a) A minimum of two sites per 200 hectares of net logging area, plus an additional site per 100 hectares above 200 hectares, must be harp trapped. At each site, harp traps must be set for a minimum period of two consecutive nights.
- b) Harp traps must be set well before dusk.
- c) Harp traps must be set across creeks, pools and other appropriate flyways close to streams to increase the chance of trap success. Supplementary screening should be used where necessary.
- d) Windy, cold and rainy weather conditions must be avoided.
- e) Survey Season: Spring and summer.

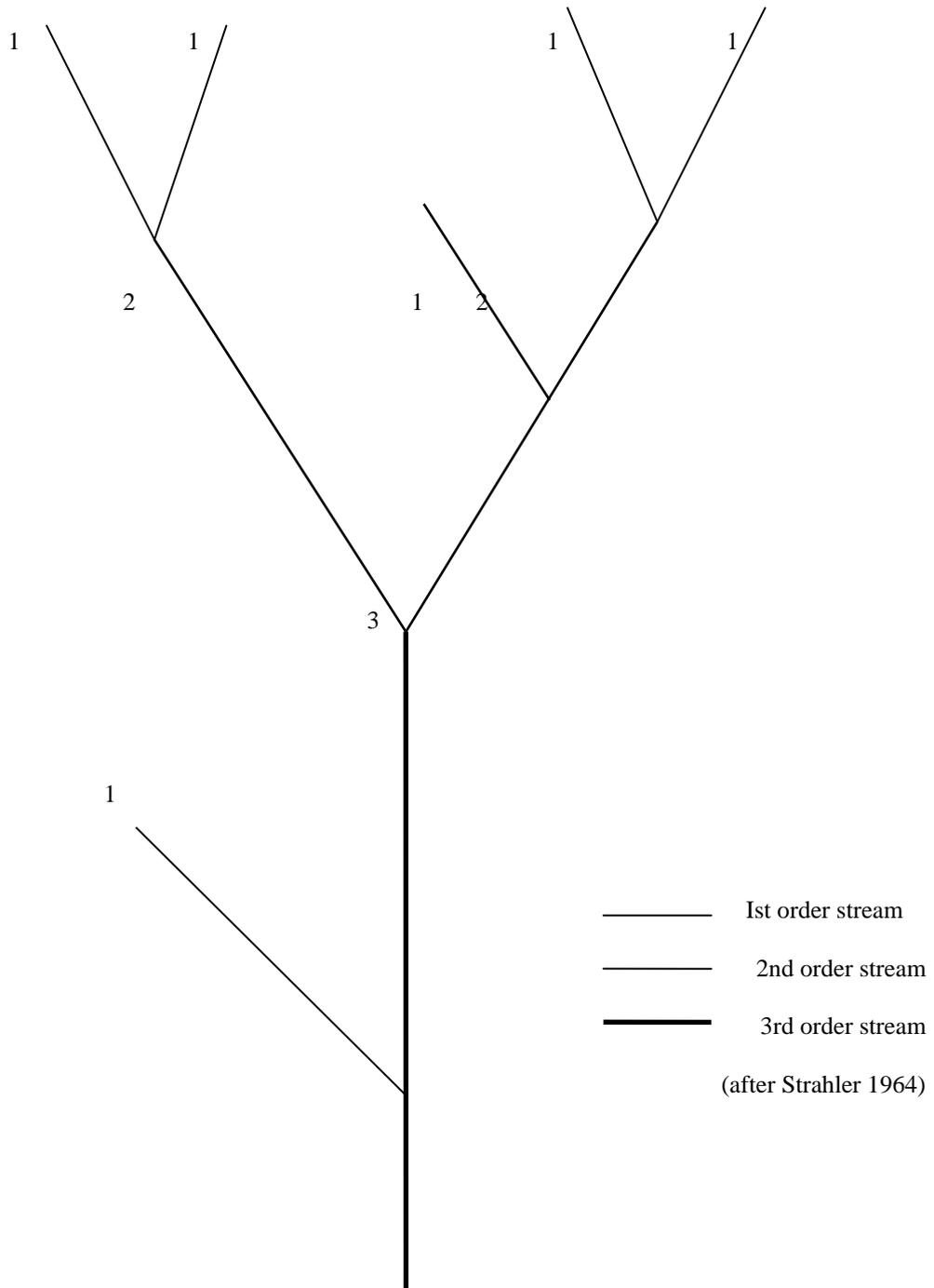
AMENDMENT 6
1 March 2013
Condition 8.8.13.2
modified

Schedule 1. Determination of stream order

Stream order must be determined according to the methodology outlined below.

1. A first order stream is defined as that part of a drainage system between its point of origin and the first junction with another stream. A second order stream commences at the junction of two first order streams. A third order stream commences at the junction of two second order streams. A fourth order stream commences at the junction of two third order streams. A schematic diagram of stream order is provided in Figure 1 below.
2. Downstream from the junction of two streams of different stream order, the higher stream order is maintained.
3. The determination of stream order must commence from the catchment boundary, even if that is outside the compartment.
4. Stream order must be derived from the drainage network provided on the relevant topographic map(s) for the compartment, from a 1:25,000 map sheet produced by the Land Information Centre (formerly the Central Mapping Authority). Where a 1:25,000 map sheet is not available for the compartment, then the best available scale map sheet produced by the Land Information Centre must be used.

Figure 1. Schematic diagram of stream order



Schedule 2. Threatened, ROTAP or regionally rare flora potential habitat descriptions

Species

*Acacia georgensis**

Distribution: Only recorded at Dr George Mountain near Bega, Kianinny Bay near Tathra, and Towamba River (Burragate).

Likely habitat: Heath and low forest on shallow soils over rhyolite or granite

Additional known habitat details:

Survey Season: All year but best in spring

Allocasuarina diminuta subsp. *annectans*

Distribution: Junction of Imlay Creek and Wallagaraugh River (otherwise between Braidwood and Sassafras)

Likely habitat: Heath and Low Open Woodland

Additional known habitat details:

Survey Season: All year

Astroloma pinifolium

Distribution: Recorded in Timbillica State Forest (south of Eden) and Nelson Beach area (near Tathra); also Jervis Bay (Commonwealth area)

Likely habitat: Dry heath or sclerophyll forest on sandy soils (often near-coastal)

Additional known habitat details: Recorded for northern and central NSW and in Victoria and Tasmania but apparently uncommon in southern NSW.

Survey Season: All year

Austrofestuca hookeriana

Distribution: Head of Dragon Swamp Creek and Brown Mountain (and beyond Eden area in the ACT, and Southern Highlands of NSW)

Likely habitat: Swampy open forest or grassland

Additional known habitat details:

Survey Season: Summer

Boronia nana var. *hyssopifolia*

Distribution: Nunnock Swamp and south of Bombala (Bondi Gulf NR) but recorded outside Eden area in a range of locations from Tumbarumba to Fitzroy Falls

Likely habitat: Open forest and heath

Additional known habitat details:

Survey Season: All year but best in spring/summer

Botrychium australe

Distribution: Only recorded in area south of Nalbaugh. Widespread elsewhere (other parts of eastern NSW, Queensland and Victoria) but rarely recorded and possibly extinct in Tasmania and South Australia.

Likely habitat: In damp sites in open forest or grassland

Additional known habitat details:

Survey Season: All year

Bracteantha viscosa

Distribution: Within and near Bondi State Forest (south of Bombala); otherwise widespread in NSW and Victoria

Likely habitat: Open woodland and sclerophyll forest

Additional known habitat details:

Survey Season: spring to early summer (Annual)

Callistemon forresterae

Distribution: Known from two sites in NSW - near junction of Imlay Creek and Wallagaraugh River, and upper Genoa River (Nungatta area)

Likely habitat: Riparian

Additional known habitat details:

Survey Season: All year

Caustis recurvata

Distribution: Recorded in Nadgee and Yambulla area - the southern limit of the species (also Jervis Bay and Sydney area)

Likely habitat: Heathland and forest

Additional known habitat details:

Survey Season: All year

Correa baeuerlenii*

Distribution: Coastal ranges from the Clyde River to near Tathra.

Likely habitat: Wet sclerophyll forests & margins of rainforest.

Additional known habitat details: Usually adjacent to creeks. Flowers spring & sporadically at other times.

Survey Season: All year

Correa lawrenceana* subsp. *genoensis

Distribution: Only known from Nungatta area

Likely habitat: Forest, perhaps near riparian

Additional known habitat details: Previously thought to be a Victorian endemic but possibly extinct there now.

Survey Season: All year

Corybas undulatus

Distribution: Not known from the Eden area.

Likely habitat:

Additional known habitat details:

Survey Season: Winter

Cryptostylis hunteriana*

Distribution: South from the Gibraltar Range, chiefly in coastal districts eg. Riamukka SF, Gibraltar Range NP

Likely habitat: Swamp-heath.

Additional known habitat details: On sandy soils in small, localised colonies most often on the flat plains close to the coast. Also known from some mountainous areas growing in moist depressions and swampy habitats. Recorded on granite & sandstone.

Survey Season: Summer (Flowers Dec - Feb)

Davallia pyxidata

Distribution: Nullica State Forest, Bemboka Walls and Mt Dromedary, and generally in eastern NSW (Qld, Vic and Tas).

Likely habitat: Rhyolite outcrops, rainforest

Additional known habitat details:

Survey Season: All year

Deyeuxia accedens

Distribution: Nalbaugh Plateau and Brown Mountain (the northern limit of its distribution)

Likely habitat: Open forest

Additional known habitat details:

Survey Season: Late spring/summer

***Eucalyptus ignorabilis* [▲]**

Distribution: Scattered populations south of Eden (eg Yambulla State Forest, Nadgee Nature Reserve) and continuing into eastern Victoria.

Likely habitat: Forests of the subcoastal plain and nearby ranges; mainly on sandy soils.

Additional known habitat details:

Survey Season: All year

Eucalyptus parvula*

Distribution: Big Badja to Nunnock Swamp FR. e.g. Kybean, Brown Mountain, Nunnock Swamp FR.

Likely habitat: Tussock grassland, wet flats & swamp surrounded by dry sclerophyll woodland.

Additional known habitat details: Associated with *Eucalyptus stellulata*, *E. viminalis*, *E. rubida* & *E. pauciflora*.

Survey Season: All year

Eucalyptus tereticornis

Distribution: Recorded in Bemboka - Brogo areas, Bega District, hills south of Pambula and Merimbula / Bournda area

Likely habitat: Low near-coastal woodland, and less commonly in tall forest and woodland

Additional known habitat details:

Survey Season: All year

Euphrasia scabra*

Distribution: Once widespread in south-eastern NSW but now only known from Bondi State Forest.

Likely habitat: Margins of swamp or bog

Additional known habitat details:

Survey Season: Autumn

Festuca asperula

Distribution: Scattered through south-eastern NSW (eg. Tantawangalo Mountain, Coolumbooka, Yambulla State Forest)

Likely habitat: Forest, possibly near-riparian

Additional known habitat details: More commonly a grass of subalpine grasslands

Survey Season: Summer

Lasiopetalum parvifolium

Distribution: Nullica and Bermagui areas (but more common north of Eden CRA area)

Likely habitat: Open forest

Additional known habitat details:

Survey Season: All year

Logania pusilla

Distribution: In the Eden area only recorded in Yambulla State Forest

Likely habitat: Dry sclerophyll forest

Additional known habitat details:

Survey Season: Spring

Mazus pumilio

Distribution: Nadgee Nature Reserve and Nalbaugh State Forest (and generally near coastal sites in eastern Australia)

Likely habitat: Swamp margins

Additional known habitat details:

Survey Season: All year

Poa cheelii

Distribution: Nullica and Yurammie State Forests, and between Bermagui and Bega.

Likely habitat: Rocky sites, especially on rhyolite

Additional known habitat details:

Survey Season: Summer

Poa costiniana

Distribution: Head of Dragon Swamp Creek, east of Bombala (and otherwise from high country along the Great Dividing Range, where locally abundant)

Likely habitat: Damp grassland or swamp

Additional known habitat details:

Survey Season: Summer

Pomaderris cotoneaster*

Distribution: Tantawangalo and Nungatta areas (and also Tumut (Goobaragandra River) and Morton National Park)

Likely habitat: Riparian and steep forested country

Additional known habitat details:

Survey Season: All year

Pomaderris elachophylla*

Distribution: Coolangubra and Brown Mountain areas

Likely habitat: Riparian

Additional known habitat details: Tends to grow on cool southerly aspects

Survey Season: All year

Pomaderris parrisiae*

Distribution: Wadbilliga NP, Brown Mountain, Tantawangalo and Coolangubra areas with doubtful records for Egan Peaks Nature Reserve and Green Cape.

Likely habitat: Tall sclerophyll forest of Eucalyptus fastigata or open forest with skeletal soils.

Additional known habitat details: Sometimes on margins of rainforest.

Survey Season: All year

***Psoralea adscendens* (now called *Cullen adscendens*)**

Distribution: Tantawangalo and Coolangubra areas; also locally common in montane woodland along the Great Dividing Range of the Southern Tablelands of NSW

Likely habitat: Woodland and forest

Additional known habitat details:

Survey Season: All year

Santalum obtusifolium

Distribution: Scattered between Bermagui and Merimbula

Likely habitat: Near coastal open forest

Additional known habitat details:

Survey Season: All year

Trachymene humilis

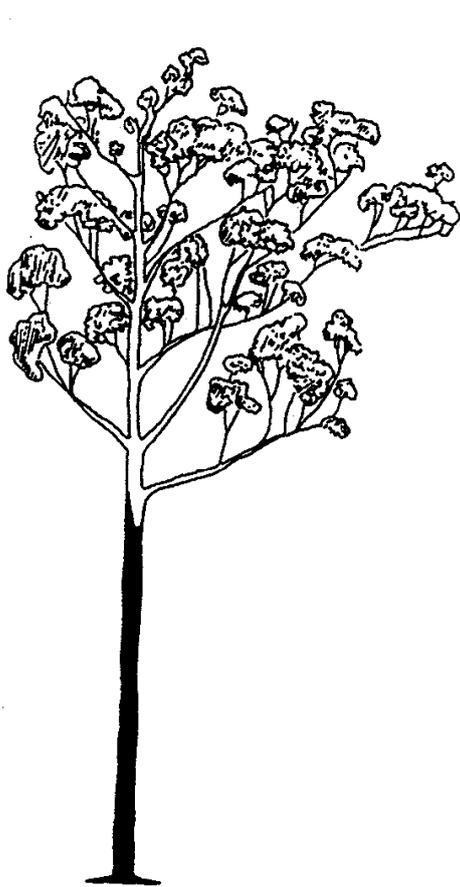
Distribution: Nimmitabel - Brown Mountain area, Badja Swamps and south of Bombala near the Victorian border (and locally common in subalpine grasslands of Kosciuszko and Victoria)

Likely habitat: In woodland and damp grassy vegetation

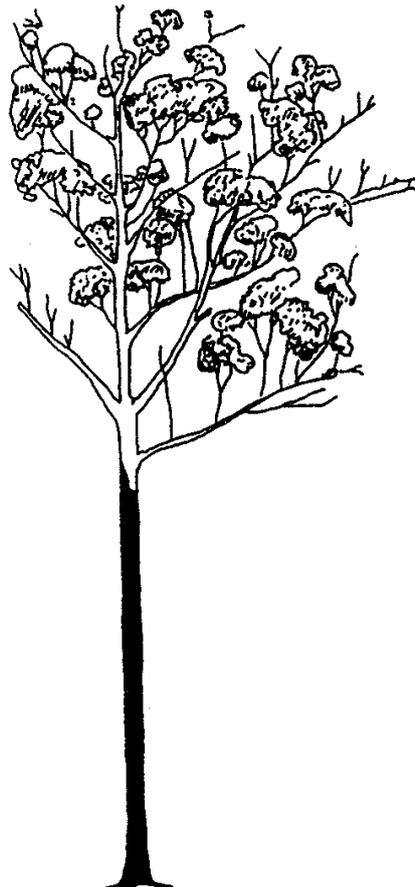
Additional known habitat details:

Survey Season: All year

Schedule 3. Diagrammatic representation of mature and late mature growth stages



Mature



Late Mature

Schedule 4. Threatened fauna potential habitat descriptions

Common Name	Species	Schedule
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FROGS

Booroolong Frog	<i>Litoria booroolongensis</i>	1
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Distribution: Down the Great Dividing Range from the Queensland border to far southern NSW and into Victoria. In the Eden Region there are records from Yambulla State Forest.

Macrohabitat: Flowing rocky streams generally on the western slopes of the Divide.

Microhabitat: Basks during daytime on rocks near the waters edge.

Giant Burrowing Frog	<i>Heleioporus australiacus</i>	2
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Distribution: Coast and ranges from the central coast of NSW to eastern Victoria.

Macrohabitat: Found in very variable sites, and can be found on the forest floor at quite a distance from water. Mostly restricted to Hawkesbury sandstone areas.

Microhabitat: Typically around sandy creek banks. Lives in and calls from burrows of small creeks. Breeds adjacent to non-perennial stream beds in poorly drained areas.

Green and Golden Bell Frog	<i>Litoria aurea</i>	1
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Distribution: From Byron Bay along the east coast of NSW, to the Australian Capital Territory, and into east Gippsland, Victoria. Confined to narrow coastal strip (within 20-30 kilometres of coast).

Macrohabitat: No association with any particular forest type. Found in shallow, still or slow-moving water (both ephemeral and permanent), with a sand substrate and emergent vegetation, especially bullrushes. Often found in situations with a sunny aspect.

Microhabitat: Shelters under ground debris. Basks during daytime on emergent vegetation or near edge of water and is also active at night.

Stuttering Frog	<i>Mixophyes balbus</i>	2
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Distribution: Mid to high elevations from south of the Richmond River in far northern NSW, along the coastal catchments of NSW, and East Gippsland in Victoria.

Macrohabitat: Rainforest and wet sclerophyll forest, with moist leaf litter, usually close to permanent running water. Disperses along forest floor during moist conditions and may be found some distance from permanent water, e.g. ridge tops.

Microhabitat: Usually calls on, or under, the leaf litter along streambanks. *M. balbus* often call from rocks in rapidly flowing sections of streams.

REPTILES

Rosenbergs' Monitor	<i>Varanus rosenbergi</i>	2
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Distribution: Two disjunct populations in the Sydney and Canberra regions.

Macrohabitat: Coastal heaths, humid woodlands, wet and dry sclerophyll forest, usually with a sandy substrate.

Microhabitat: Often lives under logs or rocks or in burrows. Terrestrial and diurnal.

BIRDS

Bush Thick-knee

Burhinus grallarius 1

Distribution: Widespread distribution in woodland habitats throughout Australia. Recent records from the coast and ranges of far northern NSW.

Macrohabitat: Dry, grassy open forest, woodland and forest edges. Usually found on flat terrain at low elevations.

Microhabitat: A nocturnal species, it usually lies hidden during the day. Forages in areas containing native grasses, with abundant leaf litter, fallen timber and logs are suitable habitat. The nest is a small scrape on bare ground, often near a bush or tree, or beside fallen limb.

Eastern Bristlebird

Dasyornis brachypterus 2

Distribution: Restricted to coastal south-east Australia, from the Conondale Range in south-east Queensland to eastern Victoria. There is a major geographic separation of 750 kilometres between populations in Border and Nightcap ranges in far northern NSW and near Kiama and Jervis Bay in south-east NSW.

Macrohabitat: It occupies a variety of heath or tussock grass habitats, usually on the boundary of woodland or forest.

Microhabitat: Optimum habitat appears to be eucalypt forest with sorghum tussock grass understorey and high litter levels. Most territories are close to a rainforest refuge, with a number of fallen logs and a creek or gully. Calls mainly at dusk and dawn.

Glossy Black Cockatoo

Calyptorhynchus lathami 2

Distribution: Patchy distribution in a wide coastal band from Eungella, eastern Queensland, to Orbost, Victoria. In NSW it is found on the coast, tablelands and as far west as the Riverina and the Pilliga Scrub.

Macrohabitat: Occurs in a range of forest types with a canopy or understorey that includes *Allocasuarina* spp, which are its food source.

Microhabitat: The presence of *Allocasuarina* spp is an indicator of likely habitat (*A. littoralis* in SE NSW). Chewed cones beneath trees indicate the presence of the species in an area. Large, mature hollow-bearing trees are required for nesting.

Masked Owl

Tyto novaehollandiae 2

Distribution: Found south from Cooktown, Queensland to the Pilbara region in Western Australia. Found sporadically along the coast and tablelands of NSW.

Macrohabitat: Found in a wide range of forest types, including wet and dry sclerophyll and rainforest. Thought to prefer drier forests and woodlands in flat or undulating country, however, may favour inclusion of moist forested areas within. Prefers a mosaic of sparse and dense ground cover. Often roosts in rainforest gullies. Found across the range of topographic sequences.

Microhabitat: Forages in areas with an open understorey, feeding mainly on small and medium-sized terrestrial mammals, and occasionally small arboreal mammals. Roost and nest trees are typically mature eucalypts bearing large hollows, although there are a number of records of the species roosting in dense vegetation. Nests have been located in both live and dead eucalypts.

Powerful Owl

Ninox strenua 2

Distribution: Found in the coastal areas and adjacent ranges of eastern Australia from the Victoria/South Australia border to Eungella in south-east Queensland. In NSW it is distributed throughout the length of the Great Dividing Range and also occurs on the western slopes.

Macrohabitat: Occurs in a range of vegetation types from woodland and open forest to rainforest. In NSW most commonly occurs in tall, wet or dry sclerophyll forests.

Microhabitat: Often found roosting in *Exocarpus* and rainforest gullies, or *Allocasuarina* groves, in stands with a dense canopy. It may utilise the drier portions of its home range for foraging. In forests, nest trees

have been most commonly located at the head or sides of gullies. A large proportion of the diet is comprised of arboreal mammals.

Regent Honeyeater

Xanthomyza phrygia 1

Distribution: Mainly in dry open-forest and woodland in areas of low to moderate relief on the inland slopes of the Great Dividing Range. The species also visits coastal southern areas and the north coast and tablelands.

Macrohabitat: Woodland to open forests <= 1000m asl. Box ironbark open forest and woodland communities.

Microhabitat: Important tree species are: in Mugga Ironbark *Eucalyptus sideroxylon*, White Box *E. albens*, Yellow Box *E. melliodora*, Yellow Gum *E. leucoxyton* and Blakely's Red Gum *E. blakelyi*, they are also known to feed on the flowers of mistletoe growing on River She-Oak *Allocasuarina cunninghamiana*. On the central coast NSW they are known to feed on Swamp Mahogany *E. robusta* and Coastal Banksia *Banksia integrifolia*. In north-east NSW they are known to feed on Grey and Silverleaved Ironbarks *E. siderophloia* and *melanophloia*, and Spotted Gum *Corymbia maculata* et al.

Sooty Owl

Tyto tenebricosa 2

Distribution: Coastal south-east Australia from the Conondale Range in south-east Queensland to eastern Victoria. Found throughout coastal NSW, generally east of the Great Dividing range.

Macrohabitat: Regarded as a specialist inhabitant of rainforest and tall open forest, however it is occasionally recorded foraging in adjacent dry sclerophyll forests. Roosts by day in dense gully vegetation such as rainforest, although the species will also roost in tree hollows, caves and rock overhangs. Requires large, hollow-bearing trees for nesting.

Microhabitat: Forages mostly in areas with a moist understorey, feeding predominantly on small arboreal mammals and terrestrial mammals. Nests in hollows of large eucalypts and rainforest trees, typically in the range of 125-160 centimetres dbhob.

Swift Parrot

Lathamus discolor 2

Distribution: Tasmania, Victoria, New South Wales and south-east Queensland. In NSW it occurs along the Victorian border and extends up the coast and ranges to the Queensland border. It is found at elevations from sea level to 1000m asl near Tenterfield.

Macrohabitat: Dry sclerophyll lowland forests.

Microhabitat: Areas containing winter flowering species, particularly Boxes, Ironbarks and *Banksia integrifolia*. Relies on mature, hollow-bearing trees for nesting (Tasmania only).

Turquoise Parrot

Neophema pulchella 2

Distribution: Principally in NSW, with the southern part of its range intruding into north-east Victoria and into the granite belt of south-east Queensland. In NSW, mainly found west of the escarpment in the tablelands and western slopes, extending to coastal districts through the dry forest corridor of the Hunter Valley, although it occurs widely through most of eastern NSW

Macrohabitat: Open woodlands and dry sclerophyll forests and adjacent grasslands, often in rocky, broken country. Also found along watercourses.

Microhabitat: Feeds on the ground, typically in small groups, primarily on grass and herb seeds. May favour ecotonal areas. Nests are seldom more than a metre or so above the ground and are in hollows in small trees, often dead eucalypts or in holes or stumps, fence posts, or even logs lying on the ground.

NON-FLYING MAMMALS

Broad-toothed Rat

Mastacomys fuscus 2

Distribution: Disjunct distribution throughout south-east Australia from northern NSW to western Tasmania. In NSW, known from the Barrington Tops area on the southern edge of the northern Tablelands. From this patchily through southern NSW, north-east and south Victoria.

Macrohabitat: Cool, moist areas, such as wet sclerophyll forests, woodlands, alpine and sub-alpine swamps, grasslands, sedgeland and heathlands. Appears to prefer high altitudes, although has been recorded at sea level (although not in NSW).

Microhabitat: A dense ground cover of grasses, sedges and shrubs appears to be critical, also a high level of ground moisture, mainly near creeks.

Brush-tailed Phascogale

Phascogale tapoatafa 2

Distribution: From north of Rockhampton, south through NSW and Victoria, to the Mt Lofty Ranges in south-east South Australia, from near sea-level up to 1500m. North-east NSW appears to represent a stronghold.

Macrohabitat: Utilises a range of habitat types. Dry sclerophyll forest and woodlands <= 600m asl are preferred, usually with shrub understorey. The species has been found in coastal swamps, woodlands and heathlands, wet sclerophyll forest and cool temperate rainforest.

Microhabitat: Rough-barked dominated forests provide more suitable substrates for climbing than smooth-barked dominated forests. Nests and dens in tree hollows.

Brush-tailed Rock Wallaby

Petrogale penicillata 2

Distribution: Restricted to south-east Australia from Nanango in southern Queensland, to the Grampians in western Victoria. It occurs as isolated and highly localised populations in the upper reaches of easterly flowing rivers between south-east Queensland and Gippsland in eastern Victoria, and as isolates in western Victoria and central NSW. In NSW, the species is concentrated around the Great Dividing Range.

Macrohabitat: Rocky areas with escarpments, ledges, caves, tumbled boulder fields and terraces, (Northerly aspects are favoured), in, or adjacent to wet and dry sclerophyll forest or woodlands, which in turn are in close proximity to grasslands, open, grassy forest or river flats. Also occasionally found in drier rainforest types.

Microhabitat: Shelters in rocky areas during the day and feeds in adjacent grasslands and riparian areas from dawn and dusk.

Long-footed Potoroo

Potorous longipes 1

Distribution:

Macrohabitat: Potential habitat for this species is diverse: coastal forest and woodland with a moderately dense heathy understorey, wet and dry sclerophyll forest. Often associated with gullies and forest ecotones.

Microhabitat: Open areas are used for foraging while areas of dense ground cover / understorey provide areas for shelter and protection from predators. Feeds on fungi, moving up and down slope as they become seasonally available in these areas.

Long-nosed Potoroo

Potorous tridactylus 2

Distribution: Disjunct distribution along coastal south-east Australia from near Gladstone in Queensland, to south-west Victoria and in Tasmania. Found from sea level up to 1500m in altitude. In NSW, it is found throughout coastal and subcoastal areas.

Macrohabitat: Potential habitat for this species is diverse: coastal forest and woodland with a moderately dense heathy understorey, dense coastal scrubs, wet and dry sclerophyll forest and sub-tropical, warm temperate and cool temperate rainforest of the eastern slopes and highlands. Often associated with gullies and forest ecotones.

Microhabitat: Open areas are used for foraging while areas of dense ground cover / understorey provide areas for shelter and protection from predators. Feeds on fungi, moving up and down slope as they become seasonally available in these areas.

Smoky Mouse

Pseudomys fumeus 1

Distribution: From a relatively small number of sites in western, southern and eastern Victoria, south-east NSW and the ACT, with a very disjunct distribution which includes both coastal and montane sites.

Macrohabitat: Dry sclerophyll or heathland with diverse understorey. Associated primarily with ridge-top sites.

Microhabitat: Areas containing a high diversity of seed-bearing legumes and fruiting epacrids and a high number of rocks or fallen logs.

Southern Brown Bandicoot

Isoodon obesulus 1

Distribution: Restricted to areas around Sydney and the far south-east coastal area.

Macrohabitat: Dry sclerophyll forests with heathy understorey, heathlands, woodlands and grasslands. Found in all aspects of the topographic sequence.

Microhabitat: Areas with dense, low ground cover.

Spotted-tailed Quoll

Dasyurus maculatus 2

Distribution: From the Bundaberg area in south-east Queensland, south through NSW to western Victoria and Tasmania. In NSW, it occurs on both sides of the Great Dividing Range and north-east NSW represents a national stronghold.

Macrohabitat: Wide range of forest types, although appears to prefer moist forest types and riparian habitat. Most common in large unfragmented patches of forest. It has been recorded from dry sclerophyll forest, open woodland and coastal heathland, and despite its occurrence in riparian areas, it also ranges over dry ridges. Generally nocturnal, although it may sometimes hunt during daylight.

Microhabitat: Potential den sites include small caves, rocky crevasses, boulder fields, stags, hollow tree bases and hollow logs. Latrine sites are often areas of exposed rock with a sparse ground cover which show evidence of regular use, however large fallen logs are also used occasionally.

Squirrel Glider

Petaurus norfolcensis 2

Distribution: Restricted to mainland eastern Australia. In NSW, it occurs on either side of the Great Divide, with coastal records from south of Sydney to the Queensland border, and extends as far west as the Coonabarabran area.

Macrohabitat: Dry, open forest and woodland with high nutrient soils, where high nectar-producing eucalypts and flowering shrubs are present. Inhabits open, xeric forests and woodlands and is generally absent from mesic, closed forests, however, in north-east NSW and south-east Queensland it occurs in some wet forest areas bordering on rainforest.

Microhabitat: The genera *Banksia*, *Xanthorrhoea* and *Acacia* provide important food resources. Nests and dens in tree hollows.

Yellow-bellied Glider

Petaurus australis 2

Distribution: From east of Melbourne in Victoria, to Sarina near Mackay in central-northern Queensland, occupying coastal forests and adjacent subcoastal forests of mid-to-high elevations and the dry and moist escarpment forests in north-east NSW.

Macrohabitat: Moist and dry sclerophyll forest where suitable floriferous and sap providing eucalypt species are present. Often commonly associated with the ecotones between wet and dry sclerophyll forests where there is a high diversity of tree species.

Microhabitat: Forests containing winter flowering species and smooth-barked species with decorticating bark. Feeds on sap from incisions made in the bark of suitable trees, leaving distinctive V-shaped (and other shaped) marks on bark. Often such trees are heavily marked. Large, mature hollow-bearing trees are required for denning and breeding.

BATS

Common Bent-wing Bat

Miniopterus schreibersii 2

Distribution: Eastern Australia, from north Queensland to far south-east South Australia. Isolated subspecies occur in northern Northern Territory and northern Western Australia. Widely distributed throughout north-east and south-east NSW, where it is widespread and common, although less abundant at low elevations in far north-eastern NSW

Macrohabitat: Rainforest, wet and dry sclerophyll forest, and woodland.

Microhabitat: This species roosts in high humidity caves, and roost selection varies in response to seasonal and yearly climatic variations. The species forages for flying invertebrates, possibly above the tree canopy.

Eastern Cave Bat

Vespadelus troughtoni 2

Distribution: Throughout eastern Queensland and eastern NSW, inland to central NSW.

Macrohabitat: Precise habitat requirements unknown. Most records are from dry sclerophyll forests and woodlands often associated with sandstone escarpments.

Microhabitat: Roosts in caves, crevices in cliffs, rock outcrops.

Eastern Little Mastiff-bat

Mormopterus norfolkensis 2

Distribution: From far south-east Queensland, south to Pambula in eastern NSW. All records are east of the Dividing Range. The species is known from less than about 15 widely scattered localities within its range, and appears to be sparse and localised in NSW. Recorded from the lower north coast and ranges.

Macrohabitat: Habitat requirements are poorly defined, but records occur mainly from low elevation dry sclerophyll forest and woodlands, with some from rainforest.

Microhabitat: Known to roost in tree hollows.

Golden-tipped Bat

Kerivoula papuensis 2

Distribution: Disjunct distribution in eastern Australia from Cape York Peninsula south to southern NSW. Although widely distributed, the species appears to be localised and sparse.

In NSW the species is known from sites from coastal areas to the escarpment of the Dividing range, where it has been recorded at altitudes of up to 1000 metres. Most records from NSW are from the north-east region, but it has been recorded as far south as the Bega area.

Macrohabitat: Rainforest, wet sclerophyll forest with rainforest understorey, wet and dry sclerophyll forests adjacent to rainforest. Has also been recorded in dry sclerophyll forest at distances from rainforest.

Microhabitat: Roost requirements are poorly known, but the species has been recorded roosting in dense clumps of vegetation, scrubwren and gerygone nests, and tree hollows. Has an unusual diet, which includes orb weaving spiders.

Greater Broad-nosed Bat

Scoteanax rueppellii 2

Distribution: From southern NSW through to south-east Queensland in the Atherton Tablelands region and has a sparse, but wide, distribution in north-east NSW. Most records in NSW are east of the Great Dividing Range.

Macrohabitat: Records exist from sclerophyll forests, woodlands (more commonly) and also rainforests.

Microhabitat: Known to roost in tree hollows.

Great Pipistrelle

Falsistrellus tasmaniensis 2

Distribution: Extends from south-east Queensland to western Victoria and Tasmania. In north-east NSW it is mainly restricted to higher elevation forests.

Macrohabitat: Known from rainforest, wet and dry sclerophyll forests.

Microhabitat: It roosts in tree hollows with a few records of this species roosting in caves. The species forages on moths, beetles and ants, around or just below the tree canopy.

Large-footed Mouse-eared Bat*Myotis adversus* 2

Distribution: Represents a species complex ranging eastern Australia from far south-east South Australia, Victoria, New South Wales, Queensland, northern parts of the Northern Territory and northern Western Australia. It is widespread in north-east NSW where 3 species may occur.

Macrohabitat: Riparian and coastal forests from low to mid elevation.

Microhabitat: Foraging is associated with streams, reservoirs and estuarine environments either over the water surface and possibly over adjacent riparian vegetation. Roosts in caves, disused mine tunnels, culverts and under bridges, but is also known to roost in tree hollows.

Yellow-bellied Sheathtail Bat*Saccolaimus flaviventris* 2

Distribution: Across northern Australia north of the Tropic of Capricorn, extending south through western NSW to Victoria and eastern South Australia. In NSW it is known from relatively few dispersed localities, distributed over most of the State from coastal to far western districts, extending further west in the north of the state, and has also been recorded in south-east NSW near Queanbeyan.

Macrohabitat: Forages over a wide range of forest types including rainforest, moist hardwood forest and dry sclerophyll forest, and also occurs in mallee, woodland and open country.

Microhabitat: Roosts in tree hollows and is thought to forage widely above the forest canopy for flying insects.

Schedule 5. Fauna species' consideration

Threatened fauna species considered adequately protected by the General Conditions.

AMENDMENT 6
1 March 2013
Schedule 5, Table
of Threatened
fauna species
considered
adequately
protected by the
General
Conditions –
species modified

Fauna group / Common name	Scientific name
Birds	
(alphabetic by common name)	
Australasian Bittern	<i>Botaurus poiciloptilus</i>
Black Bittern	<i>Ixobrychus flavicollis</i>
* Bush Stone-Curlew	<i>Burhinus grallarius</i>
Glossy Black-Cockatoo	<i>Calyptorhynchus lathami</i>
Olive Whistler	<i>Pachycephala olivacea</i>
Osprey	<i>Pandion haliaetus</i>
Square-tailed Kite	<i>Lophoictinia isura</i>
Turquoise Parrot	<i>Neophema pulchella</i>
Non-flying mammals	
(alphabetic by common name)	
Brush-tailed Rock Wallaby	<i>Petrogale penicillata</i>
White-footed Dunnart	<i>Sminthopsis leucopus</i>
Flying mammals	
(alphabetic by scientific name)	
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>
Common Bentwing-bat ¹	<i>Miniopterus schreibersii</i>
Eastern Freetail-bat	<i>Mormopterus norfolkensis</i>
Large-footed Myotis	<i>Myotis adversus</i>
Greater Long-eared Bat	<i>Nyctophilus timoriensis</i>
Yellow-bellied Sheathtail-bat	<i>Saccolaimus flaviventris</i>
Greater Broad-nosed Bat	<i>Scoteanax rueppellii</i>
Eastern Cave Bat	<i>Vespadelus trougtoni</i>

* Designates TSC Act Schedule 1 species.

¹ Maternity caves of these species are dealt with under **Condition 5.2 of this licence**

Threatened fauna species which require the implementation of Species-specific Conditions:

Fauna group / Common name	Scientific name
Frogs	
(alphabetic by scientific name)	
Giant Burrowing Frog	<i>Heleioporous australiacus</i>
* Green and Golden Bell Frog	<i>Litoria aurea</i>
Littlejohn's Tree Frog	<i>Litoria littlejohni</i>
Stuttering Frog	<i>Mixophyes balbus</i>
Birds	
(alphabetic by common name)	
Barking Owl	<i>Ninox connivens</i>
Black-chinned Honeyeater (eastern sub-species)	<i>Melithreptus gularis gularis</i>
Masked Owl	<i>Tyto novaehollandiae</i>
Powerful Owl	<i>Ninox strenua</i>
* Regent Honeyeater	<i>Xanthomyza phrygia</i>
Sooty Owl	<i>Tyto tenebricosa</i>
Swift Parrot	<i>Lathamus discolor</i>
Non-flying mammals	
(alphabetic by common name)	
Brush-tailed Phascogale	<i>Phascogale tapoatafa</i>
Koala	<i>Phascolarctos cinereus</i>
Long-nosed Potoroo	<i>Potorous tridactylus</i>
* Smoky Mouse	<i>Pseudomys fumeus</i>
* Southern Brown Bandicoot	<i>Isodon obesulus</i>
Spotted-tailed Quoll	<i>Dasyurus maculatus</i>
Squirrel Glider	<i>Petaurus norfolcensis</i>
Yellow-bellied Glider	<i>Petaurus australis</i>
Flying mammals	
(alphabetic by scientific name)	
Golden-tipped Bat	<i>Kerivoula papuensis</i>

* designates TSC Act Schedule 1 species

Common and scientific names used are those in the *Threatened Species Conservation Act 1995*, Schedules 1 and 2.

Schedule 6. Matters to be addressed in assessment of proposals for new roading through Rainforest, Rare Forest Ecosystems and Stream Exclusion Zones

When applying to construct new roads or snig tracks through Rainforest, Rare Forest Ecosystems and Stream Exclusion Zones, SFNSW must provide NPWS with a report addressing the following:

- a) All options that were considered, the cost of all options, the reasons why the selected route was chosen and why the other routes were not considered feasible;
- b) The specific reasons why the road or snig track must be established;
- c) The mitigative and ameliorative measures to be applied; and
- d) Results of the field assessment which must be undertaken and must include:
 - i. A description of the proposed road or snig track, including dimensions of area to be affected (road footprint, run-offs etc), method of construction including any cutting and filling that may be involved, and construction of any stream crossings.
 - ii. An assessment and description of any threatened flora that will or is likely to be directly or indirectly affected by construction, or occurs within 50 metres of the construction area.
 - iii. An assessment and description of any threatened fauna that
 - will be or is likely to be directly or indirectly affected by construction, OR
 - occurs within 100 metres of the construction area.
 - iv. An assessment and description of the likelihood of the road to create a barrier to movement of threatened fauna, or is otherwise likely to increase the threats to threatened fauna.
 - v. An assessment of any habitat features that will or are likely to be directly or indirectly affected by the construction, including but not confined to: wetlands or other waterbodies; and threatened species habitat.
 - vi. An assessment and description of the area affected including, but not confined to:
 - the type of Rainforest or Rare Forest Ecosystem or Stream Exclusion Zone (according to RN17);
 - a brief description of the floristics and structure of the Rainforest or Rare Forest Ecosystem or Stream Exclusion Zone;
 - a description of the total area of the Rainforest or Rare Forest Ecosystem or Stream Exclusion Zone to be directly and indirectly affected;
 - the likelihood of the road to fragment the Rainforest or Rare Forest Ecosystem or Stream Exclusion Zone patch; and
 - whether the rainforest is SEPP 26 littoral rainforest.
 - vii. An assessment of the likelihood of the construction increasing the presence or abundance of weeds or feral animals.
 - viii. An assessment of past disturbance in the proposed construction area.

Schedule 7. Draft feral and introduced predator control plan

Background and Summary

Feral and introduced animal management is a major issue for all Land Managers. Feral animals cause damage to the environment in a variety of ways. Fox predation has been formally listed as a Key Threatening Process under both Commonwealth and State legislation. There are legislative requirements to control noxious animals under State regulations. There is a wide perception in the scientific and general community that feral animals are a major threat to native wildlife.

This plan was developed in consultation with CSIRO (Peter Catling) and an expert in management of fauna at potential risk from control activity (Chris Belcher). Practicality, economics, transparency and accountability were considered in the process of developing a two-stage approach to feral animal management.

The first stage involves monitoring and control of feral animals in the context of harvest operations and the Wildlife Management Code of Practice. It makes use of a cost-effective method (using soil plots to record tracks) to monitor feral animals. When unacceptably high levels of ferals are recorded, control measures will be put in place. The second stage will be the development of a landscape approach to feral management, in conjunction with other agencies and landholders. This is used to great effect in some areas and is the preferable most practical and effective means of managing vertebrate pests.

State-wide Strategic Approach

Methods

Monitoring Predators

Soil plots, as described by Catling and Burt (1996) will be used to detect the presence of feral predators. These are strips of soft soil or sand placed across minor roads. The strips are one metre wide and run from road edge to road edge. Soil plots detect the presence of feral predators (and other animals, notably Critical Weight Range Vertebrates) through the footprints left when animals cross them. Each soil plot is visited in the early morning to achieve best results when the sun is low on the horizon and emphasises the shape of footprints with clear shadows.

At least 20 soil plots will be established in each Landscape Management Unit targeted and these will be checked daily for three days.

Controlling Predators

Bait mounding will be the primary control method used. Earth mounds approximately 40 centimetres in height are constructed and meat baits placed approximately 20 centimetres below the surface of the mounds. Mounds are monitored for take, and those visited by target species (Cats, Foxes and Dogs) are activated with 1080 poison baits.

Where the presence of native carnivores is indicated at the mounds, alternative methods of control will be employed. Soft jawed spring traps are a preferred alternative. In some instances, "Call-up and Shoot" techniques can be utilised effectively.

Landscape Stratification

Each management area will be stratified into Landscapes Management Units (LMU). There is precedent for this in the South-east Region feral management program, and in the management of Owl Habitat under the Wildlife Management Code of Practice. The development of landscape management units is described in Part B Section 3.1.2 of the Survey Design. The location of soil plots for monitoring will be determined by the plan of operations, to target recent logging, and by the results of wildlife survey and database searches, to target key threatened species locations.

Action Sequence:

- a) Yearly Plan on State Forests
 - i. Winter-Spring Year 1
 - Review Threatened Species Surveys, Data base, and Plan of Operation
 - Nominate Landscape Management Units for action
 - Place Soil Plots
 - Record Predator levels, CWR levels
 - ii. Winter-Spring Year 2
 - Place Soil Plots
 - Record Predator levels, CWR levels
 - iii. Analyse data for Predator Abundance.
 - If no increase or decrease, stop.
 - If increased levels of PA, go to iv.
 - iv. Check Threatened Species locations and Private Property interface
 - If no Threatened Species, justify stop or go to v.
 - If the Private Property interface is the epicentre of increase abundance, go to section b).
 - v. If there are threatened species present, check which Predator Species have increased.
 - If the predators are dogs, justify actions according to dog/dingo relationship – that is, if the predators are natural populations of wild dingoes, stop. If there are “unnaturally high levels” of dingoes, or the predators are feral dogs.
 - vi. Institute mound baiting.
 - If takes are target predators, go to vii.
 - If takes are quolls, go to viii.
 - vii. Arm mounds with 1080. Follow monitoring plan in subsequent years for both predators and CWR target species to determine efficacy.
 - viii. If takes are quolls, determine alternative strategy – traps, shooting, stop action to maintain quolls.
- b) Yearly Plan: All tenures.
 - i. Contact Neighbouring Agencies and Property Owners
 - ii. Determine actions already underway.
 - iii. Set up inter-agency working body according to Regional needs
 - iv. Report results of SFNSW monitoring and control actions.
 - v. Negotiate, support and monitor control actions outside SFNSW tenure.

By following these decision rules for action, an effective monitor and control program can be put in place. If it is not effective, the reasons (including no action by other agencies and neighbours) for this are transparent.

Schedule 8. Guidelines for implementing the large forest owl landscape approach

In applying the Landscape approach the following method must be followed:

- a) Preferred Management Priority (PMP) or Forest Management Zones (FMZ) must be overlaid on the owl locations identifying all PMP/FMZ classes reserved from logging as well as NPWS reserves within the Planning Area.
- b) Harvesting plans and Stream Exclusion Zones will be overlaid to identify all additional areas reserved from logging with the Planning Area (e.g. riparian buffers and connection corridors).
- c) The habitat value of areas within the Planning Area will be identified e.g. PMP visual zones, previously logged areas and the adjusted area based on planned or achieved canopy reduction will be recorded.
- d) The total adjusted area of retained habitat within the Planning Area will be calculated (areas of essentially even aged regrowth less than 10 years old should not be included).
- e) Areas permanently reserved from harvesting will be mapped on harvesting plans (scale 1:15,000) and progressively added to PMP/FMZ maps (scale 1:25,000).

Schedule 9. Transitional provisions

AMENDMENT 6
1 March 2013
Schedule 9
replaces

9.1 . The following definitions apply for the purpose of this provision:

“Commencement date” means the date on which the authorised Ministers sign the amendment to Integrated Forestry Operations Approval for the Upper North East, Lower North East, South Coast and Tumut Sub-regions and Eden Regions.

“Existing Conditions” means the Terms of Licence Under The Threatened Species Conservation Act 1995 in force from amendment 5 (July 2008) to the commencement date.

“New conditions” means the Terms of Licence Under The Threatened Species Conservation Act 1995 in force from the commencement date.

“Transition period” means the period of six months after the commencement date.

9.2 Current and proposed forestry operations

a) Where plans for forestry operations have been signed by a regional manager before the commencement date, during the transition period these operations shall be carried out either:

- i. in accordance with the existing conditions; or
- ii. in accordance with the new conditions.

The choice of i. or ii. is at the discretion of the Forestry Corporation of NSW.

b) After the expiry of the transition period all forestry operations shall be carried out in accordance with the new conditions.

c) After the commencement date all plans shall be developed in accordance with the new conditions.

Schedule 10. OMITTED (AMENDMENT 6).