NEFA

North East Forest Alliance
C/- Big Scrub Environment Centre, 123 Keen St Lismore 2480
Ph/Fax (02) 6622 4737

20 February 1998

Attention: Gary Davey
Threatened Species Unit,
National Parks and Wildlife Service,
Coffs Harbour,
Fax 516 187

9 pages to follow

Dear Gary,

Following is our submission on a management plan for the Brush-tailed Rock Wallaby population in north Ewingar State Forest, compartments 604-608.

I understand the NPWS is currently running a public relations campaign to raise the profile of the Brush-tailed Rock Wallaby and to get new records of the species. It would be a pity if NPWS allowed a population to have its habitat logged while advertising the importance of conserving the species.

I will keep in touch as I don't want this issue to be ignored, but please contact me as soon as you have a response.

Yours sincerely,

Georgia Beyer.

NEFA

North East Forest Alliance
C/- Big Scrub Environment Centre, 123 Keen St Lismore 2480
Ph/Fax (02) 6622 4737

20 February 1998

Attention: Bob Williams
State Forests of NSW,
Northern Rivers Region,
Casino,
Fax 625826

9 pages to follow

Dear Mr Williams

Following is our submission on a management plan for the Brush-tailed Rock Wallaby population in north Ewingar State Forest, compartments 604-608.

The submission is in line with the principles of ecologically sustainable forest management that aim to conserve the species within the forest ecosystems, in particular threatened species that are sensitive to the effects of logging.

Please note that compartments 610 - 614 are currently mapped as owl reserve as part of the landscape owl reserve and are also on this years plan of operations.

Please advise me of what actions you will take in response to this submission.

Yours sincerely,

Georgia Beyer.

NEFA

North East Forest Alliance

C/- Big Scrub Environment Centre, 123 Keen St Lismore 2480 Ph/Fax (066) 22 4737

Proposal for an Interim Management Plan for a population of the Brush-tailed Rock Wallaby in Ewingar State Forest

17 February 1998

Introduction

The logging of a group of compartments in north Ewingar State Forest that support a population of Brush-tailed Rock Wallabies, greatly concerns the North East Forest Alliance.

This proposal describes an interim plan of management for the Brush-tailed Rock Wallaby in north Ewingar State Forest. The plan focuses on the forest compartments soon to be logged (cpts. 604-608), and includes recommendations for a long term management plan.

Background Information

The Brush-tailed Rock Wallaby was once abundant and wide spread in eastern Australia (Short and Milkovits 1990), but numbers have declined dramatically and it is now listed as a vulnerable species, *"likely to become endangered unless the circumstances and factors threatening its survival or evolutionary development cease to operate."* (Schedule 2, Threatened Species Conservation Act 1996), and is also listed as Vulnerable under the commonwealth Endangered Species Protection Act 1992.

The National Parks and Wildlife Service are responsible for protecting Brush-tailed Rock Wallabies and act upon this responsibility for state forests through a section 120 licence. The licence requires the Conservation Protocols for Timber Harvesting on State Forests (1996) be applied.

Protection for the Brush-tailed Rock Wallaby in the Conservation Protocols is covered by the guidelines for Critical Weight Range Vertebrates, requiring that a species specific control measure for feral predators be undertaken after harvest as required, fuel reduction burning to be limited to less than 75% of the compartment, and by protection of rocky outcrops.

NEFA considers that the Conservation Protocols are inadequate to protect the Brush-tailed Rock Wallaby as it leaves foraging areas unprotected from logging and roading, and potentially burning and grazing. It also gives no protection for areas used for seasonal movements or dispersal of the species.

The Ewingar Population

Information has been drawn from several sources to establish what areas are supporting Brush-tailed Rock Wallabies. Records were collated from the National Parks and Wildlife Service Wildlife Atlas (refer to Map 1), State Forests pre-logging fauna survey of cpts 604-608 and cpts 625 - 628 (refer to Map 2), from a local resident T. Placing, who has become familiar with the rock wallabies over the past 20 years (refer to Map 3), and from our own surveys of the area (refer to Map 4).

The population in north Ewingar is made up of groups in several areas. Known groups include one around Bulldog Rock, one around Ewingar Creek in compartments 604-608, and one in an area further south along Bulldog Road to Bluff Road.

There are also areas in Ewingar State Forest likely to support Brush-tailed Rock Wallabies. Some of these areas are described below and are shown on the attached map (refer to Map 5). A long term population study is required to identify the full extent of the Ewingar population.

According to State Forests' pre-logging Flora and Fauna Survey of compartments 625 -628, potential habitat exists in the steep areas in the west of compartment 627.

The Bulldog Rock and Bluff Road groups have been recorded along the road and into the forest areas to the south east of Bulldog road (cpts 608, 609 and 617) but the steep rocky areas making up the core of the habitat are north west of the road. Compartments 610-614 all contain steep north west facing slopes potentially providing suitable habitat for the Brush-tailed Rock Wallabies. The NPWS Wildlife Atlas shows a record from the river flats north of cpt 610.

The southern side of Ewingar Creek has steep, rocky, north facing cliffs suitable for Brush-tailed Rock Wallabies (cpts 618, 619 and 620). There is a rock wallaby record in cpt 619 (Kooyman 1997). Scats were collected by NEFA at the top of these cliffs in cpt 620 that are the same in size and shape to other scats collected at the base of a cave inhabited by rock-wallabies adjacent to Bulldog Road. It is assumed that they are Brush-tailed Rock Wallaby scats.

The NPWS Wildlife Atlas shows a Brush-tailed Rock Wallaby record near Washpool Creek adjacent to cpt 675. The population study recommended below should cover this area.

A neighbouring population of Brush-tailed Rock Wallabies exists on the Timbarra Plateau to the west of Ewingar (NPWS Wildlife Atlas) and there is a record near Nobles Creek north of Ewingar (NPWS Wildlife Atlas).

Threats to the Ewingar Population

The main threat facing rock-wallabies is predation by feral predators particularly foxes (Short 1982), and also cats (Spencer 1991). The small size of Brush-tailed Rock Wallabies relative to the other macropods with which they are sympatric makes them particularly vulnerable to predation (Short 1982). The Casino Environmental Impact Statement, Fauna Appendix, cites predation by foxes as a threat to Brush-tailed Rock Wallabies brought about indirectly through logging.

Logging tracks facilitate dispersal and hunting by predators, logging machinery disturbances disrupt habitat (ie tracks and refuges) and consequently increase the rock wallabies vulnerability to predation.

The wallabies inhabit steep rocky areas that provide shelter from predation and use the surrounding forest areas for grazing. The fauna survey for cpts 604-608 found that they are grazing up to 200 metres from the steep rock areas (Kooyman 1997). Logging may initiate changes in the foraging resources of the rock wallabies and reduce food availability. The effect of logging on the foraging resources is unknown and a precautionary approach must be taken to ensure there is no adverse affect on the population.

Logging may increase the threat of fire by increasing the fuel load.

It is likely that rock-wallabies are disadvantaged in competitive interactions with introduced herbivores because of the wallabies small home ranges (c. 15 ha, Short 1980) (Short 1989). In Ewingar grazing by cattle is likely to be a threat.

It is essential that the wallabies can move freely and successfully between the groups to maintain population dynamics. The wallabies are particularly vulnerable to predation while moving and dispersing between areas of preferred habitat containing rocky areas where they can escape the predation threat.

Recommendations

Long Term Protection

It is recommended that a long term management plan for the Ewingar population of Brush-tailed Rock Wallabies be prepared by State Forests in conjunction with the National Parks and Wildlife Service and with input from conservation groups or other interested community groups such as local residents. The plan should include reserving the areas used by the rock wallabies, reserving links between the different groups, controlling feral predators and employing appropriate burning regimes.

A long term population study is recommended to assess the full range of the Ewingar population, including the steep rocky habitat used to shelter during the day, the areas used for foraging and grazing and areas used seasonally, so that a long term plan can be prepared.

Proposed Moratorium Area
It is recommended that the areas identified on Map 5 as likely to support Brush-tailed Rock Wallabies are deferred from logging and roading until they are surveyed and the presence of rock wallabies determined.

Of utmost importance is the area encompassed by compartments 610 - 614. Groups have been located in this area and further surveys are required to assess their distribution. These compartments are on State Forests' Plan Of Operations for 1998, even though they are currently mapped as owl reserve as part of the landscape owl reserve plan for Ewingar SF.

Also of concern is the area of likely habitat in compartment 627 which is planned for logging.

The NPWS Wildlife Atlas shows a Brush-tailed Rock Wallaby record near Washpool Creek adjacent to cpt 675. The recommended population study should include this area.

If no further surveys are undertaken for rock-wallabies in the areas as mapped then it is recommended that these areas be considered reserved and protected from logging and roading.

Proposed Exclusion Area in Compartments 604-608
The immediate threat of logging within the population requires an interim management plan.

NEFA recommends that an area be excluded from logging and roading, within compartments 604 -608, consisting of the main habitat areas of the Brush-tailed Rock Wallabies, links between the areas and a buffer.

The proposed exclusion area will protect the rock-wallabies' shelter and grazing habitats from extra roading, disruption and opening up of the forest that may lead to increased predation.

The proposed exclusion area within compartments 604 - 608 mainly consists of the steep unloggable country associated with Ewingar Creek and the old growth forest exclusion area in compartment 608.

The northern boundary of the proposed exclusion area runs along Bulldog Road near Bulldog Rock and south down 607/608 Road to the knoll. The boundary then follows the same ridge line east and then runs north to meet and follow 607/2 Road to the east/north-east. At the end of the road the boundary follows the ridge line to the creek and up the next ridge to meet 604/605 Road at the knoll. The boundary then follows this road south east until it meets and follows the compartment 606 boundary south to Ewingar Creek.

The southern boundary starts at Bulldog Road running south and then east creating a 200 metre road buffer. It then meets 608/2 Road and runs south, meets and follows the old growth forest exclusion area until it meets Ewingar Creek. The boundary then follows Ewingar Creek until it meets the cpt 606 boundary. (See attached map).

Feral Predator Control
State Forests must implement a feral predator control strategy to fulfil the legal requirements of the Conservation Protocols.

It is vital that an effective monitoring and control strategy for feral predators be implemented around the populations of rock-wallabies in Ewingar SF. The strategy should focus on both cats and foxes.

It is recommended that the targeted fox control strategy include the use of free feed bait stations. This method involves placing unpoisoned bait in a sand pit. If the bait is taken the foot prints left in the sand will tell what animal has taken the bait. When it can be certain that a fox is taking the bait, a poisoned bait is placed in the pit. The body of the poisoned fox should be recovered and removed if practicable. The sand used for the bait stations should be sterilised to avoid introducing weeds and pathogens to the area.

The bait stations should be set up before the logging operation so that a 'before and after' assessment of fox numbers can be made.

A targeted cat control strategy is also recommended. This strategy should be developed by State Forests in conjunction with the National Parks and Wildlife Service and may involve the use of 'cat-nappers', designed so that only cats are able to reach the bait inside. The legalities of poisoning cats need to be

determined and taken into account. The body of the poisoned cat should be recovered and removed if practicable.

The strategy should be long term, not just post-logging, to ensure that the threat of predation is minimised in perpetuity.

Burning
There needs to be an investigation into the effects of fire on populations of the Brush-tailed Rock Wallaby. Management strategies can then be employed to best protect the Ewingar population.

It is recommended that the area excluded from logging for the rock wallabies also be excluded from post-logging and fuel reduction burning until a plan specific to the rock wallabies requirements has been developed.

Grazing
It is recommended that the area excluded from logging and roading also be excluded from cattle grazing.

It is recommended that monitoring for goats be undertaken and appropriate measures taken to control goats if they move into the area.

Acknowledgments
Thanks to Hank Bower, Sue Bower and Daniel Hall for the advice and help.

Prepared by G Beyer.

References

Austeco Environmental Consultants Pty Ltd (1995). Environmental Impact Statement, Fauna Appendix, Casino Management Area. Prepared for State Forests of NSW.

Commonwealth Government (1992). Endangered Species Protection Act 1992. Parliament House, Canberra.

Conservation Protocols for Timber Harvesting on State Forests (1996). National Parks and Wildlife Service and State Forests of New South Wales.

Kooyman R. (1997). Flora and Fauna Survey of Compartments 604 - 608, Ewingar State Forest. State Forests of New South Wales, Casino District.

Kooyman R. (1997). Flora and Fauna Survey of Compartments 625-628, Ewingar State Forest. State Forests of New South Wales, Casino District.

New South Wales Government (1996). Threatened Species Conservation Act. Parliament House, Sydney.

Placing T. (1998). Personal communication, 23 January 1998. Lismore, NSW.

Short, J. (1982). Habitat Requirements of the Brush-Tailed Rock-Wallaby, *Petrogale penicillata*, in New South Wales. Aust. Wildl. Res. **9**, 239-46.

Short, J. (1989). The Diet of the Brush-Tailed Rock-Wallaby in New South Wales. Aust. Wildl. Res., 1989, **16**, 11-18.
Short, J. and Milkovits, G. (1990). Distribution and Status of the Brush-tailed Rock-wallaby in South-eastern Australia. Aust. Wildl. Res. **17**, 169-79

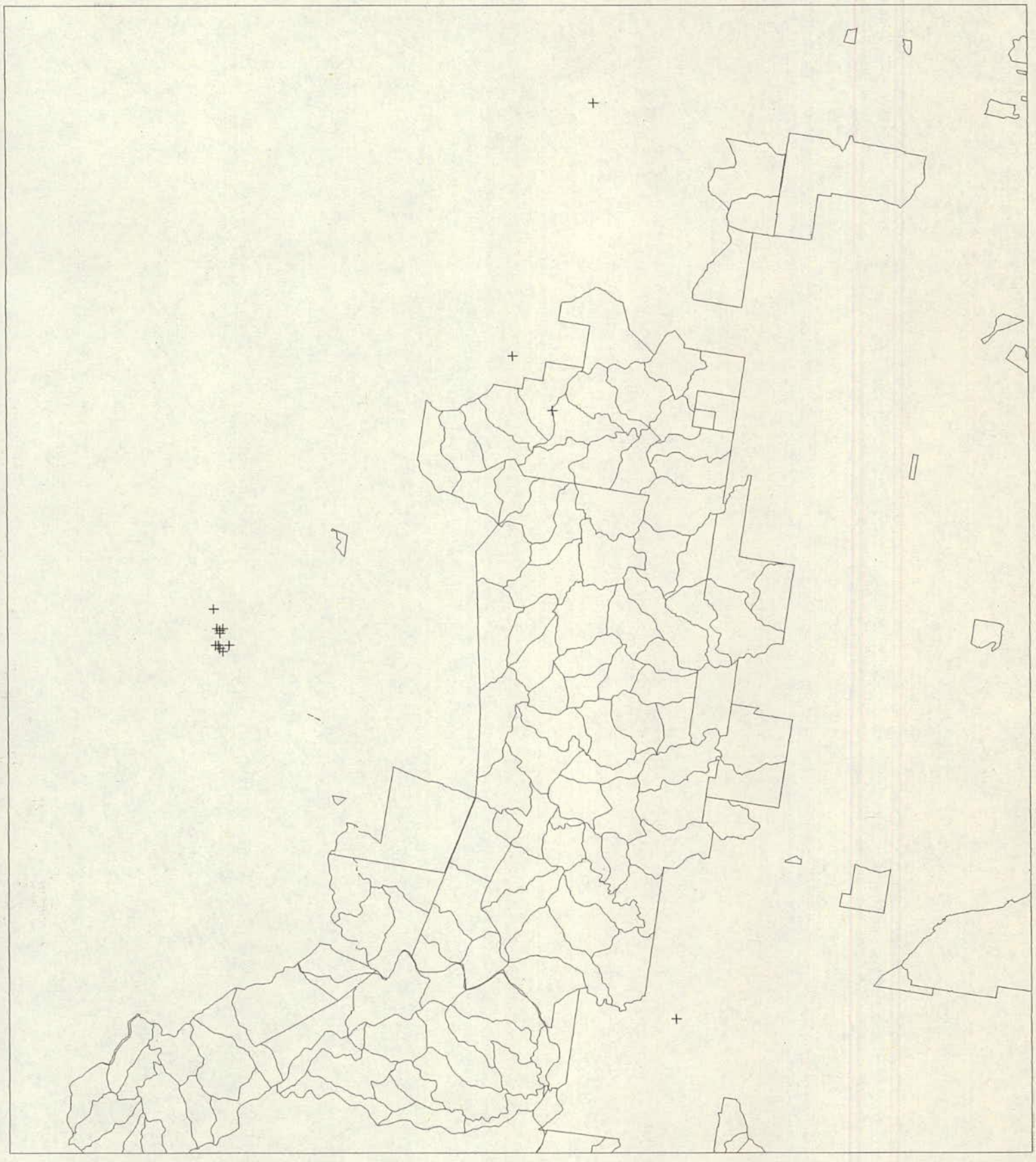
Spencer, P.B.S. (1991). Evidence of predation by a feral cat, *Felis catus* (Carnivora: Felidae) on an isolated Rock-wallaby colony in tropical Queensland. Australian Mammalogy, **14**, 143-44.

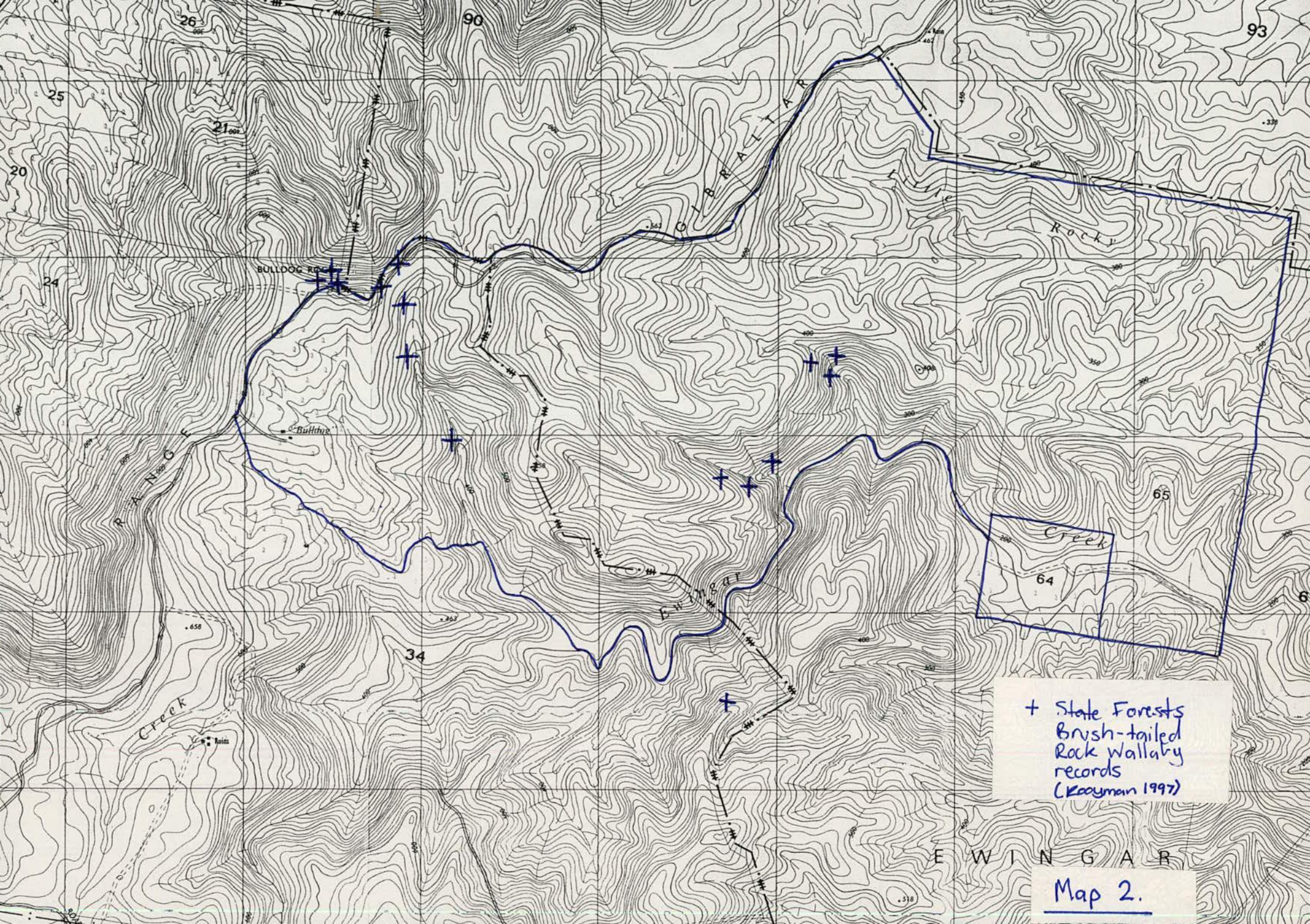
Northern Study Area Negotiation Database (20/4/96)
Scale 1:166173

+ Brush-tailed Rock Wallaby 3

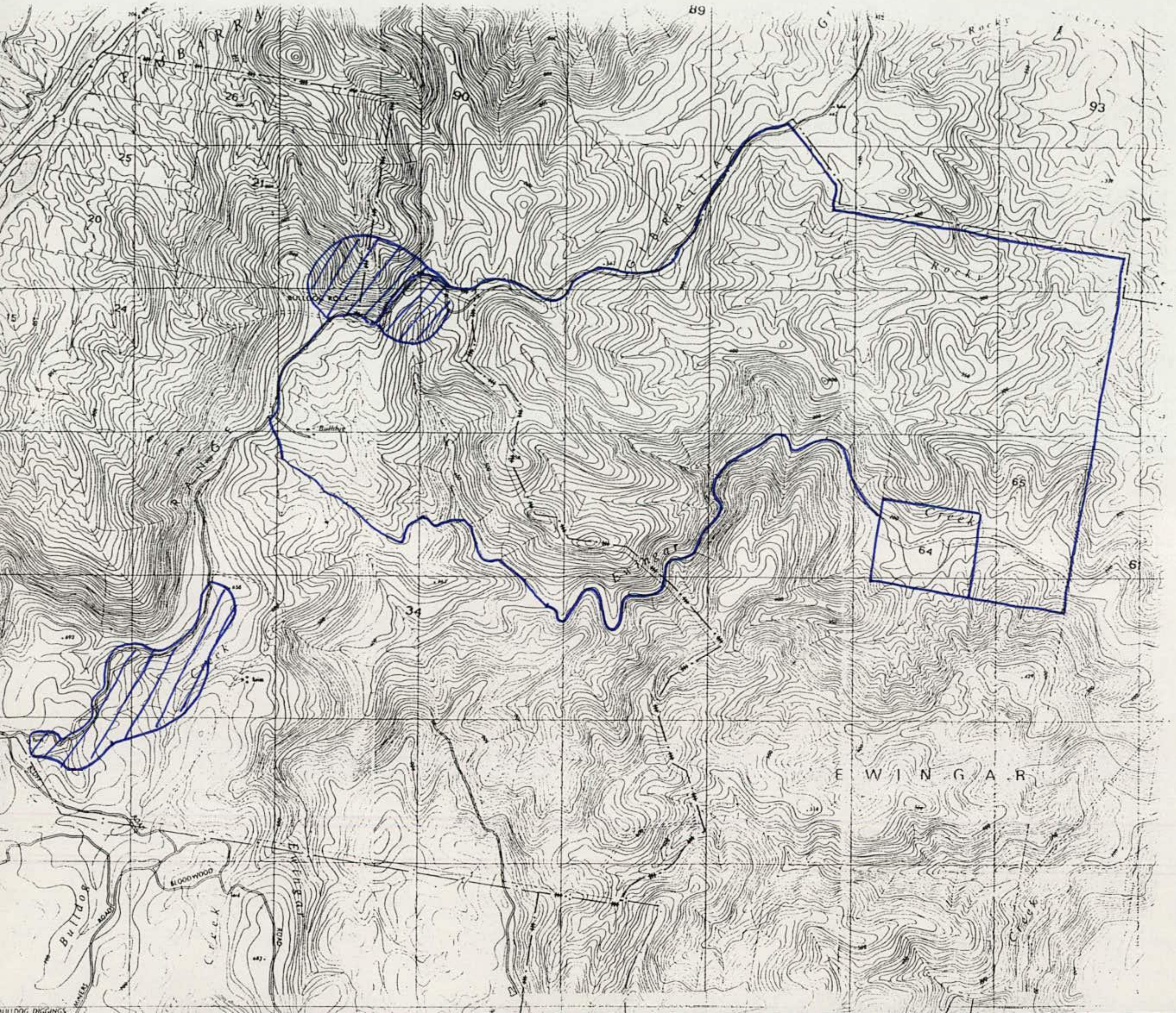
— N2 Land Units

Map 1



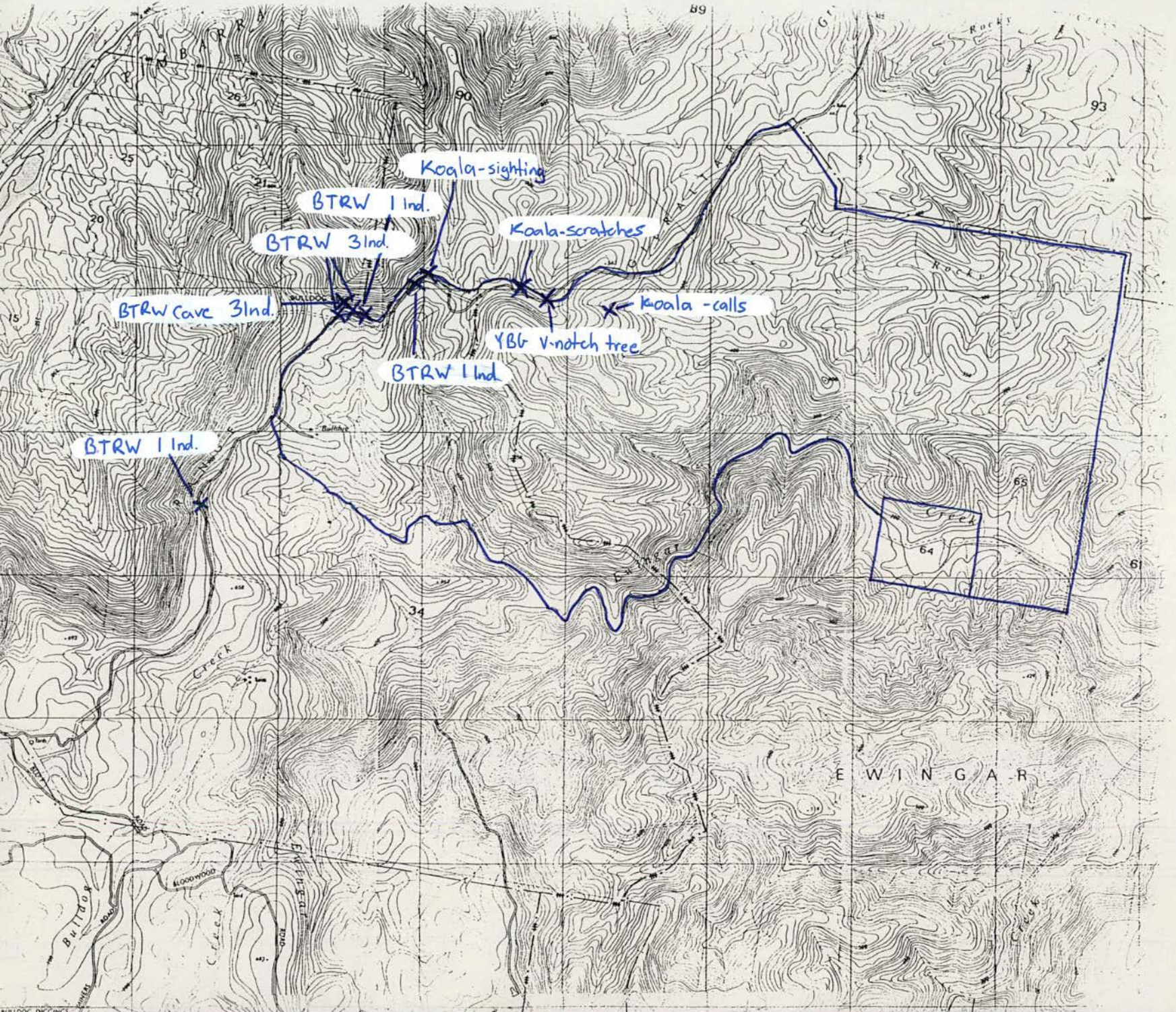

+ State Forests
Brush-tailed
Rock Wallaby
records
(Kooyman 1997)
Map 2.

Map 3.



Areas identified by T. Placing where he has seen Brushtailed Rock Wallabies.

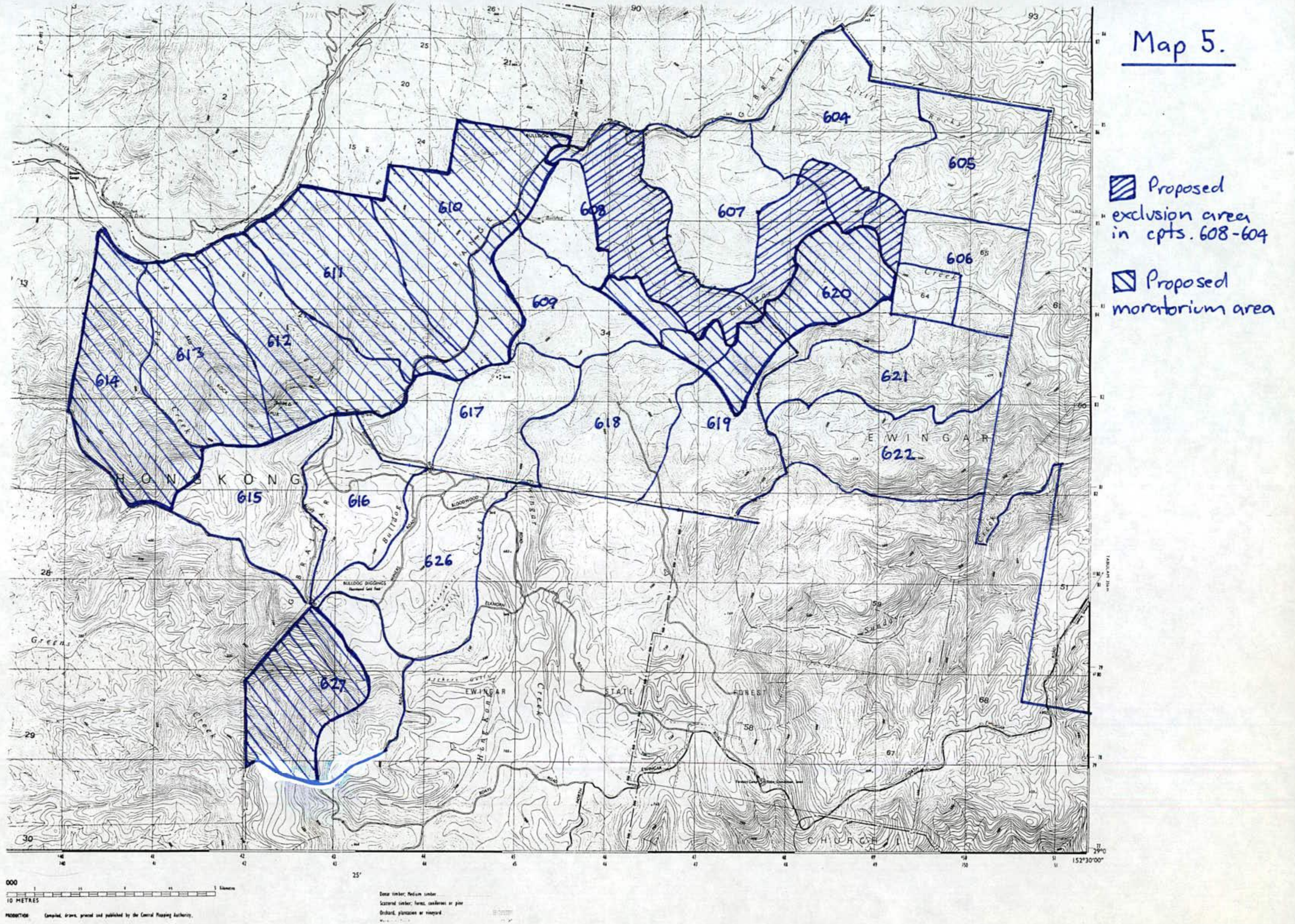
Map 4.



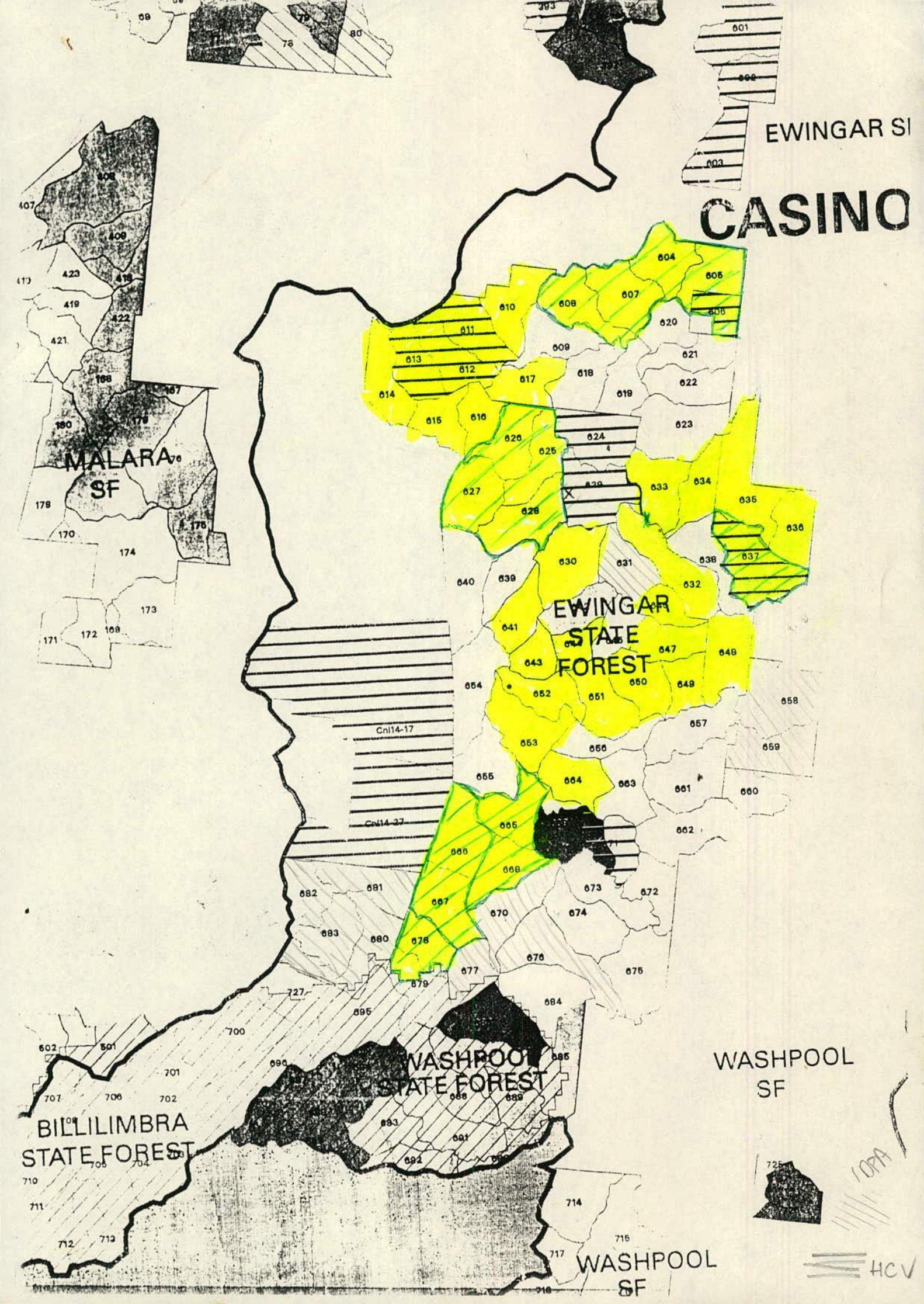
× Records from NEFA survey.

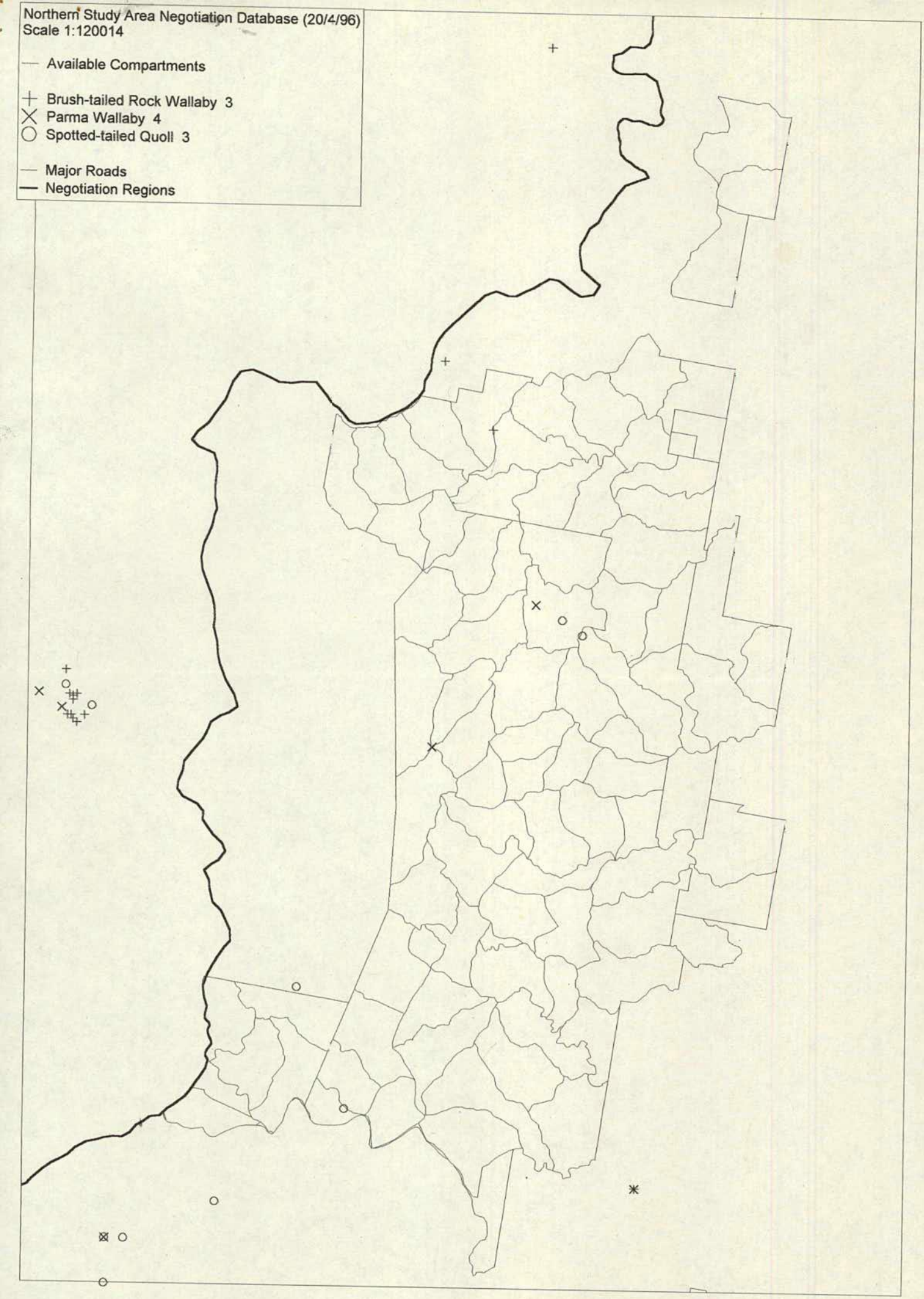
BTRW - Brush-tailed Rock wallaby

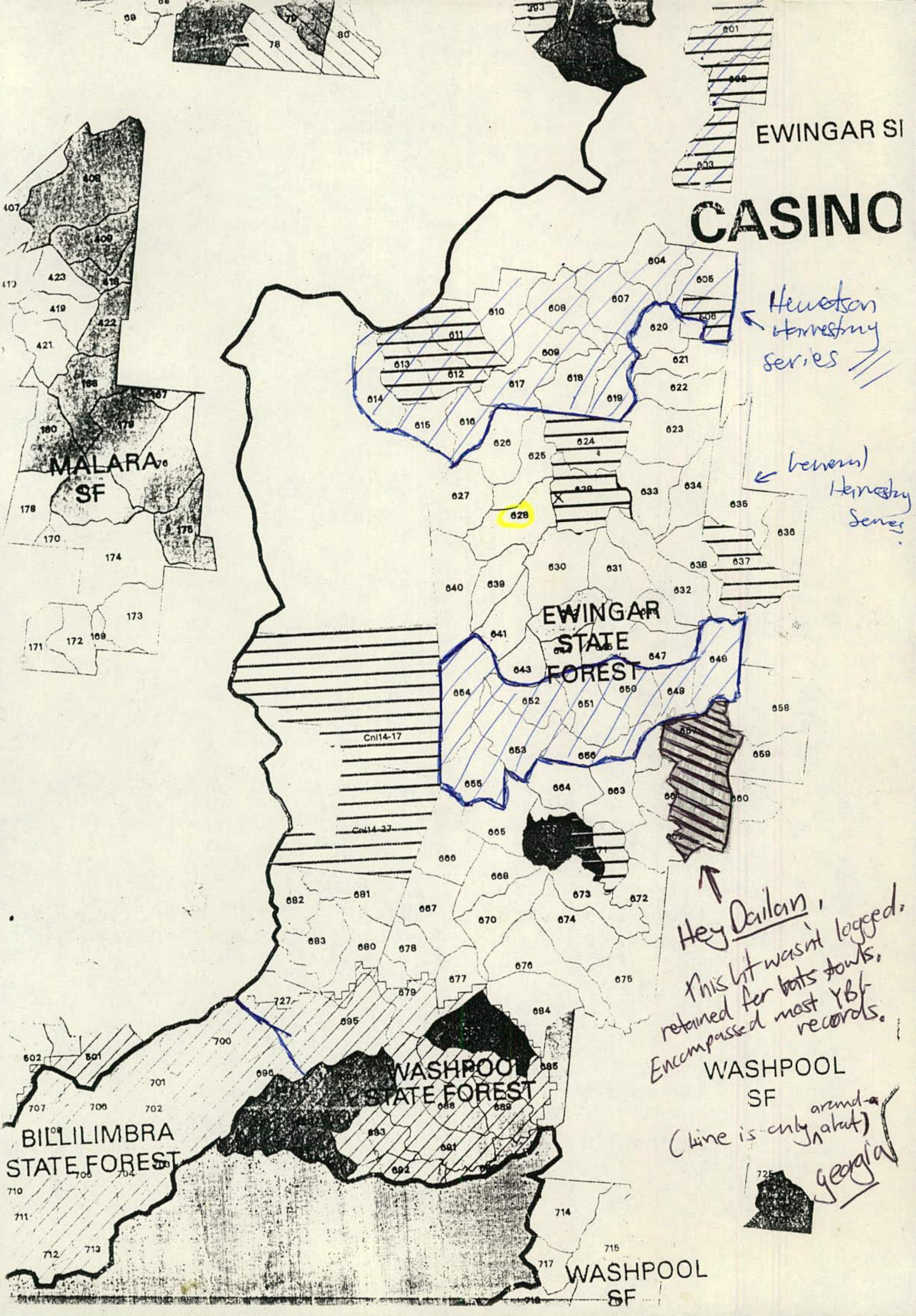
YBG - Yellow-bellied Glider



Map 5.
Proposed exclusion area in cpts. 608-604
Proposed moratorium area
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
626
627
HONG KONG
EWINGAR
EWINGAR STATE FOREST
GIBRALTAR
BULLDOG DIGGINGS
CHURCH
152°30'00"

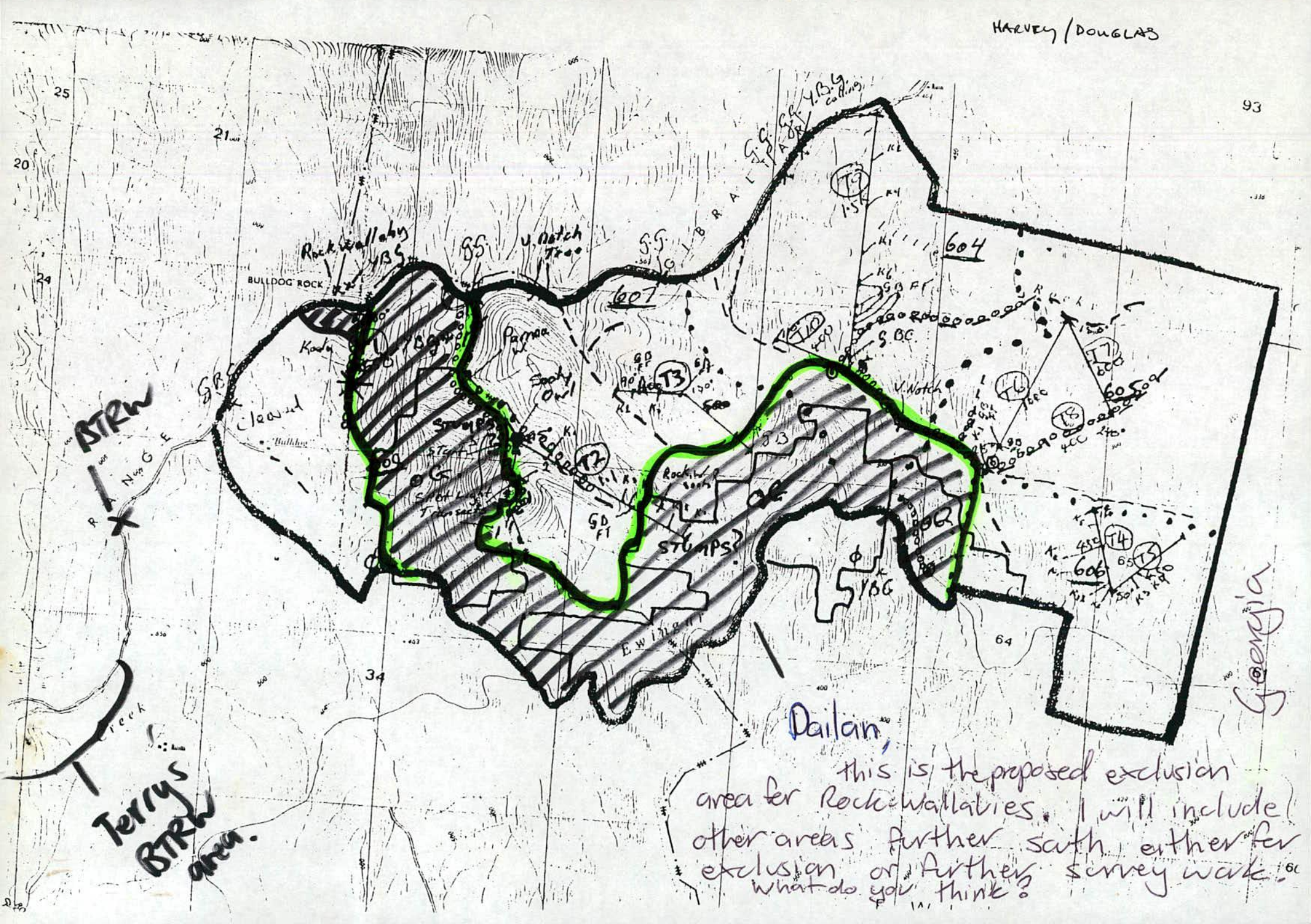

EWINGAR SI
CASINO
MALARA SF
EWINGAR STATE FOREST
WASHPOOL STATE FOREST
BILLILIMBRA STATE FOREST
WASHPOOL SF
WASHPOOL SF
Cnl14-17
Cnl14-27
HCV


Northern Study Area Negotiation Database (20/4/96)
Scale 1:120014
Available Compartments
Brush-tailed Rock Wallaby 3
Parma Wallaby 4
Spotted-tailed Quoll 3
Major Roads
Negotiation Regions



EWINGAR SI
CASINO
MALARA SF
EWINGAR STATE FOREST
Cnl14-17
Cnl14-27
WASHPOOL STATE FOREST
BILLILIMBRA STATE FOREST
WASHPOOL SF
WASHPOOL SF
Hewetson Harvesting series
General Harvesting Series
Hey Dailan, This bit wasn't logged. retained for bats & owls. Encompassed most YBG records.
(Line is only around-about)
georgia

HARVEY / DOUGLAS



Interim Management Plan for Brush-tailed Rock Wallabies in Ewingar State Forest

Aim

To prepare an interim management plan to minimise the impacts of State Forest logging operations on a population of Brush-tailed Rock Wallabies *Petrogale pencillata* in Ewingar State Forest.

Background Information

Decline of Rock Wallaby nationally.
Short life history of species.
Location of Forest and Compartments concerned (refer to map)
Managenent Context (SF and NP responsiblities) State and Federal threatened species legislation. Protocols etc.
Threatening processes (general)

Status of Rock Wallabies in Ewingar Area

Forestry records, neighbours observations and NEFA surveys.

Threats to Ewingar Population

Immediate

Proposed logging operations
Effects on den sites and foraging areas (directly by loss of food resource and indirectly by improving conditions for predators and competitors?

Long Term

wild Fire ~~wild~~ and hazard reduction, feral predation future logging of adjacent areas and roading.

Recommendations

* Further survey to ascertain population size and range
* Reservation of densites, foragings areas and corridors
* Long term management plan
* No grazing in reservation areas
* Fox and cat control
* No post logging burning
* Hazard reduction should not be carried out until incorporated into a management plan

intro
- background
soils
species
diversity
conservation
signif.

Aims & Objects
to protect!
How to go about doing it.

Methods
site assessment
previous Ewingar.
Threats
Recommendations

Hi Georgea & Dan.
This is a possible outline which may be useful
ring us at home tonight if you ~~wha~~ wish
Kev. T.

Interim Management Plan for Brush-tailed Rock

Aim
To prepare an interim management plan to minimis
a population of Brush-tailed Rock Wallabies *Petrog*

Background Information
Decline of Rock Wallaby nationally.
Short life history of species.
Location of Forest and Compartments concerned (re
Managenent Context (SF and NP responsiblities)
Protocols etc.
Threatening processes (general)

Status of Rock Wallabies in Ewingar Area
Forestry records, neighbours observations and NEF

Threats to Ewingar Population
<u>Immediate</u>
Proposed logging operations
Effects on den sites and foraging areas (directly by
conditions for predators and competitors?

<u>Long Term</u>
Fire wilfd and hazard reduction, feral predation futu

Recommendations
* Further survey to ascertain population size and ran
* Reservation of densites, foragings areas and corri
* Long term management plan
* No grazing in reservation areas
* Fox and cat control
* No post logging burning
* Hazard reduction should not be carried out until in

Page 1. The logging ... greatly concerns. 3/4.
→ predators
logging tracks
P2 Consequently will increase rockwalls vulnerability.
Long term Protection.
SF initiate long-term population study due to paucity of BTRW using precautionary principle. Can involve Unis or NEFA.
multiple sites walk/not movements surveys.
Fox predator scat surveys.
community surveys 3 weekends using

Proposed Exclusion.
Fire - logging increase fuel load.

Dailan, could you please read this and make changes & comments.

NEFA

North East Forest Alliance
C/- 123 Keen St Lismore 2480 Ph/Fax (066) 22 4737

Proposal for the Management of a population of the Brush-tailed Rock Wallaby in Ewingar State Forest

Draft 1
8 February 1998

P.S. Haven't determined areas for further work yet but should be simple.

Introduction

The logging of a group of compartments in north Ewingar State Forests that support a population of Brush-tailed Rock Wallabies, is of great concern to the North East Forest Alliance.

This proposal describes a plan of management for the Brush-tailed Rock Wallaby in north Ewingar SF that will help protect the population from threats to it's long term survival.

NEFA has inspected the compartments to be logged (cpts 604-608) and the areas inhabited by the rock-wallabies to help determine the most appropriate management plan.

The Ewingar Population

Information has been drawn from State Forests pre-logging fauna survey of cpts 604-608, from a local resident T. Placing, who has become familiar?? with the Rock Wallabies over the past 20 years, and from our own inspections of the area, to establish what areas are supporting Brush-tailed Rock Wallabies.

The population in north Ewingar is made up of sub-groups in several areas; one sub-group around Bulldog Rock, one around Ewingar Creek in compartments 604 and 607, and one in an area further south along Bulldog Road to Bluff Road. (See attached map).

The wallabies inhabit steep rocky areas that provide shelter from predation and use the surrounding forest areas for grazing. The fauna survey in the area found that they are grazing up to 200 metres from the steep rock areas.

According to State Forests' pre-logging Flora and Fauna Survey of compartments 625 -628, potential habitat exists in the steep areas in the west of compartment 627.

Threats to the Brush-tailed Rock Wallaby

The Brush-tailed Rock Wallaby was once abundant and wide spread in eastern Australia (Short and Milkovits 1990), but numbers have declined dramatically and it is now listed as a vulnerable species, *"likely to become endangered unless the circumstances and factors threatening its survival or evolutionary development cease to operate."* (Schedule 2, Threatened Species Conservation Act 1996).

The main threat facing rock-wallabies is predation by feral predators particularly foxes (Short 1982), but also cats (Spencer 1991). The small size of Brush-tailed Rock Wallabies relative to the other macropods with which they are sympatric makes them particularly vulnerable to predation (Short 1982).

A study of an isolated population of Brush-tailed Rock Wallabies in the Grampians National Park found that the effects of inbreeding were a major threat leading to inbreeding depression (Lobert and Waters 1988).

The Casino Environmental Impact Statement, Fauna Appendix, sites predation by foxes as a threat to Brush-tailed Rock Wallabies brought about indirectly through logging.

INTRODUCTION

This Unit Information Booklet provides an introduction to, and an overview of, the Unit PH201 Ways of Knowing.

At this stage, we will address two possible concerns you may have: firstly, who are the academic staff for this core unit; and secondly, what is Ways of Knowing about? We will then move on to information of a more general nature, such as: how to plan your time, how much time you can expect to devote on a weekly basis (this will vary from one individual to another), assessment requirements and general preparation.

Dr Suzanne Hatty is Associate Professor and Head of the Centre for Humanities and Human Sciences in the Faculty of Arts. Professor Hatty teaches in the fields of psychology, sociology of knowledge, Australian studies, and socio-legal studies at Southern Cross University. Prior to joining the university in 1992, Professor Hatty was a senior lecturer in criminology at Charles Sturt University, and senior research fellow at the University of New South Wales. Professor Hatty was professor of criminology at Simon Fraser University in Vancouver, Canada, during 1990. Professor Hatty's research interests include conflict and violence, criminalisation and imprisonment, psychological and sociological perspectives on deviance, legal and moral regulation of sexuality and sexual behaviours, and disadvantaged youth and the law. Professor Hatty has published widely in these areas and is currently working on two book manuscripts to be published in 1996 in the United States.

"It is likely that rock-wallabies are disadvantaged in competitive interactions with introduced herbivores because of the wallabies small home ranges (c. 15 ha, Short 1980) centred on rocky outcrops. Competition with introduced herbivores for food may rank with predation by foxes, competition with goats for shelters, and shooting and disturbance by man as a major reason for the many local extinctions of rock-wallabies." (Short 1989).

Long Term Protection of the Ewingar Population
A management plan for the rock-wallabies needs to include protecting the inhabited area from disturbance, linking the areas used by the sub-groups and controlling feral predators and goats.

Protection for the Brush-tailed Rock Wallaby in the Conservation Protocols is covered by the guidelines for Critical Weight Range Vertebrates, requiring that a species specific control measure for feral predators be undertaken after harvest as required and fuel reduction burning should be limited to less than 75% of the compartment.

The proposed Exclusion Area
NEFA recommends that an area be excluded from logging and roading, consisting of the main habitat areas, links between the areas and a buffer.

The exclusion area will protect the rock-wallabies' shelter and grazing habitats from extra roading and opening up of the forest that may lead to increased numbers of foxes.

It is essential that the wallabies can move freely between the sub-groups as isolation of groups can lead to inbreeding depression. The wallabies are vulnerable to predation by foxes and cats especially while moving between areas of preferred habitat containing rocky areas where they can escape the predation threat.

The exclusion area mainly consists of the steep unloggable country associated with Ewingar Creek and the old growth forest exclusion area in compartment 608.

The northern boundary of the exclusion area runs along Bulldog Road near Bulldog Rock and south down 607/608 Road to the knoll. The boundary then follows the same ridge line east and then runs north to meet and follow 607/2 Road to the east/nor'east. At the end of the road, follow the ridge line to the creek and up the next ridge to meet 604/605 Road at the knoll. The boundary then follows this road south east until it meets and follows the compartment 606 boundary south to Ewingar Creek.

The southern boundary starts at Bulldog road running south and then east creating a 200 metre road buffer. It then meets 608/2 Road and runs south, meets and follows the old growth forest exclusion area until it meets Ewingar Creek. The boundary then follows Ewingar Creek until it meets the cpt 606 boundary. (See attached map).

Further survey work
This exclusion area only includes the compartments that are planned to be logged. It is also recommended that other areas likely or known to support rock-wallabies should be surveyed for the presence of rock-wallabies so that a whole plan of management can be determined.

These areas are shown on the attached map. Of particular concern is the area of likely habitat in compartment 627 which is planned for logging. This area should be a priority for further survey work which should be done before the logging operation begins.

If no further surveys are undertaken for rock-wallabies in the areas as mapped then these areas are to be considered as reserves and protected from logging and roading.

Feral Predator Control
It is vital that an effective monitoring and control strategy for feral predators be implemented around the populations of rock-wallabies in Ewingar SF. The strategy should focus on both cats and foxes.

Fortunately, Ewingar has few, if any, foxes (Kooyman 1997, Placing *pers. comm.* 1998). This is probably due to the high number of Dingos in the area (Placing *pers. comm.* 1998). For this

General Information

Before you commence study, you should check that, together with this Unit Information Booklet, you have received the following material:

- Study Guide
  - Module 1 – The Crisis of Knowledge: The Rise of the Scientific Paradigm
  - Module 2 – Varieties of Knowledge: Science; Symbol; and the Senses
  - Module 3 – The Future of Science: Knowledge in the Postmodern Age
- Book of Readings

The three modules together comprise approximately 150 hours of work and 1 unit of study in your degree program.

The Study Package

Each of the three modules is self-contained, comprising a workbook and readings, with comments about each topic from your lecturer, a collection of essential selected readings, and a number of activities. The recommended references listed in this booklet are held in the library. The list is included so that you can begin reading more deeply around particular topics of interest, such as the ones you might select for your module assignments.

You may be wondering how many hours per week you should devote to your studies. Because of individual differences in learning and abilities, it is impossible to state a length of time which is applicable to all students undertaking all courses.

reason it is important to not only keep numbers of foxes down directly but also to keep up the numbers of Dingos. This would be achieved by using poisoning regimes targeted at foxes and cats and not dingos and wild dogs.

The strategy should be long term, not just post-logging, to ensure that the threat of predation is minimised in perpetuity.

It is recommended that the targeted fox control strategy include the use of free feed bait stations. This method involves placing unpoisoned bait in a sand pit. If the bait is taken the foot prints left in the sand will tell what animal has taken the bait. When it can be certain that a fox is taking the bait, a poisoned bait is placed in the pit.

A targeted cat control strategy is also recommended. This strategy should be developed by State Forests in conjunction with the National Parks and Wildlife Service and may involve the use of 'cat-nappers', designed so that only cats are able to reach the bait inside. The legalities of poisoning cats need to be determined and taken into account.

Goats seem to be absent from the area. It is recommended that a monitoring strategy for goats be implemented and a control strategy implemented if goats move into the area.

Burning

It is recommended that the area excluded from logging for the rock-wallabies also be excluded from post-logging and fuel reduction burning.

- Check Barry's fire rare.

Acknowledgments

Thanks to Hank Bower, Sue Bower and Kevin Taylor for the advice and help.

References:

Kooyman R. (1997). Flora and Fauna Survey of Compartments 604 - 608, Ewingar State Forest. State Forests of New South Wales, Casino District.

Kooyman R. (1997). Flora and Fauna Survey of Compartments 625-628, Ewingar State Forest. State Forests of New South Wales, Casino District.

Lobert B. and Waters R. (1988) The Brush-tailed Rock Wallaby *(Petrogale pencillata)* in the Grampians National Park and the Black Range, Victoria - a report to the National Parks and Wildlife Division, Department of Conservation, Forests and Lands, Victoria by Australian Biological Research Group Pty Ltd. Arthur Rylah Institute For Environmental Research, Technical Report Series No. 64.

New South Wales Government (1996). Threatened Species Conservation Act. Parliament House, Sydney.

Placing T. (1998). Personal communication, 23 January 1998. Lismore, NSW.

Short, J. (1982). Habitat Requirements of the Brush-Tailed Rock-Wallaby, *Petrogale penicillata*, in New South Wales. Aust. Wildl. Res. **9**, 239-46.

Short, J. (1989). The Diet of the Brush-Tailed Rock-Wallaby in New South Wales. Aust. Wildl. Res., 1989, **16**, 11-18.

Short, J. and Milkovits, G. (1990). Distribution and Status of the Brush-tailed Rock-wallaby in South-eastern Australia. Aust. Wildl. Res. **17**, 169-79

Spencer, P.B.S. (1991). Evidence of predation by a feral cat, *Felis catus* (Carnivora: Felidae) on an isolated Rock-wallaby colony in tropical Queensland. Australian Mammalogy, **14**, 143-44.

Casino EIS ?

Southern Cross University

Faculty of Arts

Unit Outline

Unit Title:	**Visual Arts Studio Studies 2B**
Unit Code:	AR492
Award Name:	Bachelor of Arts
Type of Unit:	Major Study
Pre-requisites:	Visual Arts Studio Studies 1A and 1B
Co-requisites:	Visual Arts Studio Studies 2A
Mode of Study:	Internal
Semester Offered:	1/1996
Teaching Unit:	Faculty of Arts
DEET Discipline:	06.01
Staffing:	M. Bramley-Moore, P. Hely, A. Hochman, G. Jolley, J. Kitchener, G. Morganson, T. Nankervis, J. Smith and TBA
Examiner:	T. Nankervis
Moderator:	P. Hely

Aims

This is one of a series of extension units which aims to support students in their progress toward competence in practical and theoretical aspects of Visual Arts. Students are encouraged to demonstrate the potential of various modes of design and presentation while extending their range of experience in material and construction techniques. Students will explore various attitudinal frameworks inherent in contemporary art practice.

Objectives

On completion of this unit, in the context of a chosen studio area, students should be able to:
-demonstrate an awareness of attitudinal frameworks and the concerns of other artists,
-demonstrate an understanding of modes of expression / genre as appropriate,
-illustrate their command of technical skills in the areas of pictorial design and object construction/assemblage,
-demonstrate an awareness of issues related to gallery operation and exhibition planning.

Calendar Entry

Students are introduced to the potential of various modes of design and presentation while extending their range of experience in material and construction techniques. Students will explore various attitudinal frameworks inherent in contemporary art practice.