

NORTHERN RIVERS REGION

To NESFHAB representatives:

- 1) Georgia Beyer and Daniel Hall
- 2) Russ Ainley

From Mark Carron, Harvesting Advisory Board Co-ordinator

Date 22 June 1998

Subject FLORA and FAUNA SURVEY REPORTS



Attached please find a copy of the Threatened Species Protocol Pre-Logging and Pre-Roading Survey Report for:
Tenterfield Management Area Boorook S.F. Compartments 95 and 96.

Regards

A handwritten signature in black ink, appearing to read "Mark Carron", is positioned above the printed name.

Mark Carron



**STATE FORESTS of NSW.
THREATENED SPECIES PROTOCOL PRE-LOGGING AND
PRE-ROADING SURVEY REPORT - 1998.**

Region	Northern Rivers	Management Area	Tenterfield
State Forest	Boorook	Compartments	95, 96

PART A. DESKTOP REVIEW

Date of Review: 13/5/98

Undertaken by: K. McCray

1. Previous Surveys undertaken within 2 km or 5 km.

Notes: None Known. Tenterfield EIS (1995) targeted small mammal survey site F in Boonoo S.F. (100 trap nights) within several kilometres of compartments only.

2. Results of Database Search - Species recorded within 2 km or 5 km.

Species Name	AMG East	AMGNorth	Source
Glossy-black Cockatoo	419100	6808100	NPWS WinERMS & SFNSW Incidental Database
Greater Broad-nosed Bat	419200	6808100	NPWS WinERMS & SFNSW Incidental Database
Glossy-black Cockatoo	421200	6807200	NPWS WinERMS & SFNSW Incidental Database
Sooty Owl	421600	6806700	NPWS WinERMS & SFNSW Incidental Database
Koala	424800	6801400	NPWS WinERMS & SFNSW Incidental Database
Rufous Bettong	428200	6801200	NPWS WinERMS & SFNSW Incidental Database
Rufous Bettong	428200	6801000	NPWS WinERMS & SFNSW Incidental Database
Yellow-bellied Glider	420200	6800100	NPWS WinERMS & SFNSW Incidental Database
Common Bent-wing Bat	420200	6800100	NPWS WinERMS & SFNSW Incidental Database
Powerful Owl	420200	6800100	NPWS WinERMS & SFNSW Incidental Database
Eastern Falsistrelle	420200	6800100	NPWS WinERMS & SFNSW Incidental Database
Albert's Lyrebird	420000	6800000	NPWS WinERMS & SFNSW Incidental Database
Glossy-black Cockatoo	419100	6800200	NPWS WinERMS & SFNSW Incidental Database
Koala	422400	6801100	NPWS WinERMS & SFNSW Incidental Database
New England Tree Frog			NPWS WinERMS
Common Bent-wing Bat			NPWS WinERMS

NPWS Atlas Date: Accessed 18/5/98

SF Fauna Records Updated to: Accessed 13/5/98

Notes: SFNSW Incidentals database and NPWS WinERMS maps attached.

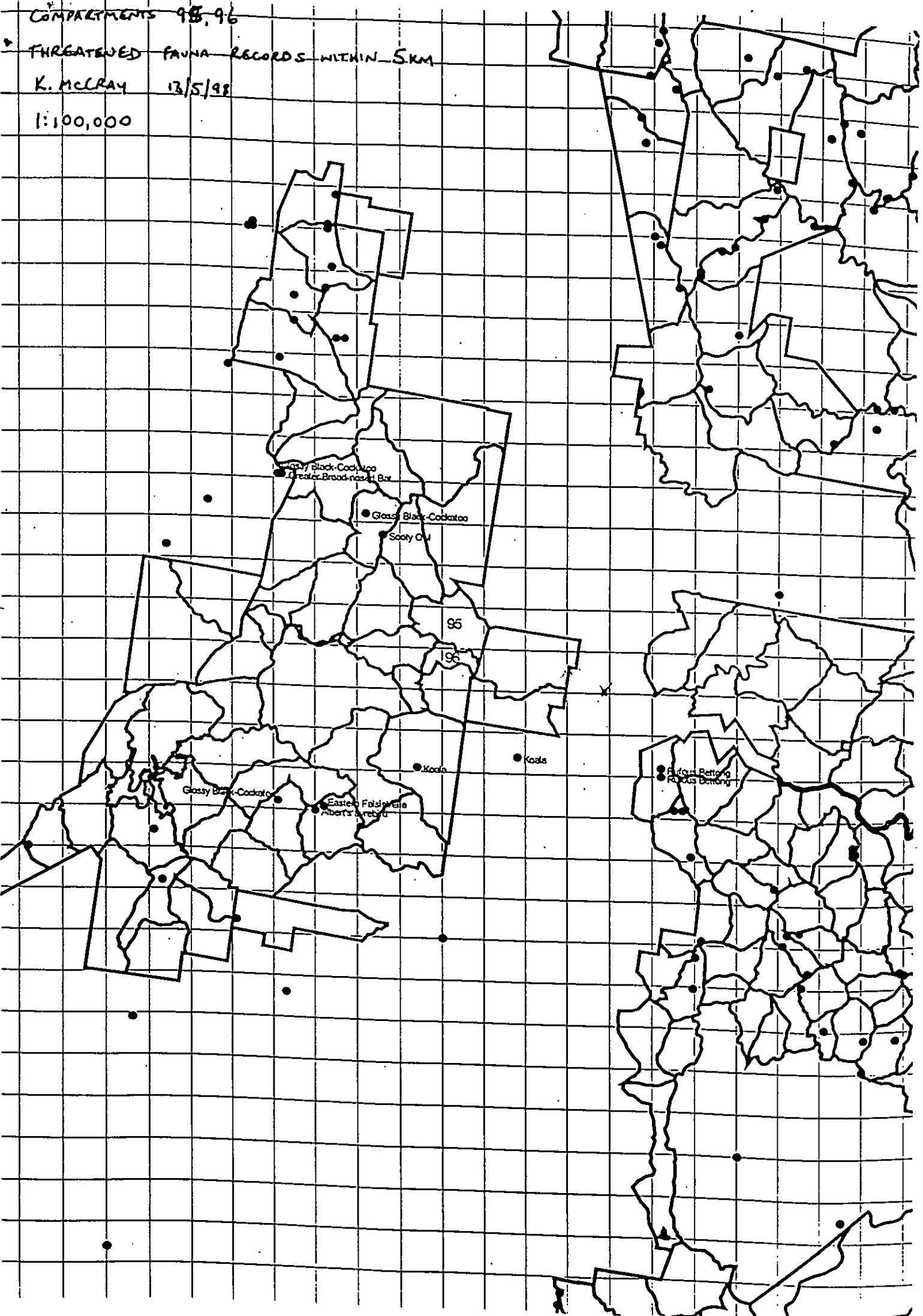
DOUGLAS

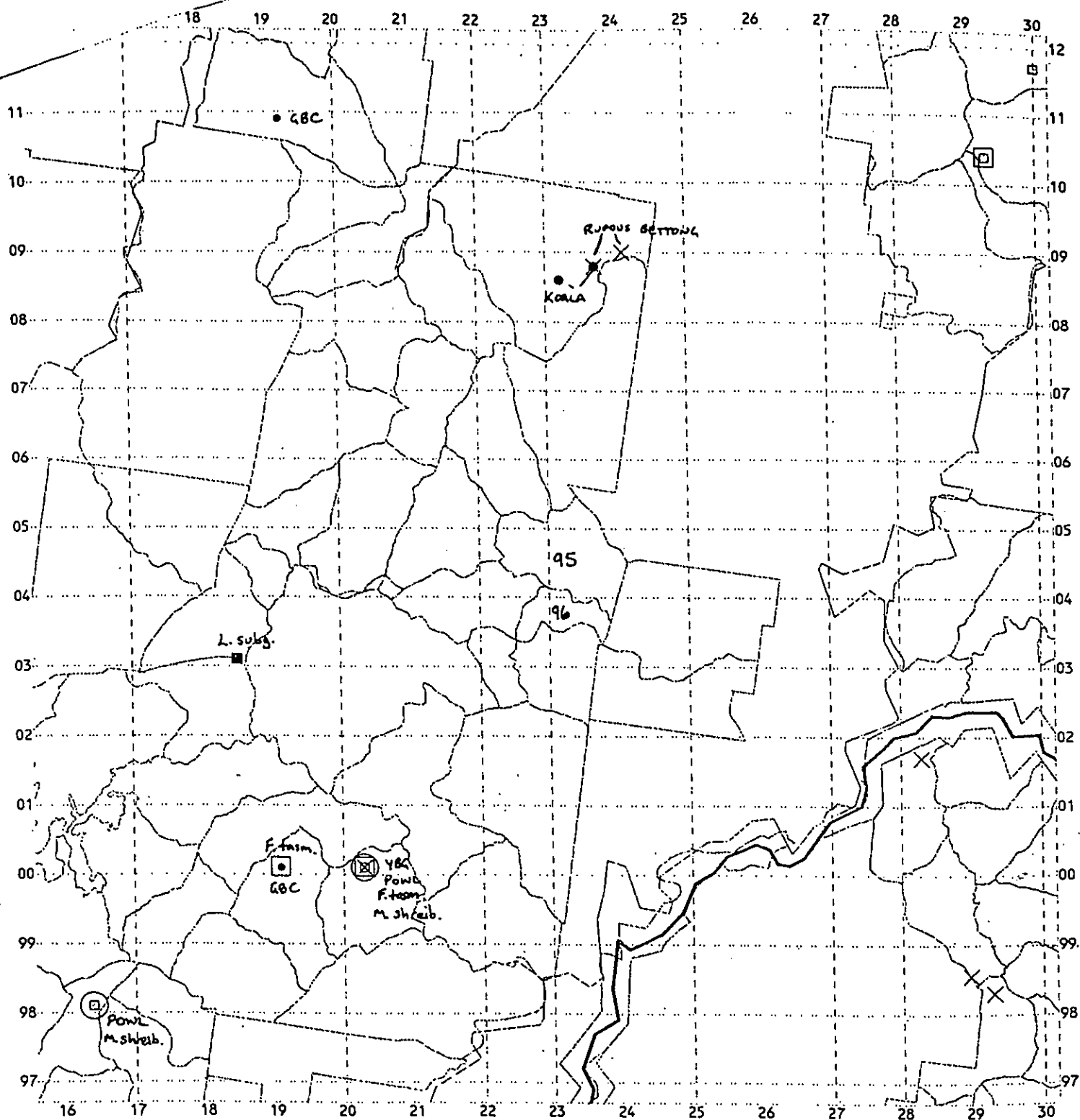
COMPARTMENTS 95, 96

THREATENED FAUNA RECORDS WITHIN 5KM

K. MCCRAY 13/5/98

1:100,000





Boorook SF No. 841 - Cpts. 95 & 96
Restricted S1 & S2 Fauna

- Falsistrellus tasmaniensis
- Glossy Black-Cockatoo
- Koala
- Litoria subgladulosa
- Miniopterus schreibersii
- ⊠ Powerful Owl
- × Rufous Bettong
- × Yellow-bellied Glider

Region	Northern Rivers	Management Area	Tenterfield
State Forest	Boorook	Compartments	95, 96

PART B. Flora and Threatened Fauna Features Traverse

Net Area: 196 Hectares

Traverse Length: 6.5+8.7 Kilometres (approximate - route of traverse on attached map)

Surveyed By: R.Kooyman, D.Binns

Duration of Traverse: 11+8.5 Person hours

1. Conservation Protocol Appendix 1 Flora Detections

Species Name	AMG East	AMG North	Locality Description	Date	Observers Name	Number Observed	Count/ Estimate
Nil detected							

Notes: No threatened or significant flora species were recorded.

2. Conservation Protocol Threatened Fauna Features Detected

Feature Type	Marked in Field	Marked on Map
Nil detected		

Notes: Scats (possibly Rufous Bettong) were collected and sent to B.Triggs for verification.

Region	Northern Rivers	Management Area	Tenterfield
State Forest	Boorook	Compartments	95, 96

PART C: TARGETED FAUNA SURVEYS

1. Assessment of Surveys Required

Survey Type	Survey Required (Y/N/IP ¹)
Spotlight	Y
Nocturnal Call Playback ¹	Y
Hairtubes	IP
Scat and Track	Y
Riparian Frog	IP
Non-riparian Frog	N
Micro Bats	IP
Small Mammals	N
Diurnal Birds	Y
Reptiles	N

¹IP = implement prescription without survey

Notes: Seasonal constraints preclude conducting surveys for threatened frog and bat species in these compartments.

2. Surveys Undertaken

Survey Type	Date Undertaken	Time Spent	Undertaken By
Call Playback (Cpt 95)	28/06/98 2/06/98	1:10 hr 0:40min	R.Herklots, N.Douglas R.Kooyman, N.Harvey
Call Playback (Cpt 96)	28/06/98 2/06/98	0:45 hr 0:40min	K.Hudson, N.Harvey R.Kooyman, N.Harvey
Spotlight traverse (walk) (Cpt 95)	28/06/98 2/06/98	1:10 hr 0:55 min	R.Herklots, N.Douglas R.Kooyman, N.Harvey
Spotlight traverse (walk) (Cpt 96)	28/06/98 2/06/98	1:10 hr 0:45min	K.Hudson, N.Harvey R.Kooyman, N.Harvey
Bat Sonar	28/06/98	0:30 min	K.Hudson, N.Harvey
Scat/Track Survey	28/06/98	0:50 min.	R.Herklots, N.Douglas
Habitat Ass. & Fauna tran.	28/06/98	0:30min	K.Hudson, N.Harvey

Location of surveys shown on attached maps.

Notes: Diurnal bird and fauna surveys also carried out by R. Kooyman on 3-4/6/98 (Field notes and datasheets attached).

Northern Rivers Region - Threatened Species Pre-logging and Pre-roading Survey

Region	Northern Rivers	Management Area	Tenterfield
State Forest	Boorook	Compartment	95,96

PART D. SURVEY RESULTS

Prepared By: K. Hudson

Date: 15/06/98

New Threatened Fauna Detections

Species Name	AMG East	AMG North	Date	Compartment	Observation Type	Observers Name	Survey/ Incidental
Yellow-bellied Glider	423660	6804020	28/5/98	95	Heard	N.Harvey K.Hudson	Incidental
Yellow-bellied Glider	423600	6804080	28/5/98	95	Heard	N.Harvey K.Hudson	Incidental
Sooty Owl	423300	6805350	28/5/98	95	Heard	N.Douglas R.Herklots	Survey - playback
Yellow-bellied Glider	423350	6805440	28/5/98	95	Heard	N.Douglas R.Herklots	Survey
Glossy-black Cockatoo	423600	6803960	28/5/98	95	Heard	N.Douglas R.Herklots	Survey - scat/track
Yellow-bellied Glider	423400	6805350	2/6/98	95	Heard	R.Kooyman N.Harvey	Survey
Yellow-bellied Glider	423500	6805150	2/6/98	95	Heard	R.Kooyman N.Harvey	Survey
Powerful Owl	423120	6805100	2/6/98	95	Heard	R.Kooyman N.Harvey	Survey-playback
Sooty Owl	422750	6804500	2/6/98	96	Heard	R.Kooyman N.Harvey	Survey-playback
Parma Wallaby	422800	6803750	2/6/98	96	Sighted	R.Kooyman N.Harvey	Survey-spotlight
Parma Wallaby	422850	6803720	2/6/98	96	Sighted	R.Kooyman N.Harvey	Survey-spotlight
Powerful Owl	423070	6805220	2/6/98	95	Heard	R.Kooyman	Incidental

SUMMARY

GENERAL

The survey area consists of uniformly open forest on coarse, sandy soils derived from coarse-grained granite. Throughout most of the forest *Eucalyptus companulata* is the dominant canopy species, the main associated canopy species are *E. cameronii* (in areas mapped as forest type 122, some parts of type 170), *E. saligna*, *E. brunnea* and *E. microcorys* (these three species occur mainly on sheltered or lower slopes, often in areas mapped as forest type 55). Forest type 46 is mostly an equal mixture of *E. saligna* and *E. companulata*. *Lophostemon confertus* is common in gullies and on sheltered lower slopes. *E. scias* subsp. *Apoda* occurs scattered throughout the area at low density. A predominantly low shrubby understorey occurs on ridges and exposed slopes, the most common species being *Podolobium ilicifolium*, *Acacia falciformes*, *Leucopogon lanceolatus*, *Acrotriche aggregata*, *Imperata cylindrica* and *Themeda australis*. On more sheltered slopes the understorey is variously dominated by *Calochlaena dubia*, *Poa sieberiana*, *Sorghum leiocladum* and *Blechnum cartilagineum*, with patches of *Acacia maidenii*, *A. irrorata* and *Trochocarpa laurina*. There are small localised patches of *Acmena smithii* and *Trochocarpa laurina* in the most sheltered gullies.

Surveys were carried out on 25, 26, 28 May and 2, 3, 4 June 1998 by D. Binns (flora) and R. Kooyman, N. Douglas, R. Herklots, N. Harvey and K. Hudson. D. Binns camped in the survey area on 25 May, and R. Kooyman camped in the survey area on 2 and 3 June. Weather was mainly fine throughout the survey period, with some light rain (on 31 May and 1 June), but cool (lowest survey temperature 10°C).

Net area is provided in part B of this report, surveys undertaken are provided in part C of this report, and new threatened fauna records within these compartments are provided in part D of this report.

FLORA

Flora surveys were conducted in accordance with the TSSD on 25-26 May. No threatened flora were detected throughout surveys. For further details see part B of this report and report by D. Binns (attached).

FAUNA

TRAVERSE SURVEYS

Surveys for fauna and threatened fauna features were integrated into the compartment traverses, general activities (eg travel, habitat assessment) and surveys (eg scat/track surveys). Specific compartment traverses were undertaken by R. Kooyman on 3-4/6/98, including habitat assessments for threatened species. Glossy Black Cockatoo* was detected on 28/5/98 during a scat/track traverse, however no Glossy Black Cockatoo feed sites were located throughout surveys. Possible Rufous Bettong* scats were collected, these have been sent to B. Triggs for analysis and identification (results not yet available).

SPOTLIGHT SURVEYS

Two spotlight transects (1km each) were conducted, one in the north of compartment 95 along Colongon Road and the other in the south of compartment 96, along Lindrook Road. Species detected were: Sugar Glider, Greater Glider (7), Kookaburra (2), Parma Wallaby*(2) and Common Brushtail Possum.

CALL PLAYBACK SURVEYS

Two call playback sites were conducted in the survey area. Species detected through these surveys were: Yellow-bellied Glider* (2), Sooty Owl* (2) and Powerful Owl*. These records confirm the presence of Sooty Owl indicated by previous records, even in this relatively dry forest type.

FROG SURVEYS

No frog surveys were carried out due to seasonal constraints. During compartment traverses some potential habitat was identified for *Mixophyes* sp. (particularly *M. balbus*) and *Philoria* sp. along Flaggy Creek, these areas are protected within Hastings River Mouse habitat reservation.

BAT SURVEYS

One Anabat site was monitored, though no bats were detected. No harp trapping was conducted due to seasonal constraints. Protection of the riparian zones through Hastings River Mouse habitat reservation will protect the most likely flyways for threatened bat species.

DIURNAL BIRDS

Diurnal bird surveys were conducted on 3 and 4 June by R. Kooyman. No threatened diurnal bird species were detected throughout surveys. It is interesting to note the presence of Superb Lyrebird in this area, as there is a previous record of Albert's Lyrebird several kilometres to the south-west of the survey area. This record may be erroneous.

OTHER

A Scat/Track Traverse was conducted and three predator scats were collected. These have been sent to B. Triggs for identification. Eastern Grey Kangaroo scats were also detected.

Brush-tailed Rock Wallaby

Brush-tailed Rock Wallaby was detected through an incidental sighting approximately 1km north of the compartments on 4/6/98 along Colongon Road by R. Kooyman. This species was not detected throughout surveys and is unlikely to occur in the survey area however, due to a lack of critical habitat components noted throughout compartment traverse surveys.

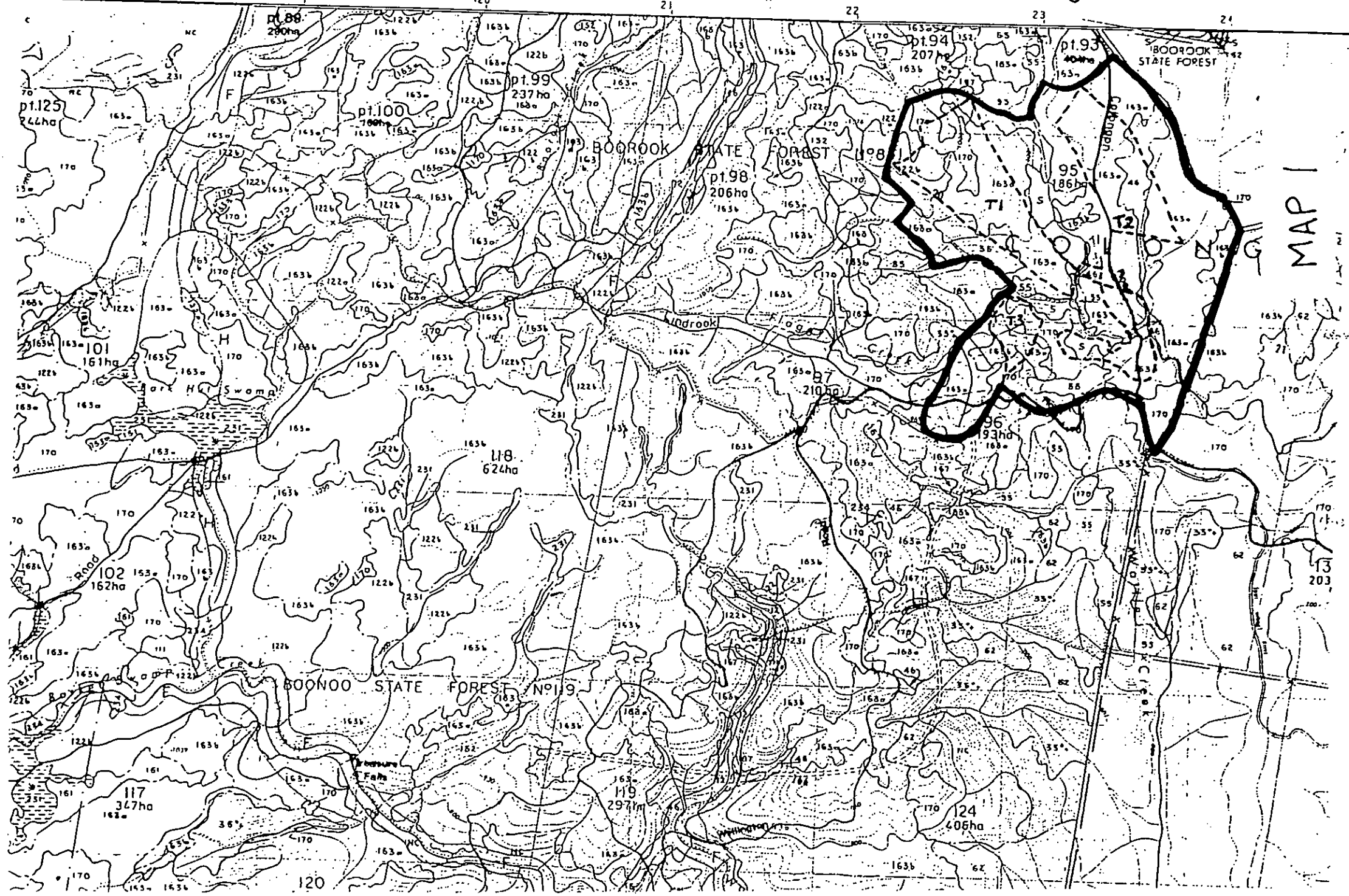
*Indicates a threatened species or fauna feature pertaining to threatened species under the TSC act.

Northern Rivers Region - Threatened Species Pre-logging and Pre-roading Survey

Attachments:

1. Map 1 showing flora survey by D. Binns (1:25000 F.T.).
2. Map 2 showing traverses by R. Kooyman (1:15000).
3. Map 3 showing survey locations (1:15000).
4. Map 4 showing threatened fauna locations (1:15000).
5. Flora survey report by D. Binns.
6. Datasheets and field notes.

24.



NORTHERN RIVERS REGION TENTERFIELD MANAGEMENT AREA
HARVEST PLAN OPERATIONAL MAP
COMPARTMENT 95, 96
BOOROOK STATE FOREST
BOONOO BOONOO MAP SHEET
HARVEST PLAN NUMBER TENT 97/03
SCALE 1:15 000, Date 01/06/1998

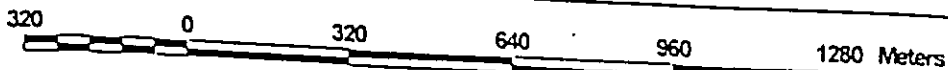
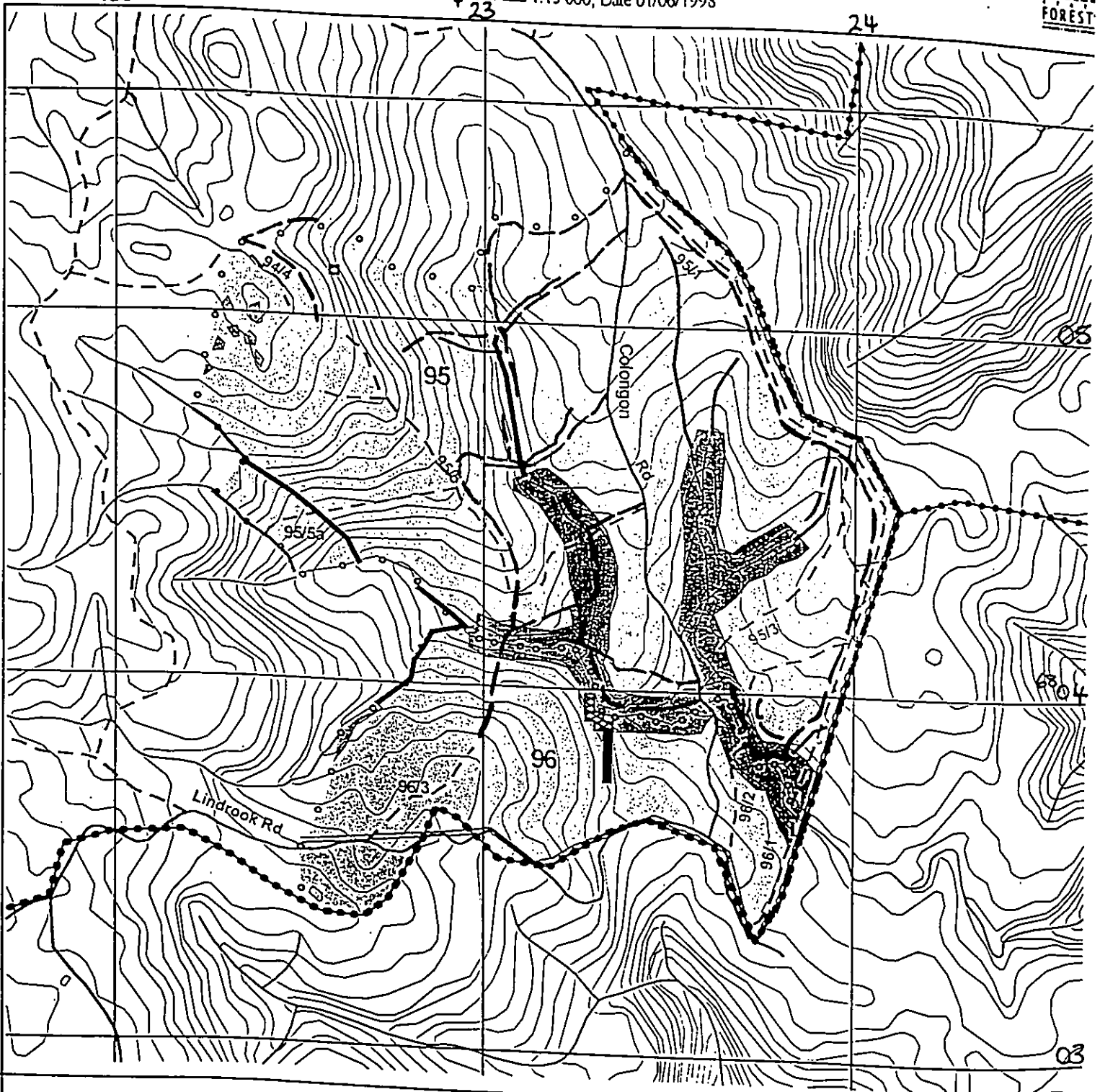
MAP 2



22

23

24



BOUNDARIES

- State Forest Boundary
- Compartment Boundaries

ROADS

- - - Natural Surface
- Sealed or Gravelled
- Four wheel drive

DRAINAGE

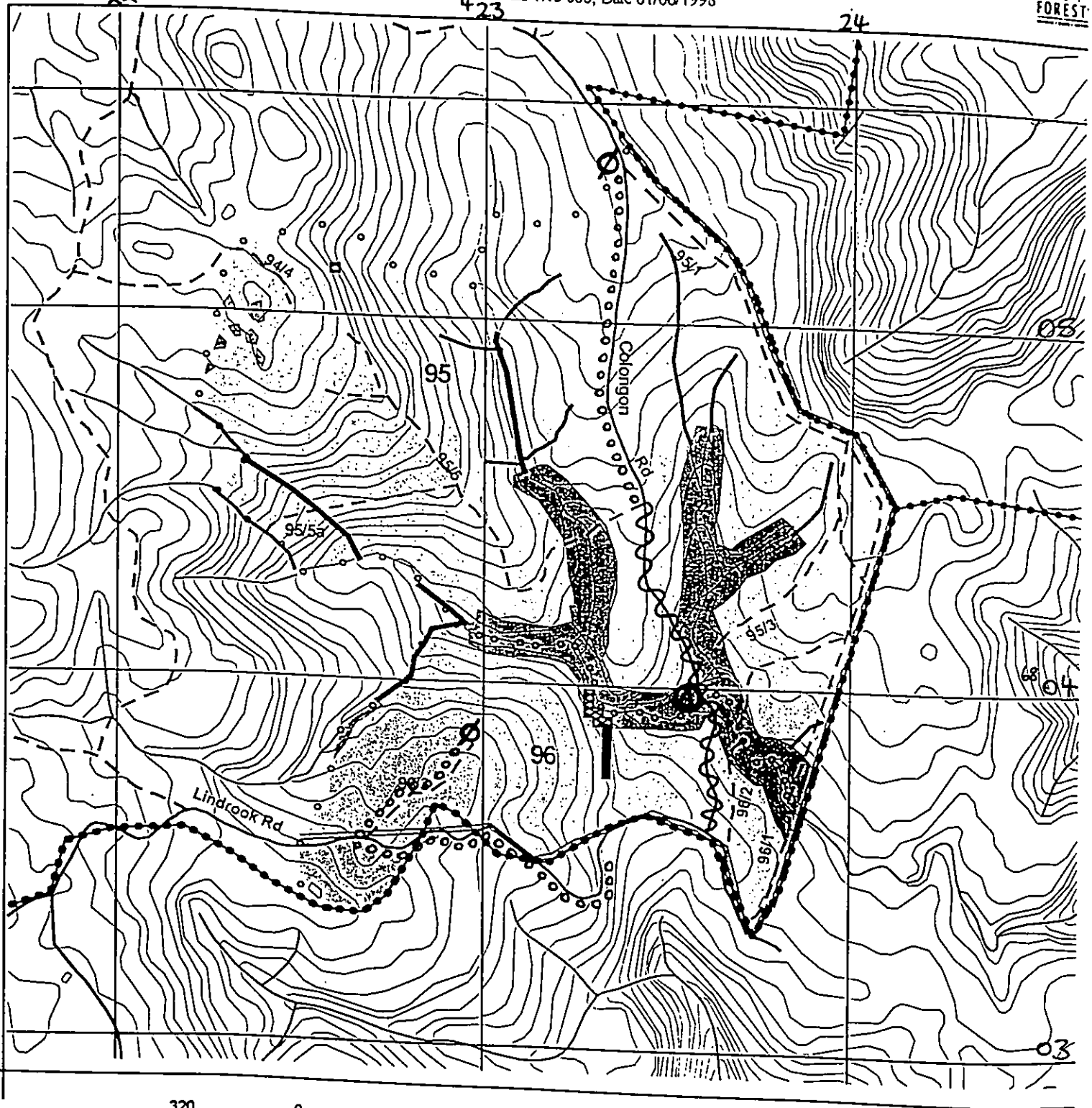
- External Drainage
- 1st Order Stream (10m buffer)
- 2nd Order Stream (20m buffer)
- 3rd Order Stream (40m buffer)
- || Approved Crossings

THREATENED FAUNA
FEATURES TRAVERSE

By R. KOOYMAN

NORTHERN RIVERS REGION TENTERFIELD MANAGEMENT AREA
HARVEST PLAN OPERATIONAL MAP
COMPARTMENT 95, 96
BOOROOK STATE FOREST
BOONOO BOONOO MAP SHEET
HARVEST PLAN NUMBER TENT 97/03
SCALE 1:15 000, Date 01/06/1998

MAP 3



320 0 320 640 960 1280 Meters

BOUNDARIES

- State Forest Boundary
- Compartment Boundaries

ROADS

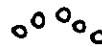
- Natural Surface
- Sealed or Gravelled
- Four wheel drive

DRAINAGE

- External Drainage
- 1st Order Stream (10m buffer)
- 2nd Order Stream (20m buffer)
- 3rd Order Stream (40m buffer)
- ≡ Approved Crossings



CALL PLAYBACK SITE



SPOTLIGHT TRAVERSE (FOOT)



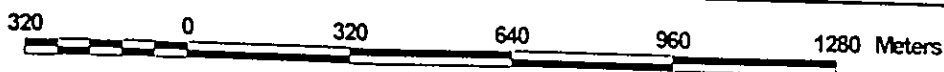
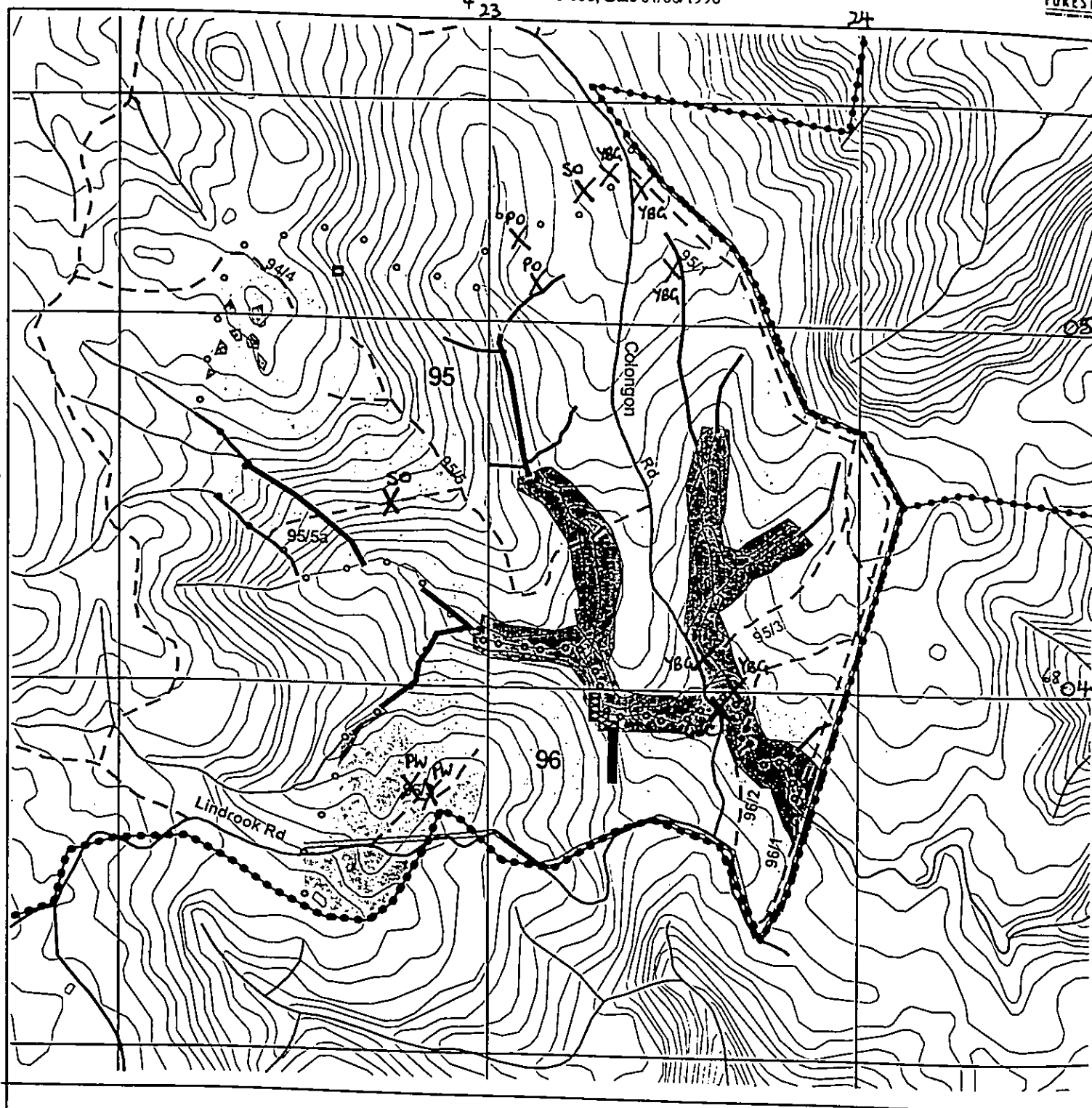
SCAT/TRACK TRAVERSE



ANABAT SITE

NORTHERN RIVERS REGION TENTERFIELD MANAGEMENT AREA
 HARVEST PLAN OPERATIONAL MAP
 COMPARTMENT 95, 96
 BOOROOK STATE FOREST
 BOONOO BOONOO MAP SHEET
 HARVEST PLAN NUMBER TENT 97/03
 SCALE 1:15 000, Date 01/06/1998

MAP 4



BOUNDARIES

- State Forest Boundary
- Compartment Boundaries

ROADS

- Natural Surface
- Sealed or Gravelled
- Four wheel drive

DRAINAGE

- External Drainage
- 1st Order Stream (10m buffer)
- 2nd Order Stream (20m buffer)
- 3rd Order Stream (40m buffer)
- X Approved Crossings

X YBC YELLOW-BELLIED GLIDER

X SO SOOTY OWL

X PO POWERFUL OWL

X PW PARMA WALLABY

X CA COMMON BRUSHTAIL POSSUM

FLORA TRAVERSE CPTS 95, 96 BOOROOK SF.

Methods

Flora traverses were conducted in compartments 95 and 96 in Boorook SF on 25-26 May 1998, in accordance with the current Survey Protocol. Data sheets and a map showing traverse routes are attached. A summary of traverse details is as follows:

Total traverse length:	8.7 km
Traverse length per 200 ha:	7.9 km
Net total traverse duration:	8.5 hrs
Net traverse duration per 200 ha:	7.7 hrs

General description

The area is uniformly open forest on coarse, sandy soils derived from coarse-grained granite. *Eucalyptus campanulata* is dominant throughout most of the forest. The main associated canopy species are *E. cameronii* (areas mapped as forest type 122, some parts of type 170), *E. saligna*, *E. brunnea* and *E. microcorys*. The latter three occur mainly on sheltered or lower slopes, often in areas mapped as type 55. Forest type 46 is mostly an equal mixture of *E. saligna* and *E. campanulata*. *Lophostemon confertus* is common in gullies and on sheltered lower slopes. *E. scias* subsp. *apoda* occurs scattered throughout the area at low density. A predominantly low shrubby understorey occurs on ridges and exposed slopes, the most common species being *Podolobium ilicifolium*, *Acacia falciformis*, *Leucopogon lanceolatus*, *Acrotriche aggregata*, *Imperata cylindrica* and *Themeda australis*. On more sheltered slopes the understorey is variously dominated by *Calochlaena dubia*, *Poa sieberiana*, *Sorghum leiocladum* and *Blechnum cartilagineum*, with patches of *Acacia maidenii*, *A. irrorata* and *Trochocarpa laurina*. There are small localised patches of *Acmena smithii* and *Trochocarpa laurina* in the most sheltered gullies. A partial floristic list for the area is attached.

Threatened or significant flora species

No threatened or significant flora species were recorded.

D B—

Doug Binns
Flora Ecologist
26 May 1998



TRAVERSE SURVEY



TRAVERSE SURVEY



TRAVERSE SURVEY

Partial floristic list

Cpts 95/96

Boorook SF

25-26 May 1998

lowly growing cattle

conspicuous grasses

Euc. campandata VC

Euc. brassica C

Euc. cameraria C

Euc. saligna C

Lophostemon confertus O

Euc. scabra VC

Euc. microcorys O

Allocasuarina littoralis VC

Corymba juncea O

Artemisia ulicifolia O

Asarum racemosa C

Rapanea hirsuta R

Leptospermum petersonii O

Asarum macleayana C

Asarum smithii O

Sagittaria australis R

Bankia integrifolia C

Elaeagnus reticulatus C

Leptospermum polygalifolium O

Habenaria scabra C

Argemone spandau O

Zinnia smilax R

Asarum foliolosum VC

Mastomys silvestris C

Peucedanum caeruleum R

Leptospermum lanceolatum VC

Notelaea verrucosa R

Peucedanum oleoides O

Acrotheca aggregata C

Cordylus petiolatus R

Hibbertia scandens C

Allocasuarina torulosa C

Cissus hypoglauca R

Ribes cuneifolium O

Trachypogon C

Solanum denservegetum O

Corybas C

Podolepis villosa VC

Senecio dielsii O

Pyrocephalus rubinus R

Pea sieberiana C

Kenedia cubensis O

Platyrrhinus bifurcatus R

Laurencia longifolia VC

Opuntia inermis C

Asplenium australasicum R

Entolasia stricta VC

Impatiens cylindrica C

Plectranthus serrulatus R

Calochortus dubius VC

Stylidium gracilifolium R

Dendrobium kingianum O

Cassipourea tenuis C

Desmodium rigidifolium O

Plectrochiza tridentata R

Thamnia australis VC

Brachycome micrantha O

Schoenus nasicularis R

Microlaena stipitata VC

Desmodium gracile O

Sorghum leucolabrum C

Dianella caerulea C

Pratia purpurascens C

Brachycome micrantha O

Hardenbergia violacea O

Carex appressa O

Dendrophloe vitellina R

Pterocarya glabrata O

Doodia aspera O

Olethra carthagenensis O

Leptospermum laterale O

Conoclinium hystrix O

Viola heterophylla C

Pterocarya esculenta VC

Labellum trigynum O

Hypochaeris radicata O

Conoclinium filiforme C

Stellaria flaccida O

Plectranthus parviflorus O

Cassipourea macleayana O

Tylophora paniculata O

Smilax australis O

Hibbertia obtusifolia O

Gastroplasma cynosuroides O

Senecio amygdalifolius O

Viola heterophylla C

Eustrephium latifolium O

Sarcocollis falcatus R

Cph 9/5/96 Boorool SF cont. 25-26 May 1998

<i>Cryptocarya microneura</i>	R	<i>Melichrus procumbens</i>	R
<i>Asplenium flabellifolium</i>	R	<i>Adiantum formosum</i>	R
<i>Crossula sieberiana</i>	R	<i>Adiantum actinopurum</i>	O
<i>Begonia variabilis</i>	R	<i>Bomarea australis</i>	R
<i>Solanum paniculatum</i>	R	<i>Bractylotia populacea</i>	R
<i>Helichrysum siliatum</i>	O	<i>Sarcobolus olivaceus</i>	R
<i>Cephalalaria cephalobotrys</i>	R	<i>Hedycarya angustifolia</i>	R
<i>Hibbertia aspera</i>	O	<i>Pandorea pandorana</i>	R
<i>Lomatium siliatifolia</i>	O	<i>Youngia japonica</i>	R
<i>Pultenaea flexilis</i>	R	<i>Rubus parvifolius</i>	C
<i>Callitriche pallida</i>	R	<i>Jacksonia scoparia</i>	O
<i>Liparis swainsonii</i>	R	<i>Leptosperma truncatum</i>	R
<i>Thalysia fragrans</i>	R	<i>Geocarpus tetragynus</i>	O
<i>Hymenophyllum crispifolium</i>	R	<i>Degeneria parvifolia</i>	O
<i>Parasponia straminea</i>	R	<i>Lomandra multiflora</i>	O
<i>Scheuchzeria palustris</i>	O	<i>Trema aspera</i>	R
<i>Gabua sieberiana</i>	R	<i>Chilaglottia trilobata</i>	O
<i>Epacris pulchella</i>	O	<i>Mantha diemenica</i>	R
<i>Lomandra confertifolia</i>	O	<i>Plantago debilis</i>	C
<i>Syntherisma glandulosa</i>	R	<i>Pentstemon canescens</i>	O
<i>Austrobaileya latifolia</i>	O	<i>Veronica cuneata</i>	O
<i>Pterostylis longistylis</i>	R	<i>Begonia oblongifolia</i>	R
<i>Acacia maidenii</i>	C	<i>Digitaria parviflora</i>	R
<i>Hibbertia dentata</i>	O	<i>Pennisetum setaceum</i>	O
<i>Betula australis</i>	R	<i>Exocarpos strictus</i>	R
<i>Swainsona galegifolia</i>	R	<i>Lagenaria gracilis</i>	O
<i>Hydrocotyle tripartita</i>	R	<i>Anemone septentrionalis</i>	O
<i>Marsippospora scoparia</i>	R	<i>Hemidactyloides plicifolius</i>	R
<i>Dichondra repens</i>	O		
<i>Xanthorrhoea latifolia</i>	O		
<i>Persoonia sericea</i>	R		

Tues.

June 2nd, 1998.

Boorook SF. Cnpts 95/96.

Robert Karyman

Casino Office: meeting with Bob Williams, Ken Mc, & Fanna Team.

Travel Casino to Boorook S.F. 5:30pm.

6:00pm -: Fanna Survey - (with Nicole Harvey)

Playback site 1. - P.O. - no response
M.O. - no response

YBG - no response
S.O. - calling (no playback required).

Playback site 2 - P.O. - 30min after Playback * P.O. calling S. (sw).
M.O. - no response S.O. - not required

* YBG - calling downstage (several groups/individuals)

Walking Spotlight Transect: 2km.... - numerous Greater Gliders (spotted)
* - heard YBG, Sugar Glider
- saw (2) common brushtail possums
* - Parma Wallaby (2) seen clearly!
(Karyman & Harvey)....

ENO 11:00pm - Nicole drove back to Tentfield.... P.O. calling (sw) my camp.
(near corner 95).

Wed. June 3rd, 1998

: Diurnal bird Survey: Listening.... (no sch. species) & observation.

NB: Superb Lyre-bird calling.... (Albert's Lyre-bird record is probably erroneous! NB: data? S.F. NSW bases)

NB: Sooty Owl habitat -: open/grassy forest... Fr. 47 elj. Fr. 43 etc. Very narrow to non-existent rainforest/most forest riparian vegetation. Descriptions relating to this species dependence on rainforest are wrong, and do not exist the species in these scenarios....
... eg. Boorook SF, Ewings (Nth) SF, Boorook SF etc.....

* Fanna Features/Habitat Transect - (8km) Eulimys quoyii (create area... near waterfall.... looks like good Mixophyes balbus habitat (syn. Girard S.F. near weir, Lomaden bagfolki etc.).
Dromae sp. (sp. n.?). (cuckoo). Perathys sp. (N.E. 96) here etc....
Blue-gum in bud.... retain... critical feeding resource - YBG * RETAIN Banksia integrifolia.
Diurnal Bird -: 5:00pm - 6:30pm. Listen/observation... no sch. species.

Thurs. June 4th, 1998 : Diurnal Bird Survey - 7am - 8am.

Fanna features traverse -: (8am - 11am). 3hrs. (see map)

Travel: * Rock Wallaby - Petrogale penicillata within 1km of Cnpt. boundary...?

Travel to Beavry SF. Cnpt. 70 meet up with Bill Chapman et al.
Cnpt. Surveys.....



INTEGRATED ASSESSMENT - SAMPLE REGION

OBSERVER(S) <u>Robert Kooyman</u>		DATE <u>3/6/98</u>	START TIME <u>8 am to 5.30 pm.</u>	REGION CODE <u>NH Rivers</u>
MANAGEMENT AREA <u>Old Taterfield.</u>		TRANSECT BEARING	TRANSECT LENGTH <u>8 hrs.</u>	TRANSECT NUMBER <u>1 of</u>
STATE FOREST <u>Boorook S.F.</u>		COMPT <u>96/95</u>	START	EASTING
LOCATION DETAILS SURVEY NAME <u>Cmt. 95</u>		NORTHING		
(A) THREATENED FLORA - OBSERVATIONS				
SPECIES SEARCHED FOR:				
TRANSECT DISTANCE	FLORA SPECIES	NUMBER	AREA SIZE	SITE DESCRIPTION &/OR EVIDENCE OF DISTURBANCE
	<u>non detected</u>			
(B) THREATENED FAUNA - SIGHTING OR FEATURE#				
TRANSECT DISTANCE	SPECIES OR FEATURE TYPE	NUMBER	SITE DESCRIPTION (MICROHABITAT)	MAP NOTED?
	<u>Flaxey Cdn - habitat even.</u>	<u>Core Habitat 200</u>	<u>HEM, Microph. baltus (etc.), Philonia sp., YBG, S.O.</u>	<u>P.O.</u>
	<u>etc. [No specific features located]</u>			
#THREATENED SPECIES FEATURES				
<ul style="list-style-type: none">• DIURNAL BIRD spp. _____• TIGER QUOLL LATRINE AND DEN SITES• NESTS, DENS & ROOSTS OF LARGE BIRDS, (RAPTORS & OWLS) BATS, & HOLLOW DEPENDENT SPECIES• GLOSSY BLACK COCKATOO, ALBERTS LYREBIRD & BUSH THICK-KNEE NESTS• OWL PELLETS (& WHITE WASH)• DIURNAL BIRD spp. _____• CAVES, TUNNELS & DISUSED MINES• DISTINCTIVE SCATS (TIQU, KOAL, & BRUSH-TAILED ROCK WALLABY)• PERMANENT SOAKS AND SEEPAGES• YEBG V-NOTCH TREES				
(C) GENERAL COMMENTS* & ARCHAEOLOGICAL ARTEFACTS				
*RECORD FEATURES: EG. UNMAPPED CHANGE IN STRATA OR FOREST TYPE, ROCKY OUTCROPS ETC.				
TRANSECT DISTANCE	OBSERVATION OF			



PAGE ____ OF ____



CALL PLAYBACK - NORTHERN RIVERS REGION

STATE FOREST	Boorook SF		M.A. Glen Innes	COMPT.	95	
OBSERVER(S)	ND RH		DATE FROM 28.5.98	REGION CODE	461	
SURVEY NAME	Pre-harvest		DATE TO			
DETECTION METHOD(S)	Part of Spotlight Transect? YES / NO specify...					
<input checked="" type="checkbox"/> arboreal mammals <input type="checkbox"/> diurnal birds <input type="checkbox"/> other						
<input checked="" type="checkbox"/> nocturnal birds						
Species Targeted						
SITE(S) - AMG	Site...I.	Easting	423350	Calls Played	PO, SO, MO (4BG) (Only were played 2/6/98)	
COORDINATES	Zone	Northing	6805450	Notes.....	did not play this as 4BGs called before playback began	
BROAD HABITAT TYPE (1 only)	Rainforest <input type="checkbox"/> Sclerophyll <input type="checkbox"/> Woodland <input type="checkbox"/>					
	Subtropical <input type="checkbox"/> Wet Sclerophyll <input type="checkbox"/> Shrub Woodland <input type="checkbox"/>					
	Dry <input type="checkbox"/> Dry Sclerophyll <input checked="" type="checkbox"/> Heath Woodland <input type="checkbox"/>					
	Temperate <input type="checkbox"/> Swamp Sclerophyll <input type="checkbox"/> Tall Woodland <input type="checkbox"/>					
FOREST TYPE NUMBER(S)						
LOCATION DESCRIPTION	On Colongon Rd 1km before intersect with Yowie Rd.					
CENSUS 1	Start Time: 5.30 pm Finish Time: 7 pm Total Travel Time 1 hr 10 mins					
WEATHER	Temperature 14°C Relative Humidity 50% Time 6.30 pm					
Wind (1 only for all)	<input checked="" type="checkbox"/> calm <input type="checkbox"/> light - leaves rustle <input type="checkbox"/> moderate - moves branches					
Rain	<input type="checkbox"/> rain during survey <input type="checkbox"/> strong - impedes progress					
Night light	<input type="checkbox"/> evidence of rain in last 24 hrs <input checked="" type="checkbox"/> no evidence of rain in the last 24 hrs					
	<input checked="" type="checkbox"/> very dark - no moon+cloud <input type="checkbox"/> detail seen - moon and clear sky					
	<input type="checkbox"/> dark - quarter moon or moon with heavy cloud <input type="checkbox"/> bright - half moon or more and no cloud					
CENSUS 2	Start Time: 7.20 pm Finish Time: 8.00 pm Total Travel Time 40 mins					
WEATHER	Temperature 15.5°C Relative Humidity 90% Time 6.40 pm					
Wind (1 only for all)	<input checked="" type="checkbox"/> calm <input type="checkbox"/> light - leaves rustle <input type="checkbox"/> moderate - moves branches					
Rain	<input type="checkbox"/> rain during survey <input type="checkbox"/> strong - impedes progress					
Night light	<input checked="" type="checkbox"/> evidence of rain in last 24 hrs <input type="checkbox"/> no evidence of rain in the last 24 hrs					
	<input type="checkbox"/> very dark - no moon+cloud <input type="checkbox"/> detail seen - moon and clear sky					
	<input checked="" type="checkbox"/> dark - quarter moon or moon with heavy cloud <input type="checkbox"/> bright - half moon or more and no cloud					
OBSERVATION DETAILS						
DATE	CENSUS	SPECIES	OBS.	COUNT	RESPONSE (ESTIMATE)	NOTES (appearance, sex, note if count an estimate, AMG of S1 or S2)
			TYPE		DISTANCE BEARING	
28.5	1	YBG	Heard call	71	50m (H) 20m 190°	Heard call in listening-time before playback began + after playback finished
28.5	1	Sooty owl	Heard call	1	80m (H) 20m 190°	Heard directly after SO playback.
2-6	2	YBG	Heard call	>1	mid 25cm 50m (H) 150-160°	Heard after P.O. Playback + onwards.
2-6	2	Powerful Owl	Heard call	1	400m (H) 50m 220° sw	Heard after M.O. Playback
					(H)	
					(H)	
					(H)	
					(H)	

PAGE ____ of ____ SKETCH MAP OVERLEAF? YES / NO

CALL PLAYBACK

Survey conducted by R. Kooymann + N. Harvey 2/6/98

423350 E 6805440 N

423400 E 6805350 N
423350 E 6805450 N
423320 E 6805100 N



CALL PLAYBACK - NORTHERN RIVERS REGION

STATE FOREST BOOROOK		M.A. Tenterfield		COMPT. 96		
OBSERVER(S) N. Harvey, K. Hudson		DATE FROM 28-5-98 DATE TO 2-6-98		REGION CODE 461		
SURVEY NAME		Part of Spotlight Transect? YES / NO specify...				
DETECTION METHOD(S) <input type="checkbox"/> arboreal mammals <input checked="" type="checkbox"/> nocturnal birds		<input type="checkbox"/> diurnal birds		<input type="checkbox"/> other		
Species Targeted						
SITE(S) - AMG Site 2		Easting 4 22 950		Calls Played P.O. M.O. S.O. 28/5/98 2/6/98		
COORDINATES Zone		Northing 68 03 820		Notes..... S.O. was recorded in the area on 28/5/98 so was not repeated on census 2.		
BROAD HABITAT TYPE (1 only)		Rainforest		Sclerophyll		
		<input type="checkbox"/> Subtropical		<input type="checkbox"/> Wet Sclerophyll		
		<input type="checkbox"/> Dry		<input checked="" type="checkbox"/> Dry Sclerophyll		
		<input type="checkbox"/> Temperate		<input type="checkbox"/> Swamp Sclerophyll		
FOREST TYPE NUMBER(S)				Woodland		
				<input type="checkbox"/> Shrub Woodland		
				<input type="checkbox"/> Heath Woodland		
				<input type="checkbox"/> Tall Woodland		
LOCATION DESCRIPTION This site is located at the northern end of Road 96/3.						
CENSUS 1						
WEATHER		Start Time: 7:30pm		Finish Time: 8:15 pm		
Wind (1 only for all)		Temperature 12°C		Relative Humidity		
		<input checked="" type="checkbox"/> calm		Time 8:10 pm		
		<input type="checkbox"/> light - leaves rustle		<input type="checkbox"/> moderate - moves branches		
		<input type="checkbox"/> rain during survey		<input type="checkbox"/> strong - impedes progress		
		<input type="checkbox"/> evidence of rain in last 24 hrs		<input checked="" type="checkbox"/> no evidence of rain in the last 24 hrs		
Night light		<input type="checkbox"/> very dark - no moon+cloud		<input type="checkbox"/> detail seen - moon and clear sky		
		<input checked="" type="checkbox"/> dark - quarter moon or moon with heavy cloud		<input type="checkbox"/> bright - half moon or more and no cloud		
CENSUS 2						
WEATHER		Start Time: 6:00pm		Finish Time: 6:40pm		
Wind (1 only for all)		Temperature 15.5/14.5		Relative Humidity 90%		
		<input checked="" type="checkbox"/> calm		Time 6:40 pm		
		<input type="checkbox"/> light - leaves rustle		<input type="checkbox"/> moderate - moves branches		
		<input type="checkbox"/> rain during survey		<input type="checkbox"/> strong - impedes progress		
		<input checked="" type="checkbox"/> evidence of rain in last 24 hrs		<input type="checkbox"/> no evidence of rain in the last 24 hrs		
Night light		<input type="checkbox"/> very dark - no moon+cloud		<input type="checkbox"/> detail seen - moon and clear sky		
		<input checked="" type="checkbox"/> dark - quarter moon or moon with heavy cloud		<input type="checkbox"/> bright - half moon or more and no cloud		
OBSERVATION DETAILS						
DATE	CENSUS NO.	SPECIES	OBS. TYPE	COUNT	RESPONSE (ESTIMATE) DISTANCE BEARING	NOTES (appearance, sex, note if count an estimate, AMG of S1 or S2)
28/5	1	Nil Response			(+/-)	
2/6	2	Sooty Owl	Heard Call	1	(+/-)	4 22 750 E 68 04 500 N
					(+/-)	
					(+/-)	
					(+/-)	
					(+/-)	
					(+/-)	
					(+/-)	
					(+/-)	
					(+/-)	

Survey conducted
by R. Kouyman +
N. Harvey 2/6/98.



SPOTLIGHT TRANSECT - NORTHERN RIVERS REGION

STATE FOREST	Boorook SF		M.A.	Glen Innes		COMPT.	95	
OBSERVER(S)	ND RH		DATE FROM	28.5.98		REGION	461	
SURVEY NAME	Pre-harvest		DATE TO			CODE	461	
DETECTION METHOD(S)	<input type="checkbox"/> vehicular transect <input checked="" type="checkbox"/> foot transect		Census No(s)	1 (x 2 nights)		Notes:		
Species Targeted	All		Census No(s)	1-2				
TRANSECT DETAILS								
Total Distance	Along Galangan Rd for 1km with Yarrabee Rd							
AMG	Start	Easting	423850		Finish	Easting	423450	
COORDINATES		Northing	6805450			Northing	6804450	
BROAD HABITAT TYPE	<input type="checkbox"/> Rainforest <input type="checkbox"/> Subtropical <input type="checkbox"/> Dry <input type="checkbox"/> Temperate		<input type="checkbox"/> Sclerophyll <input type="checkbox"/> Wet Sclerophyll <input checked="" type="checkbox"/> Dry Sclerophyll <input type="checkbox"/> Swamp Sclerophyll		<input type="checkbox"/> Woodland <input type="checkbox"/> Shrub Woodland <input type="checkbox"/> Heath Woodland <input type="checkbox"/> Tall Woodland			
FOREST TYPE NUMBER(S)								
CENSUS 1								
TIME	Start Time		7.20pm		Finish Time		8.30pm	
WEATHER	Temperature		12°C		Relative Humidity		50%	
Wind	<input checked="" type="checkbox"/> calm <input type="checkbox"/> light - leaves rustle		<input type="checkbox"/> moderate - moves branches <input type="checkbox"/> strong - impedes progress		Total Travel Time 1hr 10mins			
Rain	<input type="checkbox"/> rain during survey <input type="checkbox"/> evidence of rain in last 24 hrs		<input type="checkbox"/> no evidence of rain in the last 24 hrs		Time 7 am / pm			
Night light	<input checked="" type="checkbox"/> very dark - no moon+cloud <input type="checkbox"/> dark - quarter moon or moon with heavy cloud		<input type="checkbox"/> detail seen - moon and clear sky <input type="checkbox"/> bright - half moon or more and no cloud					
CENSUS 2								
TIME	Start Time		8.05 pm		Finish Time		8.50 pm	
WEATHER	Temperature		15.5°C		Relative Humidity		90%	
Wind	<input checked="" type="checkbox"/> calm <input type="checkbox"/> light - leaves rustle		<input type="checkbox"/> moderate - moves branches <input type="checkbox"/> strong - impedes progress		Total Travel Time 45 mins			
Rain	<input type="checkbox"/> rain during survey <input checked="" type="checkbox"/> evidence of rain in last 24 hrs		<input type="checkbox"/> no evidence of rain in the last 24 hrs		Time 6:40 am / pm			
Night light	<input type="checkbox"/> very dark - no moon+cloud <input checked="" type="checkbox"/> dark - quarter moon or moon with heavy cloud		<input type="checkbox"/> detail seen - moon and clear sky <input type="checkbox"/> bright - half moon or more and no cloud					
OBSERVATIONS								
DIST.	TRANS. NO.	SPECIES	OBS. TYPE	DIST. from TRANS	Count	NOTES (AMGs for S1&S2 spp, note if count is an estimate)		
600m	1	Greater glider	sight	10m	1	423340E 6804850N		
100m	1	Sugar Glider	heard call	80m	1			
250m	1	Common Brushtail	Sighted	30m	2			
400m	1	Greater Glider	Sighted	30m	2	4 23 350 68 05 020 E N		
750m	1	Greater Glider	Sighted	20m	1	4 23 400 68 04 700 E N		
900m	1	Greater Glider	"	20	1	All GG have been in NER so far		
850m	1	Greater Glider	"	40	1	4 23 380E 68 04 580N		

Conducted by
R. Kooyman and
M. Harvey.

PAGE 1 of 1. SKETCH MAP OVERLEAF? YES / NO

1000m 1 N Greater Glider

" 40

4 23 400 E
68 04 470 N

SPOTLIGHT



SPOTLIGHT TRANSECT - NORTHERN RIVERS REGION

STATE FOREST BOOROOK		M.A. TENTERFIELD		COMPT. 96		
OBSERVER(S) N. Harvey, K. Hudson		DATE FROM 28-5-98		REGION		
SURVEY NAME		DATE TO		CODE 461		
DETECTION METHOD(S) <input type="checkbox"/> vehicular transect <input checked="" type="checkbox"/> foot transect		NUMBER OF TRANSECTS 1 (x2 nights)		Notes: The Census 2 transect began at the finish co-ordinates and continued through to playback site 2.		
Species Targeted All		Census No(s).....		Census No(s) 1 & 2		
TRANSECT DETAILS						
Location Description Along Road 96/3 and Lindbrook Rd from						
Total Distance 1000m Call Playback Site 2.						
AMG Start		Easting 4 22 950		Finish Easting 4 23 250		
COORDINATES		Northing 68 03 820		Northing 68 03 500		
BROAD HABITAT TYPE						
<input type="checkbox"/> Rainforest		<input type="checkbox"/> Sclerophyll		<input type="checkbox"/> Woodland		
<input type="checkbox"/> Subtropical		<input type="checkbox"/> Wet Sclerophyll		<input type="checkbox"/> Shrub Woodland		
<input type="checkbox"/> Dry		<input checked="" type="checkbox"/> Dry Sclerophyll		<input type="checkbox"/> Heath Woodland		
<input type="checkbox"/> Temperate		<input type="checkbox"/> Swamp Sclerophyll		<input type="checkbox"/> Tall Woodland		
FOREST TYPE NUMBER(S)						
CENSUS 1						
TIME		Start Time 6:15pm		Finish Time 8:25pm		
WEATHER		Temperature 10°C		Total Travel Time 1h 10min.		
Wind		<input checked="" type="checkbox"/> calm		Relative Humidity		
<input type="checkbox"/> light - leaves rustle		<input type="checkbox"/> moderate - moves branches		Time 6:00 - 1 pm		
Rain		<input type="checkbox"/> rain during survey		<input type="checkbox"/> strong - impedes progress		
<input type="checkbox"/> evidence of rain in last 24 hrs		<input checked="" type="checkbox"/> no evidence of rain in the last 24 hrs				
Night light		<input type="checkbox"/> very dark - no moon+cloud		<input type="checkbox"/> detail seen - moon and clear sky		
<input checked="" type="checkbox"/> dark - quarter moon or moon with heavy cloud		<input type="checkbox"/> bright - half moon or more and no cloud				
CENSUS 2						
TIME		Start Time 8:55pm		Finish Time 9:50pm		
WEATHER		Temperature 15.5°C		Total Travel Time 55min.		
Wind		<input checked="" type="checkbox"/> calm		Relative Humidity 90%		
<input type="checkbox"/> light - leaves rustle		<input type="checkbox"/> moderate - moves branches		Time 6:40 - 1 pm		
Rain		<input type="checkbox"/> rain during survey		<input type="checkbox"/> strong - impedes progress		
<input checked="" type="checkbox"/> evidence of rain in last 24 hrs		<input type="checkbox"/> no evidence of rain in the last 24 hrs				
Night light		<input type="checkbox"/> very dark - no moon+cloud		<input type="checkbox"/> detail seen - moon and clear sky		
<input checked="" type="checkbox"/> dark - quarter moon or moon with heavy cloud		<input type="checkbox"/> bright - half moon or more and no cloud				
OBSERVATIONS						
DIST.	TRANS. NO.	SPECIES	OBS. TYPE	DIST. from TRANS	Count	NOTES (AMGs for S1&S2 spp, note if count is an estimate)
0m	1	Sugar Glider	Heard calling	50m	1	
500m	1	Greater Glider	Observed	40m	1	4 22 880 E 68 03 560 N
100m	1 ^R	Kookaburras	Sighted	20m	2	
850m	1 ^R	Parma Wallaby	Sighted	40m	1	Held in spotlight
900m	1 ^R	Parma Wallaby	Sighted	40m	1	Held in spotlight.

Conducted by
R. Kooymann and
N. Harvey 2/6/98

4 22 800 E
68 03 730 N
4 22 850 E
68 03 720 N

PAGE 1 of 1 . SKETCH MAP OVERLEAF? YES / NO

9:45.

SPOTLIGHT

FORESTS

SCATS



PAGE 1 of 1. SKETCH MAP OVERLEAF? YES / NO

Start Time = 5:30pm.
Finish Time = 6:00pm