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PT 1

**KOALA MANAGEMENT PLAN  
BLACK ROCKS ESTATE**



for  
**POTTSVILLE DEVELOPMENT  
CORPORATION PTY LIMITED**

**Project No. A3200193/0001**

**JULY 1996**

**Woodward-Clyde**



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## 1.1 Management Context

The Black Rocks Estate is owned by Pottsville Development Corporation (PDC) Pty Limited. A Rezoning application was lodged with Tweed Shire Council for this site in 1993. Council resolved to rezone the land, however, one of the conditions was that a Deed between Tweed Shire Council and PDC be signed. This deed provided for the completion of a Koala Management Plan for the rezoned land.

Clause 4.1 of the Deed of Agreement states that the land identified as Koala habitat on Annexure D (attached) is to be transferred to Council and is to be "*capable of registration by the Council in respect of the said land in the name of the Council upon the approval of a plan of subdivision to be submitted to Council with the first Development Application for the development of land*".

Clause 4.2 of this Deed states that "The owner shall submit a Management Plan to provide an appropriate future Koala habitat such plan to indicate the planting of Koala food trees and appropriate fencing around the boundaries of the area so designated and more particularly defined in Clauses 4.3 (3)(a) and (b) hereafter. The plan to be approved by the Director of Development Services on behalf of Council."

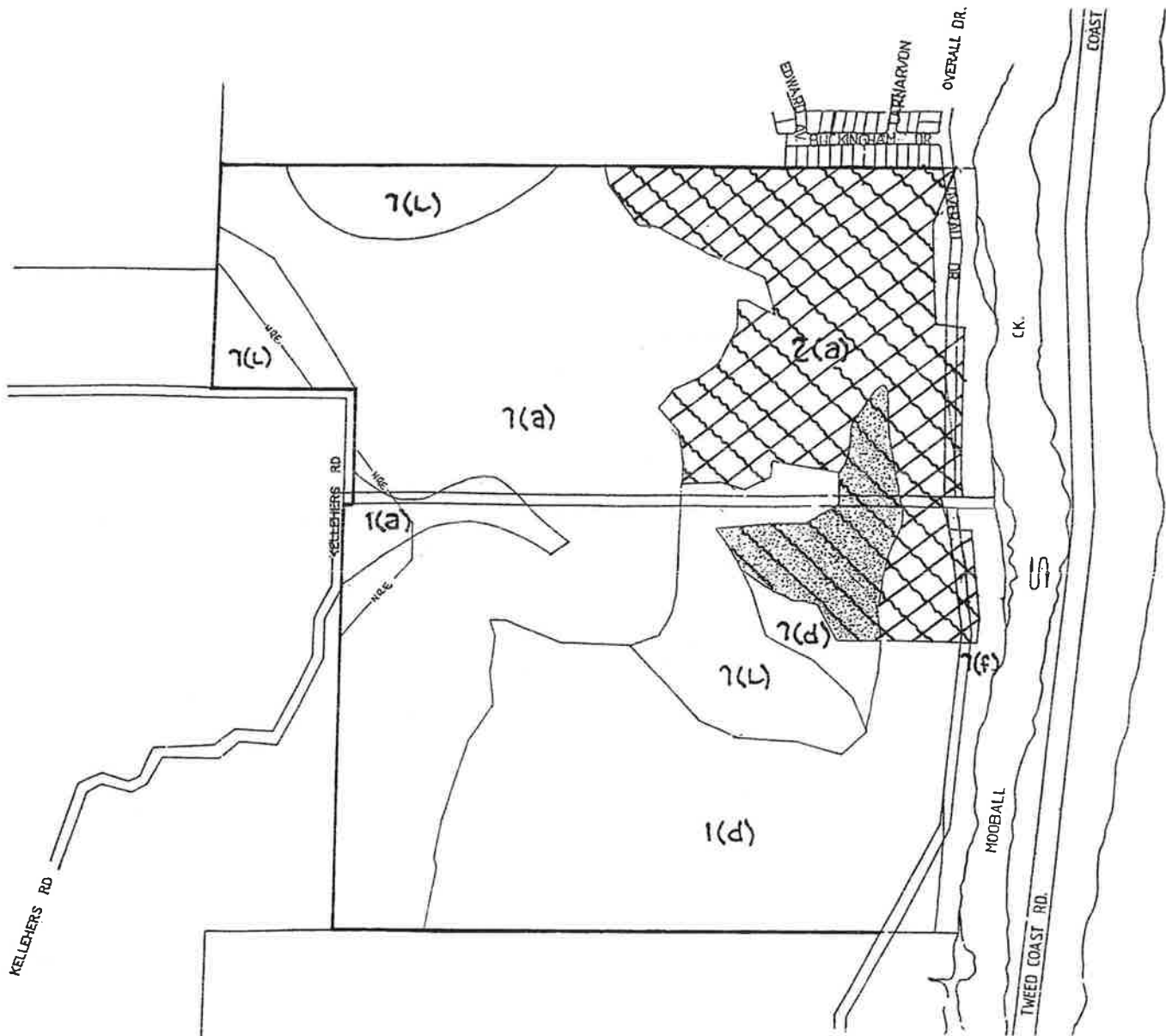
Clause 4.3 (iii)(a) and (b) of the legal agreement states that the dedicated land shall be fenced and planted with Koala food trees for any subsequent release of Stages after 1 and 2. Fencing and planting to be at the expense of the proponent. This latter requirement should also be included into the Koala Management Plan".

This Koala Management Plan addresses only the current development area (Area A) as shown in the attached **FIGURE 1**. Future development (Area B) on the site will involve revisions to this Management Plan. This plan also shows the zonings on the property.




## 1.2 Land Use History

The following account of the landuse history of the site is taken from Griffith (1993).


- \* In the early days of settlement timber getting was a widespread activity.
- \* Dairying was the Study Area's original intensive use, two dairies operating on the property at one stage.
- \* The Study Area's eastern side was sandmined during the early 1960's.
- \* Not long before acquisition by PDC in 1974, extensive clearing and drainage works had been undertaken.



**LEGEND**

- 1(a) RURAL ZONE
- 2(a) RESIDENTIAL ZONE
-  RESIDENTIAL 1200 m<sup>2</sup> LOTS - SUBJECT TO CLAUSE 50E
- 1(d) DEVELOPMENT INVESTIGATION ZONE
- 7(a) ENVIRONMENTAL PROTECTION (WETLANDS) ZONE
- 7(d) ENVIRONMENTAL PROTECTION (SCENIC ESCARPMENT) ZONE
- 7(f) ENVIRONMENTAL PROTECTION (COASTAL EROSION) ZONE
- 7(L) ENVIRONMENTAL PROTECTION (HABITAT) ZONE
-  AREA 'A'
-  FLOOD PRONE LAND

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Property Owner  
**P D C Pty Ltd**  
Property Description  
BLACKROCKS ESTATE

Scale 1:12,500	Source CMA	Date July 1995
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W.C.L.

**FIGURE 1**  
LOCALITY



- \* In about 1984 PDC commenced "land improvement" operations, which involved selective clearing and thinning, stick raking, slashing and drain cleaning.
- \* Illegal Paper-bark harvesting has occurred in some of the older Broad-leaved Paperbark (*Melaleuca quinquenervia*) stands, with a resultant tree mortality of 50% or more in patches.
- \* Beef cattle presently graze throughout the Study Area.
- \* The Study Area was formerly zoned part 1(d) Development Investigation and part 7(a) Environmental Protection (Wetlands). The current zonings are shown in the attached **FIGURE 1.**

### 1.3 Objectives

1. Maintain the existing demographic structure of the Koala population currently utilising that area of the Black Rocks site proposed for development and accommodate their ranging requirements.
2. Protect resident animals from undue disturbance during earth works associated with proposed development activity.
3. Minimise the chances of motor vehicle collision throughout that area proposed for development but particularly in areas of high use or where the home ranges of resident animals overlap.
4. Embellish existing habitat where appropriate and create additional Koala habitat with a longer term view to increasing the overall population size.
5. Establish a degree of empathy by prospective land purchasers and residents of the Black Rocks site with a view to engendering community support for maintenance of the current and future Koala population.
6. Provide long term protection and effective management of the whole of the Black Rocks site within the context of managing a Koala population of local and possibly regional significance.

## 2.1 Introduction

Reed and Lunney (1990) note that a 1986-87 survey of the distribution of Koalas showed that, in NSW, they now primarily occur on the North Coast (Lismore to Tweed Heads and a major population in the Central Coast region including the Port Stephens area.)

The survey found Koalas to be uncommon or rare in the majority of localities. On this basis, the Koala has been included in Part II - Vulnerable and Rare of the Revised (Interim) Schedule 12, National Parks and Wildlife Act, 1974.

Reed et al (1990) state that on the basis of distribution, the Koala can be described as being vulnerable to further loss as remaining localities continue to be modified by land clearing, fire, invasion by stock, exotic weeds and urban expansion.

Koala habitat can be broadly defined as areas of Wet and Dry Sclerophyll Forest (Faulks, 1989). This does not mean that all of these types of forest are suitable habitat areas. The presence of preferred tree species, suitable soil type, vegetation structures and climate are all important interrelating factors that make some areas suitable for Koalas. Gordon (1988) notes that Koalas will select patches of suitable habitat with better quality food supply to concentrate in and that they occur at varying densities in different areas because of this feature.

Koalas in this locality appear to prefer the following plant species as their food source:

- # Grey gum
- # Forest red gum
- # Swamp mahogany
- # Tallow wood

Secondary browse species probably include;

- # Pink bloodwood
- # White mahogany

S. Phillips (pers. comm. 1992) notes that, although some individual Koalas feed exclusively upon secondary browse species, future management must be aimed at the population level rather than at the individual ie. at the preferred browse species.

Core habitat (Faulks, 1990 and Phillips, 1992) can be defined as an area of land containing a varying density of preferred browse trees and either known or considered likely to support a socially stable, nucleic population of Koalas.

In addition to the presence of suitable browse species, the size of the habitat area is critical to its value to Koalas. Diamond (1974) notes that larger areas of habitat are better than a small

area to help minimise extinction rates. A single large, isolated patch of suitable forest can provide suitable long term habitat for a Koala population (Pahl et al, 1989).

Pahl et al (1989) and Gordon (1988) have argued that Koalas need a minimum population of 500 to ensure a species long-term survival and maintenance of genetic diversity. Gordon (1988) notes that this could require conservation of about 1000 hectares of timbered country. Faulks (1989 and 1990) notes that, in general, however, a minimum patch size of a least one (1) hectare of timber is needed for one Koala depending on the food trees present.

The nutritional quality and health status of the available food trees is also an important consideration.

It should also be recognised that considering the seasonal availability of some food tree species, single trees will be of obvious importance.

The presence of tree corridors is an important factor in determining Koala movement patterns (e.g. dispersal and ranging behaviour) (Gordon, 1988; Pahl et al, 1989 and Faulks, 1990) and are therefore an important habitat consideration.

The occurrence (sightings or other sign) of Koalas, the area of suitable habitat and the presence of suitable browse species in the Study Area are the three (3) main factors to be considered in determining whether an area is potential or actual habitat for Koalas. When allocating a Koala habitat value to an area of vegetation, it would be appropriate to compare these areas with an ideal habitat of at least one hundred (100) hectares and which has a high proportion of preferred tree species and which supports at least fifty (50) Koalas at any one time. A community of this type could be given a rating of 'High Habitat Value'.

Environmental pressures which are significantly impacting on Koalas in eastern Australia include (Phillips, 1990):

- \* Bushfire - Koalas can survive fires restricted to leaf litter and shrub layer of the forest. They are not especially mobile and stand little chance of surviving large bushfires. A large bushfire occurred a short distance north of the site in January 1994 causing the deaths of a significant number of Koalas. Regeneration of fire affected areas is slow and they remain unsuitable for Koalas for many years (at least 5 years)
- \* Drought - The effects of drought are most likely to be felt by Koala populations living in the more arid areas west of the Great Dividing Range. Drought causes loss of leaves and loss of leaf quality.
- \* Disease and Parasites - Koalas are prone to infection by the bacterium *Chlamydia psittaci*. This infection causes conjunctivitis, reproductive disease, urinary tract disorders and possibly pneumonia/rhinitis.
- \* Parasites such as ticks and tapeworms can cause debilitation in Koalas.

## Woodward-Clyde

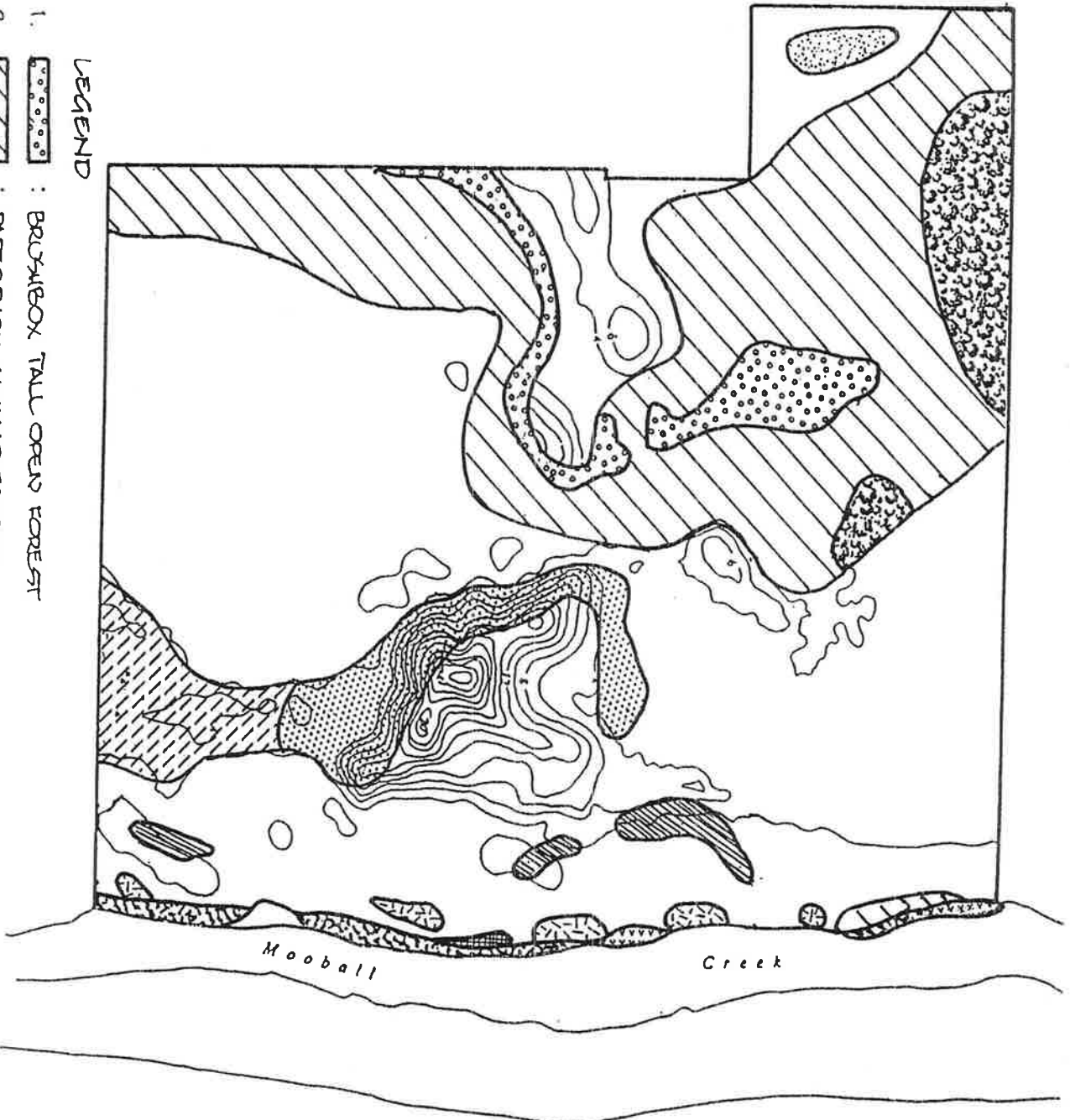
- \* Overpopulation - Where dispersal options are unavailable (e.g. an island) Koalas can rapidly overpopulate and cause wide scale tree defoliation, resulting in a population crash due to starvation.
- \* Habitat removal - The increase in population of coastal areas, particularly in the fertile flats preferred for development, has caused a habitat conflict with Koalas. The removal of high quality Koala habitat to accommodate development forces Koalas to occupy sub-optimal habitat and causes fragmentation of core populations and reduces dispersal options.
- \* Traffic Accidents - Road deaths of Koalas is becoming an increasing problem. The construction of roads through Koala habitat or between habitat areas forces Koalas to regularly cross roads as part of their natural foraging behaviour in dispersing.
- \* Dogs - Medium-sized to large dogs often attack and fatally injure Koalas as they move from tree to tree.















The vegetation on the Black Rocks Estate has previously been surveyed and is shown in the attached FIGURE 2. A brief description of each of the vegetation types is contained below:

#### Summary of the Vegetation Communities on the Site

No/Name	Dominant Species	Occurrence
1. Brush Box tall open forest	<i>Lophostemon confertus</i> Rainforest elements	On higher ground adjacent to and within Community 2.
2. Paperbark swamp forest	<i>Melaleuca quinquenervia</i> <i>Casuarina glauca</i>	Covers an extensive area on the low-lying land in the western half of the study area
3. Bloodwood woodland/coastal heathland	<i>Eucalyptus intermedia</i> <i>Lophostemon suaveolens</i> Heathland species	On sand and apparently poor soils on drier ground in the northern part of the study area
4. Coast Banksia low closed forest	<i>Banksia integrifolia</i> <i>Cupaniopsis anacardioides</i> <i>Casuarina glauca</i>	On sands along the edge of Mooball Creek on the eastern side of the study area
5. Mangrove woodland	<i>Avicennia marina</i>	Small patches on the edge of the estuary of Mooball Creek
6. Mangrove shrubland	<i>Aegiceras conriculatum</i>	Small patches on the edge of the estuary of Mooball Creek
7. <i>Sporobolus</i> grassland	<i>Sporobolus virginicus</i>	Small patches on the edge of the estuary of Mooball Creek
8. <i>Juncus</i> rushland	<i>Juncus kraussii</i>	On low-lying sites near Mooball Creek with infrequent salt water influence



**LEGEND**

1.  : BRUSHBOX TALL OPEN FOREST
2.  : PAPERBARK SWAMP FOREST
3.  : BLOODWOOD WOODLAND - COASTAL HEATHLAND
4.  : COAST BANKSIA LOW CLOSED FOREST
5.  : MANGROVE WOODLAND
6.  : MANGROVE SHRUBLAND
7.  : SPROZEBOLUS GRASSLAND
8.  : SUCCUS RUSHLAND
9.  : REMNANT EUCALYPTUS MICROCORYS FOREST
10.  : REMNANT EUCALYPTUS TERMITORUM FOREST
11.  : REMNANT EUCALYPTUS FOREST - BLOODWOOD, SWAMP TURPESTINE, SWAMP MAHOGANY (NPWS & TSC)
12.  : REMAINDER CLEARED OR REGENERATION WITH SCATTERED TREES

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Scale 1:10 000  
Series CMA  
Date July 1995

TITLE  
**FIGURE 2  
VEGETATION**



**KOALA SURVEY IN TWEED SHIRE**

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Faulks (1989) carried out a survey in Tweed Shire with a view to highlighting planning considerations and constraints existing in the Shire relating to Koala preservation. **FIGURE 3** shows the distribution of Koalas in the Tweed Shire based on survey information between 1985 - 1989.

The Australian Koala Foundation (AKF) is currently engaged in a Koala Habitat mapping program in the Tweed Shire. These habitat maps are not yet available.



**SEARANCH KOALA SURVEY**

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A radio-tracking survey was carried out by the Australian Koala Foundation (AKF) in 1995. The study has indicated that they believe the Searanch Koala population to be of regional and state significance. They note that the Searanch population is closely connected with another important population on nearby Round Mountain.

The Searanch population is located approximately 3km to the north-west of Black Rocks and it must be assumed that Koalas occurring in the Black Rocks area are moving or sharing territories with the Searanch animals.

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**KOALA SURVEY AT BLACK ROCKS**


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**6.1 Introduction**

The Black Rocks area has been surveyed for Koala on several occasions between 1991 and 1993. During April 1991 the area was surveyed by K Mills and A Gilmore; in February 1992 by M Denny; later in 1992 by the NPWS; in November/December 1992 by J Warren and in January 1993 by J Warren and M Denny. Details of the first two surveys have been reported in the LES and in a report by Mount King Ecological Surveys. Details of the remaining surveys are provided in the present report.

**6.2 Surveys Undertaken in November/December 1992 (Warren)**

On 17 November and 17 December 1992 J Warren carried out field surveys at the Black Rocks property. The aim of these surveys was to investigate Koala habitat and evaluate the potential for Koala habitat rehabilitation and management.

Stage 1 of the survey covered the Mooball Hill area. The survey included an inventory of plant species occurring, their general distribution and evidence of Koala usage.

The Mooball Hill area has been greatly degraded by past landuse practices. The essential plant community components of the hill area prior to disturbance would have been;

Eucalyptus Forest on the southern, western and northern slopes of the Hill

Banksia, Casuarina Forest on the more exposed (to salt-laden winds) eastern slopes

Melaleuca, Casuarina and Swamp Turpentine Forest on the flats surrounding the Hill

**FIGURE 2** shows the present distribution of vegetation communities in the Black Rocks area (from Mitchell McCotter 1992).

The areas of Eucalyptus Forest are obviously of interest in terms of Koala investigation. This community type is represented to a great extent by regrowth Forest Red Gum (*Eucalyptus tereticornis*), Pink Bloodwood (*E. intermedia*), Tallowwood (*E. microcorys*) and Brush Box (*Lopostemon confertus*). Forest Red Gums dominate the community.

Of particular note is:

the occurrence of a mature copse of Forest Red Gum at the bottom of the slopes on the southern side of Mooball Hill. Two Koalas were observed in separate trees (one male and one female Koala). Most Forest Red Gums showed signs of at least medium usage as was evidenced by scratches on the trunk, faecal pellets at the base of the trees or browsing damage.

the occurrence of scattered mature Forest Red Gums along the western slopes of the Hill. Many of the Forest Red Gum trees, over 500mm DBH, showed signs of light to medium Koala usage.

the occurrence of a thin copse of Forest Red Gum alongside Kellehers Road at the bottom of the slopes on the northern side of Mooball Hill. These Forest Red Gums generally showed signs of very light Koala usage. Some trees, although they seemed eminently suitable, showed no sign of Koala usage. However the scattered Forest Red Gums which do show Koala usage in this part of the site could develop into high usage trees in the future.

### Stage 2 - Remainder of vegetation in the Black Rocks site

A survey was carried out briefly through the Melaleuca Forest in the western portion of the Black Rocks area. A small number of Koala faecal pellets were located in various locations through the Forest.

Two copses of Pink Bloodwood associated with the Melaleuca Forest to the north of Mooball Hill showed signs of very light usage by Koalas. The areas of Brush Box Forest to the north-west of Mooball Hill showed very little or no usage by Koalas.

The areas of remnant Forest Red Gum, Pink Bloodwood, Swamp Turpentine and Swamp Mahogany to the south of Mooball Hill showed very little or no signs of usage by Koalas. however the scattered Forest Red Gums which do show Koala usage in this part of the site could develop into high usage trees in the future.

### Stage 3 - Extra-site survey

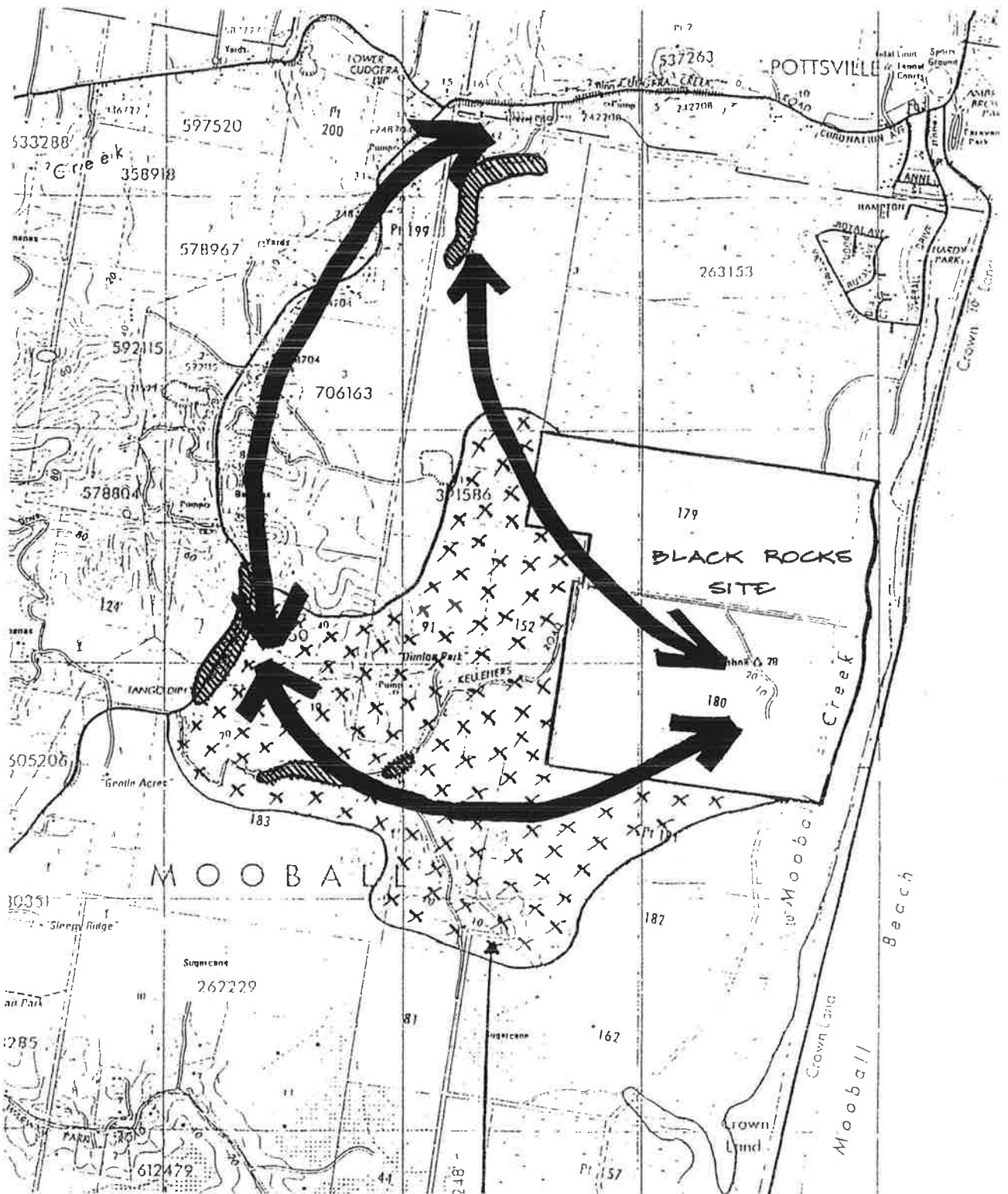
A survey was carried out in areas surrounding the Black Rocks site. Survey areas were selected by assessing a colour aerial photograph of the locality. It appears obvious that the local Koalas were primarily utilising Forest Red Gum and Tallowwood.

A survey was undertaken in Dunloe Park where it was found suitable tree species occurred. A line of Tallowwoods and Forest Red Gums occurred along Kellehers Road approximately half way between Black Rocks property and the Pottsville Road (see **FIGURE 4** for location of this part of the survey area). Many of these trees showed medium to heavy signs of usage by Koalas.


A number of Forest Red Gums were surveyed along the Pottsville Road immediately north of its intersection with Kellehers Road. These gums showed signs of light to medium usage.

A large area of mainly Brush Box regrowth forest occurs to the south of the western boundary of the Black Rocks property. Only light usage patterns were observed in this Community.

A ranking of Koala habitat in the Black Rocks area was derived from the degree of tree usage by these animals. Significant Koala habitat areas were determined by the severity of scratching on the boles of trees, density of faecal pellets around the base of the trees, severity of browsing damage and actual Koala sightings. The habitat categories are mapped in Figure 5.






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**Legend**

-  SIGNIFICANT KOALA USAGE AREA
-  POSSIBLE KOALA MOVEMENT CORRIDOR
-  SURVEY AREA OUTSIDE THE BLACK ROCKS SITE

Property Owner  
**P D C Pty Ltd**  
 Property Description  
 BLACKROCKS ESTATE

Scale 1:25 000	Date CMA	Date July 1995
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TITLE  
**FIGURE 4**  
 KOALA SURVEY OUTSIDE  
 THE BLACKROCKS SITE





### 6.3 Koala Surveys Undertaken during February 1992 and January 1993 (Denny)

During the February 1992 survey, most of the area was inspected by M Denny on foot during the day and by vehicle at night (using a spotlight) and no Koalas were sighted. However, inspection of the bark of the trunks of Forest Red Gum trees in the area revealed that about 30% of the trees in the timber patch north of Mooball Hill (16 out of 52) and 40% of the trees on the southern and western side of Mooball Hill (6 out of 15) were marked by scratches. This indicated that the Black Rocks area is used by Koalas and that the southern and western side of Mooball Hill was possibly preferred by these animals.

A similar survey undertaken during January 1993 showed that Koalas were utilising the trees at the bottom of the slopes on the southern side of Mooball Hill. These observations are similar to those recorded by J Warren. The only difference between the results of this survey and those undertaken previously was that there appeared to be far greater usage of Forest Red Gum trees in the copse to the north of Mooball Hill (Kellahers Lane) by Koalas during February 1992 (and during April 1991) than during the surveys undertaken by J Warren and M Denny in November/December 1992 and February 1993. During the survey undertaken in February 1993 there were far fewer trees marked by Koalas within the copse and no Koalas were sighted in the area either during the day and whilst spotlighting at night. Such a variance in observations indicates the changing preferences by Koalas for different tree species and for similar tree species in different growth stages. Similar variations in observations have occurred in other studies of Koalas in other areas.

### 6.4 General Conclusions from the Surveys

The following conclusions are presented as a joint report from J Warren and M Denny.

Definitive conclusions as to the movement, population size or territoriality of Koalas in the Black Rocks area are difficult to derive. However, the following points and recommendations are presented.

1. Koalas definitely occur in the Black Rocks area, but possibly in varying numbers over a period of time.
2. It would be possible to allow residential development of the area, provided certain management strategies are implemented.
3. It is desirable that Koalas are managed as part of the proposed development of this site.
4. Management practice should include retention and embellishment, where possible, of suitable habitat; identification and conservation of dispersal areas or corridors, and the reduction of life-threatening factors associated with human development.
5. Koalas are regularly seen in the Black Rocks site, particularly within the copse of Forest Red Gum at the south of Mooball Hill. Their continued presence in this part of the site could indicate a very small but resident population.
6. With such small areas of suitable habitat it is equally likely that the Koalas observed may be transient animals. If the Koalas are resident they will likely have established movement

- patterns, ie utilising preferred trees in a certain area. In habitat which contains high densities of preferred trees the home ranges are likely to be small (a few hectares) when compared with habitat which contains low densities of preferred trees in which case the home ranges could be 10-20 hectares. Utilisation of resources not only depends on this food tree density but on the sex and age status of the animal. Activity of Koalas will also change during the breeding season.
7. It is probable that the main movement dispersal pattern in the general area is in an east-west direction, ie between Mooball Hill and Pottsville Road, and in a north-east direction, ie between Pottsville Road and Pottsville township/Searanch. To a lesser extent there may be movement in a south to north-west corridor. Thus some of the Koalas possibly move in a semi-circular route originally travelling approximately north-west from Mooball Hill then north-east towards Pottsville village (see **FIGURE 4** for distribution of preferred Koala habitat outside the Black Rocks area and a possible movement route for Koalas).
  8. Development of the eastern side of Mooball Hill (marked as area A in **FIGURE 1**) should not affect the Koala population in the area, provided certain management strategies are part of the development plans. This area is not considered as attractive to Koalas as area B and planning strategies should be directed towards denser residential development and discouraging Koalas from entering Area A.
  9. The Koala habitat on the Black Rocks site (**FIGURE 5**) has good potential for embellishment. The good numbers of young (<10 metres tall) Forest Red Gum trees indicates that the habitat value will improve in time.
  10. It is important to keep in mind that prior to human development of this area Koalas occurred in greater numbers than that at present. The small numbers of Koalas regularly seen in the Black Rocks area could represent the vestiges of a former larger population. If this is the case, it would be important to retain as many known "usage" trees as possible as well as engaging in embellishment plantings. It is also important to note that these small outlying populations of Koalas could play an extremely important role in the long term viability of local populations if Koalas in core habitat were to suffer a catastrophe such as wildfire or disease (S Phillips, pers.comm.).
  11. Planning for Koala management is difficult when only viewed as a site-specific issue. The long term security of an obvious Koala corridor on the Dunloe Park property should be addressed as an integral part of the Final Management Plan.
  12. A regional study of Koala habitat and corridors would allow long term planning to occur in sympathy with the Koalas in the south-eastern portion of Tweed Shire area.
  13. There is an opportunity for Tweed Shire Council to develop a zoning within the Shire which will accommodate limited development and conservation of natural features, including animals such as Koalas. Such an Environmental Protection/Living Zoning would require detailed landscape and wildlife management plans prior to any development approval, and the use of special conditions, some of which are described in this report.

14. The development area subject of this Management Plan will not involve the loss of any habitat trees.

## 6.5 Management Plan

The following management strategies are recommended for Area A of the Black Rocks development and have been generated so as to comply with the Deed of Agreement between Pottsville Development Corporation and Tweed Shire Council and relate directly to the information contained in Section 6.4 of this report:

(i) The land shown in **ANNEXURE D** (attached) will be transferred to Council prior to the issue of the consent for Stages 3-7 inclusive.

(ii) When development occurs, and prior to the release of the linen plan for stage 3(b), then plantings of Koala food trees should occur in those dedicated areas marked on **FIGURE 6** and in the Koala habitat identified on **ANNEXURE D**. Planting in the Koala habitat area shown in **ANNEXURE D** will only require plantings in the non-vegetated areas. A planting distance of 10 metres is suitable.

(iii) Within the existing buffer zone of 10-25m, Koala food tree plantings should be incorporated into the development concept. This will protect and embellish much of the habitat west of the development. Tree plantings should be at 5m centres which would allow a fire management trail 3m in width to be created within this buffer zone.

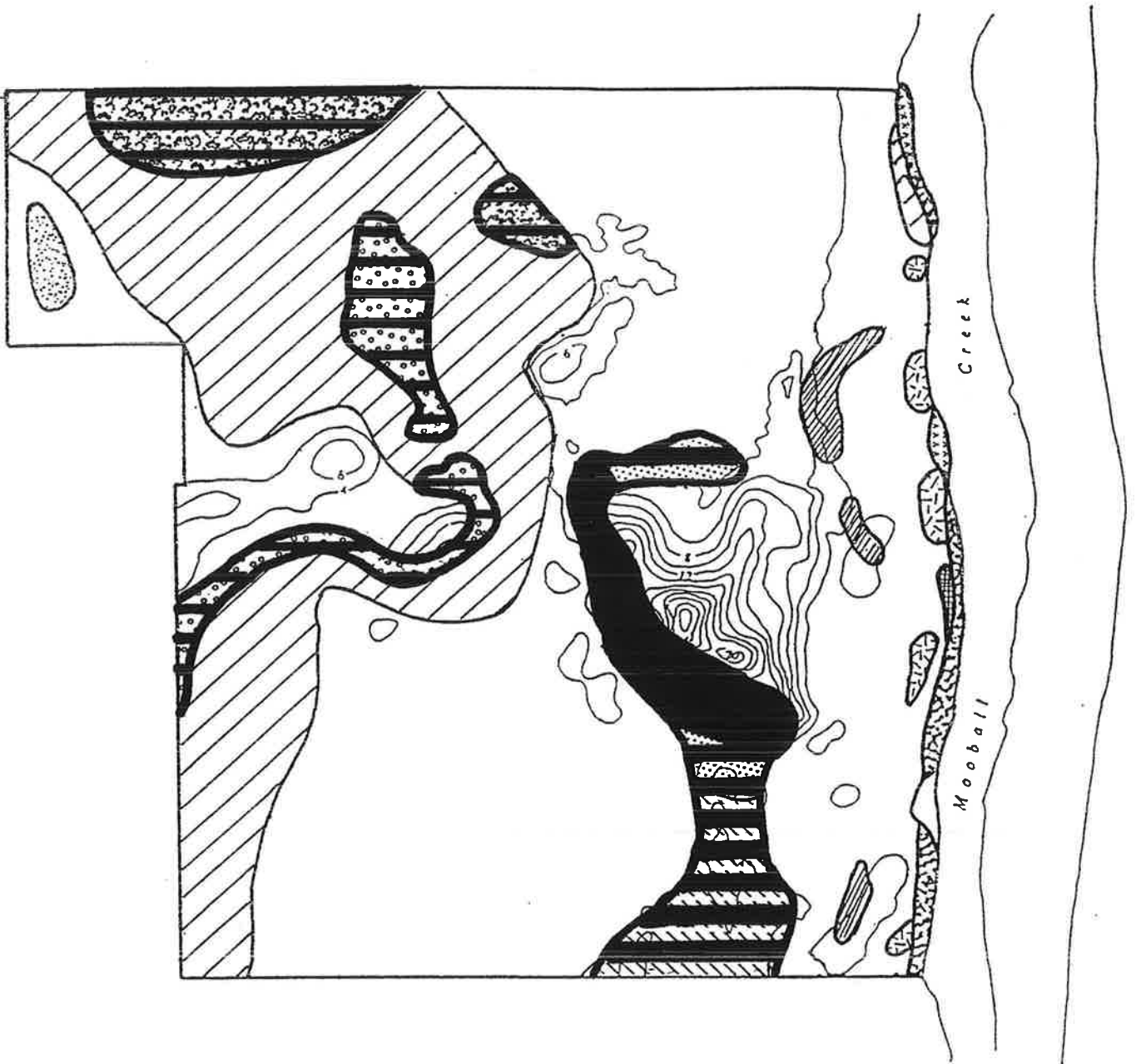
(iv) There should be no need for additional plantings in the 20metre buffer zone already created along the eastern side of Mooball Hill.


(v) All dedicated land shall be fenced in compliance with Clause 4.3 (iii) (a) and (b) of the deed of agreement and prior to the release of the linen plan for Stage 3(b). Within Area A it would be better to discourage the presence of Koalas by using Koala proof fences (there are few fences that can be said to be truly "Koala proof" but the use of tall smooth-sided fences do discourage their use by Koalas), eg Zincalume and paling fences, not providing preferred Koala food trees, and having a smaller lot size. However, there are certain strategies which should be implemented within Area A to reduce the possibilities of damage to any Koalas straying into the area. These strategies should be covered by any future Section 88(b) instruments. They include:-

- \* Swimming pools are to be totally enclosed within Koala-proof fences, this should preclude the need for escape ropes or ladders;
- \* The use of roads designed to calm traffic movement; and
- \* Control of dogs (mainly no straying).




None of these strategies are designed to encourage Koalas but are to assist in the reduction of damage to Koalas which happen to enter Area A.

(vi) Stages 1 and 2 of the Black Rocks development already has a covenant restricting dogs and cats within the boundaries of the development, ie the animals must be kept within property fences and must be leashed when outside the property. The 88(b) instrument relating to dog control should also include the restriction of certain breeds of dog from Area A. From



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**Legend**

	LOW HABITAT VALUE
	LOW-MEDIUM HABITAT VALUE
	MEDIUM HABITAT VALUE

Property Owner <b>P D C Pty Ltd</b>		
Property Description BLACKROCKS ESTATE		
Scale 1:10 000	Version CMA	Date July 1995
TITLE <b>FIGURE 5 KOALA HABITAT ON THE BLACKROCKS SITE</b>		