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Microhabitat use by Gilbert's Potoroo (Potorous Tridactylus Gilbertii Gould) in Relation to Vegetation Associations and Ground Cover

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FIGURE 1: Gilbert's Potoroo

(Johnson and Thomson, [n.d.]. Photograph by Jiri Lochman)

MICROHABITAT USE BY GILBERT'S POTOROO (*POTOROUS TRIDACTYLUS GILBERTII* GOULD) IN RELATION TO VEGETATION ASSOCIATIONS AND GROUND COVER

BY

SARAH VETTEN

A Thesis Submitted in Partial Fulfilment of the Requirements for the Award of Bachelor of Science in Biological Science with Honours in the Faculty of Science, Technology and Engineering, Edith Cowan University.

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TABLE OF CONTENTS.

ABSTRACT

Gilbert's potoroo has been rediscovered 120 years after it was believed to have become extinct. In 1994 the presence of Gilbert's potoroo was confirmed at Two Peoples Bay Nature Reserve, near Albany, and since that time the need for a detailed understanding of the biology and behaviour of the species has become urgent.

An understanding of the habitat requirements of the species will aid in its recovery from its present critically endangered status and will act as a guide for future management decisions concerning translocations of new populations into other areas.

The present study was conducted at Two Peoples Bay Nature Reserve in Western Australia in order to determine the microhabitat requirements of the species, with particular reference to vegetation associations and density of canopy cover utilised. The study was conducted on both female and male adult specimens of the nocturnal marsupial species *Potorous tridactylus gilbertii* Gould. Investigation of microhabitat preferences was undertaken using a modified spool-and-line tracking technique, giving a detailed record of the movement of the animals through the habitat.

The habitat within the study area is comprised mainly of dense coastal heath dominated by *Melaleuca* and *Agonis* spp. with *Allocasuarina* spp. emergents. It is fragmented by wet and dry sclerophyll forest along gullies and granite outcrops and large sedgelands dominated by *Anarthria* spp.

The spool lines were not clearly associated with any particular floristic group or strongly correlated with any particular density of cover. Instead it appeared that animals utilised a

range of vegetation ecotones, with dense cover possibly being utilised for diurnal shelter and protection from predators, and more open areas for nocturnal foraging.

Key Words: *Potorous tridactylus gilbertii*, spool-and-line tracking, microhabitat use, Gilbert's potoroo.

DECLARATION

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature

Date 11/2/97

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LIST OF TABLES.

LIST OF FIGURES.

1. INTRODUCTION

The potoroid marsupial, *Potorous tridactylus gilbertii* Gould, was rediscovered in 1994, almost 120 years after it was believed to have become extinct. Prior to its rediscovery the only information available on habitat use of this species came from the writings of John Gould, a nineteenth century naturalist. In his classic work *The Mammals of Australia*, Gould describes Gilbert's potoroo as inhabiting "dense vegetation... surrounding swamps or small running streams" (Gould, 1863).

A more detailed analysis of the habitat preferences of Gilbert's potoroo has become necessary. This study is designed to help determine what features of the habitat are necessary for potoroos to survive and prosper and which areas may be appropriate for possible future reintroductions of populations of potoroos.

1.1. The Relationships and Taxonomy of *Potorous* Desmarest species.

The taxonomy of *Potorous* species has been reviewed many times (Johnston and Sharman, 1976; Ride, 1970; Seebeck, 1981; Seebeck and Johnston, 1980). Until 1888 five distinct species had been named in the genus: *Potorous tridactylus* (Kerr, 1972); *Potorous gilbertii* (Gould, 1841); *Potorous platyops* (Gould, 1844); *Potorous apicalis* (Gould, 1851); and *Potorous rufus* (Higgins & Petterd, 1884). The most recent review of these classifications by Johnston and Sharman (1976) was undertaken using univariate morphometric analyses for body size and muzzle proportions. They concluded that all potoroos, with the exception of *P. platyops*, belong to the same highly variable species, *P. tridactylus*. In 1980 a new species, *Potorous longipes*, was described by Seebeck and Johnston.

Currently, three distinct species are recognised; *P. platyops* (the broad faced potoroo, believed to be extinct), *P. longipes* (the long-footed potoroo) and *P. tridactylus* (the long-

nosed potoroo). *P. tridactylus* is divided into three sub-species consisting of *P. tridactylus tridactylus*, *P. tridactylus apicalis* and *P. tridactylus gilbertii* (Seebeck *et al.*, 1989).

Since its rediscovery the status of Gilbert's potoroo as a sub-species of *P. tridactylus* has come into question. Comparison of Gilbert's potoroo with the long-nosed potoroo has shown marked differences between the two. The breeding cycle of Gilbert's potoroo appears to be significantly shorter than *P. tridactylus*, and differences in skull morphology have been observed (J. Courtenay personal communication). From these initial observations it would seem unlikely that Gilbert's potoroo represents a sub-species of *P. tridactylus*. Until this is investigated further, however, the name *Potorous tridactylus gilbertii* will be adhered to.

1.2. The History of *Potorous tridactylus gilbertii*

The first specimens of *Potorous tridactylus gilbertii* were collected at 'King George's Sound' in 1840 by John Gilbert, with the species being originally described as *Hypsiprymnus gilbertii*, Gilberts rat-kangaroo, by John Gould in his publication *Mammals of Australia* (1863). Within this work Gould describes *Potorous tridactylus gilbertii* as "closely resembling *Hypsiprymnus murinus* [now described as *Potorous tridactylus tridactylus*] but on close comparison of the skulls of the two species a marked difference is observable." (Gould, 1863, p. 146). Gould noted a more pronounced nasal bone that was more "swollen out at the sides", and the tarsi and tail being shorter than those of *P. t. tridactylus*, and the general colour of a deeper hue (Gould, 1863).

A decline in the numbers of *P. t. gilbertii* occurred around 1869. The last time the species was officially recorded was between 1874 and 1879, when a single specimen was collected by William Webb. By 1909 Gilbert's potoroo was considered likely to be extinct, with the possibility that small populations persisted, overlooked due to their similarity in appearance and habitat use with that of *Setonix brachyurus* (the quokka) (Shortridge, 1909). Shortridge

(1909) attributed the initial decline of *P. t. gilbertii* to feral cats and wildfire, and predicted that populations may persist only in long-unburnt areas with dense vegetation. Increased pressure by predation would have been exerted on this species during the 1920's when foxes became established in the south-west of Western Australia (Calaby, 1971).

On the 30th of November 1994 Elizabeth Sinclair, a PhD student from the University of Western Australia, was attempting to trap quokkas in Two Peoples Bay Nature Reserve, when a specimen of *P. t. gilbertii* was recovered during the trapping program. Comparison with museum specimens and with data in the literature by Conservation and Land Management (CALM) scientists confirmed that this specimen was neither *P. platyops* (the broad-faced potoroo) nor *P. longipes* (the long-footed potoroo).

1.3. The Distribution of *Potorous* Desmarest species

Marsupials make up about 60% of Australian vertebrate species that have become extinct, endangered or of vulnerable status, since European settlement (Short and Smith, 1994). Environmental changes (land clearing, prescribed burning, bush fires, alteration of water courses) and the introduction of alien predators and competitors have had a much greater effect on the numbers and range of small mammal species than they have on the larger members of the kangaroo family (Calaby, 1971). This impact is clearly reflected in the greatly reduced ranges and numbers of *Potorous* species throughout Australia (Figure 2).

The distribution and abundance of *Potorous* species prior to European settlement is known from bone deposits, fossil records, accounts from early naturalists, and from information from Aboriginal groups that inhabited the region. Species of potoroo were present in Tasmania, coastal regions in south-eastern and south-western Australia, in addition to many well established island populations (Baynes *et al.*, 1975; Cook, 1963).

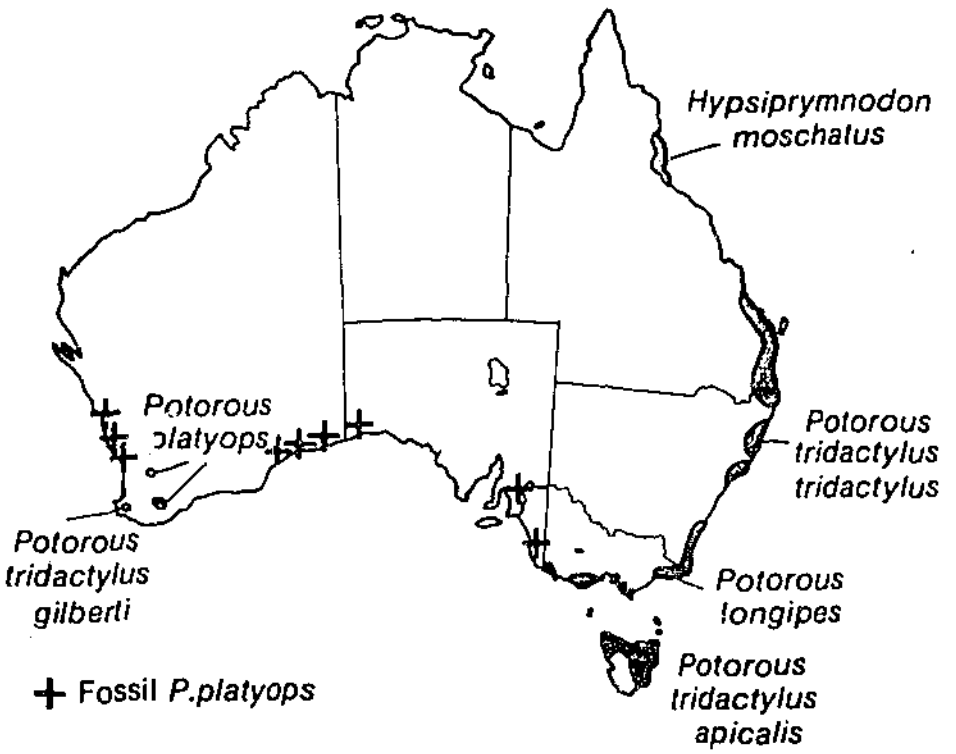

FIGURE 2: The Distribution of *Potorous* spp. (Seebeck *et al.*, 1989, p. 68)

The most prevalent species of potoroo prior to European settlement was *P. tridactylus*. The sub-species *P. t. tridactylus* and *P. t. apicalis* are still present in most parts of their former range, however their numbers are greatly reduced and their distribution is patchy (Seebeck *et al.*, 1989). The historical evidence available suggests that it is unlikely that *P. platyops*, *P. longipes* and *P. tridactylus gilbertii* were ever widely distributed, but were locally stable in small areas. However the drastic changes brought about by European settlement would have further restricted and reduced these populations (Calaby, 1971).

P. platyops, the broad-faced potoroo, was first recorded in 1840 by John Gilbert (Shortridge, 1909). It was collected as a living animal in three localities in south-western Australia, and the last specimen was acquired in 1875 by the National Museum in Victoria. Its known range at this time included a small area near Albany, and another in the vicinity of Northam and York (Shortridge, 1909; Lundelius, 1957). This species is now considered to be extinct.

Bone deposits of *P. platyops* have been recovered within several caves in southern Australia, in areas where live specimens were never recorded. These include the southern edge of the Nullarbor Plain, Kangaroo Island, south-eastern South Australia and Aboriginal occupational deposits on the lower Murray River (Calaby, 1971; Seebeck *et al.*, 1989). It is most likely that this species was in serious decline prior to European settlement (Calaby, 1971).

P. longipes was described as a species distinct from *P. tridactylus* in 1980 by Seebeck and Johnston (1980). Morphologically, long-footed potoroos differ from other potoroid species by having a pes length greater than their head length. Karyotype analysis and electrophoretic study clearly indicate that *P. longipes* is maintaining a separate gene pool, distinct from *P. tridactylus* (Seebeck and Johnston, 1980). Since this species was described it has been recorded at only 44 locations. Forty of these occur within a 1600 sq km area between the

Snowy River and the Cann River in East Gippsland, and the remaining locations occur in the Rockton Section of the Bondi State Forest in New South Wales (Saxon, *et al.*, 1995). The previous range is not well documented for this species as the first specimen was recorded in 1967, and until 1978 attempts to obtain further specimens by live trapping were unsuccessful (Seebeck and Johnston, 1980).

The sub-species *P. t. tridactylus* is widely distributed along the eastern seaboard from south-eastern Queensland to the south-west of Victoria. *P. t. apicalis* occurs on some Bass Strait islands, including French Island and Phillip Island (Victoria) and on King Island and Flinders Island (Tasmania) and in northern and eastern Tasmania (Seebeck *et al.*, 1989). *P. t. apicalis* and *P. t. tridactylus* also formerly occurred on Cape Barren Island and Clarke Island (Tasmania) in coastal Victoria, occurring from south-eastern Queensland as far west as the Warwick district, through coastal New South Wales to south-western Victoria (Calaby, 1971; Lindenmayer and Viggers, 1994). Six geographically isolated centres of distribution occur throughout the area. Breeding experiments and blood protein analysis suggest that these discrete populations have not evolved to the point of reproductive isolation (Seebeck, 1981).

Examination of prehistoric and historic evidence of the species shows that the overall range of *P. t. tridactylus* has not declined greatly since the Pleistocene period. The species remains relatively widespread and common throughout the range it occupied prior to European settlement. In all areas where *P. t. tridactylus* still occurs, however the populations have become disjunct by changes in land use. The Tasmanian sub-species, *P. t. apicalis* has been least affected in regard to distribution and numbers. This may be due to the absence of foxes in Tasmania.

The previous range of *P. t. gilbertii* is known from the descriptions from John Gould and other naturalists, from areas where specimens have been collected, from bone deposits and

from the Aboriginal tribes present in the area. The distribution of this species appears to have always been limited, even when the animals were locally abundant. Gould (1863, p. 146) recalls the Aboriginal hunting method in which "a large tribe of natives will often kill immense numbers in a few hours". According to Shortridge (1909) the previous distribution of Gilbert's potoroo extended from Cape Naturaliste, along the coastal strip to King George's Sound.

Since its rediscovery Gilbert's potoroo has only been positively identified in one area within the south-west of Western Australia, near Albany. A number of individuals have been trapped in Two Peoples Bay Nature Reserve, specifically within the vicinity of Mount Gardner. There is the possibility that other populations may exist on Mount Manypeaks, in Manypeaks Nature Reserve. This speculation is awaiting confirmation from hair analysis, or trap returns.

There are only approximately 20 specimens of Gilbert's potoroo known alive. About half of these have been brought into captivity to establish a captive breeding plan and to secure the species from extinction, should the only known wild population be destroyed (Start and Burbidge, 1995). Due to the extremely low number of known individuals and their restricted distribution this species is considered critically endangered under the guidelines set out by the International Union for Conservation of Nature (IUCN).

1.4. Habitat Requirements of *Potorous* species.

1.4.1. Habitat preferences

The locations of remains of *P. platyops* suggest that this species occupied drier habitats than is common for other species of potoroo. The only information regarding the habitat types in which they lived is a "thicket surrounding one of the salt lagoons" (Kitchener, 1983, p.182). These salt lagoons usually consist of a fringing vegetation of low shrubs, grading into heath.

The vegetation is usually quite dense with up to 70% canopy cover being provided. The typical dominant plant species are *Arthrocnemum* and *Melaleuca* spp.

P. t. tridactylus and *P. t. apicalis* have been studied extensively with regard to habitat use. Studies on *P. t. tridactylus* in south-western Victoria revealed that individuals resided in a number of habitat types, ranging from dense ground cover to a more open understorey (Bennett, 1993). Moist gullies in *Eucalyptus ovata* open forest, with a dense understorey of sedges and myrtaceous plants were found to be optimum conditions for populations of *P. t. tridactylus* in the Otway Ranges (Seebeck *et al.*, 1989). As the vegetation became more open, on drier less vegetated slopes, the potoroos became much less abundant. *P. t. tridactylus* has not been recorded in treeless heath, even though the effective cover provided is as dense, if not denser, than within the forest. Habitat that is ecotonal between forest and heath is favoured in most locations in southern Victoria.

P. t. tridactylus in New South Wales and Southern Queensland is commonly found in moist woodlands and forests on slopes and highlands. Sandy wet heaths are favoured in coastal areas. Wet sclerophyll forests with an understorey of dense mesophyll shrubs, grasses, ferns or sedges and temperate rainforest dominated by *Nothofagus-Ceratopetalum* associations are the most common habitat types for potoroos in Queensland.

In Tasmania the habitat preference for *P. t. apicalis* has been found to be the moist dense areas within the dry eucalypt woodlands, typically consisting of a *Eucalyptus globulus*, *E. viminalis* and *E. linearis* upperstorey, with a dense understorey of sclerophyllous shrubs (Seebeck *et al.*, 1989). In the coastal areas of its range *P. t. apicalis* was commonly found in dense tall wet heath of *Melaleuca* and *Leptospermum*, with occasional emergents of *E. ovata* and *E. obliqua*. The understorey is often characterised by thick tussocks of *Lepidosperma*

laterale and *Lomandra longifolia*. Throughout the heath are extensive runway systems (Heinsohn, 1968).

P. tridactylus has not been recorded in areas with rainfall less than 760 mm (Johnston and Sharman, 1976), and most populations occur within 50 kilometres of the coast, with the exception of the Grampians population in Victoria which occurs 130 kilometres from the coast. Correlation with areas of high rainfall probably pertains to suitable conditions for mycorrhizal fungi growth.

The long-footed potoroo has been located in wet and dry forests that vary markedly in climate and topography (Seebeck and Johnston, 1980). They usually occur in areas of high rainfall that have high soil moisture content throughout the year. Populations located in wet forest areas have vegetation consisting of tall eucalypts dominant in the upperstorey, with *Acacia*, *Bedfordia* and other mesic shrubs forming a dense understorey. Dry areas within the range of *P. longipes* range are characterised by dry sclerophyll forests with eucalypt species dominant in the upperstorey. Species of *Acacia*, *Pultenaea*, *Platylobium* and *Pomaderris* are common within the understorey (Seebeck *et al.*, 1989).

The habitat preferences of *P. t. gilbertii* are largely unknown. Gilbert's notes to Gould describe this species as inhabiting "dense thickets and rank vegetation" (Gould, 1863, p. 146). Since its rediscovery this species has been located in dense coastal vegetation at Two Peoples Bay Nature Reserve. The vegetation within the known range of *P. t. gilbertii* consists mainly of coastal heath, however it is fragmented by wet and dry sclerophyll forest along gullies and granite outcrops. The dominant species within the coastal heath are *Melaleuca* and *Agonis* spp. with *Allocasuarina* spp. emergents, and an understorey characterised by *Anarthria* spp. The dry ecotonal sites adjacent to heaths are dominated by *Eucalyptus* spp., *Banksia* spp. *Gastrolobium* spp. and *Hakea* spp. The habitat areas adjacent

to watercourses or in the gully regions are dominated by *Eucalyptus* spp., *Agonis* spp., *Xanthorrhoea* sp., *Leucopogon* spp., *Hibbertia furfuracea* and *Acacia leioderma*..

1.4.2. Microhabitat use

Microhabitat use of *Potorous* spp. has not been extensively studied. One examination of microhabitat use by *P. t. tridactylus* in Victoria found no simple correlations between trap locations and particular vegetation types (Bennett, 1993). *P. tridactylus* was found to utilise a range of floristic and structural vegetation types within their home range (Seebeck *et al.*, 1989). The areas utilised by the animals were thought to represent complex vegetation for diurnal shelter, dense vegetation for shelter from predators and more open, floristically diverse areas for foraging.

1.4.3. Home range and activity patterns

The home range of *P. t. tridactylus* and *P. longipes* has been calculated a number of times on populations from various localities (Kitchener, 1973; Bennett, 1987). The calculated home range sizes vary from 19.4 ha for males and 5.2 ha for females, to 2.0 ha for males and 1.5 ha for females. The contrast in the results of these studies has led to the suggestion that the home range of *Potorous* species may be linked to habitat quality (Seebeck *et al.*, 1989).

The amount of home range overlap has been investigated for *P. t. tridactylus* and *P. longipes*. On average, *P. tridactylus* individuals had home ranges overlapping with at least four other individuals of each sex, however, males tended to have a greater proportion of overlap with females (Seebeck *et al.*, 1989). *P. longipes* was demonstrated to be more territorial and monogamous, with their home ranges overlapping only with their single respective mate or their sub-adult offspring.

All potoroos are primarily nocturnal. However, *P. t. tridactylus* has been trapped during daylight hours, just prior to sunset or just after sunrise (Seebeck *et al.*, 1989). Scotts and Seebeck (1989) investigated the activity patterns of *P. longipes* using radiotelemetry. *P. longipes* was demonstrated to be active only after sunset and all activity ceased about two hours prior to sunrise at which time the animals returned to their nesting sites.

1.4.4. Diet

All potoroos are omnivorous, consuming some vascular plant material, invertebrates and fungi. The dietary composition of the potoroo has been studied quite extensively, mainly with regard to *P. t. tridactylus*. This sub-species was found to be largely mycophagous (fungus-feeding), utilising large amounts of fungi, predominantly the sporocarps of hypogeal species (Seebeck *et al.*, 1989).

The percentage of fungi in the diet was found to vary seasonally and between geographically separated populations. Examination of faecal matter from potoroos located in New South Wales revealed approximately 60 different species of fungi present in scat samples, 58 of which were hypogeal or sub-hypogeal. The percentage of fungi present in their diet throughout the year was about 30-40 % in summer, and up to 85% in winter (Claridge *et al.*, 1993b). Bennett and Baxter (1989) examined faecal matter from *P. t. tridactylus* from south-western Victoria. Fungi was once again the major food item present, however substantial quantities of arthropods, seeds, and vascular plant material were also present. Fungi represented 50-70% of the diet in autumn and winter, and between 20-40% in summer and spring. During the warmer months greater quantities of arthropods and plant material were consumed.

The greater proportion of fungi consumed in autumn and winter apparently follows the changing soil moisture content. In winter the high soil moisture content favours fungal

growth, while in summer there are proportionally less fungi available due to the low soil moisture. During spring and early summer insects are readily available and these usually make up about 10 -15 % of the diet of *P. t. tridactylus* (Guiler, 1971).

Scotts and Seebeck (1989) investigated the diet of *P. longipes*. This species was demonstrated to be primarily mycophagous, with fungi always exceeding 80% of the dietary volume. A wide range of fungal taxa were present in faecal samples, predominantly from species of hypogeal and sub-hypogeal fungi, however a few epigeal species were also eaten. Insects, vascular plant material and seeds were also present in small quantities (Saxon *et al.*, 1995).

Hypogeal fungi are rich in essential nutrients such as nitrogen, as well as minerals, vitamins and complex carbohydrates (mainly from the cell walls). Research has shown that much of the carbohydrate and most of the nitrogen compounds in fungi remain undigested by mammalian enzymes, thus they are unavailable to most small mammals. Members of the Family Potoroidae have an enlarged foregut in which microbial symbionts ferment a range of dietary constituents. Microbial fermentation of fungi in the forestomach converts cell-wall and nitrogenous constituents to short-chain fatty acids and high quality microbial protein. After fermentation these substrates can be readily absorbed for energy and nitrogen metabolism. The ability to ferment fungi in the foregut has allowed potoroos to utilise this abundant, high quality food resource and obtain far greater nutritional and energetic benefit from it than is possible with a simple stomach (Claridge and Cork, 1994).

1.4.5. Foraging Patterns

Factors that affect the abundance and diversity of fungi, such as vegetation structure and composition and soil features, will affect the foraging patterns of potoroos. *P. longipes* has been demonstrated to exploit temporal changes in the abundance of fungi by alteration of

foraging patterns. In summer the moister gully sites are preferentially foraged, while during winter the middle and lower slopes are utilised (Scotts and Seebeck, 1989; Claridge *et al.*, 1993a).

The presence of potoroos contributes to the abundance and diversity of the fungal species within the soil. By digging for the sporocarps these animals are acting as important vectors for the dispersal of fungal spores. This occurs in two ways; by spreading spores that remain on their faces from one digging to the next, and dispersing reproductive spores that pass through the gut intact and may subsequently germinate (Claridge and Cork, 1994). Increased dispersal of fungi contributes to the health of the whole plant community. Most plant species depend upon the symbiotic relationship between the plant roots and the fungal mycorrhizae for improved uptake of nutrients and water and for protection from root pathogens (Read *et al.*, 1985).

Research by Bennett (1993) has illustrated that diggings done by *P. t. tridactylus* are positively correlated with floristic richness, and show significant positive correlation with areas where the understorey is less dense. Fungal sporocarps are found more frequently where the "ground vegetation in the forest is more open and thus where light may penetrate" (Bennett, 1993, p. 281).

1.4.6. Diurnal shelter

Potoroos do not construct complex nest sites. However, *P. longipes* and *P. t. tridactylus* have been found to shelter in a squat during the day. This usually consists of a small excavation at the base of a tussock or under dense shrubs. The structurally complex, dense vegetation that characterises potoroo habitat provides diurnal shelter and protection from predators. Adjacent open areas are utilised mainly for foraging (Seebeck, *et al.*, 1989). During the present study observation of the captive colony of Gilbert's potoroos revealed

simple squats under the vegetation within the cages. These were small bowl shaped excavations under dense shrubs, occasionally lined with *Allocasuarina* spp. needles.

1.5. Impact of Feral Species on *P. tridactylus gilbertii*

1.5.1. Predators

The adult weight of *Potorous tridactylus gilbertii*, at approximately one kilogram, falls within the range known as the critical weight range. Native species that fall within this range have been most severely affected by the arrival of feral predators, especially the fox, *Vulpes vulpes* (Burbidge and McKenzie, 1989).

Both foxes and feral cats are present at Two Peoples Bay Nature Reserve, and it is likely that both species played a part in the decline of *Potorous tridactylus gilbertii*. There is speculation that feral cats may have contributed to the reduction in potoroo numbers that was noticed prior to the arrival of foxes (Start *et al.*, 1995). This may have been the case; however Gilbert's potoroo persisted long after feral cats became well established in the area, and their apparent decline may reflect their lower visibility. It is possible they were overlooked due to the density of the vegetation and their nocturnal nature. It is likely that feral cats did affect the numbers of potoroos present; however, it is unlikely that they led to their 'extinction'.

The invasion of the Albany region by foxes first occurred in the 1930's. This coincided with a drastic decline of critical weight range mammals in this area. The once abundant quokka seemingly disappeared from the mainland around this time (Calaby, 1971). In his publication, *The Mammals of Australia,* Gould (1863, p. 146) describes Gilbert's potoroo as being "the constant companion of the *Halmaturus brachyurus* [the old scientific name for the quokka], inhabiting with them the dense thickets of spearwood and rank vegetation surrounding swamps or small running streams." A drastic decline in quokka numbers was seen in the 1930's, coinciding with the local invasion of foxes in Albany. The similar habitat

occupied by quokkas and potoroos would seem to indicate that potoroo numbers probably also underwent serious decline around this time (Calaby, 1971).

It is likely that potoroos were only able to survive in the one small area due to the very dense vegetation. This type of vegetation is not conducive to the speed-based hunting style of foxes. The dense vegetation would make it impossible for a fox to move quickly through the area, and there would be a high risk of blinding injury on low level vegetation.

The potential for foxes to recolonise the area is high, due to the relatively small area of the reserve and the high accessibility of most areas within the reserve, via vehicle tracks. Furthermore, the land surrounding the reserve is semi-agricultural, and foxes are often abundant in these areas. Therefore it is pertinent to maintain high levels of baiting and to ensure that active baits are always present around areas known to contain Gilbert's potoroo.

Road-based baiting for foxes began in 1988. Initially road based baiting occurred twice yearly along firebreaks and roads. Baits used consist of chicken eggs and dried meat baits containing sodium monofluoroacetate (1080). Since the rediscovery of Gilbert's potoroo baiting regimes at Two Peoples Bay Nature Reserve have become even more rigorous. Aerial baiting twice yearly with dried meat baits, plus a continuous ground based baiting program have been introduced to ensure active baits are always present along the firebreaks and tracks within the reserve (Alan Danks, personal communication).

1.5.2. Competitors

The farmland surrounding the Two Peoples Bay area contains rabbits in very high densities. It is unlikely that they have a large impact on Gilbert's potoroo, but competition for space for warrens and potoroo nest sites may occur. It is as yet unknown whether rabbits are present in high numbers where the potoroo populations are located, however observations during the

present study suggest that the Mt. Gardner study site has low rabbit numbers. The direct effects of rabbits on the potoroo populations in the Albany region, may have been further reduced in significance since the rabbit calicivirus disease reached Albany in September 1996, causing a drastic decline in wild rabbit numbers. An indirect consequence of decline in rabbit numbers may be increased predation pressure on native species by foxes and wedge tailed eagles th[illegible]ave relied on rabbits as their major food source (Minchin, 1996).

1.6. Impact of Fire

The location on Mt. Gardner that shelters the potoroo population has a very heavy fuel load, thus an extremely high fire danger is present during most of the year. Fire has been excluded from the study site area for about 50 years (Orr *et al.*, 1995). It is not yet known if this type of long-unburnt habitat is a requirement of *P. t. gilbertii*, or how this species would respond to a bush fire.

From the scant information on *P. t. gilbertii*, plus the requirements of other species in the genus, it would appear that dense ground cover is an important habitat requirement of this species. If this is the case, then one fire in the area could destroy the remaining wild populations (Start and Burbidge, 1995).

The location within Two Peoples Bay where the potoroos are found has a natural partial barrier to fire, in the form of large granite outcrops. During an intense blaze areas sheltered by surrounding rocks may act as a fire refuge for the fauna present on the hillside (Danks *et al.*, 1996).

1.7. Impact of Jarrah Dieback, *Phytophthora cinnamomi*

Dieback disease, *Phytophthora cinnamomi*, is present at Two Peoples Bay, and is widespread in some areas on Mt. Gardner (Figure 3). Stringent measures to minimise the risk

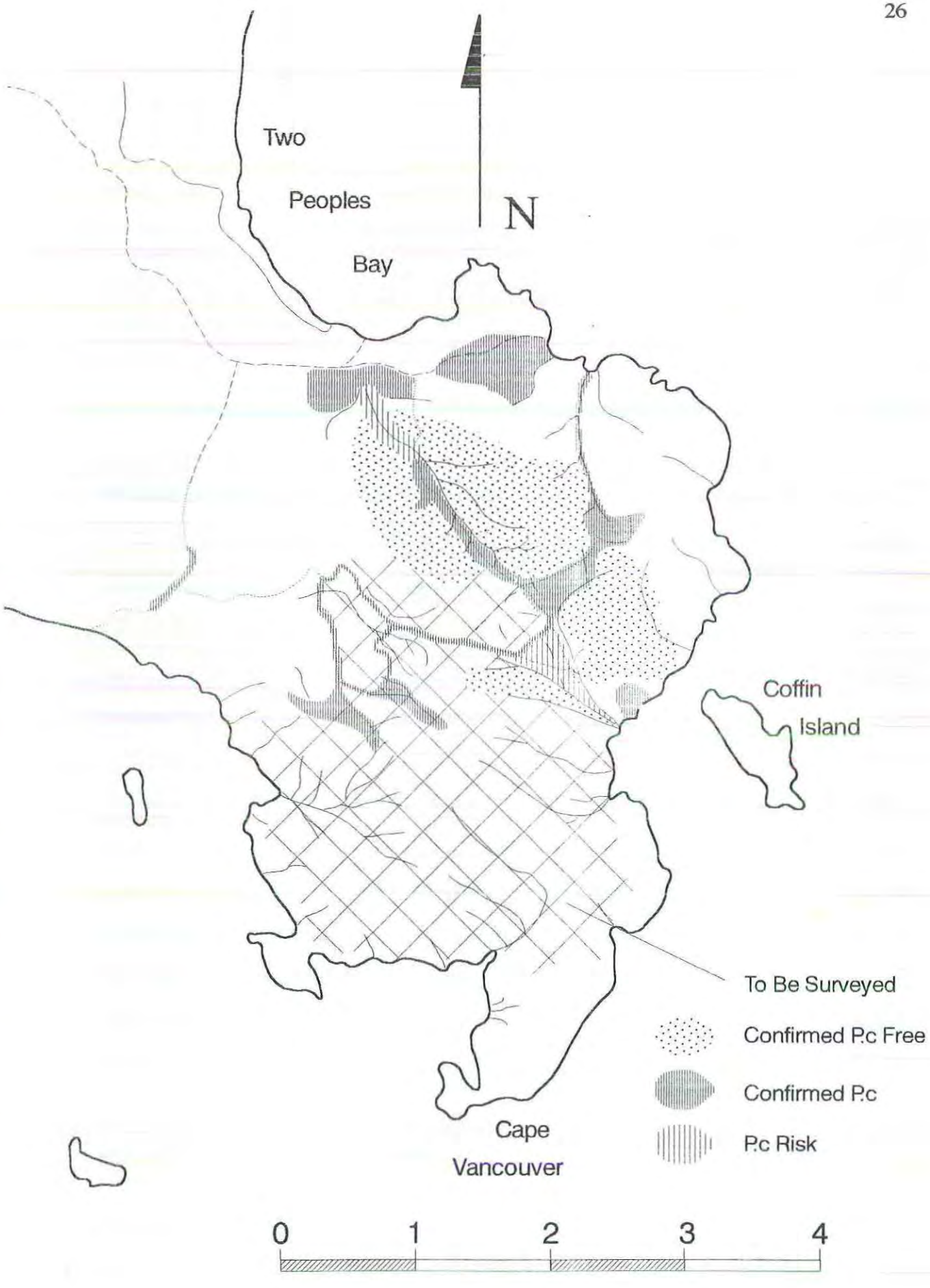

FIGURE 3: *Phytophthora cinnamomi* boundaries within the study area (Orr *et al.*, 1995).

of humans and vehicles spreading the disease within the reserve are in place. At present the study site area on Mt. Gardner is dieback-free, however other areas where potoroos are present may be affected. The absence of dieback within the study area places restrictions on movement within the area. This is especially the case after heavy rainfall, when the site is inaccessible for research due to the possible spread of the disease from infected firebreak tracks into unaffected areas.

Dieback disease can drastically affect the floristic composition and structure of susceptible plant communities, and this, potentially, has great impact on the potoroo habitat. Alteration of the vegetation structure could result in the habitat becoming more suitable for penetration by predators, or may cause the destruction of suitable nesting sites. It could also potentially remove plant species that play an important role in the diet of the potoroo. This may have two effects: the dieback may affect species that the potoroos feed directly on, or it may affect species which act as host plants to the mycorrhizal fungi that make up a large proportion of the diet of the potoroo.

The presence of mycophagous species such as Gilbert's potoroo and *Isoodon obesulus* (the southern brown bandicoot or quenda) may affect the spread of dieback disease. The foraging behaviour of these species causes the spread of fungal spores over the whole habitat area. Consequently, it is possible that competitive inhibition by the animals' preferred food species may restrict or decrease the spread of dieback disease in these areas. This hypothesis is as yet untested, and these areas may be dieback free simply because the disease has not yet reached them.

1.8. The Nature of the Problem

At this time little is known about *P. t. gilbertii*, especially in relation to habitat use and vegetation associations. Due to their nocturnal nature and presence in dense vegetation,

observation in the field is impractical for determining microhabitat use. Studying the utilisation of microhabitat by Gilbert's potoroo is further complicated by the fact that, to date, all areas where Gilbert's potoroo have been identified are also colonised by *I. obesulus*. Both species dig to locate some aspect of their dietary requirements and at present no distinguishing feature has been found between the diggings of these two species, thus the presence of Gilbert's potoroo can not be assumed by the presence of diggings in an area.

The aim of this investigation is to determine the microhabitat requirements of *Potorous tridactylus gilbertii*. This was investigated with respect to the species composition of the vegetation, the density of cover provided by the vegetation, and the height of the dominant vegetation layers. The nature of any associations that potoroos appear to have with particular plant species was also investigated.

Examination of microhabitat utilisation was undertaken using spool-and-line tracking. Data was collected by using a modified spool-and-line tracking technique, described originally by Miles *et al.* (1981). A spool package containing approximately 340 metres of nylon thread was attached to each animal prior to release. As the animals moved through the habitat they left trails of thread accurately portraying the route taken during that evenings activity. Data pertaining to the preferred vegetation density, and canopy cover was collected by following and taking accurate measurements along the length of the line.

The present study may also provide some insight into why this species has persisted only in long-unburnt, dense vegetation. Is its persistence in this area a reflection of precise habitat requirements, or is it simply that this area of vegetation with its surrounding granite outcrops, has acted as a refuge from predation and fire?

The research is designed to answer the following questions:

- Are the animals showing a preference for certain plant species within the habitat, and if so which species?
- Is there a preferred density of canopy cover that animals utilise?
- Do the animals emerge into areas of bare ground?
- Is the speed of movement correlated to the amount of protection provided by the vegetation?

2. METHOD

2.1. Study Area

The present study was conducted at Two Peoples Bay Nature Reserve, Albany. The reserve occupies 4510 ha of coastal vegetation, characterised by deep gullies and large granite outcrops.

The study area is situated within Firebreak Valley on Mt. Gardner around an existing trap line of approximately 200 metres with 20 trap points spaced at intervals of approximately 10 metres. Figure 4 illustrates the patchy nature of the vegetation surrounding the trap line.

The Mt. Gardner area of Two Peoples Bay Nature Reserve has large areas that are infected with Jarrah dieback disease, *Phytophthora cinnamomi*. Access to, and movement within the study area was restricted during periods of heavy rainfall because the study area is at present unaffected by the disease. During the study, strict precautions were taken to prevent the spread of the disease.

2.2. Vegetation Survey Procedure

Animals were caught at 10 of the 20 trap points, between trap No. 3 and trap No. 20. These two most outlying traps were used as the starting point for the vegetation transects. Vegetation transects (Figure 5) were conducted in order to provide a complete picture of the vegetation types present and to determine whether selective use of the habitat by *P. t. gilbertii* was taking place. This was determined by comparison of transect data with spool line data. The transects were 340 metres in length, conducted along compass bearings of 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° from traps No. 3 and No. 20. This pattern of vegetation transect allowed investigation of the habitat types available to the animals within the 340 metre confines of the spools. The transects were all started along the trap line, as were the spools.

Forest with open heathland

Heathland with sedgeland

Heathland with sedgeland

Woodland heathland

Sedgeland

Woodland heathland

Tall forest with open heathland

Heathland with Sedgeland

FIGURE 4:
Vegetation Group Distribution within the Study Area

1:3020


FIGURE 5:
Vegetation
Transect Layout
1:4500
Trap 3
Trap 26
Talk

This layout was designed to ensure that the over-representation of the vegetation adjacent to the trap line that is present in the spooling data, will also occur in the transect data.

2.3. Sampling Procedure

The present study was conducted on female and male adults from the wild population of Gilbert's potoroos located at Two Peoples Bay Nature Reserve. All research was conducted under the supervision of Dr. Jackie Courtenay, and all invasive techniques, such as the implantation of identification microchips were undertaken solely by Dr. Courtenay.

The data collection was undertaken in two one month stages. In May 1996 spooling trial were conducted and the data collection techniques for the spooling and the vegetation surveys were decided. August 1996 was the main experimental period.

The study animals were captured using wire cage traps (56cm x 20cm x 21cm) with hessian covers to provide shelter. Previous trapping data (J. Courtenay pers. comm.) revealed this area to have a population of *P. t. gilbertii* suitable for investigation of microhabitat utilisation.The traps were placed along animal pathways, near runnels and in adjacent open areas. The bait used was a mixture of peanut butter, rolled oats and pistachio nut oil. Traps were set in the late afternoon and cleared early the next morning.

Animals captured were removed in calico handling sacks and taken to the reserve house for handling, which included weighing, sexing and measuring head and pes length. If the animal was female, then the presence or absence of pouch young was noted. If possible the sex and approximate size of the pouch young was also noted. Animals were marked for identification by the implantation of a 'Trovan minireader' microchip. This identification procedure was used as ear punching had previously proved unsatisfactory, with punches growing out and becoming indistinguishable from parasite bites and other scars.

Nylon thread spools of approximately 340 metres in length were hand made, using #100/2 Danfield bobbins (Figure 7). The ends of two nylon spools were tied together to feed out continuously and the spools were then wrapped in clear plastic and sealed tightly using heat shrink, leaving one loose end of thread. The plastic wrap stopped the heat shrink contracting and sticking onto the thread. To further ensure that the thread unreeled smoothly, a small piece of plastic with a hole punched into it was fitted in to one end of each spool package. This acted as a guide to feed the line out evenly and to stop the heat shrink from contracting on the thread as well as holding the second spool in the package after the first had run out (Figure 6). This method of spool construction was devised by Jeff Middleton, a CALM consultant biologist working on Gilbert's potoroo during the first period of spooling (unpublished design).

Construction of the spool packages was undertaken to maximise the length of thread in each package, whilst keeping the size, shape and weight within the constraints set by the body size of the animal. The spool packages were attached on the dorsal surface of the animal just above the base of the tail immediately prior to release. A small patch of fur, corresponding to the spool size was clipped close to the skin and the spool package was attached using cyanoacrylate 'super-glue'. The most suitable number of spools was found to be two per package. Trials by Mr. Middleton revealed that more than two bobbins made the package too large to sit flush against the rump of the potoroo, allowing it to catch on vegetation and be prematurely removed or to hinder the normal movement of the animal through the habitat.

Release of the animals took place just prior to sunset, at the site of their capture. The loose end of the spool was tied to an adjacent piece of vegetation, while the animal was still within the calico sack. The sack was then placed quietly on the ground, with one end open to allow the animal to emerge at its leisure. It is believed this occurred after dark, due to the nocturnal

FIGURE 6: Spool-and-line package.

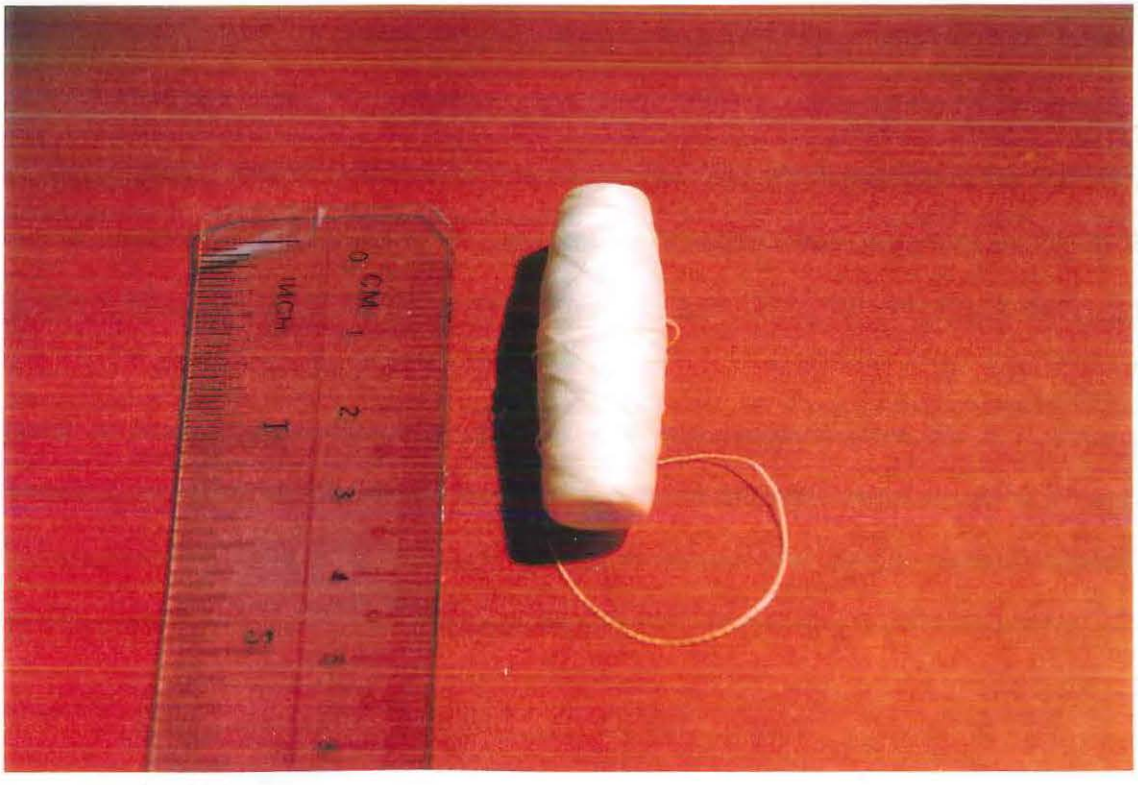

FIGURE 7: Nylon spool, 170 metres.

nature of the species. In addition to this, no animals were observed to emerge immediately. This release method was employed because animals released more quickly may tend to move rapidly in one direction, thus giving a distorted view of habitat use.

The black colour of the spool package was advantageous as it did not increase the visibility of the animals to predators. The edges and corners of the spool packages were made round to reduce the risk of catching on vegetation and hindering or disturbing the normal movements of the animal through the habitat. When the spool was finished, the animal was left with the empty clear wrap and heat shrink package attached to its rump. It is believed that this fell off soon after the spool ran out as the close cropped hair is shallow-rooted and falls out easily without harm to the animal. Animals spooled and then trapped on consecutive nights showed no evidence of damage apart from a small patch of hair loss.

2.4. Measurement of Microhabitat Preference

Measurement of the spool lines began at the release site. The initial direction of travel of the animal was determined and compass bearings of the release site were taken to help determine its exact position on an aerial map. The general direction of travel of the spool was noted, and then only subsequently noted when a major change in direction occurred.

Distance measurements along the spool line were taken from the beginning of the line, at its point of attachment to the vegetation (adjacent to the trap), until the point at which the vegetation type changed or the percentage cover changed. This distance was noted, along with a description of the species of vegetation and the cover provided to the animal by the vegetation along that distance. This process was then repeated from the first point of vegetation type or cover change until the next, and so on until the whole length of the spool had been recorded sequentially. An eight metre tape measure was used to measure distances between points on the thread, and distances were recorded to the nearest 10 millimetres.

Measurements taken along the spool line were concerned with the percentage cover of foliage over the line and the vegetation species over and immediately adjacent to the line. Percentage cover was divided into three categories; open (0 - 20% cover), semi-open (20 - 60% cover) and dense (60 - 100% cover). In open areas with over 50% bare ground, the percentage of bare ground was noted.

The entrance of the thread into clearly defined animal paths, in the form of runnels, was also noted. The amount of cover provided by the runnels and their height was also recorded.

The pattern of thread deposition was used to gauge the type of travel of the animal. For example, if the spool was taut and lay over the top of the small sedges and grasses then this was taken to indicate that the animal was hopping, and likely to be moving quickly. Conversely, if the spool lay in a concentrated jumble of thread then this was taken to reflect activity concentrated in one spot, such as foraging behaviour.

2.5. Data analysis

Analysis of microhabitat use with respect to ground cover and vegetation species was undertaken by entering the data for the spooling and the transects into spreadsheets (Appendices 1 & 2). The distance measurements taken along the spool in millimetres are in column one, the cover category in column two and the vegetation species for each measurement are listed in order of prominence in the third column. The plant species recorded during the data collection from the spools and the transects are listed in Appendix 3.

2.5.1. Vegetation groups

The vegetation types present in the study area were classed into six groups that represented the different plant communities encountered during the spooling and the transects. The

classification system by Ray Specht (cited in Gillison and Anderson, 1981) was employed whereby plant communities are grouped according to the percentage of ground covered by the tallest layer of foliage and by the life-form (that is tree, shrub or grass) of the tallest layer.

The groups identified were:

1) Heathland with sedgeland (*Melaleuca* spp., *Anarthria* spp., *Dasypogon bromeliifolius, Adenanthos cuneatus, Isopogon longifolius, Petrophile* sp., *Chorizema reticulatum, Leucopogon propinquus*) (Figure 8),

2) Sedgeland (*Anarthria spp., Dasypogon bromeliifolius, A. cuneatus, I. longifolius, C. reticulatum*) (Figure 9),

3) 100% bare earth or granite,

4) Woodland with heathland (*Allocasuarina* spp., *Eucalyptus marginata, Melaleuca* spp., *Agonis* spp., sedgeland species) (Figure 10),

5) Forest with open heathland (*Eucalyptus* spp., *Banksia* spp., *Dryandra formosa, Hakea* spp., *Acacia leioderma, Xanthorrhoea* sp., *Gastrolobium* spp., *Allocasuarina* spp., *Pultenaea reticulata, Agonis* spp.) (Figure 11),

6) Tall forest with open heathland (*Agonis* spp., *Hibbertia furfuracea, Tremandra stelligera, Pteridium esculentum, Gastrolobium* spp., *Acacia leioderma, Hakea* spp.) (Figure 12).

(Classification by Specht, in Gillison and Anderson, 1981)

All transect and spool-and-line data was classified by cover level and vegetation group to allow statistical comparisons. Data from the 16 transects were combined into one data set with 1093 entries prior to analysis and comparison with the spooling data. These combined transect data describe the habitat over the whole study area in respect of vegetation species and ground cover.

FIGURE 8: Heathland with sedgeland.

FIGURE 9: Sedgeland.

FIGURE 10: Woodland with heathland.

FIGURE 11: Forest with open heathland.

FIGURE 12: Tall forest with open heathland.

2.5.2. Analysis of Data

The raw data was transferred into SPSS 6.1 Student Version. Five analyses were performed on the combined transect data and on each spool separately. The results of these are presented in Appendix 4.

The combined transect results and the results of each separate spool line were organised to provide information under 5 headings:

1) **summary of cover by frequency:** the frequency of occurrence of each cover type and their percentages of the total,

2) **summary of cover by distance:** the total distance in each cover type expressed as a percentage of spool or transect length, and the mean distance in each cover type, together with the standard deviation from this mean,

3) **summary of vegetation group by frequency:** the frequency of occurrence of each vegetation group on a transect or spool line and its percentage of the total,

4) **summary of vegetation group by distance:** the distance in each vegetation category expressed as a percentage of the total distance and the mean distance for measurements in each vegetation group, together with the standard deviation from this mean,

5) **summary of vegetation group by cover:** crosstabulation of frequency of measurements by cover type and vegetation group illustrating the distribution of measurements with respect to cover and vegetation group.

To determine whether Gilbert's potoroo displays selective behaviour patterns in the choice of ground cover and vegetation species the spool line data were compared to the combined transect data. Comparisons between transect and spool line data were made by means of chi-square contingency tables employing SPSS 6.1 Student Version software and Minitab 10.5 for Windows software. These data indicate the number of times the animal entered the

different categories of vegetation and cover, compared to the frequency expected if selection of microhabitat was random.

The chi-square contingency test assumes that the samples are random and the observations are independent (Fowler and Cohen, 1992). The frequencies observed are compared with those expected on the basis of the null hypothesis (Ho) that microhabitat selection occurs randomly for ground cover and vegetation species.

The summaries of the mean distances spent in each cover and vegetation category and the summary of vegetation group by cover category were compared by inspection of the differences between the spool line and transect data. These are discussed in the results section.

Further comparisons were made between: 1) transect data and all combined spool line data, 2) transect data and male spool line data, 3) transect data and female spool line data and 4) male and female spool line data.

2.6. Limitations

Spool-and-line tracking provides a very precise record of microhabitat use. The main limitation of this technique is that it does not provide information on the time an animal spends at each location and which periods of nightly activity it incorporates. It is likely that on these small but mobile animals the 340 metre spool length represents only a small portion of the night's activity. This type of information would be provided by radio tracking but this is quite difficult in dense vegetation and is "not effective in three-dimensional locations, plus the inefficiency of this technique increases with decreasing size of the animal" (Anderson *et al.*, 1988, p. 119). The small size of Gilbert's potoroo and the highly contoured nature of the Two Peoples Bay area made this method unsuitable for examining habitat use.

Fluorescent pigment tracking was considered for use in this study as it provides the same type of data that is yielded by spool-and-line tracking. In this procedure animals are dusted with fluorescent powder prior to release, and the trail is followed at night using an ultra violet light (McShea and Gilles, 1992). This method was not used because of the very dense nature of the vegetation at the study site which would have made following the trail of pigment difficult, and because of the high risk of the trails being spoiled by rainfall.

Another limitation of spool-and-line tracking is that the length of the spool is limited by the amount of bulk and weight that an animal can carry without affecting its normal movement patterns.

2.7. Methodological Assumptions Underpinning the Study.

One assumption made during the course of the field work was that the presence of the spool did not significantly impede the movement of the animal during its nights activities. It was also assumed that the presence of the spool package and the line feeding out behind the animal did not cause undue stress or harm that may have influenced its use of the habitat. Careful release techniques were used to reduce the chance of a bolt-response that may have otherwise occurred.

It was also assumed that the research conducted on these animals did not decrease their probability of survival or significantly affect their behaviour in the wild. The amount of handling and human contact with the study subjects was kept to a minimum for that reason. The path to the study site had active baits present at all times to reduce the risk of foxes penetrating the study area.

2.8. Ethical Considerations

This project was approved by the Edith Cowan University Animal Experimentation Ethics Committee, protocol number 96-A12. The field-work was conducted in accordance with the aims and recommendations of the Potoroo Recovery Team under the licence of Dr. J. Courtenay as a CALM consultant. The research proposal for the present study was approved by the Potoroo Recovery Team prior to commencement.

3. RESULTS

3.1. Analyses of Frequencies of Occurrence of Cover Categories

3.1.1. Individual spools compared to the transect data

A chi-square contingency table was used to compare the frequencies of cover categories for each spool with the transect data. These frequencies represent the number of times the animal changed cover categories during the length of the spool, compared to the frequency expected if selection of microhabitat was random. Ho = selection of cover categories by Gilbert's potoroo is random throughout the habitat.

The results of the spooling data in comparison to the transect data are presented in Table 1. There are three categories in the distribution of cover, therefore there are two degrees of freedom. The critical chi-square value for a 95% confidence limit is 5.991.

TABLE 1: Contingency table results of comparisons between the individual spool data and the transect data, for the frequency of occurrence of the cover categories.

Spool Number	Chi-square Value	Probability
1 - Male 16	22.794	0.000
2 - Male 16	11.849	0.003
3 - Male 20	0.168	0.919
4 - Male 20	1.152	0.562
5 - Female 21	6.922	0.032
6 - Female 21	6.067	0.049
7 - Female 21	9.092	0.011
8 - Female 23	13.317	0.001
9 - Female 25	1.735	0.420
10 - Female 25	0.107	0.948
11 - Female 25	3.063	0.217
12 - Male 26	8.357	0.016
13 - Male 26	1.122	0.571
14 - Male 26	5.141	0.077

The calculated χ^2 values for spools 1, 2, 5, 6, 7, 8 and 12 exceeded the critical value of 5.911 for 95% confidence. Spools 1, 2 and 8 were also found to exceed the critical value for 99% confidence, 9.210. Therefore, the probability that the observed frequencies were due to chance is highly unlikely.

For spools 3, 4, 9, 10, 11, 13 and 14 the null hypothesis is accepted as there was no significant variation between the expected and the observed frequencies of occurrence of cover categories.

In spool lines 1, 2, 5, 6 and 8, for which the null hypothesis was rejected, the animals were found to have preferentially utilised (favoured) the open cover category. The open category represents just over 20% of the habitat in the study area (Tables 9 & 10, in Appendix 4), but in spools 1, 2, 5, 6 and 8 approximately 40% of cover types were open (Tables 14, 19, 34, 39 & 49, in Appendix 4). Spools 7 and 12 had approximately 45% of cases within the semi-open category and approximately 30% of cases within the open category (Tables 44 & 69, in Appendix 4).

Five of the six animals were spooled more than once during the study period. The consistency of animal movements from one night to another may be judged by examining each spool for which they were responsible. Male 16, male 20, female 21 and female 25 were all highly consistent for all spools. Male 26 showed marginally selective behaviour indicated by slightly significant variation for spool 12 and non selective behaviour in spools 13 and 14 (Tables 74 & 79, in Appendix 4).

3.1.2. Combined data for animals compared to the transect data

Individual spool line data were combined for individuals which were spooled on more than one occasion. This procedure allows a more meaningful comparison as it increases the sample size for each animal and reduces the effect of the spools being different lengths. The characteristic habitat use for each animal can thus be more reliably determined.

Once again a chi-square contingency table was used to determine whether selective behaviour was occurring with respect to ground cover.

TABLE 2: Contingency table results of comparisons between the combined data for each animal and the transect data, for the frequency of occurrence of the cover categories.

Animal Number and Sex	Spool Numbers	Chi-square Value	Probability
Male 16	1 & 2	31.863	0.000
Male 20	3 & 4	0.412	0.841
Female 21	5, 6 & 7	20.916	0.000
Female 25	9, 10 & 11	1.683	0.431
Male 26	12, 13 & 14	9.592	0.008

The null hypothesis was accepted for male 20 and female 25 as the combined data for these animals is not significant at the 95% confidence level. This indicates that the behaviour of these animals in selection of cover does not deviate significantly from ratios determined by the transect data.

Male 16, female 21 and male 26 all showed highly significant variation for 95% and 99% confidence limits indicating that their selection of ground cover categories is consistently statistically significant.

3.1.3. Male and female combined data compared to the transect data.

All the spools for male animals were combined and compared with the transect data using a chi-square contingency table. The χ^2 value was 22.813 for a probability of 0.000 thus highly significant variation exists between the male data and the transect data for 95% and 99% confidence limits.

All the spools for females were combined and compared in the same manner. Once again the χ^2 value greatly exceeded the critical value at 95% and 99% confidence limits. This illustrates

a high degree of significance in the variation between the combined female data and the transect data.

3.1.4. Direct comparison between data from males and females

The combined data for males and the combined data for females were compared to each other to investigate whether statistically significant variation exists between the data from the males and the data from the females. The null hypothesis states that the ratio of cover category utilisation is equal for both sexes. The χ^2 value obtained from a chi-square contingency table of male versus female data was 0.722 for a probability of 0.697. Therefore the null hypothesis is accepted, as no significant difference was observed between the sexes.

3.2. Analyses of Distance Ratios Within Cover Categories

For each spool line, the summaries of cover by distance (Tables 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75 & 80, in Appendix 4) that indicate the percentage of the total distance measured within each cover category, were compared to the transect data (Table 10, in Appendix 4). The transect data indicate that the study area consists of 22.4% open cover, 37.6% semi-open cover and 40.0% dense cover. Therefore dense > semi-open > open proportions are expected if selection of cover occurs at random.

The percentages of cover category by distance for each spool are listed table three to allow comparisons by observation of the different percentages of cover utilised.

TABLE 3: The proportions of each spool line within the three cover categories.

Spool Number	Cover Category		
	Percentage in Open	**Percentage in Semi-open**	**Percentage in Dense**
1 - Male 16	58.0	24.1	17.9
2 - Male 16	62.8	16.6	20.6
3 - Male 20	8.2	36.6	55.2
4 - Male 20	22.8	19.9	57.3
5 - Female 21	54.2	31.1	14.7
6 - Female 21	39.3	33.4	27.3
7 - Female 21	33.7	43.6	22.7
8 - Female 23	46.2	25.8	28.0
9 - Female 25	26.9	25.8	47.3
10 - Female 25	17.8	40.7	41.5
11 - Female 25	36.9	27.8	35.3
12 - Male 26	42.9	46.7	10.4
13 - Male 26	53.5	22.2	24.3
14 - Male 26	55.2	20.3	24.5
Transect data	**22.4**	**37.6**	**40.2**

All spools, except for 10, indicated significantly selective behaviour in the percentage of the length of the spool line that was found within each cover category. This was determined by comparison with the ratio calculated for the transect data, representing the proportions of cover categories expected if random behaviour was displayed during the spool length.

Two spools, 3 and 10 were found to have ratios of cover utilisation that would be expected if the animals' movements through the habitat were random, that is dense > semi-open > open. Both spools had the majority of their length running in the dense category, as was observed with the transect data. Spool 3, however, had less than 9% of its length in the open, about 14% less than was expected if the percentage ratio of cover use was random.

Two other spools, 4 and 9, also favoured the dense category but utilised the open category for a greater proportion of their length than the semi-open category. This illustrates that selective behaviour was responsible for the percentages of cover utilised by these animals during the length of these spools.

Eight spools had the greatest proportion of their length in the open category. Three spools, 1, 5 and 6 utilised the cover in the opposite ratio to that of the transect data, that is open > semi-open > dense. The other five, 2, 8, 11, 13 and 14 ran in the open for the most part of their length, then the dense, and then the semi-open cover categories.

Two spools, 7 and 12 were recorded in the semi-open for the most of their length, with open being the next greatest cover category utilised.

3.3. Analyses of Frequencies of Occurrence of Vegetation Groups

3.3.1. Individual spools compared to the transect data

Once again each spool was compared to the combined transect data. A 2 x 6 chi-square contingency table was used to compare the summaries of vegetation group by frequency for each spool with the transect data. These data represents the number of times the animal changed vegetation categories during the length of the spool, compared to the frequency expected if selection of microhabitat was random. Ho = selection of vegetation groups by Gilbert's potoroo is random throughout the habitat.

The results of the spooling data in comparison to the transect data are presented below. There are six vegetation groups in the distribution, therefore there are five degrees of freedom. The critical chi-square value for a 95% confidence limit is 11.070, and for a 99% confidence limit the critical chi-square value is 15.086.

TABLE 4: Contingency table results for the individual spool data and the transect data, for the frequency of occurrence of the vegetation groups.

Spool Number	Chi-square Value	Probability
1 - Male 16	13.422	0.020
2 - Male 16	15.836	0.008
3 - Male 20	80.743	0.000
4 - Male 20	26.134	0.000
5 - Female 21	24.806	< 0.005
6 - Female 21	40.379	< 0.005
7 - Female 21	15.929	0.007
8 - Female 23	23.808	0.000
9 - Female 25	7.950	0.160
10 - Female 25	14.766	0.012
11 - Female 25	7.535	0.185
12 - Male 26	14.191	< 0.025
13 - Male 26	35.518	0.000
14 - Male 26	21.688	0.001

Minitab would not calculate the exact probability spools 5, 6 and 11, due to the low number of cases. The probabilities for these were estimated from a table of the critical values for the chi-square distribution (Rohlf and Sokal, 1969).

The null hypothesis was rejected for all spools, except 9 and 11 as their χ^2 value exceeded the critical value of 11.070 for 95% confidence. Spools 2, 3, 4, 5, 6, 7, 8, 12, 13 and 14 were also found to exceed the critical value for 99% confidence, 15.086. Therefore the spool data deviate significantly from the expected ratio determined by the transect data.

For spools 9 and 11 the null hypothesis is accepted as there was no significant variation in the expected and the observed ratios of vegetation groups.

The animals with spools for which the null hypothesis was rejected were found to have preferentially utilised different vegetation categories. The percentage of frequencies for each vegetation group was compared to the percentage departure from the transect data. The vegetation groups selected by the animals are listed in order of greatest to least departure from expectation (Table 5). For example in spool 1 the Sedgeland vegetation group comprised 20.3% of all groups found on this spool line while this group represents only 11.2% of all groups found in the study area. The next most favoured category was Heathland with sedgeland which comprised 43% of the groups in spool 1 but only represents 38.6% of all the groups found in the study area. The vegetation groups selected against are listed in the same manner. In spool 1 the Tall forest with open heathland group does not occur at all, whilst it comprises 6.6% of the habitat, and Forest with open heathland was recorded for 5.1% of cases whilst it comprises 11.3% of the study area.

TABLE 5: Preferences of Gilbert's potoroo for and against certain vegetation groups, analysed by frequency.

Spool Number	Vegetation groups selected for	Vegetation groups selected against
1 - Male 16	Heathland with sedgeland, Sedgeland	Tall forest with open heathland, Forest with open heathland
2 - Male 16	Heathland with sedgeland, Sedgeland	Forest with open heathland, Tall forest with open heathland
3 - Male 20	Tall forest with open heathland, Forest with open heathland	Woodland with heathland, Sedgeland, Heathland with sedgeland
4 - Male 20	Heathland with sedgeland, 100% bare	Woodland with heathland, Forest with open heathland, Tall forest with open heathland
5 - Female 21	Sedgeland	Forest with open heathland, Tall forest with open heathland, 100% bare
6 - Female 21	Sedgeland, Heathland with sedgeland , 100% bare	Woodland with heathland, Forest with open heathland, Tall forest with open heathland
7 - Female 21	Sedgeland	Tall forest with open heathland
8 - Female 23	Woodland with heathland	Tall forest with open heathland, Forest with open heathland
10 - Female 25	Tall forest with open heathland, Forest with open heathland	100% bare, Heathland with sedgeland
12 - Male 26	Woodland with heathland, Sedgeland	Heathland with sedgeland, Tall forest with open heathland

13 - Male 26	Heathland and Sedgeland, Sedgeland	Tall forest with open heathland, Forest with open heathland, Woodland with heathland
14 - Male 26	100% bare, Woodland with heathland	Tall forest with open heathland, Forest with open heathland

Male 16, female 21 and male 26 showed consistent preferences in their selection of vegetation groups from one spool line to another. Male 20 did not show the expected consistency between spools. In the first spool line, tall forest with open heathland and forest with open heathland were selected for, while in the second, heathland with sedgeland and the 100% bare categories were selected for. Female 25 exhibited selective behaviour in only one of her spool lines (spool 10), with the other two spool lines (9 and 11) not differing from the transect data.

3.3.2. Combined data for animals compared to the transect data

Spools from the same animals were combined to increase the sample size for each animal and to reduce the effect of the spools being different lengths. The characteristic selection of vegetation type for each animal was determined.

Once again a chi-square contingency table was used to determine whether selective behaviour was occurring with respect to vegetation groups.

TABLE 6: Contingency table results of comparisons between the combined data for each animal and the transect data, for the frequency of occurrence of the vegetation groups.

Animal Number and Sex	Spool Numbers	Chi-square Value	Probability
Male 16	1 & 2	25.049	0.000
Male 20	3 & 4	43.426	0.000
Female 21	5, 6 & 7	49.917	0.000
Female 25	9, 10 & 11	2.685	0.748
Male 26	12, 13 & 14	31.944	0.000

The null hypothesis was accepted for Female 25. The chi-square value for the combined data for female 25 illustrates that the utilisation of vegetation groups does not deviate significantly from the expected, illustrated by the transect data. As we have seen already, only spool 10 indicated selective behaviour.

Male 16, male 20, female 21 and male 26 all showed highly significant variation for 95% and 99% confidence limits, indicating that selective utilisation of vegetation groups by these animals deviated significantly from what was expected at random.

3.3.3. Male and female combined data compared to the transect data

All the spools from male animals were combined and compared with the transect data using a chi-square contingency table. The χ^2 value of 34.229 gave a probability of 0.000 at five degrees of freedom. This illustrates that highly significant variation exists between the male data and the transect data for 95% and 99% confidence limits.

All the spools for females were combined and compared in the same manner. Once again the χ^2 value of 33.487 gave a probability of 0.000, greatly exceeding the critical value at 95%

and 99% confidence limits. This illustrates that highly significant variation exists between the combined female data and the transect data.

3.3.4. Direct comparison between data for males and females

The combined data for males was then compared to the combined data for females to investigate whether patterns of habitat usage are sex-dependent. The null hypothesis states that the ratio of vegetation group utilisation is equal for both sexes. The χ^2 value obtained from a chi-square contingency table of the male data compared with the female data was 8.320 for a probability of 0.141. Therefore the null hypothesis is accepted, as no significant variation was observed between the sexes.

3.4. Analyses of Distance Ratios Within Vegetation Groups

For each spool the summaries of vegetation group by length of spool line found in each group, (Tables 17, 22, 27, 32, 37, 42, 47, 52, 57, 62, 67, 72, 77 and 82, in Appendix 4) indicating the percentage ratio of actual distance measured within each vegetation group, were compared to the transect data (Table 12, in Appendix 4). The transect data indicates that the study area consists of 34.2% Heathland with sedgeland, 7.2% Sedgeland, 3.9% '100% bare', 27.7% Woodland with heathland, 14.3% Forest with open heathland and 12.7% Tall forest with open heathland. Similar ratios are expected in the spooling data if selection of vegetation type was occurring at random.

The percentages of spool length spent in each vegetation category, for each spool, are listed in a table to allow direct comparisons.

TABLE 7: The proportions of each spool line within the six vegetation groups.

	Percentage of the Spool Line in Vegetation Groups:					
Spool Number	Heathland with sedgeland	Sedgeland	100% bare	Woodland with heathland	Forest with open heathland	Tall forest with open heathland
1 - Male 16	40.8	14.8	1.9	38.0	4.5	0
2 - Male 16	34.4	22.1	4.1	35.2	4.2	0
3 - Male 20	9.9	0.2	3.1	6.3	6.6	73.9
4 - Male 20	76.8	9.2	4.5	6.6	2.9	0
5 - Female 21	41.0	22.0	0	37.0	0	0
6 - Female 21	45.4	44.3	10.3	0	0	0
7 - Female 21	35.7	16.8	3.0	32.3	12.2	0
8 - Female 23	35.6	15.8	0.9	46.7	1.0	0
9 - Female 25	50.5	4.5	0.9	35.4	8.7	0
10 - Female 25	28.7	6.5	0	19.2	27.8	17.7
11 - Female 25	47.0	13.4	6.7	29.6	3.3	0
12 - Male 26	8.5	8.9	0	50.3	32.3	0
13 - Male 26	59.6	16.6	3.5	20.3	0	0
14 - Male 26	35.9	13.7	9.8	29.3	11.3	0
Transect data	**34.2**	**7.2**	**3.9**	**27.7**	**14.3**	**12.7**

Table 7 illustrates that the percentage of spool length found in vegetation groups varies greatly between spools and between animals. To further facilitate comparison between the spools and the transect data, the vegetation groups selected for and against, along the length of the spool, are listed in order of the greatest percentage difference from the proportion for that category in the transect data (Table 8). For example in spool 1 the Sedgeland vegetation category was recorded for 14.8% of the spools length while this category represents only

7.2% of the study area, then the next favoured category was Woodland with heathland which was recorded for 38.0% of the spools' length but only represents 27.7% of the study area. The vegetation groups selected against are listed in the same manner. In spool 1 the Tall forest with open heathland category does not occur at all, whilst it represents 12.7% of the habitat, and Forest with open heathland was recorded for 4.5% of cases whilst it represents 14.3% of the study area, the 100% bare category was recorded for 1.9% of the spool length but represents 3.9% of the habitat.

The vegetation group names are abbreviated to the first, or first and second word of each name to make table 8 more concise.

TABLE 8: Preferences of Gilbert's potoroo for and against certain vegetation groups, analysed by distance

Spool Number	Vegetation groups selected for	Vegetation groups selected against
1 - Male 16	Sedgeland, Woodland, Heathland	Tall Forest, Forest, 100% bare
2 - Male 16	Sedgeland, Woodland	Tall Forest, Forest
3 - Male 20	Tall forest	Heathland, Woodland
4 - Male 20	Heathland	Tall forest, Woodland, Forest
5 - Female 21	Sedgeland, Heathland	Forest, Tall forest, 100% bare
6 - Female 21	Sedgeland, Heathland, 100% bare	Woodland, Forest, Tall forest
7 - Female 21	Sedgeland	Tall forest
8 - Female 23	Woodland, Sedgeland	Tall forest, 100% bare
9 - Female 25	Heathland, Woodland	Tall forest, 100% bare
10 - Female 25	Forest, Tall forest	100% bare
11 - Female 25	Heathland, Sedgeland	Tall forest
12 - Male 26	Woodland, Tall forest	Tall forest, 100% bare, Heathland
13 - Male 26	Heathland, Sedgeland	Forest, Tall forest
14 - Male 26	Sedgeland, 100% bare	Tall forest

Animals that had multiple spools during the study period showed varying degrees of consistency in their selection of vegetation groups. Male 16 and female 21 were highly consistent for each of their spools. Male 16 selected for Heathland with sedgeland and Woodland with sedgeland, while Female 21 spent greater proportions of her spool lengths in Heathland with sedgeland, Sedgeland and the 100% bare category.

Two of the spools (13 and 14) from male 26 were highly consistent favouring Heathland with sedgeland and Sedgeland, while the third (spool 12) showed a large degree of variation favouring woodland and tall forest.

Male 20 and female 25 showed a large degree of variation between spools, with no particular preference being obvious.

3.5. Analysis of Runnel Dimensions

The height of runnels through which the spools ran were measured from the ground to the inner maximum height. The mean height of the 34 runnels measured was 242.4 mm with a standard deviation of 39.9 mm (Appendix 5).

4. DISCUSSION

The present study was designed to answer some of the most pressing questions relating to the conservation of the recently rediscovered Gilbert's potoroo. The study attempted to determine whether:

1) particular densities of canopy cover are preferred by the animals,

2) the animals exhibit a preference for certain plant species within the habitat,

3) animals emerge into areas of bare ground,

4) the speed of movement through the habitat is correlated to the amount of protection provided by it and,

5) diggings are more commonly located in open areas or under vegetation.

These questions were designed to help determine the overall microhabitat requirements of *P. t. gilbertii*, to assist in determining which features of the habitat are essential for survival and therefore are crucial for consideration prior to any reintroductions of potoroo populations.

The density of canopy cover utilised by the animals during the spooling trials was investigated with respect to the frequency that spool lines changed cover type and the percentage of the spool length that was spent within each cover type. When compared with the transect data, 7 of the 14 spools were found to indicate statistically significant selective behaviour by the animals in their selection of cover. For these spools the open and semi-open cover types were preferentially utilised for the majority of the measurements along the spool. Cover was also investigated by comparison of the percentages of the spool length that were recorded in each cover type. All spools, except for spool 10, indicated some selective behaviour by utilising cover types in different proportions to their proportions in the habitat. The open cover was favoured for eight of the spool lines, the semi-open for two of the spool lines, and the dense cover for four of the spool lines.

Investigation of plant species preferences was undertaken by examining the proportions of frequency of usage and distance spent in the different vegetation groups. The frequency of usage of each vegetation group was compared to the proportions of these groups in the habitat, as determined by the transect data. Twelve of the fourteen spools indicated that the animals' usage of vegetation groups was not the result of random movement throughout the habitat, and instead represented highly significantly selective behaviour. Male 16, female 21 and male 26 were consistent over multiple spools for vegetation selection. Male 20 utilised tall forest and selected against woodland and sedgeland during one spool, but in the other spool he utilised heathland preferentially and selected against tall forest vegetation associations. Patterns of vegetation preference could not be established for females 23 and 25 as they had only one spool, and only one statistically significant spool, respectively.

The proportion of distance of spool lines within each vegetation group revealed male 16 and female 21 to be highly consistent within their multiple spools. Both these animals preferred the heathland, sedgeland and woodland vegetation categories. Two of the spools from male 26 had the greatest proportion of their length within the heathland and sedgeland categories, while the third was recorded mainly within the woodland with heathland category. Male 20 and female 25 exhibited a large degree of variation between their multiple spool data, with no vegetation groups being consistently preferred.

The apparent speed of movement, judged by the pattern of spool line deposition was noted during the spool line data collection. If the animals were hopping quickly through an area the spool was taut and usually lay over the sedges and low plants in the understorey. Foraging behaviour was characterised by concentrated areas of spool line, often with large numbers of diggings in the area. Evidence of these movement patterns were seen in all vegetation and cover types, but foraging behaviour was more commonly seen in open areas.

During the study, the locations of diggings adjacent to or directly under the spool line were noted. These revealed that the great majority were in open or semi-open areas, that tended to be within sedgeland or open heathland. The typical shape and location of a digging at the base of a sedge is illustrated in figure 13.

The study area is characterised by a continuous system of runnels in the understorey of the vegetation that allow the animals to move rapidly through the habitat without emerging into the open for long periods (Figure 14). Spool lines from different animals were often observed running parallel to one another within the runnels. This, along with the fact that different animals were caught in the same traps, suggests that the home ranges of several animals overlap within the study area.

The average height and the degree of cover provided by runnels within the study area were recorded. The mean height was 242.4 mm, with a standard deviation of 39.9 mm (Appendix 5). The height was greater than would be expected if they were formed by potoroos alone. The presence of quokkas within the study area may account for the tall height of the runnels. The runnel height was considered a significant limitation to the size of the spool packages and was a concern when deciding the spool length. The small length of the spools used (170 metres) means that each package of two spools probably represented only a small portion of the night's activity for Gilbert's potoroo. Increasing the length of the spools would have allowed investigation of activity patterns for the whole night along with diurnal shelter locations. Longer spool lines increase the package size and the consequent risk of its catching on vegetation, especially when the animal is moving through runnels. However, the measurement of runnel height through which the spool lines ran indicated that larger spools may be attached in future without impeding animal's movements, possibly allowing investigation of the whole night's movements.

FIGURE 6: Typical digging shape and location.

FIGURE 14: Typical *Melaleuca* spp. and sedge runnel

It was hoped that the study would provide some insight into the reasons for the persistence of this species only in long-unburnt, dense vegetation. Was their persistence in this area due to its status as the fundamental niche (providing the optimum niche requirements) of the species, or has this area has simply acted as a refuge from predation and fire? This question may be considered in light of the results of this study. The emergence of animals into areas of bare ground was recorded for part of the length of 11 spools. This seldom represented more than 5% of the total length of the spool, however many of the open areas utilised had only a small degree of canopy cover, thus the actual distance spent in areas that provided little cover represented a significant proportion of most of the spool lines. On average approximately 40% of the length of the spool line was in open vegetation.

The large percentage of time spent in the open by most animals contrasts with historical evidence from John Gilbert (Gould, 1863) and other investigations of microhabitat use by *Potorous* spp. These have suggested that potoroos reside within a number of habitat types with wide floristic variation and thick ground cover. The presence of dense ground cover was a distinctive feature for all localities where *Potorous* spp. had been recorded (Gould, 1863; Guiler, 1958; Kitchener, 1973; Seebeck, 1981), and was considered to be a habitat requirement of all potoroos.

More recently microhabitat use by *P. t. tridactylus* in south-western Victoria has been investigated using intensive trapping grids with trap points situated 24 metres apart with two trap types (5 metres apart) at each trap point (Bennett, 1993). A total of 8087 trap nights were undertaken and the densities of vegetation and the vegetation species around each trap were recorded. The vegetation species were grouped by floristic composition, in a manner similar to the present study. Correlation and stepwise regression analyses were used to examine the relationship between *P. t. tridactylus* and structural attributes at each trap site. That study revealed that a more open understorey was included within the range of *P. t. tridactylus*, than

was previously thought. Bennett did not find any clear associations with particular vegetation groups, or any structural features within the vegetation, instead a range of sites with differing floristic composition and vegetation density were utilised by individuals within the study (Bennett, 1993). The results obtained in the present study agree more closely with Bennetts findings than with any previous examinations of habitat use by *Potorous* spp (Guiler, 1958; Seebeck, 1981; Seebeck *et al.*, 1989). Previously, captures of potoroos in open areas were explained as animals in transit.

The study area is surrounded by dense vegetation due to the long-unburnt nature of the habitat. There are, however, areas within the study site that are largely bare sand and small patches of sedges. During the present study it was demonstrated that these areas were utilised by the animals for a considerable proportion of the spool lines. Distances travelled in the open may be explained by transitory movement between dense patches. This explanation was given by Guiler (1958) when almost 40% of *Potorous* captures were made in open areas. The utilisation of open areas in the present study did not appear to simply reflect movement between denser patches of habitat. Instead, on many occasions the animals appeared to be avoiding the thicker vegetation and concentrating movements within the open areas, increasing the risk of predation. One explanation for this trend is that the open areas may provide a richer source of fungi, unavailable within the very dense areas of the study site. This is supported by the fact that fungal abundance is positively correlated with more open vegetation that allows the penetration of light and heat (Bennett, 1993). Bennett (1993) demonstrated that diggings by *P. t. tridactylus* are positively correlated with floristic richness and areas within the understorey that are less dense. It is likely that emergence into the open by *P. t. gilbertii* is primarily for the purpose of foraging.

This would seem to suggest that perhaps the study area does not represent the ideal microhabitat for Gilbert's potoroo, but that it provides the features necessary for protection

from bushfire and fox predation. The large granite outcrops provide some areas for refuge from fire and the combination of being surrounded by dense vegetation and poison baiting reduce the possibility of fox predation within the study site. The areas within Mt. Gardner provide protection from these threats but possibly at the cost of reduced food resources for the potoroos. This may result in the animals foraging in areas of little cover at greater risk of predation, especially by owls hunting from the air, to obtain sufficient food.

The spool-and-line tracking technique was found to be highly detailed and accurate in its portrayal of the movement of the animals through the study area. The data from the spools gave detailed information about the percentage of cover being used most frequently by each animal and the distances spent within each cover category. The spool line data also indicated which vegetation associations were utilised during the length of the spool and in many cases the approximate speed of travel of the animal could be estimated by the pattern of thread deposition. The fact that many of the animals spooled more than once showed similar patterns of behaviour on each occasion would seem to suggest that the results were a genuine reflection of potoroo behaviour and not merely artefacts brought about by stress associated with trapping and handling. Furthern : the runnels through which the spool lines had passed had evidence of regular use from the flattening of the vegetation and fresh scat.

During the tracking spool lines were occasionally followed running in or across small run-off streams that form in the deep gullies within the study area. The spool lines from female 25 and male 20 on the 9th May were tracked running parallel down a slope until they ended in a tangle in a watercourse. This is relevant to Gilbert's notes about *P. t. gilbertii* being "always found amidst dense thickets and rank vegetation bordering swamps and streams" (Gould, 1863, p. 146).

The spool lines attached to female 25 (9, 10 & 11) were conspicuous as they showed only marginally significant differences from the transect data, both for cover and vegetation groups. Strong preferences for the particular cover categories available were not seen in spools 9, 10 and 11, but spool 10 was significant at the 95% confidence limit for vegetation group. Comparisons of distances spent in the vegetation groups found a large degree of variation between the three spools. The similarity of these spools may suggest that habitat use by female 25 was influenced by the presence of the spool package, thus a bolt response pattern of habitat use may have been recorded. Another possibility is that the pouch young present during the spooling period may have altered the pattern of habitat use by this female due to changes in nutrient requirements associated with suckling.

5. CONCLUSION

Since the rediscovery of Gilbert's potoroo so recently, any information that helps to provide an understanding of the microhabitat preferences of the species, with respect to vegetation associations and canopy cover, is valuable. This is likely to help to determine locations that may be suitable for reintroduction's of potoroo populations, and other locations that may still shelter remnant populations.

The distribution of potoroos throughout Australia is characterised by areas of dense vegetation with habitat ecotones that provide fine scale patchiness (Bennett, 1993; Seebeck, 1989; Scotts and Seebeck, 1989). The present study appears to indicate that this is a habitat requirement for *P. t. gilbertii* also. The conclusions drawn from the present study, however, must be considered tentative due to the unavoidably small sample size. Dense cover is required for diurnal shelter and protection from predators, while areas that are more floristically complex with open canopy cover are required for foraging. This type of ecotonal habitat may provide the species with more reliable access to resources within a relatively small home range.

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LIST OF APPENDICIES

7100	open	*Anarthria scabra, Anarthria gracilis*
1400	dense / runnel	*Eucalyptus marginata, Agonis juniperina*
4620	open	*Melaleuca striata, E. marginata,* 80% bare earth
1500	dense	*M. striata, Adenanthos cuneatus*
600	open	*A. scabra*
960	dense	*A. cuneatus*
5380	open	*A. scabra, A. gracilis*
1200	dense / runnel	*A. scabra, Allocasuarina fraseriana*
2370	open	*A. scabra, A. gracilis, Dasypogon bromeliifolius*
1200	semi-open / runnel	*A. scabra, D. bromeliifolius*
7780	open	*A. scabra, A. gracilis, D. bromeliifolius, A. fraseriana*
1400	semi-open	*A. fraseriana, Agonis juniperina*
2360	open	*M. striata, A. scabra, E. marginata*
4610	dense	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
2640	open	*A. scabra,* 95% bare earth
3620	dense / runnel	*M. striata, A. scabra*
1530	semi-open	*M. striata, A. scabra*
950	open	*A. scabra, D. bromeliifolius*
1890	semi-open / runnel	*A. gracilis, A. scabra, M. striata*
6240	open	*A. scabra, A. fraseriana*
1410	dense / runnel	*A. fraseriana, A. scabra, A. gracilis*
1140	open	*A. scabra*
1210	semi-open	*M. striata, A. scabra*
1160	open	*E. marginata, A. scabra*
2670	semi-open	*M. striata, A. scabra, A. gracilis*
800	open	100% bare earth
3400	dense / runnel	*A. scabra, M. striata*
1800	open	*A. scabra, 80% bare earth*
2100	dense	*M. striata, A. scabra, A. gracilis, A. cuneatus*
3530	open	*A. scabra,* 90% bare earth
3270	semi-open / runnel	*A. scabra, M. striata*
4500	open	*A. scabra,* 60% bare earth
2970	dense	*M. striata, A. scabra, D. bromeliifolius*
1680	semi-open	*D. bromeliifolius, A. juniperina*
2020	semi-open	*M. striata, A. scabra, A. gracilis*
6530	dense	*M. striata, A. scabra, Melaleuca thymoides*
2420	semi-open	*A. scabra, Agonis hypericifolia, M. striata*
2340	dense	*M. striata, A. scabra*
1830	open	*A. scabra, A. hypericifolia*
1340	dense / runnel	*A. scabra, M. striata*
4780	open	100% bare earth
2210	dense	*M. striata, A. hypericifolia, A. scabra*
6220	open	*A. scabra, M. striata,* 70% bare earth
4960	dense	*M. striata, A. scabra*
700	open	*A. gracilis, A. hypericifolia*
2620	dense	*A. scabra, D. bromeliifolius, A. gracilis, M. striata*
9400	open	*M. striata, A. hypericifolia, A. scabra*
1000	semi-open	*A. hypericifolia, Dryandra formosa*
3410	semi-open	*A. fraseriana*

8660	open	*Xanthorrhoea* sp., *A. scabra, A. juniperina, E. marginata*
2160	open	*E. marginata, A. gracilis*
7100	semi-open	*A. hypericifolia, M. striata, A. scabra, Conospermum caeruleum*
730	semi-open	*Banksia grandis*
7200	open	*M. striata*, 80% bare earth
4400	semi-open	*A. hypericifolia, E. marginata, A. scabra*
3620	open	*A. scabra, A. juniperina, A. hypericifolia*, 80% bare earth
2800	open	*A. scabra, Gastrolobium bilobum, E. marginata, A. gracilis*
13820	open	*E. marginata, A. hypericifolia, A. juniperina, A. gracilis*, 60% bare earth
2750	dense / runnel	*A. scabra, A. gracilis, A. hypericifolia*
1360	open	*E. marginata*
3200	dense / runnel	*A. juniperina, A. scabra, A. gracilis*
800	open	*A. juniperina*
1180	semi-open	*A. juniperina, E. marginata, A. scabra*
2380	open	*A. hypericifolia, E. marginata, A. fraseriana, C. caeruleum*
2200	semi-open	*A. gracilis, A. scabra, A. juniperina*
4020	open	*A. juniperina*
17000	semi-open	*Eucalyptus calophylla, A. scabra, Bossiaea sp.*
4460	semi-open	*A. juniperina, A. hypericifolia, E. calophylla, A. scabra*
13950	open	*A. scabra, A. gracilis, A. juniperina*, 60% bare earth
850	semi-open / runnel	*A. scabra*
1320	open	*A. gracilis, A. juniperina*
1910	dense / runnel	*A. gracilis, A. scabra*
6830	open	*A. scabra*
1200	dense / runnel	*A. scabra, A. juniperina*
7990	open	*A. scabra, A. gracilis, A. fraseriana*
4720	semi-open	*A. fraseriana, A. scabra*
3600	open	*A. scabra, A. gracilis, A. fraseriana*
3740	semi-open	*A. fraseriana*
13110	open	*A. scabra, A. juniperina, A. fraseriana, Nuytsia floribunda*

1300	open	100% bare earth
920	semi-open / runnel	*Anarthria scabra*
3770	open	*A. scabra, Anarthria gracilis*
7300	dense	*Melaleuca striata, A. scabra, A. gracilis, Eucalyptus marginata, Allocasuarina fraseriana*
3810	dense	*A. fraseriana*
7460	open	*A. scabra, A. gracilis, M. striata*
2780	semi-open	*A. fraseriana, A. gracilis*
3260	open	*A. scabra, A. gracilis,* 90% bare earth
840	dense	*A. scabra, A. gracilis, Adenanthos cuneatus, Agonis juniper*
9300	open	*A. scabra*
4000	semi-open	*A. fraseriana*
16000	open	*A. scabra, A. gracilis, A. fraseriana, A. juniperina*
1800	semi-open	*E. marginata, Melaleuca thymoides.* 80% bare earth
6800	dense	*M. striata, A. scabra, A. gracilis*
5900	semi-open	*A. scabra, A. gracilis, A. cuneatus, M. thymoides*
6000	semi-open	*A. scabra, A. gracilis, M. striata*
2900	open	*Isopogon longifolius, A. fraseriana*
1260	dense / runnel	*A. scabra, A. fraseriana, M. striata*
1300	dense	*M. striata, A. scabra, A. gracilis*
4680	dense / runnel	*M. striata, A. scabra, A. gracilis*
5600	open	*A. scabra, A. gracilis,* 95% bare earth
3950	semi-open	*M. striata, A. cuneatus, A. scabra*
4500	open	*A. scabra, M. thymoides,* 80% bare earth
1800	semi-open	*M. striata, A. scabra, A. gracilis*
2800	open	*100% bare earth*
1200	semi-open	*M. striata, Dasypogon bromeliifolius*
10000	open	*A. fraseriana,* 80% bare earth
700	semi-open	*A. juniperina, A. scabra*
6220	open	*A. scabra,* 90% bare earth
1710	semi-open	*M. striata, D. bromeliifolius, A. scabra*
28360	open	*D. bromeliifolius, A. fraseriana, M. striata,*
1660	semi-open	*M. striata, A. scabra, A. gracilis*
8000	open	*A. cuneatus, A. fraseriana, M. striata, A. scabra, A. gracilis*
880	semi-open	*M. striata*
19950	open	*A. gracilis,* 90% bare earth
6440	dense	*M. striata, A. scabra, A. gracilis*
7770	open	*D. bromeliifolius, A. scabra, A. gracilis*
1800	semi-open	*M. striata, A. scabra*
5940	open	100% bare earth
3310	dense	*M. striata, A. scabra*
3400	open	*E. marginata*
4710	semi-open / runnel	*D. bromeliifolius, A. scabra, A. fraseriana, M. striata*
3160	dense	*M. striata, A. scabra, A. gracilis*
5650	open	*M. striata, A. juniperina, A. scabra*
3060	open	*A. scabra,* 95% bare earth
5660	semi-open	*M. striata, D. bromeliifolius, A. scabra*

APPENDIX 1 CONT. #16 (20/5) Trap point 11

5070	dense / runnel	*A. scabra, A. gracilis, M. striata, A. juniperina*
2020	dense	*A. fraseriana, A. gracilis*
1100	open	100% bare earth
9600	dense / runnel	*M. striata, A. scabra*
3800	open	*A. scabra, A. juniperina,* 80% bare earth
670	dense / runnel	*A. scabra*
11400	open	*A. scabra, D. bromeliifolius, Banksia grandis, Dryandra formosa*

3400	dense	*Melaleuca striata*
4000	dense	*M. striata, Allocasuarina fraseriana*
9600	dense	*M. striata, Anarthria scabra, Anarthria gracilis*
3300	semi-open	*Eucalyptus marginata, A. fraseriana,*
		Eucalyptus calophylla, A. scabra
2100	semi-open / runnel	*A. scabra, M. striata*
5460	open	*Agonis juniperina,* 70% bare earth
8000	semi-open	*E. marginata, A. scabra, A. juniperina*
2600	dense	*A. scabra, A. juniperina*
1660	open	*A. juniperina,* 80% bare earth
670	dense	*A. scabra*
1900	open	*A. juniperina, Xanthorrhoea sp.*
4660	dense	*Xanthorrhoea sp.*
2000	semi-open	*Agonis flexuosa, Acacia leioderma,*
		Hibbertia furfuracea, Gastrolobium bilobum,
		Hakea eliptica, A. juniperina, A. scabra, A. gracilis
1560	dense	*A. scabra, A. gracilis, A. flexuosa,*
		Tremandra stelligera, A. juniperina
1520	open	*A. gracilis, A. flexuosa*
4400	semi-open	*H. eliptica, A. scabra, A. gracilis, G. bilobum,*
		A. juniperina
6090	semi-open	*H. eliptica , G. bilobum, A. scabra, A. gracilis,*
		Xanthorrhoea sp.
2300	semi-open	enters small stream, 20cm deep, *H. furfuracea*
700	open	bank of stream
1000	semi-open	renters stream
8000	open	emerges on other bank, meets up with another spool
8000	semi-open	renters water
4660	dense	emerges on other side, *A. gracilis, H. furfuracea,*
		A. juniperina
3100	dense	*A. scabra, G. bilobum*
8500	dense	*E. marginata, H. furfuracea, A. juniperina*
4700	dense	*A. juniperina, Xanthorrhoea sp., A. gracilis*
4700	open	*A. juniperina, E. marginata, Eucalyptus megacarpa*
1730	open	*A. gracilis, A. juniperina, T. stelligera*
1620	dense / runnel	*Xanthorrhoea sp.*
4200	dense	*A. juniperina, H. furfuracea, A. gracilis,*
		Xanthorrhoea sp.
41180	dense	*E. megacarpa, H. furfuracea, Xanthorrhoea* sp.,
		A. juniperina, E. calophylla, Pteridium esculentum,
		T. stelligera
8000	semi-open	*H. furfuracea, P. esculentum, A. flexuosa,*
		E. calophylla
4600	semi-open	*H. furfuracea, T. stelligera, Melaleuca thymoides,*
		A. flexuosa, E. calophylla, E. megacarpa
29000	semi-open	*E. calophylla, E. megacarpa, P. esculentum,*
		H. furfuracea, A. flexuosa
4300	semi-open	*H. furfuracea, A. flexuosa*
4580	dense	*A. flexuosa, H. furfuracea, T. stelligera*

APPENDIX 1 CONT. #20 (9/5) Trap point 4

35750	dense	*A. flexuosa, A. scabra, H. furfuracea, T. stelligera, P. esculentum*
32000	semi-open	*A. flexuosa, E. calophylla, H. furfuracea, A. scabra, T. stelligera*
38500	dense	*H. furfuracea, Xanthorrhoea sp., H. furfuracea, A. flexuosa, E. megacarpa, E. calophylla, A. scabra*

1480	open	*Anarthria scabra, Melaleuca striata,*
		Melaleuca thymoides, Allocasuarina fraseriana
1730	semi-open	*A. scabra, Anarthria gracilis, M. striata*
3200	dense	*M. striata, A. gracilis, A. scabra, Petrophile sp.*
2160	open	*A. scabra*
1600	dense	*M. striata, A. scabra, A. gracilis*
1380	open	100% bare earth
1100	dense	*M. striata, A. scabra*
300	open	100% bare earth
3230	dense / runnel	*A. scabra, A. gracilis*
2300	dense	*A. scabra, A. gracilis, M. striata*
1000	semi-open	*M. striata*
2480	open	*A. scabra,* 50% bare earth
4550	dense	*M. striata*
1590	open	100% bare earth
2810	dense	*M. striata, A. scabra, A. gracilis, M. thymoides*
700	semi-open	*M. striata, A. gracilis, A. scabra*
830	dense	*A. scabra*
1500	dense	*M. striata*
1200	semi-open	*M. striata, Eucalyptus marginata*
3970	dense	*M. striata, A. scabra, A. gracilis, Agonis juniperina*
3370	open	*A. scabra, M. striata*
4210	semi-open / runnel	*M. striata, A. scabra*
5570	dense	*M. striata, A. scabra*
1500	semi-open	*A. juniperina, M. striata*
15750	dense	*M. striata*
2100	semi-open / runnel	*A. scabra, A. gracilis*
2900	open	*E. marginata,* 80% bare earth
1800	semi-open	*M. striata*
2890	dense	*A. gracilis, M. striata*
3420	open	*A. gracilis, Banksia grandis, M. striata*
1580	semi-open	*M. striata, A. juniperina*
11150	dense / runnel	*M. striata, A. scabra, Adenanthos cuneatus*
2900	semi-open	*A. scabra, M. striata*
2280	dense	*M. striata, A. scabra, A. gracilis,*
		Dasypogon bromeliifolius
2100	semi-open	*A. scabra, M. striata,* 30% bare earth
2620	semi-open	*M. striata*
3450	open	*M. striata, A. juniperina, D. bromeliifolius,*
		80% bare earth
1300	dense / runnel	*A. scabra, M. thymoides*
2050	open	100% bare earth
3350	dense	*A. gracilis, M. striata, A. scabra*
2200	open	*E. marginata,* 90% bare earth

APPENDIX 1 CONT. #21 (2/5) Trap point 10

2300	open	*Eucalyptus marginata, Anarthria scabra, Melaleuca thymoides, Melaleuca striata*
2060	semi-open	*A. scabra, Anarthria gracilis, M. striata*
1940	semi-open	*M. striata, A. scabra*
1300	open	*A. scabra*
950	semi-open	*M. striata*
1300	semi-open / runnel	*A. scabra, A. gracilis*
9430	dense	*M. striata*
2060	open	*A. scabra, A. gracilis*
3800	semi-open	*Allocasuarina fraseriana*
5560	open	*A. scabra, A. fraseriana, M. striata, Agonis juniperina*
1650	dense	*Adenanthos cuneatus, M. thymoides*
14560	open	*A. scabra, E. marginata, M. thymoides*
1320	dense / runnel	*A. scabra*
2200	semi-open	*A. fraseriana, A. scabra*
19520	semi-open	*A. scabra, A. cuneatus, Dasypogon bromeliifolius, E. marginata*
2860	dense / runnel	*A. scabra*
8200	open	*A. juniperina*
2430	semi-open	*A. scabra*
17420	open	*A. scabra, D. bromeliifolius, A. juniperina*
15150	semi-open / runnel	*A. scabra, A. fraseriana*
1500	dense / runnel	*A. fraseriana*
7770	open	*A. scabra, D. bromeliifolius*
1800	dense	*A. scabra*
5210	open	*A. scabra, A. gracilis*
1480	semi-open	*A. fraseriana*
850	dense / runnel	*A. scabra, A. gracilis*
8000	open	*A. scabra, A. gracilis, Agonis flexuosa, A. fraseriana*
1790	semi-open / runnel	*A. gracilis, A. scabra*
21400	open	*A. flexuosa, A. scabra, A. gracilis*
8000	semi-open	*A. fraseriana, A. gracilis, A. flexuosa*
26500	semi-open	*A. scabra, A. gracilis, D. bromeliifolius, A. fraseriana*
13300	dense	*A. flexuosa, A. scabra, A. gracilis*
9200	dense	*A. flexuosa, A. scabra*
23200	open	*A. scabra, A. gracilis, M. thymoides*
1400	semi-open	*A. fraseriana*
8000	open	*A. scabra,* 30% bare earth
3500	open	*A. fraseriana, A. scabra*
26000	open	*A. scabra, A. gracilis*

APPENDIX 1 CONT. #21 (6/5) Trap point 16

3200	dense	*Melaleuca striata, Anarthria scabra*
2860	semi-open	*Agonis hypericifolia, M. striata, A. scabra*
1360	open	100% bare earth
6270	dense / runnel	*M. striata, A. scabra*
2380	semi-open	*M. striata, Anarthria gracilis*
1930	open	*A. scabra,* 70% bare earth
1900	semi-open / runnel	*A. scabra, M. striata*
1780	open	*A. scabra*
2530	semi-open	*M. striata, A. scabra*
800	open	100% bare earth
2760	semi-open	*M. striata, A. scabra*
4480	open	*A. scabra*
1050	semi-open	*M. striata, A. scabra*
4400	open	100% bare earth
890	open	*A. scabra*
2320	dense / runnel	*A. scabra, M. striata*
2610	open	*A. scabra*
550	dense / runnel	*A. scabra*
3050	semi-open	*A. scabra, M. striata*
3500	open	*A. scabra, A. gracilis,* 80% bare earth
4640	semi-open	*A. scabra, M. striata*
3150	open	*M. striata, A. scabra, A. gracilis*
5000	dense	*M. striata, A. scabra, Adenanthos cuneatus*

2300	semi-open / runnel	*Anarthria scabra, Melaleuca striata,*
		Agonis juniperina
1200	semi-open	*A. scabra*
3700	dense	*A. scabra*
3300	semi-open	*A. scabra*
1190	open	100% bare earth
3700	dense / runnel	*A. scabra, M. striata, Agonis hypericifolia*
5380	semi-open / runnel	*Allocasuarina fraseriana, A. scabra*
7200	semi-open	*M. striata, A. hypericifolia*
1200	dense	*M. striata, A. scabra, Dasypogon bromeliifolius,*
		A. hypericifolia
2560	open	95% bare, *A. scabra*
7900	semi-open	*Anarthria gracilis, M. striata, Eucalyptus marginata,*
		A. scabra
2700	open	*E. marginata*
6000	semi-open / runnel	*E. marginata, A. scabra, M. striata*
2680	semi-open	*E. marginata, A. scabra*
1940	semi-open / runnel	*A. scabra*
1960	open	100% bare earth
1070	semi-open	*A. scabra*
8500	semi-open	*Gastrolobium bilobum, E. marginata, E. calophylla,*
		Daviesia sp.
10000	dense / runnel	*A. scabra, M. striata, A. fraseriana*
3480	semi-open	*E. marginata, A. fraseriana, M. striata, A. juniperina*
13230	semi-open	*A. scabra, M. striata, A. hypericifolia*
2900	open	*A. fraseriana, A. scabra, A. gracilis*
3580	semi-open	*M. striata, A. juniperina*
1460	semi-open / runnel	*M. striata, A. scabra, D. bromeliifolius*
3380	open	100% bare
3000	semi-open / runnel	*M. striata, A. scabra, D. bromeliifolius*
5040	open	*A. fraseriana*
7010	semi-open / runnel	*M. striata, A. scabra, A. gracilis*
1900	semi-open	*M. striata, A. scabra, D. bromeliifolius*
2550	semi-open / runnel	*E. marginata, A. fraseriana, M. striata, A. gracilis*
6100	open	*A. scabra, A. gracilis*
800	dense / runnel	*A. scabra, A. gracilis*
3610	open	*A. scabra*
3300	dense / runnel	*A. scabra, M. striata, A. juniperina,*
		Melaleuca thymoides
10500	open	*A. scabra, M. striata*
16000	semi-open	*A. scabra, A. fraseriana, M. striata, E. marginata*
500	open	90% bare, A. scabra
8000	dense / runnel	*M. striata, A. juniperina, A. scabra, A. gracilis*
500	semi-open	*A. fraseriana, B. grandis, A. scabra, M. striata*
8000	dense	*M. striata, A. scabra, A. gracilis*
12000	open	*E. marginata, Xanthorrhoea sp., A. fraseriana*
6500	semi-open	*E. marginata, A. fraseriana, M. striata*
1890	semi-open / runnel	*M. striata, A. gracilis, A. fraseriana*
6100	open	*A. fraseriana, B. grandis*

APPENDIX 1 CONT. #21 (20/5) Trap point 19

1000	semi-open	*A. scabra, A. gracilis*
6800	semi-open	*G. bilobum, M. striata*
3200	dense / runnel	*A. scabra, A. fraseriana*
16000	open	*A. scabra, A. gracilis, E. marginata, M. striata*
800	semi-open	*A. gracilis, M. striata*
4720	open	*G. bilobum, M. striata*
1370	semi-open / runnel	*A. scabra, A. gracilis, D. bromeliifolius*
4530	open	*A. scabra, A. gracilis, M. striata, A. juniperina*
1660	semi-open / runnel	*A. scabra, M. striata*
3700	semi-open	*A. scabra, M. striata, M. thymoides*
3850	dense	*M. striata, A. scabra, A. gracilis, M. thymoides*
2010	semi-open	*M. striata, A. scabra*
3650	dense	*A. scabra, M. striata, A. juniperina, M. thymoides*
2110	open	*M. striata*
2720	dense	*A. scabra, M. striata*
6810	dense / runnel	*M. striata, A. scabra, A. gracilis*
2910	open	*A. gracilis, D. bromeliifolius*
4200	dense	*M. striata, A. scabra*
3270	open	100% bare
5150	dense / runnel	*M. striata, A. scabra*
6300	semi-open	*M. striata, A. scabra, E. marginata*
3950	dense	*A. fraseriana, M. striata, M. thymoides, A. scabra*
2050	open	*A. gracilis, A. scabra*
6200	semi-open / runnel	*M. striata, A. scabra*
5750	open	*A. gracilis, A. scabra*
7040	open	*A. scabra*

APPENDIX 1 CONT. #23 (3/5) Trap point 20

2820	dense	*Melaleuca striata, Eucalyptus marginata,*
		Anarthria scabra
2020	open	*E. marginata,* 80% bare earth
2100	semi-open	*Allocasuarina fraseriana, M. striata*
5930	dense	*M. striata, A. scabra, Agonis hypericifolia*
1100	semi-open	*A. hypericifolia, M. striata*
7520	dense	*A. scabra, M. striata, Agonis juniperina,*
		A. hypericifolia
3840	semi-open	*A. hypericifolia, A. fraseriana, A. scabra*
600	dense / runnel	*A. scabra, A. fraseriana*
2990	dense	*A. fraseriana*
600	open	*M. striata*
900	open	*M. striata,* 90% bare earth
3080	dense	*M. striata, A. scabra*
1270	semi-open	*A. scabra, M. striata*
5690	semi-open	*A. fraseriana*
3550	dense	*A. scabra, A. juniperina, M. striata*
1600	semi-open	*A. scabra, A. juniperina*
1550	open	*A. scabra*
1970	semi-open	*A. scabra, Dasypogon bromeliifolius, A. juniperina*
1580	dense	*A. scabra, A. hypericifolia, A. juniperina*
2930	open	*Nuytsia floribunda, A. fraseriana*
3040	open	*E. marginata, A. juniperina*
1970	open	*E. marginata,* 80% bare earth
760	dense / runnel	*A. scabra, A. hypericifolia*
5540	open	*N. floribunda*
1130	dense	*A. juniperina, A. scabra*
3680	open	*A. fraseriana, A. juniperina*
2030	dense	*A. scabra, A. juniperina*
4020	open	*A. fraseriana, N. floribunda,* 80% bare earth
1320	semi-open	*A. scabra, Bossiaea* sp.
2570	open	*A. scabra, A. juniperina,* 80% bare earth
1240	dense	*A. scabra, A. hypericifolia*
2550	open	*A. juniperina, A. fraseriana,* 80% bare earth
1400	semi-open	*A. scabra, A. juniperina*
5030	open	*E. marginata, A. juniperina,* 90% bare earth
2930	dense / runnel	*Conospermum caeruleum, Eucalyptus calophylla,*
		E. marginata
3360	open	*Anarthria gracilis, A. hypericifolia, A. juniperina,*
		E. marginata, A. scabra, 80% bare earth
820	dense	*E. marginata, A. hypericifolia*
3850	open	*A. scabra, A. juniperina*
1150	semi-open	*E. marginata*
3650	open	*A. hypericifolia, A. gracilis*

APPENDIX 1 CONT. #23 (3/5) Trap point 20

4270	semi-open	*M. striata, A. juniperina, N. floribunda, A. fraseriana*
5280	semi-open	*A. fraseriana, M. striata*
13000	open	*A. scabra,* 90% bare earth
4530	dense	*M. striata, A. scabra*
4030	open	*A. fraseriana, A. gracilis, M. striata,* 80% bare earth
2230	dense / runnel	*A. scabra, A. gracilis, E. marginata*
2940	open	*E. marginata, A. scabra,* 70% bare earth
3450	semi-open	*E. marginata, A. scabra, A. hypericifolia*
900	dense / runnel	*A. scabra, A. gracilis, E. marginata*
3420	open	*A. scabra, A. gracilis, M. striata, A. hypericifolia, E. marginata*
2560	dense	*M. striata, A. scabra, A. gracilis, A. hypericifolia*
3500	open	*A. fraseriana, M. striata*
4060	semi-open	*M. striata, A. gracilis, A. scabra*
7050	open	*A. gracilis, A. scabra*
2530	semi-open	*A. fraseriana, M. striata, A. scabra, A. gracilis*
1830	open	*A. scabra, M. thymoides, Allocasuarina humilis,* 80% bare earth
4500	dense	*M. striata, A. gracilis, A. scabra, A. juniperina*
4430	semi-open	*A. fraseriana, A. gracilis*
1000	semi-open	*A. fraseriana, M. striata*
2600	semi-open	*A. fraseriana*
2560	dense	*M. striata, A. scabra, A. gracilis, A. humilis*
2970	open	*A. humilis,* 90% bare earth
600	dense / runnel	*A. scabra*
1320	semi-open	*M. striata*
2800	dense	*M. striata, A. fraseriana, A. hypericifolia, A. scabra, A. gracilis*
660	open	100% bare earth
970	dense	*M. striata, A. hypericifolia*
2020	dense	*M. striata*
970	semi-open / runnel	*A. scabra*
1730	semi-open	*M. striata, A. hypericifolia, A. gracilis*
1930	semi-open	*A. hypericifolia, M. striata*
860	dense / runnel	*A. scabra, A. fraseriana*
4100	dense	*M. striata, A. juniperina, A. scabra*
3900	open	*E. marginata*
3100	semi-open	*M. striata, E. marginata, Dryandra formosa*
2500	dense	*M. striata, A. juniperina, A. scabra, A. fraseriana*
1370	dense	*A. fraseriana, under needle bed*
4120	semi-open	*M. striata, A. hypericifolia*
500	open	100% bare earth
680	semi-open / runnel	*A. scabra, M. striata*
4100	open	*A. hypericifolia, A. scabra, A. gracilis,*

APPENDIX 1 CONT. #23 (3/5) Trap point 20

4000	dense	*M. striata, A. scabra, A. gracilis*
2300	semi-open	*M. striata, A. juniperina*
2240	dense	*M. striata, A. scabra, A. gracilis, E. marginata*
4300	open	*A. scabra, A. gracilis*
6300	open	*A. scabra,* 90% bare earth
700	semi-open	*M. striata*
9300	open	*A. fraseriana*
970	open	*M. striata, A. scabra, A. fraseriana*
2200	open	*A. scabra,* 90% bare earth
3860	semi-open	*M. striata, A. scabra, A. gracilis*
1530	open	100% bare earth
6550	open	*M. striata, A. scabra, A. gracilis,* 90% bare earth
5460	dense	*M. striata, A. scabra, A. humilis, E. marginata*
1550	open	*M. striata*
2200	dense	*M. striata, A. scabra, E. marginata*

APPENDIX 1 CONT. #25 (3/5) Trap point 3

1570	open	100% bare earth
11940	dense / runnel	*Melaleuca striata, Anarthria gracilis,*
		Anarthria scabra
1000	open	*A. scabra, A. gracilis*
17500	dense	*M. striata, A. scabra, Melaleuca thymoides*
1150	semi-open	*A. gracilis, M. striata, Agonis juniperina,*
		M. thymoides
27250	dense	*M. striata, A. juniperina, A. scabra,*
		Anarthria prolifera, A. gracilis
650	open	*A. scabra*
1400	dense	*M. striata, A. scabra*
1700	semi-open	*M. striata, A. scabra, M. thymoides*
9390	semi-open	*A. scabra, M. striata, A. gracilis, D. bromeliifolius,*
		A. prolifera
11980	dense	*M. striata, A. scabra, A. gracilis, D. bromeliifolius,*
		Allocasuarina fraseriana
3220	semi-open	*A. scabra, A. gracilis, M. striata*
2970	dense	*M. striata, A. scabra, Agonis hypericifolia*
6700	semi-open	*A. fraseriana, M. striata, A. hypericifolia*
3930	dense	*A. scabra, A. gracilis, M. striata*
5290	semi-open / runnel	*A. scabra, M. striata, A. juniperina*
1580	dense / runnel	*A. scabra, M. striata*
4280	dense	*A. scabra, M. striata, Daviesia sp.*
1200	open	100% bare earth
1100	dense	*A. scabra, M. striata, A. juniperina, A. prolifera*
2470	semi-open	*A. scabra, A. gracilis, D. bromeliifolius*
2670	open	*A. scabra*
4650	dense / runnel	*M. striata, A. scabra, A. prolifera, M. thymoides*
5530	open	*A. gracilis, A. scabra, D. bromeliifolius, M. striata*
6620	dense	*M. striata, A. juniperina, A. scabra, D. bromeliifolius,*
		A. gracilis, Leucopogon obovatus
4850	open	*A. fraseriana, L. obovatus, A. gracilis, A. scabra,*
		Eucalyptus marginata, A. hypericifolia
6840	dense / runnel	*A. fraseriana, A. scabra, M. striata*
2020	semi-open	*Dryandra formosa, D. bromeliifolius, M. striata*
4330	dense / runnel	*M. striata, A. juniperina, L. obovatus, A. scabra,*
		A. gracilis
1620	semi-open	*A. scabra, M. striata, M. thymoides*
2150	dense / runnel	*A. scabra, M. striata, A. gracilis*
3790	semi-open	*M. striata, A. scabra, A. prolifera*
4900	dense	*A. scabra, M. striata, A. fraseriana, A. hypericifolia,*
		Banksia grandis
650	open	*A. scabra*
1100	semi-open	*A. scabra, A. fraseriana, A. hypericifolia, M. striata*

APPENDIX 1 CONT. #25 (3/5) Trap point 3

4430	semi-open	*A. scabra, A. gracilis, E. marginata*
5100	dense	*M. striata, A. scabra, A. prolifera*
16000	semi-open	*A. juniperina, L. obovatus, D. formosa, A. scabra, A. gracilis*
2300	semi-open	*M. striata, A. gracilis, Eucalyptus calophylla, A. juniperina, Xanthorrhoea sp.*
8720	dense	*A. scabra, A. juniperina, E. calophylla*
1100	open	*A. scabra*
3500	open	*A. scabra, A. gracilis*
600	dense / runnel	*A. scabra*
840	open	*A. gracilis, A. scabra*
4200	semi-open	*A. gracilis, M. striata*
3400	semi-open	*A. scabra, A. gracilis, M. striata*
5400	dense / runnel	*A. scabra, A. gracilis, M. striata*
4150	open	*D. bromeliifolius, A. scabra, A. gracilis, E. calophylla*
3930	semi-open	*M. striata, A. scabra, A. gracilis, M. thymoides, A. prolifera*
560	open	*A. scabra*
6650	semi-open	*L. obovatus, M. striata, A. hypericifolia, A. fraseriana*
8000	open	*E. marginata, A. fraseriana, A. scabra, A. hypericifolia, D. bromeliifolius*
16000	open	*A. fraseriana, A. scabra*
24000	open	*A. fraseriana, A. scabra, A. gracilis*
4870	open	*A. scabra, D. bromeliifolius, A. fraseriana*

400	open	*Anarthria scabra, Anarthria gracilis*
2400	dense / runnel	*A. scabra, A. gracilis, Xanthorrhoea sp., Eucalyptus marginata*
1200	semi-open	*E. marginata, A. gracilis*
4730	dense / runnel	*Agonis juniperina, A. scabra, Melaleuca striata, A. scabra, A. gracilis*
2100	semi-open	*A. scabra, M. striata, E. marginata*
3400	semi-open	*Anarthria prolifera, A. gracilis, M. striata, Acacia leioderma, Banksia grandis, A. juniperina, Melaleuca thymoides*
4000	dense	*A. juniperina, M. striata, M. thymoides, A. scabra*
3900	open	*A. juniperina, M. striata, Hibbertia furfuracea, A. scabra, A. gracilis*
2800	dense	*M. striata, A. juniperina, A. scabra*
3250	semi-open	*A. prolifera, A. scabra, A. gracilis, M. striata, A. juniperina*
1860	semi-open / runnel	*Dasypogon bromeliifolius, A. scabra, A. leioderma*
2080	dense	*A. scabra, A. juniperina, Pteridium esculentum*
4280	open	*E. marginata, P. esculentum, A. juniperina*
2640	dense / runnel	*A. scabra, A. juniperina, Eucalyptus megacarpa*
2270	dense / runnel	*A. scabra, E. marginata, A. juniperina*
1470	semi-open	*A. scabra, A. juniperina, A. prolifera*
1100	dense	*A. prolifera, A. scabra*
3690	open	*P. esculentum, A. juniperina, E. marginata, A. leioderma*
1330	dense	*A. prolifera, A. scabra, A. leioderma, Tremandra stelligera, P. esculentum, Agonis flexuosa, A. juniperina*
2220	open	*A. prolifera, A. leioderma, T. stelligera, A. flexuosa, A. juniperina, P. esculentum, E. marginata*
3560	dense	*A. juniperina, A. scabra, H. furfuracea, Xanthorrhoea sp.*
1430	semi-open	*A. gracilis, A. prolifera, A. juniperina*
960	dense	*A. scabra, M. striata*
2300	semi-open	*Xanthorrhoea sp.*
2340	dense	*Hakea eliptica, E. marginata, T. stelligera*
1200	open	*E. marginata, A. scabra, P. esculentum, A. gracilis*
840	dense	*A. scabra, E. marginata, P. esculentum*
700	open	*A. scabra, E. marginata*
2100	semi-open	*H. furfuracea, Gastrolobium bilobum*
2360	semi-open	*A. flexuosa, A. leioderma, A. scabra, A. gracilis, G. bilobum, A. juniperina*
2820	semi-open	*A. juniperina, B. grandis, E. marginata, H. eliptica, A. gracilis*
1260	dense	*A. juniperina, E. marginata, A. gracilis, H. eliptica, B. grandis*
5620	semi-open	*Xanthorrhoea sp., A. scabra, A. juniperina, E. marginata, Allocasuarina fraseriana, G. bilobum*
3150	semi-open	*A. gracilis, A. leioderma, P. esculentum, T. stelligera,*

APPENDIX 1 CONT. #25 (9/5) Trap point 5

		E. marginata
3060	dense	*A. gracilis, Xanthorrhoea* sp., *E. marginata, A. juniperina*
3750	semi-open	*A. scabra, A. gracilis, A. juniperina*
2800	semi-open	*A. scabra, E. marginata, A. fraseriana, A. juniperina, Hakea ruscifolia*
3500	dense	*Xanthorrhoea sp., A. scabra*
1500	open	*A. scabra, A. juniperina*
720	dense	*H. furfuracea, A. scabra, A. flexuosa*
1280	open	*A. scabra,* 90% bare earth
5250	dense	*H. eliptica, A. prolifera, A. leioderma*
4250	semi-open	*G. bilobum, A. juniperina, A. scabra, A. gracilis, A. prolifera*

5240	open	*Anarthria scabra, Anarthria gracilis,* 90% bare earth
1860	semi-open	*Melaleuca striata*
1930	open	*Eucalyptus marginata,* 90% bare earth
2400	dense	*A. scabra, Melaleuca thymoides, M. striata*
1970	semi-open / runnel	*A. scabra, M. thymoides*
6800	dense	*M. striata, A. scabra, A. gracilis*
1380	open	*M. striata*
4110	semi-open	*M. striata, A. gracilis, Dasypogon bromeliifolius,*
		Allocasuarina fraseriana, A. scabra
2340	semi-open	*A. fraseriana*
910	semi-open	*A. scabra, A. gracilis, A. fraseriana*
1000	dense	*M. striata*
2500	open	*A. fraseriana*
9800	open	100% bare earth
3800	semi-open	*M. striata, A. scabra*
8000	open	*D. bromeliifolius,* 95% bare earth
1180	semi-open	*M. striata, A. gracilis, A. scabra*
1050	open	*A. gracilis, A. scabra,* 95% bare earth
1380	semi-open	*M. striata*
11800	open	*E. marginata*
4820	dense	*M. striata, A. scabra, D. bromeliifolius,*
		Adenanthos cuneatus
10680	open	*M. striata, A. scabra, 80% bare earth*
1580	semi-open	*M. striata, A. cuneatus, A. scabra, A. gracilis*
3400	semi-open	*A. scabra, M. striata*
1980	open	*A. scabra*
3000	dense / runnel	*M. striata, A. scabra*
1000	semi-open	*Agonis juniperina*
5600	dense	*M. striata, A. scabra, D. bromeliifolius,*
		A. fraseriana
1760	semi-open	*A. scabra*
3400	semi-open	*A. scabra, M. striata, A. fraseriana*
1300	semi-open	*A. scabra, A. gracilis*
3000	dense	*M. striata, A. scabra*
1300	semi-open	*A. fraseriana, A. scabra*
3860	dense	*M. striata, A. scabra*
1050	open	*100% bare earth*
6510	semi-open	*M. striata, A. scabra, A. gracilis, A. fraseriana*
990	semi-open	*A. gracilis, A. fraseriana*
1040	dense	*M. striata, A. scabra, A. gracilis*
700	semi-open	*A. scabra*
3670	dense	*M. striata, A. scabra, A. gracilis*
1000	semi-open	*A. fraseriana, A. scabra*
1000	dense	*M. striata, A. scabra, M. thymoides*
1690	open	*A. scabra, A. gracilis*
16000	dense	*M. striata, M. thymoides, A. scabra, A. juniperina*
2770	open	*Banksia grandis, Hakea ruscifolia, M. striata*
2450	dense	*M. striata, A. fraseriana*
1880	semi-open	*A. fraseriana*

2650	dense	*M. striata, B. grandis, A. fraseriana*
1360	semi-open	*A. fraseriana, Isopogon longifolius*
1490	semi-open	*M. striata, A. gracilis*

12440	open	*Allocasuarina fraseriana, Anarthria scabra,*
		80% bare earth
2720	semi-open	*Melaleuca striata, A. scabra*
5850	open	*A. scabra, Dasypogon bromeliifolius, 85% bare earth*
3600	semi-open	*M. striata, A. scabra*
2630	open	*A. scabra, A. fraseriana*
4230	semi-open	*M. striata, A. fraseriana*
3920	open	*A. fraseriana*
1670	dense	*M. striata*
2760	semi-open	*A. fraseriana*
1590	open	*A. scabra, Anarthria gracilis*
3960	dense	*M. striata, A. scabra, A. gracilis*
2400	open	*A. scabra,* 50% bare earth
2980	semi-open	*A. fraseriana*
1940	dense / runnel	*A. scabra, D. bromeliifolius, M. striata*
12380	semi-open	*A. scabra, A. gracilis, D. bromeliifolius, M. striata,*
		Eucalyptus marginata, Agonis juniperina
4160	semi-open	*A. scabra, A. gracilis, A. juniperina, E. marginata*
8000	open	*A. scabra, A. gracilis, M. striata, A. fraseriana,*
		E. marginata, Banksia grandis, Xanthorrhoea sp.
19380	semi-open	*Hakea ruscifolia, B. grandis, A. juniperina, A. scabra,*
		A. gracilis
13970	semi-open	*A. fraseriana, Eucalyptus calophylla, B. grandis*
7820	dense	*Agonis hypericifolia, E. marginata, A. scabra,*
		A. gracilis, E. calophylla
4440	semi-open	*E. calophylla*
8320	open	*A. hypericifolia, E. marginata, A. scabra*
3100	open	*Xanthorrhoea sp., Hakea eliptica, A. hypericifolia,*
		A. gracilis
1360	semi-open / runnel	*A. gracilis, A. hypericifolia*
1790	open	*E. marginata, A. scabra*
1300	semi-open / runnel	*A. scabra*
3200	semi-open	*A. juniperina, E. calophylla*
6370	semi-open	*E. calophylla, Xanthorrhoea sp., A. hypericifolia,*
		A. gracilis
6630	semi-open	*E. marginata, Xanthorrhoea sp., Bossiaea* sp.
5000	semi-open	*A. fraseriana*
800	dense / runnel	*A. scabra*
5400	dense	*A. fraseriana, A. scabra*
11570	open	*A. scabra, Xanthorrhoea sp., E. marginata,*
		A. juniperina
3600	semi-open	*M. striata, A. hypericifolia*
1420	dense / runnel	*A. scabra*
6350	open	*A. scabra,* 90% bare earth
1500	semi-open	*A. hypericifolia, E. marginata*
27200	open	*A. scabra, A. hypericifolia, A. fraseriana, B. grandis,*
		E. marginata
4100	semi-open	*E. calophylla, A. scabra*

750	semi-open	*Anarthria gracilis*
3140	dense	*Melaleuca striata, Anarthria scabra, A. gracilis*
6060	open	*A. scabra, Eucalyptus marginata, Adenanthos cuneatus, Allocasuarina fraseriana,* 50% bare earth
2760	open	*A. fraseriana, A. scabra*
2330	open	80% bare earth
1200	dense	*M. striata, A. scabra, A. gracilis, Melaleuca thymoides, Dasypogon bromeliifolius*
1740	semi-open	*D. bromeliifolius*
1270	open	*A. gracilis,* 90% bare earth
980	semi-open / runnel	*A. scabra*
1610	semi-open	*M. striata*
1370	dense	*M. striata, A. scabra, A. gracilis, Anarthria prolifera*
1100	semi-open	*A. fraseriana*
3200	dense	*M. striata, A. scabra, A. gracilis, M. thymoides, A. prolifera*
1140	semi-open	*A. fraseriana, A. scabra, A. gracilis, M. striata*
2900	dense	*M. striata, A. scabra, Agonis hypericifolia, A. prolifera*
3300	semi-open / runnel	*A. scabra, A. gracilis, A. fraseriana*
1890	dense / runnel	*M. striata, A. scabra, A. gracilis, A. hypericifolia*
1090	semi-open	*M. striata*
4000	dense / runnel	*M. striata, A. scabra, A. gracilis, M. thymoides*
1550	semi-open	*A. scabra, A. juniperina, M. thymoides*
4600	dense	*M. striata, A. scabra*
1320	open	*A. scabra, A. gracilis*
6540	dense	*A. scabra, A. gracilis, M. striata*
1000	dense	*A. fraseriana, A. scabra, A. gracilis, A. hypericifolia*
7000	semi-open	*Eucalyptus calophylla, M. striata, A. scabra, Agonis juniperina*
1680	dense / runnel	*A. scabra, E. calophylla*
900	semi-open	*E. calophylla, A. gracilis*
9600	dense	*M. striata, A. hypericifolia, A. scabra*
1310	dense	*A. scabra, A. gracilis*
2230	semi-open	*A. scabra, M. striata*
600	open	*A. gracilis, D. bromeliifolius*
3830	open	*A. scabra, A. gracilis, D. bromeliifolius*
5050	semi-open / runnel	*A. scabra, M. striata*
2600	semi-open	*A. scabra, A. gracilis*
10400	dense	*M. striata, A. scabra, A. juniperina*
2560	semi-open	*M. striata*
1800	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis*
860	semi-open	*D. bromeliifolius, A. gracilis*
1410	dense	*M. striata, A. scabra, D. bromeliifolius*
1300	semi-open	*A. scabra*
3350	dense	*M. striata, A. scabra*
2670	semi-open	*M. striata, A. scabra, A. gracilis*
3560	dense	*M. striata, A. scabra*
990	dense	*A. scabra*

6100	dense	*M. striata, A. scabra, D. bromeliifolius*
5560	semi-open	*M. striata, A. scabra*
2640	dense	*M. striata, A. scabra*
6060	open	*A. scabra, A. gracilis*
1950	dense	*M. striata, A. scabra, D. bromeliifolius*
4070	semi-open	*M. striata, M. thymoides*
1160	dense	*M. striata, A. scabra, A. gracilis*
4770	open	100% bare earth
2120	dense / runnel	*A. scabra*
3970	open	*A. scabra*, 95% bare earth
3060	semi-open	*M. striata, A. gracilis, D. bromeliifolius*
8200	open	*M. striata, A. gracilis, A. scabra*
3440	semi-open	*M. striata, A. scabra, A. gracilis, D. bromeliifolius, A. prolifera*
990	open	100% bare earth
2500	semi-open	*M. striata, A. juniperina, A. scabra, A. gracilis*
38590	open	*A. scabra, A. gracilis, D. bromeliifolius, M. striata*
1360	dense / runnel	*M. striata, A. scabra*
28830	open	*A. fraseriana, A. hypericifolia, A. scabra*
1480	semi-open / runnel	*A. scabra, M. striata, A. hypericifolia*
13230	open	*A. scabra, A. gracilis*
4180	semi-open	*M. striata, A. scabra,*
3600	open	100% bare
6300	semi-open	*A. scabra, A. gracilis, M. striata*
9300	open	*A. scabra*, 80% bare earth
1000	semi-open / runnel	*D. bromeliifolius*
14380	open	*A. scabra, A. gracilis, D. bromeliifolius, M. striata*
500	dense / runnel	*D. bromeliifolius, A. scabra, M. striata*
16000	open	*A. juniperina, A. scabra*
3000	semi-open	*D. bromeliifolius, A. scabra, M. striata, A. fraseriana*
10000	open	*A. fraseriana, A. scabra, A. hypericifolia*

840	open	100% bare earth
1910	semi-open	*Anarthria scabra, Anarthria gracilis*
1210	open	100% bare earth
2600	dense / runnel	*A. scabra, Melaleuca striata, Anarthria prolifera*
820	semi-open	*A. scabra, Dasypogon bromeliifolius*
3930	semi-open	*A. scabra, M. striata*
3170	dense	*M. striata*
2750	open	*A. scabra, 90% bare earth*
1690	semi-open	*A. scabra, A. gracilis*
4400	dense	*A. scabra, M. striata, Agonis hypericifolia,*
		Allocasuarina fraseriana
4710	semi-open	*Eucalyptus marginata, Xanthorrhoea* sp., *A. scabra*
4850	open	*M. striata*
2020	dense / runnel	*A. gracilis, E. marginata, A. fraseriana*
16200	open	*M. striata, A. scabra, A. gracilis,* 80% bare earth
3380	dense	*M. striata, D. bromeliifolius,*
3870	semi-open	*A. fraseriana, Xanthorrhoea* sp., *Eucalyptus calophylla*
3400	semi-open / runnel	*A. scabra, E. marginata, M. striata*
8000	dense / runnel	*A. scabra, M. striata, A. hypericifolia*
1900	semi-open	*A. fraseriana, A. scabra, M. striata*
5340	dense	*A. scabra, M. striata, D. bromeliifolius*
4150	semi-open	*A. scabra, M. striata*
2720	open	*E. marginata, A. scabra*
2640	dense	*A. scabra, A. fraseriana, E. calophylla*
5380	dense / runnel	*A. scabra, M. striata, A. fraseriana*
7460	dense	*A. fraseriana, M. striata, A. hypericifolia*
3120	dense	*M. striata, A. scabra*
940	open	100% bare earth
1520	semi-open	*M. striata, Agonis juniperina*
1880	open	100% bare earth
3600	semi-open	*M. striata, A. gracilis, A. scabra*
27550	open	*A. scabra, A. gracilis, D. bromeliifolius,*
		50% bare earth
1200	semi-open	*Adenanthos cuneatus, A. scabra, A. fraseriana*
10670	open	100% bare earth
1500	semi-open	*A. fraseriana*
16000	open	100% bare earth
8200	semi-open	*E. marginata*
6500	open	*A. scabra, M. striata*
5250	semi-open	*M. striata, Daviesia sp., E. marginata*
21320	open	*M. striata, A. juniperina,* 80% bare earth
5730	semi-open	*M. striata, A. scabra, D. bromeliifolius*
960	open	*A. fraseriana*
6540	dense / runnel	*M. striata, A. scabra, A. fraseriana*
7160	dense	*M. striata, A. scabra, D. bromeliifolius*
3670	open	*A. scabra*
4500	semi-open	*A. cuneatus, E. marginata, M. striata*
3680	semi-open	*A. scabra, M. striata, D. bromeliifolius*
1720	open	100% bare earth

4330	dense	*M. striata, A. scabra, A. prolifera, A. fraseriana*
8000	open	*A. scabra,* 60% bare earth
1870	semi-open / runnel	*A. scabra, A. fraseriana*
3700	open	*A. gracilis, A. scabra, M. striata*
6510	dense	*A. scabra, M. striata*
3000	dense	*M. striata, A. scabra, A. gracilis*
2530	dense	*M. striata*
1500	semi-open	*M. striata, A. scabra, A. gracilis*
5260	open	*A. scabra, D. bromeliifolius, A. gracilis,*
		Banksia attenuata
3800	semi-open	*E. marginata, M. striata, Hakea eliptica, A. scabra,*
		A. gracilis
5250	dense	*H. eliptica, A. gracilis*
24100	open	*E. marginata, H. eliptica,* 60% bare earth
26100	open	*A. fraseriana, M. striata,* 80% bare earth

6000	dense	*Melaleuca striata, Anarthria scabra, Dasypogon bromellifolius,*
		Isopogon longifolius
2300	open	*A. scabra, Anarthria gracilis,* 90% bare earth
5500	dense	*M. striata, A. scabra, A. gracilis, D. bromeliifolius,*
		Allocasuarina humilis
3900	semi-open	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
11800	open	*M. striata, Eucalyptus marginata, A. scabra,*
		Allocasuarina fraseriana , 60% bare earth
2900	dense	*M. striata, A. scabra, A. gracilis, D. bromeliifolius*
2600	open	*A. scabra, A. gracilis, M. striata*
1100	dense	*M. striata, A. scabra, A. gracilis*
1100	open	*A. scabra, D. bromeliifolius*
2300	dense	*M. striata, A. scabra, Adenanthos cuneatus, A. gracilis*
1700	open	100% bare earth
3400	dense	*A. cuneatus, M. striata, D. bromeliifolius, A. gracilis, A. scabra*
1800	dense	*A. fraseriana*
6100	open	*D. bromeliifolius, A. gracilis, A. scabra,* 30% bare earth
4500	semi-open	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
4500	open	*D. bromeliifolius, M. striata, A. scabra, A. gracilis*
3200	semi-open	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
2800	semi-open	*A. scabra, D. bromeliifolius, A. gracilis*
1100	dense	*M. striata, A. scabra*
2600	open	*M. striata, A. scabra, A. gracilis*
4200	dense	*A. fraseriana, M. striata, A. scabra, D. bromeliifolius*
2100	dense	*A. scabra, A. gracilis, M. striata*
1400	dense	*M. striata, A. scabra, A. gracilis*
2300	semi-open	*D. bromeliifolius, A. scabra, M. striata*
2700	open	*A. scabra*
8900	dense	*M. striata, E. marginata, A. scabra, A. gracilis*
3100	dense	*A. scabra, A. prolifera, A. gracilis*
2000	dense	*M. striata, A. scabra, A. gracilis*
2000	semi-open	*A. scabra, A. gracilis, D. bromeliifolius*
8300	dense	*M. striata, A. cuneatus, E. marginata*
2600	dense	*M. striata, A. scabra, A. cuneatus*
3500	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis*
4300	dense	*A. fraseriana, A. scabra, A. hypericifolia*
1500	dense	*M. striata, A. scabra, A. gracilis, A. hypericifolia*
5100	semi-open	*M. striata, M. thymoides, A. scabra, A. cuneatus*
6100	open	*A. scabra, A. gracilis, M. thymoides, A. hypericifolia,*
		Banksia attenuata, I. longifolius
4000	semi-open	*A. scabra, Petrophile* sp.
5100	semi-open	*Bossiaea* sp., *Petrophile* sp., *A. hypericifolia, M. thymoides,*
		A. juniperina, E. marginata, A. scabra, A. prolifera
5000	semi-open	*E. marginata, Bossiaea* sp., *A. hypericifolia, A. fraseriana,*
		H. eliptica, Gastrolobium bilobum, A. scabra, A. prolifera
6500	dense	*Xanthorrhoea* sp., *Banksia grandis, A. juniperina,*
		A. scabra, A. gracilis, A. prolifera, E. marginata, E. calophylla,
		Acacia leioderma, H. eliptica, Bossiaea sp., *A. hypericifolia,*
8400	semi-open	*E. calophylla, Xanthorrhoea* sp., *A. scabra, A. gracilis,*

		A. leioderma, A. juniperina
7300	dense	*Eucalyptus megacarpa, G. bilobum, A. hypericifolia,*
		A. fraseriana, H. eliptica, A. gracilis, Xanthorrhoea sp.,
		A. scabra
5800	dense	*A. fraseriana, M. striata, A. juniperina, A. scabra, A. gracilis*
1600	dense	*M. striata, A. scabra, A. gracilis, A. hypericifolia, Bossiaea* sp.,
		A. juniperina
3800	dense	*A. fraseriana, M. striata*
1900	open	*A. hypericifolia, A. gracilis, D. bromeliifolius*
2000	dense	*M. striata, A. scabra, A. gracilis, D. bromeliifolius, E. marginata*
700	open	*A. scabra,* 90% bare earth
10600	dense	*M. striata, A. scabra, A. gracilis, D. bromeliifolius,*
		I. longifolius, Daviesia sp.
600	open	100% bare earth
1700	dense	*M. striata, A. scabra, A. gracilis*
11300	open	*A. scabra, D. bromeliifolius,* 60% bare earth, *M. striata,*
		A. hypericifolia, Daviesia sp.
1100	dense	*M. striata, A. gracilis*
1800	semi-open	*M. striata, A. gracilis, A. hypericifolia, A. scabra*
5300	open	*A. scabra, D. bromeliifolius,* 50% bare earth
4900	semi-open	*M. striata, D. bromeliifolius, A. scabra, A. hypericifolia,*
		A. cuneatus
3300	dense	*M. striata, A. scabra, A. gracilis*
1300	open	*A. scabra,* 90% bare earth
5800	semi-open	*M. striata, A. gracilis, A. scabra, M. thymoides, E. marginata*
1200	dense	*A. scabra, E. marginata, M. striata, A. gracilis*
4200	dense	*Agonis flexuosa, A. scabra*
5500	dense	*M. striata, A. scabra, A. gracilis*
6500	semi-open	*A. scabra, D. bromeliifolius, M. striata, Daviesia* sp.,
		E. marginata
2900	open	*A. scabra, A. gracilis, Daviesia* sp., 40% bare earth
4500	semi-open	*M. striata, A. scabra, A. prolifera, A. gracilis*
8300	open	*A. scabra, Chorizema reticulatum, A. fraseriana*
1500	semi-open	*M. striata, A. hypericifolia, A. fraseriana, A. scabra, A. gracilis,*
		D. bromeliifolius, M. thymoides
1500	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis,*
		D. bromeliifolius, M. thymoides
2100	semi-open	*M. striata, A. hypericifolia, A. scabra, D. bromeliifolius,*
		A. gracilis
1600	dense	*A. fraseriana, M. striata, A. scabra*
2200	dense	*M. striata, A. scabra, A. gracilis, A. fraseriana*
1600	open	*Daviesia sp., A. hypericifolia, A. scabra*
3600	dense	*M. thymoides, M. striata, A. scabra, A. gracilis*
10700	semi-open	*M. striata, A. hypericifolia, M. thymoides, A. cuneatus,*
		A. scabra, A. prolifera, A. gracilis, E. marginata, A. fraseriana
2400	dense	*M. striata*
4700	dense	*M. striata, A. hypericifolia, M. thymoides, A. juniperina*
3000	semi-open	*A. humilis, M. striata, A. hypericifolia, A. scabra*
1900	open	*A. hypericifolia, I. longifolius,* 80% bare earth

5800	dense	*M. striata, Conospermum caeruleum, A. scabra, A. prolifera, A. humilis, E. marginata, A. juniperina*
2700	open	*A. hypericifolia, A. scabra*
8000	dense	*M. striata, A. scabra, A. gracilis, M. thymoides, A. juniperina*
6000	semi-open	*E. marginata, M. thymoides, A. scabra, A. juniperina*
2700	dense	*M. striata, A. scabra, A. gracilis, A. humilis*
11800	semi-open	*M. striata, A. scabra, A. gracilis, M. thymoides, Daviesia sp.*
2000	open	*A. scabra, A. gracilis, M. striata*

16400	dense	*Melaleuca striata, Anarthria scabra, Anarthria gracilis,*
		Anarthria prolifera
3300	semi-open	*A. scabra, Dasypogon bromeliifolius, Agonis juniperina,*
		Allocasuarina fraseriana
3800	dense	*M. striata, A. scabra, A. gracilis, A. prolifera, Acacia leioderma*
8000	semi-open	*A. juniperina, Eucalyptus marginata, A. scabra, A. gracilis,*
		D. bromeliifolius, M. striata
8000	dense	*M. striata, A. scabra, A. gracilis, E. marginata*
1900	dense	*Leucopogon obovatus, A. prolifera, A. scabra*
11700	semi-open	*E. marginata, A. scabra, A. gracilis, A. juniperina, L. obovatus*
3700	semi-open	*A. fraseriana, A. juniperina, A. leioderma, A. scabra,*
		Xanthorrhoea sp.
		crosses small stream
14700	semi-open	*Gastrolobium bilobum, A. juniperina, A. leioderma, A. prolifera,*
		A. scabra, Hypocalymma sp.
3600	open	*Agonis marginata,* granite outcrop (10 m x 20m)
9000	semi-open	*A. marginata, A. gracilis*
5800	open	*E. marginata, Eucalyptus cornuta, Eucalyptus megacarpa,*
		A. gracilis, A. juniperina, Gastrolobium lanceolatum
8000	dense	*A. scabra, A. gracilis, L. obovatus, A. juniperina, E. megacarpa*
16000	dense	*E. marginata, A. flexuosa, Hibbertia furfuracea, G. bilobum,*
		A. juniperina, A. scabra, Tremandra stelligera
8000	dense	*E. marginata, A. flexuosa, H. furfuracea, A. juniperina,*
		T. stelligera, Xanthorrhoea sp., Pteridium esculentum,
		L. obovatus
13400	dense	*A. scabra, T. stelligera, H. furfuracea, A. leioderma,*
		P. esculentum, E. marginata, A. juniperina, E. megacarpa,
		A. fraseriana
1600	open	*E. megacarpa, A. prolifera*
8000	dense	*H. furfuracea, A. scabra, A. juniperina, A. prolifera*
7500	dense	*H. furfuracea, A. scabra, G [illegible]obum, A. juniperina,*
		E. marginata, T. stelligera
		crosses another stream
8000	dense	*G. bilobum, A. juniperina, A. scabra, A. gracilis, E. marginata,*
		A. hypericifolia
9000	open	*A. juniperina, G. bilobum*
7000	semi-open	*A. juniperina, G. bilobum*
2700	dense	*A. hypericifolia, A. scabra, A. juniperina, E. marginata,*
		A. leioderma, G. bilobum
4400	dense	*A. scabra, A. gracilis, A. juniperina, E. marginata*
1000	open	*E. marginata,* 95% bare earth
2000	dense	*A. scabra*
2900	dense	*A. scabra, A. prolifera, A. juniperina, A. hypericifolia,*
		Xanthorrhoea sp., *A. leioderma, H. eliptica*
2400	semi-open	*A. scabra, A. gracilis, A. prolifera, E. marginata, Daviesia sp.,*
		A. juniperina
6400	dense	*A. scabra, A. gracilis, A. prolifera, E. marginata, Daviesia sp.,*
		A. juniperina
3700	open	*E. marginata, Daviesia sp., A. scabra, G. bilobum, E. calophylla*

1000	dense	*A. juniperina, A. scabra, A. gracilis*
2300	open	*Daviesia* sp., open firebreak track
3100	open	*Daviesia* sp., *A. scabra*
7400	semi-open	*A. juniperina, P. esculentum, H. furfuracea, A. prolifera,*
		A. scabra, E. marginata, A. gracilis, A. leioderma
12700	dense	*E. marginata, A. scabra, A. prolifera, A. juniperina, Hakea varia,*
		G. bilobum
2100	semi-open	*Banksia grandis, E. marginata, A. scabra, A. prolifera,*
		Leucopogon propinquus
8000	dense	*A. scabra, E. marginata, Hakea ruscifolia, L. propinquus,*
		A. juniperina, H. eliptica, Pultenaea reticulata, A. hypericifolia
3500	dense	*A. scabra, A. juniperina, A. hypericifolia*
3800	dense	*E. marginata, L. obovatus, A. scabra*
4400	dense	*A. scabra, H. eliptica, A. leioderma*
16000	dense	*E. marginata, B. grandis, P. reticulata, L. obovatus, A. leioderma,*
		H. varia, A. scabra
10000	dense	*Xanthorrhoea sp., A. scabra, A. prolifera, P. reticulata,*
		E. marginata, A. juniperina
1700	dense	*A. fraseriana, A. gracilis, A. hypericifolia*
8000	semi-open	*A. juniperina, H. eliptica, Dryandra formosa, A. scabra,*
		A. gracilis, E. marginata, A. hypericifolia, A. leioderma,
		G. lanceolatum
24000	dense	*H. eliptica, E. marginata, A. scabra, A. prolifera, A. hypericifolia,*
		E. calophylla, L. obovatus, Xanthorrhoea sp., D. formosa
23100	dense	*E. marginata, E. calophylla, A. prolifera, A. hypericifolia,*
		Boronia gracilipes, Leucopogon verticillatus, H. furfuracea,
		Xanthorrhoea sp.
7000	semi-open	*E. marginata, E. calophylla, H. furfuracea, A. gracilis, H. eliptica,*
		D. formosa

APPENDIX 2 CONT. East Transect from Trap point 3

1300	open	*Anarthria scabra, Anarthria prolifera*
4400	dense	*Melaleuca striata, A. scabra, Anarthria gracilis, Dasypogon bromeliifolius*
1300	open	*A. gracilis, A. scabra, 70% bare earth*
2300	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
400	open	*D. bromeliifolius*
4900	semi-open	*D. bromeliifolius, M. striata, A. scabra, A. prolifera*
2800	dense	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
1500	semi-open	*M. striata, Petrophile* sp., *A. gracilis, A. scabra, Adenanthos cuneatus*
3000	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
3200	semi-open	*M. striata, A. scabra, A. prolifera, A. gracilis*
900	open	*A. scabra, A. gracilis, Petrophile* sp.
1400	semi-open	*M. striata, A. scabra, Leucopogon obovatus*
2100	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
1900	semi-open	*M. striata, A. scabra, A. gracilis*
1400	open	*A. scabra, A. gracilis, A. prolifera, M. striata*
1600	semi-open	*M. striata, A. prolifera, Petrophile* sp.
3400	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
300	open	*A. scabra*
2300	dense	*M. striata, A. prolifera, A. scabra*
1100	semi-open	*M. striata, A. scabra, A. gracilis, Chorizema reticulatum*
5200	dense	*M. striata, A. scabra, A. gracilis*
2000	dense	*D. bromeliifolius, M. striata, A. scabra, A. juniperina*
1300	open	*Eucalyptus marginata, A. scabra*
2700	dense	*M. striata, A. scabra, A. prolifera, A. cuneatus*
3100	semi-open	*M. striata, A. scabra, A. gracilis, D. bromeliifolius, A. juniperina*
1500	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
4400	semi-open	*A. scabra, A. gracilis, M. striata, D. bromeliifolius, Petrophile* sp.
5100	semi-open	*M. striata, A. fraseriana, A. scabra, A. gracilis, A. prolifera*
1600	semi-open	*M. striata, A. scabra, A. gracilis, A. cuneata*
2900	dense	*M. striata, A. gracilis, A. scabra, Isopogon longifolius, A. juniperina*
2000	semi-open	*A. juniperina, M. striata, A. scabra*
2700	dense	*M. striata, A. scabra, D. bromeliifolius, A. gracilis, Daviesia* sp.
1900	dense	*M. striata, A. juniperina, Gastrolobium lanceolatum, A. scabra, Banksia grandis, D. bromeliifolius, I. longifolius*
5800	dense	*M. striata, A. scabra, A. juniperina, Hakea ruscifolia, Acacia leioderma*
1500	semi-open	*A. juniperina, M. striata, E. marginata, A. scabra*
3200	open	*A. fraseriana, Boronia gracilipes, H. ruscifolia*
2300	dense	*A. juniperina, M. striata, H. ruscifolia*
1700	dense	*E. marginata, H. ruscifolia, M. striata, A. scabra, A. prolifera*
3000	semi-open	*A. juniperina, A. leioderma, E. marginata*
3300	semi-open	*H. ruscifolia, A. gracilis, Xanthorrhoea* sp.
3500	semi-open	*M. striata, Agonis parviceps*
1100	open	*A. juniperina, A. gracilis*

APPENDIX 2 CONT. East Transect from Trap point 3

1500	open	*A. scabra, Gastrolobium bilobum*
3400	semi-open	*G. bilobum, E. marginata, A. scabra*
1600	dense	*Xanthorrhoea* sp., *E. marginata*
3000	open	*E. marginata, A. leioderma, A. juniperina*
2300	semi-open	*Hakea eliptica, Xanthorrhoea* sp., *A. gracilis, A. prolifera*
3600	semi-open	*G. bilobum, A. gracilis, A. prolifera, H. eliptica*
4700	open	*G. biiobum, A. gracilis*
1900	dense	*G. bilobum, A. scabra, A. gracilis*
6500	open	*G. bilobum, A. gracilis*
2500	semi-open	*G. bilobum, A. gracilis*
9700	semi-open	*G. bilobum, A. gracilis*
6200	semi-open	*Agonis marginata*
2300	semi-open	*A. marginata,* large granite outcrops in surrounding area
3100	dense	*A. marginata, A. gracilis*
4000	open	*L. obovatus, A. marginata*
4200	semi-open	*A. marginata, A. gracilis*
9500	dense	*A. gracilis, A. marginata, G. bilobum*
8200	open	*G. bilobum, Eucalyptus cornuta, A. gracilis*
8600	semi-open	*A. marginata*
8700	open	granite
20400	semi-open	*A. marginata, A. gracilis*
2600	dense	*L. obovatus, A. marginata, G. lanceolatum*
2300	semi-open	*A. marginata, A. gracilis*
2300	dense	*G. bilobum, Leucopogon parviflorus, A. gracilis*
13100	semi-open	*A. marginata, E. cornuta, G. bilobum*
2200	dense	*A. scabra, G. bilobum, A. marginata*
8700	dense	*A. juniperina, A. scabra, A. gracilis, Hakea ceratophylla*
2300	dense	*A. scabra, G. lanceolatum, H. ceratophylla*
4000	dense	*A. juniperina, A. scabra, H. ceratophylla, G. lanceolatum*
8700	dense	*G. bilobum, A. fraseriana, H. eliptica, A. scabra, A. gracilis*
1900	dense	*H. ceratophylla, G. bilobum, A. marginata, A. gracilis,*
		G. lanceolatum
7400	dense	*A. juniperina, A. scabra, H. eliptica*
3700	dense	*A. marginata, A. gracilis, A. juniperina*
5600	semi-open	*Xanthorrhoea* sp., *A. gracilis, A. juniperina*
5500	semi-open	*A. scabra, Eucalyptus megacarpa*
6600	dense	*H. eliptica, A. gracilis, A. prolifera*
2300	semi-open	*A. juniperina, A. gracilis*
2900	dense	*A. fraseriana, A. gracilis, A. prolifera*
3300	semi-open	*G. bilobum, A. gracilis*
3200	semi-open	*A. marginata, A. juniperina*
27800	open	open granite outcrop
4400	semi-open	*A. marginata, A. gracilis*
		END OF TRANSECT

APPENDIX 2 CONT. West Transect from Trap point 3

3900	dense	*Melaleuca striata, Anarthria scabra, Anarthria prolifera, Eucalyptus marginata*
800	open	*A. scabra, Dasypogon bromeliifolius, Agonis juniperina,* 40% bare earth
900	dense	*M. striata, A. scabra, A. prolifera*
700	open	*E. marginata, A. scabra, Petrophile* sp.
2850	dense	*M. striata*
1000	dense	*Hakea ruscifolia, A. scabra, A. prolifera*
2450	open	*Melaleuca thymoides, A. scabra, Anarthria gracilis, Isopogon longifolius*
4600	dense	*A. juniperina, M. striata, A. prolifera, A. scabra, Pultenaea reticulata*
1900	dense	*Allocasuarina fraseriana, M. striata*
3500	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
3900	semi-open	*M. striata, A. juniperina, A. gracilis, A. prolifera, A. scabra*
2350	open	*Leucopogon propinquus, E. marginata, A. scabra, D. bromeliifolius*
1900	dense	*A. prolifera, A. scabra, M. striata, A. juniperina*
3300	open	*E. marginata, A. prolifera, L. propinquus, Acacia leioderma, Tremandra stelligera,* 40% bare earth
1300	dense	*A. prolifera, A. scabra, A. juniperina*
400	semi-open	*A. juniperina, A. prolifera, A. scabra*
2500	dense	*A. prolifera, A. juniperina, D. bromeliifolius, M. striata*
400	open	*D. bromeliifolius,* 90% bare earth
3200	dense	*Leucopogon obovatus, A. juniperina, Pteridium esculentum, A. scabra, A. gracilis, A. prolifera, E. marginata*
2000	semi-open	*E. marginata, P. esculentum, A. leioderma, A. scabra, A. prolifera*
4100	dense	*A. scabra, P. esculentum, A. juniperina, T. stelligera, A. scabra, A. prolifera*
6300	dense	*E. marginata, A. juniperina, A. scabra, P. esculentum, A. leioderma, Hypocalymma* sp., *Hibbertia furfuracea, L. propinquus*
8000	dense	*E. marginata, Eucalyptus megacarpa, A. juniperina, A. scabra, T. stelligera, H. furfuracea, A. leioderma*
4800	semi-open	*Agonis flexuosa, T. stelligera, P. esculentum, Gastrolobium bilobum, H. furfuracea*
8000	semi-open	*Xanthorrhoea* sp., *P. esculentum, T. stelligera, H. furfuracea, E. megacarpa, A. flexuosa*
3200	dense	*T. stelligera, E. megacarpa, P. flexuosa, Hakea varia, E. marginata*
17000	semi-open	*G. bilobum, A. leioderma, E. megacarpa, E. marginata, T. stelligera, P. esculentum, A. gracilis, Xanthorrhoea* sp.
15000	dense	*G. bilobum, A. leioderma, E. megacarpa, E. marginata,. H. furfuracea, T. stelligera, P. esculentum, A. gracilis, Xanthorrhoea* sp.
3150	semi-open	*P. flexuosa, H. furfuracea, T. stelligera, A. prolifera, Xanthorrhoea* sp.
8000	dense	*Agonis parviceps, H. furfuracea, A. prolifera, A. juniperina, P. flexuosa, P. esculentum*

APPENDIX 2 CONT. West Transect from Trap point 3

26000	dense	*H. furfuracea, P. flexuosa, E. megacarpa, P. esculentum, E. marginata*
1300	open	dry creek bed at bottom of gully
24000	dense	*H. furfuracea, A. scabra, E. megacarpa, P. flexuosa, A. gracilis, A. leioderma*
20250	dense	*H. furfuracea, A. scabra, E. megacarpa, Eucalyptus calophylla, T. stelligera, A. leioderma, A. gracilis*
1550	dense	*A. scabra, P. esculentum, P. flexuosa, H. furfuracea*
5450	open	*P. flexuosa, P. esculentum, H. furfuracea, T. stelligera*
3100	semi-open	*H. furfuracea, A. scabra, T. stelligera, P. esculentum, E. calophylla, L. obovatus*
14000	dense	*H. furfuracea, E. calophylla, P. flexuosa, Xanthorrhoea* sp., *Boronia gracilipes*
8000	dense	*A. juniperina, H. furfuracea, A. scabra, D. bromeliifolius, T. stelligera, A. gracilis*
2600	dense	*A. juniperina, A. hypericifolia, A. scabra, D. bromeliifolius*
5100	open	100% bare earth, firebreak track
4200	open	*D. bromeliifolius, A. juniperina, A. scabra, M. thymoides, A. prolifera*
3200	semi-open	*A. fraseriana, A. scabra*
3000	dense	*A. juniperina, A. scabra, A. prolifera, A. gracilis*
5150	semi-open	*A. fraseriana, A. juniperina, A. hypericifolia, A. leioderma, H. furfuracea*
4200	dense	*A. scabra, A. gracilis, A. hypericifolia, A. juniperina, M. thymoides, D. bromeliifolius*
5900	dense	*A. scabra, A. prolifera, E. marginata, A. hypericifolia, A. juniperina, M. thymoides, A. leioderma*
4300	semi-open	*Pultenaea reticulata, A. hypericifolia, A. leioderma, A. prolifera, A. scabra, M. thymoides, H. furfuracea, E. marginata*
2150	open	*E. marginata, A. juniperina, A. scabra,* 90% bare earth
3350	semi-open	*A. scabra, A. juniperina, A. hypericifolia, A. prolifera*
12750	semi-open	*E. marginata, A. scabra, A. prolifera, A. juniperina, A. hypericifolia, P. reticulata*
10200	semi-open	*E. marginata, A. scabra, A. gracilis, A. hypericifolia, P. reticulata, M. thymoides, A. juniperina, Xanthorrhoea* sp., *A. leioderma, G. bilobum, L. obovatus*
1100	dense	*Hakea ceratophylla, A. scabra, A. prolifera*
5300	semi-open	*A. juniperina, A. hypericifolia, A. scabra, A. gracilis, D. bromeliifolius, A. prolifera, E. marginata, A. fraseriana*
2800	dense	*H. ceratophylla, A. juniperina, A. scabra, A. prolifera, Xanthorrhoea* sp., *H. ruscifolia*
3200	semi-open	*A. fraseriana, A. hypericifolia*
9650	semi-open	*A. hypericifolia, E. marginata, M. thymoides, A. gracilis, A. scabra, Xanthorrhoea* sp., *H. ceratophylla, P. reticulata*
8500	open	*E. marginata, M. thymoides, A. scabra,* 60% bare earth
5650	semi-open	*A. juniperina, A. scabra, A. gracilis, E. marginata, Xanthorrhoea* sp.
10600	semi-open	*E. calophylla, A. prolifera, A. scabra, A. hypericifolia, G. lanceolatum, A. leioderma, P. reticulata*

APPENDIX 2 CONT. West Transect from Trap point 3

2050	semi-open	*Dryandra formosa, Xanthorrhoea* sp., *E. marginata, A. hypericifolia, A. juniperina, A. prolifera*

1000	open	*Anarthria scabra*
2000	semi-open	*Melaleuca striata, Acacia leioderma, A. scabra, Anarthria gracilis*
600	dense	*M. striata, A. scabra, Anarthria prolifera*
1700	semi-open	*A. fraseriana, M. striata, A. scabra*
1200	open	*A. scabra, M. striata, A. gracilis*
3350	dense	*M. striata, Dasypogon bromeliifolius, A. scabra*
2500	dense	*D. bromeliifolius, A. scabra*
1100	semi-open	*A. scabra, M. striata*
5800	open	*A. scabra,* 80% bare earth
5550	dense	*M. striata, D. bromeliifolius, A. scabra, A. gracilis*
11350	open	*A. scabra, D. bromeliifolius,* 80% bare earth
6200	semi-open	*M. striata, A. scabra, D. bromeliifolius*
1200	open	*A. scabra, D. bromeliifolius*
4600	semi-open	*M. striata, A. gracilis, A. scabra, D. bromeliifolius*
900	semi-open	*Allocasuarina fraseriana, Isopogon longifolius*
3700	dense	*M. striata, A. scabra, A. gracilis, Petrophile sp., A. prolifera, Daviesia* sp.
1800	open	*A. scabra, Adenanthos cuneatus, D. bromeliifolius, M. striata*
2500	semi-open	*M. striata, D. bromeliifolius, A. scabra*
2150	open	*M. striata, A. scabra, A. gracilis, Leucopogon propinquus*
4900	dense	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
1000	open	*A. gracilis, A. scabra, A. prolifera*
1950	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
2000	open	*A. fraseriana, A. prolifera, A. scabra, Eucalyptus marginata*
9750	dense	*M. striata, A. scabra, A. cuneatus, A. prolifera, A. gracilis*
1500	dense	*A. scabra, D. bromeliifolius, M. striata*
3900	dense	*M. striata, A. prolifera, A. scabra, A. cuneatus*
2050	semi-open	*A. cuneatus, A. scabra, D. bromeliifolius*
4200	dense	*M. striata, A. scabra, A. gracilis, A. cuneatus, Agonis juniperina, Chorizema reticulatum*
2300	open	*A. scabra*
1200	semi-open	*A. juniperina, M. striata, Petrophile sp.*
900	open	*D. bromeliifolius*
3050	dense	*A. fraseriana, M. striata, D. bromeliifolius*
11950	open	*Petrophile sp., Agonis hypericifolia, A. scabra, E. marginata, A. juniperina, Hakea ceratophylla, I. longifolius*
2400	semi-open	*Petrophile sp., A. scabra*
2250	open	*D. bromeliifolius, A. scabra*
3450	semi-open	*A. juniperina, E. marginata, L. propinquus, E. marginata, A. scabra*
5000	semi-open	*Melaleuca thymoides, , M. striata, A. prolifera, A. hypericifolia, A. juniperina, D. bromeliifolius, Petrophile sp., Leucopogon parviflorus*
1250	semi-open	*A. fraseriana, L. propinquus, A. gracilis, D. bromeliifolius, E. marginata*
1600	open	*E. marginata, A. prolifera, A. gracilis, A. scabra*
2550	semi-open	*A. juniperina, Gastrolobium bilobum, Leucopogon obovatus*

8000	dense	*Xanthorrhoea* sp., *G. bilobum, A. leioderma, Hakea ruscifolia*
8800	semi-open	*Leucopogon verticillatus, Eucalyptus calophylla,*
		Bossiaea sp., *A. scabra, Eucalyptus megacarpa, A. gracilis,*
		A. hypericifolia, Hakea eliptica
3000	semi-open	*A. hypericifolia, A. gracilis, Agonis flexuosa, G. bilobum,*
		crossing small creek
2500	open	*A. gracilis, A. flexuosa, E. megacarpa, G. bilobum*
4600	dense	*H. eliptica, Bossiaea* sp., *G. bilobum, Agonis parviceps,*
		E. calophylla
6700	semi-open	*E. megacarpa, G. bilobum, Bossiaea* sp.
10950	dense	*Tremandra stelligera, Hibbertia furfuracea, A. scabra,*
		A. juniperina, G. bilobum, E. calophylla
8000	dense	*A. juniperina, E. marginata, A. scabra, A. hypericifolia,*
		A. leioderma, M. thymoides, L. obovatus
3650	semi-open	*A. scabra, A. leioderma, A. hypericifolia, L. propinquus,*
		A. juniperina
1800	open	*D. bromeliifolius, E. marginata*
2500	open	*A. scabra, A. gracilis, D. bromeliifolius, Pultenaea reticulata,*
		A. juniperina
3850	semi-open	*A. fraseriana, A. scabra*
2000	open	*A. scabra, A. gracilis, A. juniperina*
1200	semi-open	*P. reticulata, A. scabra*
2350	dense	*A. scabra, E. marginata*
6150	dense	*A. juniperina, P. reticulata, A. scabra, A. hypericifolia,*
		A. leioderma, D. bromeliifolius
5200	dense	*A. fraseriana, A. leioderma, A. juniperina, Dryandra formosa*
2500	semi-open	*A. prolifera, L. obovatus*
3500	dense	*H. eliptica, A. prolifera, A. scabra*
4450	semi-open	*E. marginata, A. scabra, A. gracilis, Bossiaea* sp., *A. leioderma*
8000	dense	*H. eliptica, A. juniperina, L. obovatus, Banksia grandis,*
		L. verticillatus, H. furfuracea, E. marginata,
		Pteridium esculentum
4650	semi-open	*E. calophylla,* dry creek bed
4450	semi-open	*A. juniperina, A. gracilis, Agonis marginata*
5900	semi-open	*A. scabra, A. gracilis, A. marginata*
2500	open	granite
4900	semi-open	*A. gracilis, A. marginata*
15100	semi-open	*A. gracilis, A. marginata, G. bilobum*
18400	semi-open	*A. marginata, A. gracilis*
56050	open	granite until end of transect

APPENDIX 2 CONT. South-East Transect From Trap point 3

5450	dense	*Melaleuca striata, Anarthria scabra, Anarthria prolifera, Petrophile sp.*
1800	dense	*Allocasuarina fraseriana, M. striata*
1900	semi-open	*A. scabra, A. prolifera, M. striata*
3800	dense	*M. striata, A. scabra, A. fraseriana, Agonis juniperina, Anarthria gracilis, Dasypogon bromeliifolius*
3350	semi-open	*M. striata, A. gracilis, A. scabra, D. bromeliifolius*
1600	semi-open	*A. fraseriana, A. scabra*
3200	dense	*A. scabra, M. striata, A. prolifera*
1200	dense	*A. scabra, A. prolifera, M. striata, Eucalyptus marginata*
19900	dense	*M. striata, A. scabra, A. prolifera, A. gracilis, D. bromeliifolius, A. juniperina*
1000	semi-open	*Banksia grandis, E. marginata, Acacia leioderma, A. fraseriana, Agonis parviceps*
1200	dense	*A. scabra, A. leioderma, A. prolifera, M. striata*
1850	semi-open	*A. parviceps, E. marginata, A. juniperina, A. scabra, A. fraseriana, Melaleuca thymoides*
3950	dense	*M. striata, A. prolifera, D. bromeliifolius, A. gracilis, A. scabra*
1600	semi-open	*Pultenaea reticulata, B. grandis, M. striata, A. scabra, A. gracilis, A. prolifera, Leucopogon propinquus*
2200	semi-open	*A. juniperina, M. striata, A. scabra, A. leioderma, A. gracilis*
2850	semi-open	*A. fraseriana, A. leioderma, M. striata, A. scabra*
9600	dense	*M. striata, A. scabra, A. gracilis, D. bromeliifolius, A. parviceps, A. juniperina, M. thymoides*
6200	dense	*A. scabra, D. bromeliifolius, A. juniperina, M. thymoides, E. marginata, B. grandis, Petrophile* sp.
8400	semi-open	*A. scabra, D. bromeliifolius, A. juniperina, M. thymoides, E. marginata*
2900	open	*A. fraseriana, A. scabra, A. prolifera*
4300	semi-open	*E. marginata, M. thymoides, A. scabra, A. juniperina, L. propinquus*
4500	dense	*A. fraseriana, Adenanthos cuneatus, E. marginata*
11000	dense	*A. scabra, A. juniperina, M. thymoides, B. grandis, Hakea varia,*
2300	open	*A. fraseriana*
4800	dense	*A. scabra, M. thymoides, A. juniperina, E. marginata, D. bromeliifolius*
2900	open	*A. fraseriana, A. juniperina, A. scabra*
3500	open	*D. bromeliifolius, A. scabra, A. gracilis, A. juniperina, A. prolifera*
3500	open	*A. fraseriana, D. bromeliifolius*
2300	open	*A. scabra, A. prolifera, A. gracilis*
5100	open	*A. fraseriana, A. scabra, D. bromeliifolius*
2100	open	*A. scabra, A. prolifera, M. thymoides*
4300	semi-open	*A. fraseriana, A. juniperina, A. scabra, A. prolifera*
8000	semi-open	*E. marginata, A. juniperina, A. scabra, P. reticulata, D. bromeliifolius, L. propinquus*
1300	open	*E. marginata, A. scabra*
10900	dense	*A. juniperina, A. scabra, L. propinquus, P. reticulata,*

		A. gracilis, D. bromeliifolius
6500	dense	*E. marginata, M. thymoides, Agonis marginata, Gastrolobium bilobum, A. scabra, A. proiifera, A. juniperina, Xanthorrhoea* sp.
3100	semi-open	*G. bilobum, A. parviceps, A. gracilis, Xanthorrhoea* sp., *Pteridium esculentum, Eucalyptus megacarpa*
12000	dense	*A. scabra, A. juniperina, E. megacarpa, P. reticulata, Hakea eliptica, A. leioderma*
10300	dense	*E. marginata, Leucopogon obovatus, L. propinquus, A. scabra, A. gracilis, A. juniperina, A. parviceps, M. thymoides*
1500	open	*E. marginata*
8000	dense	*A. scabra, A. prolifera, A. juniperina*
11500	dense	*M. thymoides, A. scabra, A. gracilis, A. juniperina, E. marginata, A. leioderma, L. propinquus*
2200	semi-open	*E. marginata, A. scabra, A. prolifera*
22500	dense	*A. juniperina, E. marginata, P. reticulata, A. scabra, P. esculentum, A. leioderma*
5900	dense	*A. scabra, L. obovatus, A. juniperina, E. marginata, Tremandra stelligera*
2100	semi-open	*E. megacarpa, A. leioderma, P. esculentum*
8000	dense	*L. obovatus, A. scabra, P. esculentum, A. juniperina, E. marginata*
1200	semi-open	*A. gracilis, A. scabra, A. juniperina, Hibbertia furfuracea*
3450	semi-open	*Eucalyptus calophylla, A. scabra, A. gracilis, Xanthorrhoea* sp.
6550	dense	*Hakea eliptica, A. prolifera, A. leioderma, A. parviceps*
14000	semi-open	*B. grandis, Xanthorrhoea* sp., *G. bilobum, E. marginata, A. juniperina, A. gracilis, A. prolifera, L. propinquus, Agonis hypericifolia*
8000	open	*Dryandra formosa, A. juniperina*
6450	semi-open	*D. formosa, A. juniperina, A. scabra, A. gracilis, Xanthorrhoea* sp., *A. hypericifolia, Hypocalymma sp.*
1000	dense	*A. juniperina, A. hypericifolia, A. parviceps, A. scabra, A. gracilis, E. marginata, Hypocalymma sp.*
5400	semi-open	*A. juniperina, A. hypericifolia, E. marginata, A. scabra, A. gracilis*
2600	semi-open	*D. formosa, Gastrolobium lanceolatum, A. scabra, A. gracilis, H. eliptica*
5500	semi-open	*D. formosa, A. parviceps, A. hypericifolia, Xanthorrhoea* sp., *A. scabra*
2650	open	*A. fraseriana, E. marginata, A. scabra, A. leioderma*
5300	semi-open	*H. eliptica, E. marginata, A. hypericifolia, A. gracilis, A. prolifera, A. parviceps, D. formosa*
2650	semi-open	*E. marginata, A. juniperina, A. hypericifolia, A. gracilis,* large granite boulders (1m x 1m)
4550	dense	*A. scabra, A. hypericifolia, G. bilobum*
3600	open	*A. marginata, G. bilobum, A. juniperina, L. obovatus, A. gracilis*
1300	open	*G. lanceolatum, granite*
3700	open	*A. gracilis, A. marginata,* granite
3100	open	*A. fraseriana, Allocasuarina humilis*

APPENDIX 2 CONT. South-East Transect From Trap point 3

1800	open	bare granite
4000	semi-open	*A. gracilis, L. obovatus, A. fraseriana, G. bilobum*
3300	semi-open	*A. fraseriana, G. bilobum, A. gracilis, A. scabra*
1550	open	*A. scabra, A. gracilis*

APPENDIX 2 CONT. North-West Transect from Trap point 3

3400	dense	*Melaleuca striata, Anarthria scabra, Anarthria gracilis*
3000	semi-open	*M. striata, A. scabra, Petrophile* sp., *Eucalyptus marginata, Anarthria prolifera, A. gracilis*
2800	dense	*M. striata, A. prolifera, Pultenaea reticulata, A. scabra*
1500	dense	*A. juniperina, A. scabra*
4400	dense	*M. striata, A. scabra, A. gracilis*
5900	semi-open	*M. striata, A. scabra, Petrophile* sp., *Agonis juniperina, A. gracilis*
16700	dense	*M. striata, A. gracilis, A. scabra, A. prolifera*
1700	dense	*E. marginata, A. juniperina, M. striata*
2200	dense	*M. striata, A. scabra, A. gracilis, E. marginata, Dasypogon bromeliifolius*
1800	semi-open	*A. prolifera, A. scabra, A. gracilis, M. striata*
2500	semi-open	*Allocasuarina fraseriana, A. prolifera, D. bromeliifolius, Eucalyptus megacarpa*
1200	semi-open	*A. scabra, A. prolifera*
4000	dense	*M. striata, A. scabra, A. prolifera, A. fraseriana*
3500	dense	*A. scabra, D. bromeliifolius, A. prolifera, E. marginata, Melaleuca thymoides*
12800	dense	*M. striata, A. scabra, A. prolifera, A. gracilis*
9400	semi-open	*A. fraseriana, A. scabra, A. gracilis, M. striata*
1200	dense	*A. juniperina, A. scabra, A. gracilis*
1650	open	*A. gracilis, A. fraseriana,* 30% bare earth
1100	dense	*M. striata, A. scabra, A. gracilis*
4800	semi-open	*A. gracilis, A. scabra, M. striata, A. prolifera*
3600	open	*A. scabra, D. bromeliifolius, A. gracilis, Isopogon longifolius*
1450	semi-open	*A. gracilis, M. striata, A. scabra, A. fraseriana*
1300	semi-open	*A. fraseriana, A. gracilis, A. prolifera*
2500	semi-open	*M. striata, A. scabra, A. gracilis*
1400	open	*A. scabra, A. gracilis, A. prolifera, Petrophile* sp.
3400	open	*A. juniperina, M. striata, E. marginata, A. prolifera, A. gracilis, A. scabra*
1600	semi-open	*A. juniperina, E. marginata, A. scabra, A. fraseriana*
3400	semi-open	*A. fraseriana, A. scabra*
1500	semi-open	*A. scabra, M. striata*
1900	dense	*A. scabra, m6, D. bromeliifolius*
1400	open	*A. gracilis, Acacia leoiderma, A. fraseriana*
2200	dense	*A. scabra, m6, Leucopogon propinquus, A. leioderma*
4900	open	*A. scabra, A. gracilis*
3300	dense	*D. bromeliifolius, A. scabra, A. gracilis*
2200	semi-open	*A. fraseriana*
4000	dense	*A. scabra, A. gracilis, D. bromeliifolius*
2600	open	*A. fraseriana*
7200	dense	*A. juniperina, A. scabra, A. gracilis, D. bromeliifolius, M. thymoides, Petrophile sp.*
3400	semi-open	*A. juniperina, A. scabra, Adenanthos cuneatus, A. gracilis*
1900	semi-open	*A. scabra, M. thymoides, A. prolifera, A. gracilis*
4900	open	*A. fraseriana, A. scabra*
4300	semi-open	*M. thymoides, A. gracilis, A. scabra, D. bromeliifolius,*

		A. juniperina
2600	open	*A. fraseriana, A. scabra*
3500	open	*A. scabra, A. gracilis, D. bromeliifolius,*
		A. fraseriana, E. marginata
2100	dense	*Agonis flexuosa, Boronia gracilipes, A. scabra, A. gracilis*
2700	semi-open	*A. fraseriana, A. scabra,*
2800	semi-open	*A. flexuosa, A. scabra, A. prolifera, A. gracilis*
26600	open	*A. scabra, A. gracilis, B. gracilipes, D. bromeliifolius*
3400	dense	*A. scabra, A. gracilis, D. bromeliifolius, M. thymoides,*
5800	semi-open	*A. scabra, A. gracilis, A. prolifera, D. bromeliifolius*
4300	dense	*A. scabra, D. bromeliifolius, A. gracilis, A. prolifera*
6950	semi-open	*A. fraseriana, A. scabra, A. gracilis, D. bromeliifolius*
4400	dense	*A. scabra, A. fraseriana, A. gracilis, D. bromeliifolius*
2100	semi-open	*A. fraseriana, A. scabra*
4400	dense	*A. juniperina, A. scabra, A. prolifera*
17500	semi-open	*A. scabra, A. gracilis, M. thymoides*
14500	semi-open	*A. scabra, A. gracilis, A. juniperina, M. thymoides*
1700	dense	*A. scabra, A. juniperina, D. bromeliifolius, L. obovatus*
2150	open	100% bare earth
5700	dense	*A. scabra, A. gracilis, D. bromeliifolius*
2200	semi-open	*A. fraseriana, A. gracilis, D. bromeliifolius*
1000	dense	*M. thymoides, A. scabra, D. bromeliifolius*
3400	semi-open	*A. scabra, M. thymoides, A. gracilis*
1000	dense	*L. obovatus, B. gracilipes, A. scabra*
2900	dense	*spiky harsh plant, A. scabra, M. thymoides*
1500	open	*A. gracilis,* 95% bare earth
4600	semi-open	*A. scabra, A. gracilis*
1000	open	*A. scabra,* 99% bare earth
1900	semi-open	*A. scabra, A. gracilis, D. bromeliifolius*
1500	open	100% bare earth
1100	semi-open	*A. scabra, A. gracilis, A. prolifera*
1400	semi-open	*A. juniperina, Chorizema reticulatum, A. scabra, A. prolifera*
5800	semi-open	*M. thymoides, A. prolifera, A. scabra, A. gracilis,*
		Conospermum caeruleum
2450	dense	*Petrophile* sp., *A. juniperina, A. scabra, A. gracilis*
6600	dense	*A. scabra, A. gracilis, M. thymoides*
800	dense	*A. fraseriana, A. scabra, A. gracilis, D. bromeliifolius,*
5500	semi-open	*A. scabra, D. bromeliifolius, A. gracilis, M. thymoides,*
		A. fraseriana
3100	dense	*A. fraseriana, A. scabra*
3900	semi-open	*A. scabra, A. gracilis, A. cuneatus*
2800	dense	*M. striata, A. scabra, D. bromeliifolius*
1900	dense	*A. fraseriana, M. striata, A. scabra*
2500	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
4100	semi-open	*A. gracilis, A. prolifera*
3800	open	*A. scabra, A. gracilis, D. bromeliifolius*
900	dense	*A. scabra*
1800	open	*A. scabra,* 90% bare earth
2800	dense	*A. juniperina, A. scabra, D. bromeliifolius*

APPENDIX 2 CONT. North-West Transect from Trap point 3

3900	dense	*A. fraseriana, A. scabra, A. prolifera*
750	semi-open	*A. scabra, D. bromeliifolius, A. gracilis*

APPENDIX 2 CONT. South-West Transect from Trap point 3

6400	dense	*Melaleuca striata, Anarthria scabra, Anarthria gracilis, Melaleuca thymoides*
2550	semi-open	*A. scabra, Anarthria prolifera, A. gracilis*
1800	open	*Eucalyptus marginata, A. scabra, A. gracilis, A. prolifera*
3250	semi-open	*M. striata, A. prolifera, A. scabra, A. gracilis, Dasypogon bromeliifolius*
2000	open	*A. scabra,* 90% bare earth
2400	semi-open	*Agonis juniperina, A. scabra*
4600	semi-open	*Allocasuarina fraseriana, M. striata, A. scabra, D. bromeliifolius, Acacia leioderma*
3600	dense	*Leucopogon obovatus, M. striata, A. scabra, A. gracilis*
8100	dense	*A. juniperina, A. prolifera, A. scabra, A. gracilis, E. marginata, Leucopogon propinquus, A. leioderma*
5200	semi-open	*E. marginata, A. juniperina, A. prolifera, A. scabra, A. leioderma, Hakea varia, Gastrolobium bilobum*
5300	dense	*G. bilobum, Hakea ruscifolia, Hibbertia furfuracea, A. juniperina, Tremandra stelligera, A. gracilis, A. scabra, A. leioderma, E. marginata*
3300	semi-open	*A. juniperina, E. marginata, A. gracilis, A. prolifera*
1300	open	*H. furfuracea,* crosses small stream
5300	open	*Leucopogon verticillatus, M. thymoides, H. furfuracea, A. juniperina, A. prolifera, A. leioderma*
5500	semi-open	*E. marginata, Agonis parviceps, A. juniperina, H. furfuracea, A. scabra, A. gracilis, Xanthorrhoea* sp., *L. propinquus, T. stelligera*
3200	dense	*A. scabra, A. prolifera, H. furfuracea, A. leioderma, E. marginata, A. juniperina, Boronia gracilipes*
10500	semi-open	*Eucalyptus megacarpa, Xanthorrhoea* sp., *H. furfuracea, G. bilobum, Pteridium esculentum, T. stelligera, A. leioderma*
7400	dense	*T. stelligera, H. furfuracea, E. megacarpa, G. bilobum*
23600	open	*Eucalyptus calophylla, E. megacarpa, Agonis flexuosa, A. juniperina, P. esculentum*
21300	open	*A. flexuosa, A. leioderma, P. esculentum, T. stelligera, H. furfuracea, E. megacarpa*
8[illegible]00	open	*H. furfuracea, A. flexuosa, P. esculentum, T. stelligera*
10000	semi-open	*E. megacarpa, H. furfuracea, A. flexuosa, P. esculentum, L. obovatus, Gastrolobium lanceolatum*
7400	open	*E. calophylla, A. flexuosa, E. megacarpa, T. stelligera, H. furfuracea*
20300	semi-open	*H. furfuracea, T. stelligera, P. esculentum, A. flexuosa, A. leioderma*
10400	semi-open	*A. flexuosa, H. furfuracea, P. esculentum, A. scabra, T. stelligera*
4500	open	*P. esculentum, T. stelligera, A. leioderma, E. megacarpa, A. flexuosa*
13200	semi-open	*A. scabra, P. esculentum, E. megacarpa, A. leioderma, T. stelligera, A. flexuosa*
3800	semi-open	*A. juniperina, A. scabra, H. furfuracea, T. stelligera, P. esculentum, E. marginata, E. megacarpa, A. fraseriana*

5400	dense	*A. fraseriana, A. juniperina, A. scabra, H. furfuracea, E. marginata*
6600	dense	*A. scabra, T. stelligera, A. juniperina, P. esculentum, Pultenaea reticulata*
3700	open	firebreak track
7350	dense	*P. reticulata, A. juniperina, E. calophylla, Xanthorrhoea* sp., *A. scabra, A. leioderma*
4900	dense	*E. marginata, P. esculentum, T. stelligera, Xanthorrhoea* sp., *A. scabra, A. gracilis, A. juniperina, Agonis hypericifolia, A. prolifera*
8800	dense	*A. juniperina, A. scabra, A. gracilis, Xanthorrhoea* sp., *T. stelligera, P. esculentum, H. ruscifolia, Sphenotoma dracophylloides*
6200	semi-open	*B. gracilipes, A. hypericifolia, E. marginata, A. scabra, A. prolifera, D. bromeliifolius, A. juniperina, Xanthorrhoea* sp.
2700	open	*A. scabra, A. hypericifolia,* 80% bare earth
3300	semi-open	*A. leioderma, A. scabra, A. prolifera, A. gracilis, P. reticulata*
5500	dense	*E. marginata, L. obovatus, P. reticulata, A. scabra, A. prolifera, D. bromeliifolius*
6100	dense	*A. juniperina, A. hypericifolia, D. bromeliifolius, A. scabra, M. thymoides*
4900	semi-open	*A. juniperina, A. hypericifolia, A. fraseriana, D. bromeliifolius, A. scabra, M. thymoides*
2900	dense	*A. juniperina, A. scabra, A. prolifera,*
2600	semi-open	*A. fraseriana, A. hypericifolia, A. scabra*
4800	open	*A. scabra, A. gracilis, A. juniperina*
4200	dense	*A. scabra, A. juniperina, A. hypericifolia, A. leioderma, Xanthorrhoea* sp.
9200	semi-open	*E. marginata, H. furfuracea, A. scabra, A. prolifera, A. leioderma, A. hypericifolia, Xanthorrhoea* sp.
2800	open	*E. calophylla, E. marginata, A. juniperina, A. prolifera, A. leioderma*
3100	dense	*H. furfuracea, A. juniperina, A. leioderma, A. gracilis, A. prolifera*
1200	open	*A. gracilis, A. leioderma, A. juniperina*
7400	dense	*G. bilobum, A. juniperina, Xanthorrhoea* sp., *B. gracilipes, E. marginata*
9000	semi-open	*A. hypericifolia, E. marginata, A. prolifera, A. scabra, A. gracilis, A. juniperina, G. bilobum*
4900	semi-open	*A. juniperina, E. marginata, A. scabra, A. prolifera, A. gracilis*
3100	open	*E. marginata, A. scabra, A. prolifera*
4800	dense	*Xanthorrhoea* sp., *A. hypericifolia, A. scabra, A. prolifera, A. juniperina, A. leioderma, H. varia, E. marginata*
5200	semi-open	*E. marginata, A. scabra, A. prolifera, A. juniperina, A. hypericifolia, Xanthorrhoea* sp., *L. obovatus*
1000	open	*A. hypericifolia, A. scabra*

1000	dense	*Xanthorrhoea* sp.
1700	semi-open	*Agonis hypericifolia, Anarthria scabra, Eucalyptus marginata*
1400	dense	*Isopogon longifolius, Banksia grandis, A. hypericifolia*
1300	semi-open	*Anarthria prolifera, A. scabra, A. hypericifolia*
500	open	*Agonis juniperina, Bossiaea* sp., 90% bare earth
3000	semi-open	*A. scabra, E. marginata, A. juniperina, A. hypericifolia, Bossiaea* sp.
1800	open	*A. hypericifolia, A. scabra, A. juniperina, Daviesia* sp., 40% bare earth
1100	semi-open	*E. marginata, A. scabra, A. juniperina, Melaleuca striata*
3300	semi-open	*A. hypericifolia, A. scabra, Conospermum caeruleum*
2100	dense	*C. caeruleum, A. juniperina, A. scabra, A. hypericifolia*
1400	semi-open	*A. scabra*
800	semi-open	*Dryandra formosa*
5500	semi-open	*A. hypericifolia, A. juniperina, M. striata, A. scabra, Anarthria gracilis, Dasypogon bromeliifolius*
11400	dense	*M. striata, A. juniperina, Allocasuarina fraseriana, A. scabra, A. gracilis, Adenanthos cuneatus, E. marginata*
7400	semi-open	*A. fraseriana, Nuytsia floribunda, A. scabra, Bossiaea* sp., *A. juniperina, A. hypericifolia*
6000	semi-open	*A. scabra, M. striata, A. juniperina, A. hypericifolia,*
3000	semi-open	*A. fraseriana, Melaleuca thymoides, M. striata, A. scabra*
3900	semi-open	*M. striata, A. juniperina, A. scabra, A. gracilis*
5500	dense	*A. fraseriana, M. striata, Allocasuarina humilis*
6700	semi-open	*M. striata, N. floribunda, A. juniperina, A. scabra, A. gracilis, C. caeruleum*
2900	semi-open	*A. fraseriana, A. scabra, A. hypericifolia*
12600	open	*A. scabra, A. gracilis, D. bromeliifolius, A. hypericifolia, M. thymoides, I. longifolius, C. caeruleum, E. marginata,* 40% bare earth
1900	dense	*A. fraseriana, A. juniperina, A. scabra*
2600	dense	*M. striata, A. juniperina, A. scabra, A. gracilis, Chorizema reticulatum*
7900	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis, D. bromeliifolius, Daviesia* sp.
5600	dense	*A. fraseriana, A. scabra, N. floribunda*
20600	semi-open	*M. striata, A. gracilis, A. hypericifolia, D. bromeliifolius, M. thymoides, A. humilis*
3000	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis*
4400	semi-open	*A. scabra, A. gracilis, M. striata, D. bromeliifolius,* 15% bare earth
2500	open	*A. scabra, D. bromeliifolius,* 80 % bare earth
7100	semi-open	*A. scabra, D. bromeliifolius, M. striata, M. thymoides*
2000	dense	*A. cuneatus*
6800	open	*A. scabra, D. bromeliifolius, A. humilis,* 90% bare earth
5000	dense	*M. striata, A. cuneatus, M. thymoides, A. scabra, A. gracilis*
10800	open	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*

APPENDIX 2 CONT. North Transect from Trap point 20

		D. bromellifolius
2000	open	*A. hypericifolia, A. scabra,* 80% bare earth
12800	semi-open	*A. hypericifolia, M. striata, A. scabra, A. cuneatus*
6400	open	*A. scabra, M. thymoides, M. striata*
2000	dense	*A. scabra, A. fraseriana*
1500	open	100% bare earth
6000	dense	*M. striata, A. scabra, A. gracilis*
2700	semi-open	*A. scabra, M. striata*
1800	dense	*Daviesia* sp., *M. striata*
5000	semi-open	*A. fraseriana, A. juniperina, A. hypericifolia, A. scabra*
6400	dense	*A. scabra, A. hypericifolia, M. striata*
7000	semi-open	*M. striata, A. scabra, M. thymoides, A. gracilis,*
		C. caeruleum
8000	open	*A. humilis, A. hypericifolia, M. striata, A. scabra, C. reticulatum,*
		40% bare earth
7000	dense	*M. striata, A. hypericifolia, A. humilis, I. longifolius, A. cuneatus*
7200	dense	*M. striata, A. hypericifolia, A. scabra, A. prolifera, A. humilis,*
		A. gracilis, Daviesia sp.
6000	semi-open	*A. humilis, M. striata, A. scabra, A. gracilis*
2100	open	*A. fraseriana, E. marginata,* 50% bare earth
4400	dense	*M. striata, A. scabra, A. gracilis, A. prolifera, A. juniperina*
1500	dense	*A. scabra, A. prolifera, A. hypericifolia*
3200	dense	*M. striata, Daviesia* sp., *A. scabra, A. gracilis, A. prolifera*
4500	dense	*A. fraseriana, E. marginata, A. hypericifolia, M. striata,*
1400	semi-open	*A. scabra, A. prolifera, M. thymoides*
1800	dense	*A. hypericifolia, M. striata, A. scabra, A. prolifera,*
		A. fraseriana, E. marginata
900	open	*M. striata, A. scabra, A. prolifera*
7100	dense	*A. juniperina, A. scabra, A. gracilis, A. hypericifolia, M. striata,*
		N. floribunda, M. thymoides
1400	dense	*A. humilis, A. hypericifolia, A. scabra, M. striata*
2800	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis, A. prolifera*
9200	semi-open	*A. juniperina, E. marginata, A. scabra, C. caeruleum,*
		A. prolifera, Eucalyptus calophylla
6000	open	*A. scabra, E. marginata, E. calophylla, A. juniperina, M. striata*
5900	semi-open	*M. striata, A. juniperina, E. marginata, A. scabra, A. gracilis,*
		A. prolifera, Sphenotoma dracophylloides
5400	dense	*E. marginata, A. juniperina, A. hypericifolia, M. striata,*
		A. scabra, A. prolifera, A. gracilis, Bossiaea sp.
5500	dense	*Lambertia uniflora, E. calophylla, A. scabra, A. prolifera,*
		E. marginata
4400	dense	*A. scabra, E. marginata, Bossiaea* sp., *A. gracilis, A. hypericifolia,*
3900	semi-open	*A. juniperina, E. marginata, A. prolifera, A. scabra, Bossiaea* sp.
5700	open	dry creek bed
3800	semi-open	*A. fraseriana, A. hypericifolia, A. scabra*

APPENDIX 2 CONT. South Transect from Trap point 20

9900	open	*Anarthria scabra, Melaleuca striata, Agonis juniperina, Agonis hypericifolia, Melaleuca thymoides*
4400	semi-open	*M. striata, A. scabra, A. gracilis, A. hypericifolia*
5200	dense	*M. striata, A. scabra, A. gracilis, Anarthria prolifera*
1300	semi-open	*A. scabra, A. hypericifiolia*
10400	dense	*M. striata, A. scabra, A. gracilis, Dasypogon bromeliifolius*
4100	open	*A. scabra, D. bromeliifolius, m6, A. hypericifiolia, Petrophile* sp.
7100	semi-open	*Allocasuarina fraseriana, A. scabra*
2200	dense	*M. striata, A. juniperina*
1000	open	*A. fraseriana, A. scabra*
2400	dense	*M. striata, A. scabra*
10500	open	*A. scabra, D. bromeliifolius, Adenanthos cuneatus, M. thymoides, Petrophile* sp.
7300	dense	*A. fraseriana, A. scabra, A. prolifera*
2700	open	*A. scabra, A. gracilis, D. bromeliifolius*
6400	semi-open	*A. fraseriana, A. scabra*
8700	open	*A. scabra, A. gracilis, D. bromeliifolius, M. thymoides, A. cuneatus*
4100	semi-open	*A. juniperina, A. fraseriana, A. scabra, A. gracilis*
800	open	*A. scabra, A. gracilis, D. bromeliifolius*
8000	semi-open	*A. fraseriana, Xanthorrhoea* sp., *A. juniperina*
7200	open	*A. scabra, A. gracilis, A. cuneatus, Eucalyptus marginata, A. juniperina, M. thymoides*
5000	dense	*A. scabra, A. gracilis, A. cuneatus*
1800	semi-open	*A. fraseriana, A. scabra, M. thymoides, Leucopogon propinquus*
11500	semi-open	*E. marginata, Acacia leioderma, M. thymoides, M. striata, A. juniperina*
2300	open	*E. marginata, A. scabra*
2900	semi-open	*M. striata, A. scabra, A. juniperina, M. thymoides*
2200	open	*A. scabra, D. bromeliifolius, A. gracilis, A. juniperina*
3100	open	*A. fraseriana, A. scabra*
6900	open	*A. scabra, A. gracilis, D. bromeliifolius,* 60% bare earth
7200	dense	*A. juniperina, A. scabra, A. gracilis, L. propinquus*
4900	semi-open	*E. marginata, Pteridium esculentum, Hypocalymma* sp., *A. scabra, A. gracilis, Leucopogon obovatus, L. propinquus*
11000	semi-open	*A. scabra, E. marginata, A. juniperina, P. esculentum, Hypocalymma sp., L. propinquus*
13900	dense	*A. scabra, A. juniperina, E. marginata*
8000	dense	*A. scabra, Hypocalymma* sp., *Eucalyptus megacarpa, A. juniperina*
18000	semi-open	*E. marginata, Tremandra stelligera, A. scabra, A. prolifera, Agonis flexuosa, Xanthorrhoea* sp., *Hibbertia furfuracea, Hakea ruscifolia*
6000	dense	*T. stelligera, A. prolifera, Agonis flexuosa, Xanthorrhoea* sp., *Hibbertia furfuracea, Hakea ruscifolia, Gastrolobium bilobum*

		A. flexuosa, T. stelligera, P. esculentum
24000	semi-open	*E. calophylla, A. flexuosa, E. megacarpa, Xanthorrhoea* sp., *H. furfuracea*
4000	semi-open	*G. bilobum, H. furfuracea, G. bilobum, A. juniperina*
32000	semi-open	*H. furfuracea, E. megacarpa, A. flexuosa, P. esculentum*
26800	semi-open	*A. flexuosa, A. scabra, H. furfuracea, P. esculentum, E. megacarpa,* 60% bare earth
7100	semi-open	*H. furfuracea, E. megacarpa, A. flexuosa, P. esculentum, Xanthorrhoea* sp.
15700	semi-open	*H. furfuracea, A. flexuosa, E. calophylla, A. leioderma, A. gracilis, A. juniperina, Boronia gracilipes, Xanthorrhoea* sp.

9700	open	*Agonis hypericifolia, Anarthria prolifera,*
		Anarthria scabra, Bossiaea sp.
3000	semi-open	*Eucalyptus marginata, Agonis juniperina, Bossiaea* sp.,
		A. hypericifolia, Melaleuca thymoides, Allocasuarina fraseriana
5800	dense	*A. scabra, A. hypericifolia, A. juniperina*
2500	semi-open	*A. hypericifolia, A. scabra, E. marginata, A. juniperina,*
		Bossiaea sp.
4600	dense	*A. scabra, A. prolifera, A. hypericifolia, E. marginata*
1600	semi-open	*A. hypericifolia, Bossiaea* sp., *A. juniperina, E. marginata,*
		A. scabra, A. prolifera
2300	semi-open	*E. marginata, A. hypericifolia, A. scabra, A. prolifera,*
		A. juniperina
7100	dense	*M. striata, A. scabra*
4300	dense	*M. striata, A. scabra, Dasypogon bromeliifolius,*
		A. hypericifolia, A. fraseriana
800	semi-open	*A. fraseriana, M. striata, A. hypericifolia*
4100	dense	*A. hypericifolia, A. scabra, M. striata, D. bromeliifolius*
3600	semi-open	*A. scabra, Anarthria gracilis, A. hypericifolia, M. striata*
2200	dense	*A. fraseriana, A. scabra, A. hypericifolia, M. striata*
8000	dense	*A. hypericifolia, M. striata, A. scabra, A. gracilis,*
		D. bromeliifolius
2500	dense	*E. marginata, M. striata, D. bromeliifolius, A. scabra,*
		A. gracilis
1200	semi-open	*A. scabra, A. gracilis, M. striata, A. hypericifolia*
4000	dense	*M. striata, A. scabra, A. prolifera, A. gracilis*
1700	semi-open	*M. striata, A. scabra, A. gracilis, A. prolifera, D. bromeliifolius*
4900	dense	*M. striata, A. scabra, D. bromeliifolius, A. prolifera, A. gracilis*
4500	semi-open	*E. marginata, M. striata, A. scabra, A. prolifera,*
		Adenanthos cuneatus
2100	dense	*M. striata, A. scabra, A. gracilis*
4100	semi-open	*A. scabra, M. striata, A. gracilis,* 30% bare earth
2400	dense	*M. striata, A. scabra, A. gracilis*
4300	open	*A. scabra, A. gracilis, D. bromeliifolius, M. striata,*
		Isopogon longifolius
700	semi-open	*A. hypericifolia, A. gracilis, D. bromeliifolius*
1300	semi-open	*A. fraseriana, D. bromeliifolius*
1700	dense	*M. striata, A. scabra, A. gracilis*
2100	open	*A. scabra, A. gracilis, D. bromeliifolius, M. striata,*
		A. hypericifolia, 50% bare earth
1300	dense	*D. bromeliifolius, M. striata*
8800	dense	*M. striata, A. scabra, A. gracilis, Banksia attenuata,*
		Daviesia sp., *I. longifolius, Petrophile* sp.
3100	semi-open	*A. scabra, A. gracilis, M. striata*
1800	dense	*A. juniperina, A. scabra, A. gracilis, A. cuneatus, M. striata*
3900	semi-open	*A. scabra, A. gracilis, M. striata, Daviesia* sp.
4500	open	*A. scabra, A. cuneatus, M. thymoides, A. fraseriana,*

APPENDIX 2 CONT. East Transect from Trap point 20

		A. hypericifolia
3300	dense	*M. striata, A. scabra, A. gracilis, A. hypericifolia, A. fraseriana*
3500	semi-open	*A. fraseriana, M. striata, M. thymoides, A. hypericifolia,*
		A. scabra, D. bromeliifolius
4400	dense	*A. fraseriana, A. scabra*
2100	semi-open	*A. scabra, A. juniperina, A. fraseriana, D. bromeliifolius,*
		A. prolifera
2700	dense	*A. fraseriana, A. scabra*
2100	dense	*A. juniperina, A. scabra, Hakea eliptica*
2700	dense	*A. fraseriana, B. attenuata, A. scabra, A. juniperina,*
		Acacia leioderma
3100	dense	*A. juniperina, A. scabra, D. bromeliifolius*
8000	dense	*A. scabra, A. gracilis, A. prolifera, E. marginata, A. juniperina,*
		A. fraseriana, A. hypericifolia, M. thymoides, Xanthorrhoea sp.,
		Bossiaea sp.
6000	semi-open	*Eucalyptus calophylla, A. leioderma, Bossiaea* sp.
8000	dense	*A. scabra, A. prolifera, Bossiaea* sp., *E. calophylla, A. juniperina,*
		A. hypericifolia, Dryandra formosa, Hakea ruscifolia,
		Gastrolobium bilobum
4200	dense	*A. scabra, H. eliptica, D. formosa, Bossiaea* sp.,
		Conospermum caeruleum
3400	dense	*A. scabra, Xanthorrhoea* sp., *A. hypericifolia, A. juniperina,*
		E. marginata, Pultenaea reticulata
2700	open	*H. eliptica, E. marginata, D. formosa, A. juniperina,*
		A. hypericifolia
4000	dense	*A. scabra, A. hypericifolia, D. formosa, E. marginata,*
		P. reticulata
4700	dense	*E. marginata, A. scabra, A. prolifera, Bossiaea* sp.
5300	semi-open	*A. hypericifolia, E. marginata, Bossiaea* sp., *A. scabra,*
		A. prolifera, H. ruscifolia
4100	semi-open	*A. fraseriana, A. scabra, A. juniperina*
8000	dense	*G. bilobum, E. calophylla, A. juniperina, A. gracilis,*
		Xanthorrhoea sp.
2400	dense	*G. bilobum, H. eliptica, A. gracilis, Agonis marginata*

APPENDIX 2 CONT. West Transect from Trap point 20

5900	dense	*Agonis juniperina, Anarthria scabra, Allocasuarina fraseriana, Agonis hypericifolia, Bossiaea* sp.
4000	semi-open	*Melaleuca striata, A. scabra, Dasypogon bromeiiifolius*
4000	semi-open	*A. fraseriana, A. juniperina, A. scabra*
4100	dense	*A. juniperina, A. scabra, M. striata, Anarthria prolifera*
3700	semi-open	*Melaleuca thymoides, A. scabra*
3400	semi-open	*A. fraseriana, A. juniperina, A. prolifera, A. scabra*
6300	open	*A. scabra, M. thymoides, Banksia grandis, A. hypericifolia*
24000	semi-open	*A. juniperina, Anarthria gracilis, A. scabra, D. bromeliifolius, A. hypericifolia, Eucalyptus marginata*
10000	open	*A. scabra, A. gracilis, D. bromeliifolius, A. prolifera, A. hypericifolia, A. juniperina, A. fraseriana*
4200	dense	*Adenanthos cuneatus, A. fraseriana, A. scabra, M. thymoides,*
5700	dense	*A. scabra, A. gracilis, A. prolifera*
3300	semi-open	*A. fraseriana, A. scabra, A. prolifera*
5200	dense	*A. scabra*
1700	open	*A. hypericifolia, D. bromeliifolius,* 90% bare earth
7700	dense	*A. scabra, A. gracilis, D. bromeliifolius*
1300	dense	*Leucopogon obovatus*
9200	open	*A. scabra, A. gracilis*
4000	semi-open	*A. fraseriana*
38500	open	*A. scabra, L. obovatus, A. gracilis, D. bromeliifolius, A. prolifera, A. juniperina*
12600	semi-open	*A. fraseriana, A. scabra*
2800	open	*A. scabra, A. gracilis*
3800	dense	*A. cuneatus, M. thymoides, A. juniperina*
12200	semi-open	*A. scabra, A. gracilis, A. prolifera, M. thymoides*
4000	open	*A. gracilis, D. bromeliifolius,* 60% bare earth
3000	semi-open	*A. fraseriana, A. scabra, D. bromeliifolius, M. thymoides*
11600	semi-open	*A. hypericifolia, M. thymoides, A. scabra, A. gracilis, A. prolifera, D. bromeliifolius, Conospermum caeruleum*
3000	semi-open	*A. fraseriana, A. hypericifolia, C. caeruleum, A. scabra, A. gracilis*
1500	semi-open	*M. thymoides, A. scabra, A. gracilis*
3700	dense	*M. striata, A. hypericifolia, A. scabra, A. prolifera, A. gracilis*
4000	semi-open	*A. fraseriana, M. striata, A. hypericifolia, M. thymoides, A. gracilis*
10800	dense	*C. caeruleum, A. scabra, A. gracilis, A. juniperina, A. hypericifolia, Isopogon longifolius, M. thymoides*
5800	semi-open	*E. marginata, A. scabra, A. gracilis, A. juniperina*
2800	dense	*A. juniperina, A. scabra, A. gracilis, D. bromeliifolius*
5500	dense	*A. fraseriana, A. scabra, A. gracilis, A. hypericifolia*
23000	semi-open	*A. juniperina, A. scabra, A. gracilis, Acacia leioderma, Gastrolobium bilobum, E. marginata, Dryandra formosa*
7000	semi-open	*A. juniperina, A. scabra, E. marginata, A. gracilis, Agonis flexuosa*

APPENDIX 2 CONT. West Transect from Trap point 20

13700	semi-open	*M. striata, A. leioderma, A. hypericifolia, D. bromeliifolius, A. scabra*
13900	open	*A. hypericifolia, A. scabra,* crossing firebreak track, 100% bare earth
10000	semi-open	*M. striata, A. hypericifolia, A. scabra, D. bromeliifolius, A. cuneatus*
6000	dense	*M. striata, A. scabra, A. prolifera, A. gracilis*
7600	dense	*A. fraseriana, E. marginata, A. scabra, M. striata, A. gracilis*
1700	dense	*M. striata, A. scabra, A. prolifera*
2300	dense	*A. fraseriana, M. striata, A. prolifera, A. scabra*
9200	dense	*M. striata, A. scabra, A. hypericifolia*
1200	semi-open	*M. striata, A. scabra, A. gracilis, I. longifolius,* 40% bare earth

APPENDIX 2 CONT. North-East Transect from Trap point 20

3100	open	*Agonis juniperina, Agonis hypericifolia, Xanthorrhoea sp.*
800	dense	*Anarthria scabra*
4900	open	*Bossiaea* sp., *A. juniperina, A. hypericifolia, Agonis parviceps, Xanthorrhoea* sp., *A. scabra*
8000	semi-open	*Bossiaea* sp., *A. juniperina, A. parviceps, A. scabra, Eucalyptus marginata*
2700	dense	*A. juniperina, Isopogon lonigfolius, Dasypogon bromeliifolius, A. scabra, Anarthria gracilis, Bossiaea* sp., *A. hypericifolia*
6400	dense	*Melaleuca striata, A. scabra, A. gracilis, Bossiaea* sp., *A. parviceps, Allocausarina fraseriana*
5200	semi-open	*A. juniperina, A. hypericifolia, Acacia leioderma, E. marginata, A. scabra, A. gracilis*
4500	semi-open	*A. scabra, D. bromeliifolius, A. hypericifolia, E. marginata, Anarthria prolifera*
1500	open	*Nuytsia floribunda*
2900	dense	*M. striata, A. hypericifolia, A. scabra, D. bromeliifolius, A. fraseriana*
1900	dense	*A. fraseriana, A. scabra, D. bromeliifolius, A. gracilis*
2100	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis, D. bromeliifolius*
2300	open	*A. hypericifolia, M. striata, A. gracilis*
1300	semi-open	*A. scabra, A. gracilis, Petrophile* sp.
4400	dense	*A. hypericifolia, M. striata, A. scabra, A. gracilis, A. juniperina*
2800	semi-open	*M. striata, A. hypericifolia, A. scabra, A. gracilis, D. bromeliifolius*
4400	semi-open	*A. scabra, A. gracilis, M. striata, Melaleuca thymoides, D. bromeliifolius, Daviesia sp.*
1800	open	*A. scabra, E. marginata,* 95% bare earth
3600	semi-open	*A. scabra, A. gracilis, D. bromeliifolius*
1500	open	*A. hypericifolia, A. scabra, M. striata, Daviesia sp.*
2600	dense	*M. striata, M. thymoides, A. scabra, A. gracilis*
3300	semi-open	*A. fraseriana, M. striata, A. hypericifolia, A. scabra*
7300	open	*Hakea ruscifolia, A. hypericifolia, M. striata, D. bromeliifolius, A. gracilis, Isopogon longifolius*
5300	semi-open	*M. striata, A. scabra, A. gracilis, M. thymoides, Petrophile sp.*
8000	semi-open	*D. bromeliifolius, M. striata, A. scabra, A. gracilis*
2500	dense	*seaweed plant, A. hypericifolia, M. striata, M. thymoides, A. scabra, A. gracilis, D. bromeliifolius*
12750	open	*M. striata, A. scabra,* 80% bare earth
700	semi-open	*A. fraseriana, N. floribunda*
6500	open	*A. scabra, M. striata, M. thymoides, D. bromeliifolius*
1600	semi-open	*M. striata, A. scabra*
1400	open	*A. scabra*
4400	dense	*M. striata, A. scabra, A. gracilis, D. bromeliifolius*
800	open	*A. scabra,* 99% bare sand

APPENDIX 2 CONT. North-East Transect from Trap point 20

3100	semi-open	*A. fraseriana, A. hypericifolia, A. scabra*
10700	open	*A. fraseriana, A. scabra, A. hypericifolia, M. striata, E. marginata*
4600	semi-open	*M. thymoides, M. striata, A. gracilis, A. scabra, M. striata*
4800	dense	*A. scabra, M. striata, E. marginata, A. fraseriana*
3800	semi-open	*A. scabra, A. juniperina, M. striata, D. bromeliifolius, A. gracilis*
7300	dense	*M. striata, A. hypericifolia, A. scabra*
2500	dense	*A. scabra, A. hypericifolia, M. striata*
6100	semi-open	*Bossiaea* sp., *E. marginata, A. juniperina, Eucalyptus calophylla*
3800	dense	*A. juniperina, A. hypericifolia, M. thymoides, A. scabra*
2400	open	*M. striata, D. bromeliifolius*
1800	semi-open	*A. fraseriana, Bossiaea* sp.
3100	open	*A. juniperina, Bossiaea* sp., *A. scabra, D. bromeliifolius, crossing small creek bed*
4200	dense	*M. striata, Gastrolobium bilobum, A. fraseriana, A. scabra, A. hypericifolia*
3200	dense	*A. scabra, D. bromeliifolius, A. juniperina, A. fraseriana*
2300	semi-open	*M. striata, A. scabra, A. gracilis*
1200	dense	*A. scabra*
4700	dense	*M. striata, A. scabra, A. juniperina*
5100	semi-open	*A. prolifera, A. scabra, A. gracilis, A. hypericifolia*
2000	dense	*M. striata, A. scabra, D. bromeliifolius, A. juniperina*
4100	semi-open	*E. calophylla, A. scabra, A. gracilis*
2900	dense	*A. scabra, A. gracilis, M. striata*
1700	semi-open	*E. calophylla*
11000	semi-open	*M. striata, A. scabra, D. bromeliifolius, A. hypericifolia, A. juniperina*
2600	dense	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
2700	dense	*A. fraseriana, A. scabra*
1200	dense	*M. striata, A. scabra*
3000	semi-open	*A. scabra, A. gracilis, A. juniperina*
3500	semi-open	*E. marginata, A. scabra, D. bromeliifolius*
1950	open	*M. striata, A. hypericifolia, A. scabra*
1800	dense	*M. striata, A. prolifera, Bossiaea* sp., *A. scabra*
1600	open	*A. scabra, A. juniperina*
6000	dense	*M. striata, A. hypericifolia, A. scabra, A. prolifera, A. juniperina*
2200	dense	*A. fraseriana, A. scabra, Xanthorrhoea* sp.
5700	dense	*Xanthorrhoea* sp., *E. calophylla, Bossiaea* sp., *Acacia leioderma,* creek (run-off from granite)
5000	dense	*Agonis marginata, G. bilobum, A. gracilis*
9200	semi-open	*A. gracilis, A. marginata*
67600	open	granite outcrops for the rest of the 340 meters

APPENDIX 2 CONT. South-East Transect from Trap point 20

2350	open	100% bare earth
3800	semi-open	*Melaleuca striata, Agonis hypericifolia, Anarthria scabra, Anarthria prolifera*
6500	open	*A. scabra, Agonis juniperina, Eucalyptus marginata*
4700	dense	*M. striata, A. hypericifolia, A. scabra, Anarthria gracilis, Dasypogon bromeliifolius*
2650	semi-open	*D. bromeliifolius, A. hypericifolia, M. striata, A. juniperina*
2750	dense	*M. striata, A. juniperina, A. scabra, A. gracilis*
2000	open	*A. scabra, A. gracilis, M. striata*
3400	dense	*M. striata, A. prolifera, A. hypericifolia, A. juniperina, A. scabra, A. gracilis*
6800	semi-open	*M. striata, Bossiaea* sp., *A. hypericifolia, E. marginata, Allocasuarina fraseriana, A. juniperina*
2750	open	*A. fraseriana, A. hypericifolia*
2000	dense	*M. striata, A. hypericifolia, A. prolifera, A. gracilis*
2400	open	*A. scabra, E. marginata,* 80% bare earth
2500	open	*A. scabra, A. juniperina, Daviesia* sp.
3400	dense	*Bossiaea* sp., *E. calophylla*
3700	semi-open	*A. hypericifolia, A. scabra, E. marginata*
2700	dense	*M. striata, A. hypericifolia, A. scabra, A. prolifera*
8000	open	*A. juniperina, Isopogon longifolius, A. scabra, Melaleuca thymoides*
5000	dense	*A. scabra, A. hypericifolia*
4100	semi-open	*A. juniperina, A. scabra, A. gracilis*
3500	open	*A. fraseriana, A. scabra*
11400	open	*A. scabra, A. gracilis, D. bromeliifolius, A. juniperina*
2300	semi-open	*A. fraseriana, A. prolifera, A. hypericifolia*
2900	semi-open	*E. marginata, A. scabra, A. gracilis, A. hypericifolia*
6100	dense	*M. striata, A. scabra, A. gracilis, A. fraseriana*
3250	dense	*A. scabra, A. juniperina, M. striata*
2250	dense	*A. scabra, M. striata, A. prolifera*
1000	dense	*A. scabra*
1700	dense	*A. fraseriana, A. prolifera, A. scabra*
4050	dense	*A. hypericifolia, M. striata*
800	open	*M. striata, A. scabra, A. gracilis*
1500	dense	*M. striata, A. scabra, A. prolifera*
1100	open	*I. longifolius*
5600	dense	*M. striata, A. scabra, A. gracilis*
1100	semi-open	*A. scabra, A. gracilis, D. bromeliifolius*
4050	dense	*D. bromeliifolius, A. prolifera, A. scabra, A. gracilis, M. striata*
800	open	*D. bromeliifolius, A. gracilis*
2200	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
900	open	100% bare earth
3350	dense	*M. striata, A. scabra, A. gracilis, A. prolifera, Adenanthos cuneatus*
2500	dense	*A. scabra, M. striata, A. hypericifolia, A. cuneatus*

APPENDIX 2 CONT. South-East Transect from Trap point 20

2000	dense	*D. bromeliifolius, M. striata*
3050	dense	*A. scabra, M. striata*
2250	dense	*A. cuneatus, A. scabra, A. prolifera*
1150	semi-open	*M. striata, A. scabra*
700	dense	*A. scabra, A. prolifera, M. thymoides*
1300	open	*A. scabra,* 90% bare earth
3850	dense	*A. scabra, A. cuneatus, M. striata*
2450	semi-open	*M. striata, A. gracilis, D. bromeliifolius*
2000	dense	*A. scabra, A. prolifera, A. gracilis, M. striata*
1100	open	*E. marginata,* 90% bare earth
3800	dense	*M. striata, A. scabra, A. gracilis, A. prolifera*
1000	semi-open	*A. fraseriana*
2500	semi-open	*A. scabra, A. prolifera, M. striata, A. gracilis*
6500	dense	*M. striata, A. prolifera, A. scabra, A. gracilis*
4300	dense	*A. cuneatus, A. fraseriana, A. scabra, D. bromeliifolius, A. gracilis*
2300	semi-open	*A. scabra, A. gracilis, M. striata*
2200	semi-open	*A. fraseriana, A. cuneatus*
300	open	100% bare earth
2500	dense	*A. cuneatus, A. scabra, M. striata, D. bromeliifolius, A. gracilis*
1200	open	*M. striata, A. gracilis,* 60% bare earth
4300	semi-open	*M. striata, A. prolifera, A. scabra, A. gracilis*
6900	open	*A. scabra, A. gracilis, D. bromeliifolius*
1600	dense	*A. cuneatus*
1300	open	*A. scabra, D. bromeliifolius*
3150	dense	*A. fraseriana, A. scabra*
3100	open	*A. scabra, D. bromeliifolius, E. marginata, M. thymoides*
3350	dense	*M. striata, A. juniperina, A. scabra, A. gracilis*
3100	open	*A. scabra, D. bromeliifolius*
4200	semi-open	*A. fraseriana, M. striata, A. scabra*
5050	dense	*M. striata, M. thymoides, I. longifolius*
2200	dense	*A. juniperina, Hakea ceratophylla*
4800	semi-open	*Petrophile* sp., *A. scabra, A. gracilis, M. striata*
10350	open	*A. scabra, A. gracilis, D. bromeliifolius, Xanthorrhoea* sp.
2900	dense	*Eucalyptus calophylla, , E. marginata, A. scabra, Acacia leioderma, H. ceratophylla*
3000	dense	*A. juniperina, A. scabra, A. gracilis, E. calophylla*
8000	semi-open	*A. leioderma, A. juniperina, E. marginata, Leucopogon verticillata, E. calophylla, Hakea ruscifolia*
8000	semi-open	*A. juniperina, Gastrolobium bilobum, A. leioderma, A. scabra, A. gracilis, E. marginata*
20850	semi-open	*G. bilobum, E. calophylla*
2800	semi-open	*Leucopogon obovatus*
13150	semi-open	*Agonis marginata, A. gracilis, L. obovatus*
19700	semi-open	*G. bilobum, Eucalyptus* sp., *A. gracilis, A.* sp.

APPENDIX 2 CONT. South-East Transect from Trap point 20

2050	semi-open	*A. marginata*
2900	open	*A. scabra, E. cornuta*
8000	semi-open	*A. gracilis, A. marginata*
4750	semi-open	*L. obovatus, A. marginata*

2300	dense	*Melaleuca striata, Anarthria scabra, Pethrophile sp., Bossiaea* sp.
1800	dense	*Allocasuarina fraseriana, A. scabra, M. striata*
800	semi-open	*Dasypogon bromeliifolius, A. scabra*
600	open	100% bare earth
800	semi-open	*A. scabra, M. striata, Agonis hypericifolia*
7000	open	*Anarthria gracilis,* 99% bare earth
2300	semi-open	*A. hypericifloia, M. striata, A. scabra, Eucalyptus marginata*
3000	semi-open	*Agonis juniperina, E. marginata, Melaleuca thymoides, A. scabra, A. gracilis, Anarthria prolifera*
1700	open	*D. bromeliifolius,* 90% bare earth
2900	semi-open	*A. hypericifloia, A. prolifera, A. juniperina, A. scabra, D. bromeliifolius, M. thymoides, E. marginata*
6000	open	*D. bromeliifolius, A. scabra, A. hypericifloia, A. juniperina, Agonis pa. iceps*
7600	semi-open	*Bossiaea* sp., *Eucalyptus calophylla, A. juniperina, A. hypericifloia, A. scabra, D. bromeliifolius*
3800	open	*A. hypericifloia, Bossiaea* sp., *Conospermum caeruleum, E. marginata*
3100	open	*A. fraseriana, A. scabra*
5600	open	*E. calophylla, Bossiaea* sp., *C. caeruleum, A. prolifera*
5900	semi-open	*E. marginata, A. juniperina, A. scabra, Bossiaea* sp.
2650	open	*A. hypericifloia, A. scabra,* 95% bare earth
5000	dense	*A. scabra, C. caeruleum, Bossiaea* sp., *E. marginata, A. juniperina, Xanthorrhopea sp.*
2250	semi-open	*A. scabra, A. hypericifloia, Bossiaea* sp.
2400	open	*A. hypericifloia, Bossiaea* sp., *A. scabra*
4700	semi-open	*A. juniperina, Bossiaea* sp., *A. gracilis, E. marginata*
2950	open	*A. hypericifloia, E. marginata, Xanthorrhoea* sp., 90% bare earth
2400	semi-open	*A. juniperina, A. hypericifloia, A. scabra*
3000	semi-open	*C. caeruleum, E. marginata, Bossiaea* sp.
2300	semi-open	*A. fraseriana, A. gracilis, Bossiaea* sp.
900	open	*A. gracilis, Bossiaea* sp.
2000	semi-open	*A. fraseriana, Bossiaea* sp., *A. juniperina*
5450	semi-open	*D. bromeliifolius, A. scabra, E. marginata, A. juniperina*
3000	semi-open	*Nyutsia floribunda, A. scabra*
1000	open	*A. hypericifloia, A. scabra*
9700	semi-open	*A. fraseriana, A. hypericifloia, A. scabra*
12300	open	*A. juniperina, M. thymoides, A. scabra*
2350	semi-open	*A. fraseriana, A. scabra*
1800	open	*A. scabra, A. gracilis*
2600	dense	*M. striata, A. scabra, A. prolifera*
2900	semi-open	*A. scabra, M. striata, A. prolifera*
6500	dense	*M. striata, A. scabra, A. prolifera, Chorizema reticulatum*
2200	semi-open	*A. fraseriana, A. scabra, A. hypericifloia*
2100	dense	*A. scabra, A. gracilis*
19600	open	*A. scabra, A. gracilis, A. hypericifloia, M. thymoides, Adenanthos cuneata*

APPENDIX 2 CONT. North-West Transect from Trap point 20

2200	semi-open	*A. hypericifloia, A. scabra, A. gracilis, A. cuneata*
1600	semi-open	*M. thymoides, A. scabra, Allocasuarina humilis, spiky harsh plant*
1500	open	*M. thymoides, A. gracilis, A. scabra, A. prolifera*
1800	dense	*M. striata, M. thymoides, A. scabra, A. prolifera, D. bromeliifolius*
4300	open	*A. scabra, A. prolifera, A. gracilis*
3600	dense	*A. humilis, A. scabra, M. striata, M. thymoides,*
1300	dense	*A. scabra, A. prolifera*
400	open	100% bare earth
2700	dense	*A. scabra, A. prolifera, A. gracilis, D. bromeliifolius*
3300	semi-open	*A. scabra, A. gracilis, D. bromeliifolius, M. thymoides, A. prolifera*
5300	dense	*A. scabra, A. hypericifloia, A. prolifera, A. gracilis, A. juniperina*
5600	dense	*A. scabra, A. hypericifloia, A. prolifera, A. gracilis, D. bromeliifolius, Gastrolobium bilobum*
1000	semi-open	*A. humilis*
2100	dense	*A. scabra, A. prolifera*
1600	dense	*A. humilis, A. scabra*
9700	dense	*A. gracilis, A. scabra, M. thymoides*
3100	dense	*Agonis flexuosa, A. scabra*
8200	semi-open	*A. scabra, A. prolifera*
4500	dense	*A. scabra, A. gracilis, M. thymoides, A. cuneata*
3600	semi-open	*A. scabra, A. prolifera, Leucopogon obovatus*
10700	dense	*A. flexuosa, A. scabra*
4900	dense	*A. scabra, A. gracilis, A. humilis*
2550	open	*A. scabra, A. prolifera, A. gracilis*
2100	dense	*L. obovatus, A. scabra, A. gracilis*
4200	dense	*A. flexuosa, A. scabra, A. gracilis*
4300	dense	*L. obovatus, Gastroicbium lanceolatum, A. scabra, A. gracilis, D. bromeliifolius*
6600	dense	*A. scabra, A. gracilis, A. humilis*
1800	open	100% bare earth
5200	semi-open	*A. scabra, A. gracilis, A. prolifera, G. lanceolatum*
6100	open	*A. gracilis,* 99% bare earth
2700	dense	*A. scabra, L. obovatus*
5000	semi-open	*A. scabra, A. gracilis, A. flexuosa*
2800	open	*A. gracilis, A. scabra, A. flexuosa*
4700	open	*A. scabra, A. gracilis*
3500	semi-open	*A. flexuosa, A. scabra*
4150	open	100% bare earth
2900	dense	*A. scabra, A. cuneata*
5900	dense	*A. scabra, A. juniperina, D. bromeliifolius, A. hypericifloia, A. humilis*
2900	open	100% bare earth
2800	dense	*A. juniperina, A. scabra*
3300	dense	*A. fraseriana, A. scabra*
7800	dense	*E. marginata, A. scabra, A. juniperina*

APPENDIX 2 CONT. North-West Transect from Trap point 20

2000	dense	*A. juniperina, A. scabra, A. hypericifloia*
5800	dense	*A. fraseriana, A. scabra, A. hypericifloia*
3500	semi-open	*A. scabra, M. thymoides*
2900	dense	*A. cuneata, M. thymoides, A. scabra*
4250	semi-open	*A. scabra, A. gracilis, D. bromeliifolius, M. thymoides*

APPENDIX 2 CONT. South-West Transect from Trap point 20

2800	dense	*Melaleuca striata, Anarthria scabra, Melaleuca thymoides*
2200	open	*Agonis hypericifolia, Eucalyptus marginata*
5000	dense	*Allocasuarina fraseriana*
5500	dense	*M. striata, A. hypericifolia, A. scabra, Anarthria prolifera*
3300	semi-open	*A. fraseriana, Acacia leioderma, M. striata, A. scabra, A. gracilis*
2300	semi-open	*Adenanthos cuneata, A. scabra, M. thymoides*
3350	semi-open	*A. hypericifolia, Davisia sp., A. prolifera, A. scabra, Agonis parviceps*
7300	open	*A. scabra, Dasypogon bromeliifolius, A. gracilis, A. prolifera, Agonis juniperina*
7000	semi-open	*M. striata, A. scabra, D. bromeliifolius, A. gracilis*
1800	dense	*A. fraseriana, A. hypericifolia, A. scabra*
4500	dense	*M. striata, A. cuneata, M. thymoides, A. hypericifolia, A. scabra, A. gracilis*
6400	dense	*M. striata, A. hypericifolia, A. scabra, A. gracilis*
2900	open	*A. scabra, A. gracilis, Petrophile sp.*
3900	semi-open	*A. fraseriana, A. scabra, A. gracilis*
6700	open	*A. scabra, A. gracilis, D. bromeliifolius*
1600	dense	*A. fraseriana, A. scabra, A. gracilis, A. prolifera*
1800	semi-open	*Agonis flexuosa, M. thymoides, D. bromeliifolius, A. scabra, A. gracilis*
7400	dense	*A. scabra, A. gracilis, D. bromeliifolius, A. prolifera*
5300	dense	*A. flexuosa, A. scabra, A. gracilis*
3450	dense	*A. fraseriana, A. gracilis, A. scabra*
4100	dense	*A. scabra, A. prolifera, A. gracilis, A. fraseriana*
4900	semi-open	*A. juniperina, A. fraseriana, A. scabra, A. gracilis*
7100	dense	*Hibbertia furfuracea, A. scabra, A. fraseriana, Eucalyptus megacarpa*
4800	dense	*E. megacarpa, H. furfuracea, A. scabra, A. gracilis, Leucopogon obovatus*
7700	dense	*H. furfuracea, L. obovatus, A. prolifera*
5950	dense	*A. scabra, A. gracilis, A. prolifera, D. bromeliifolius, M. thymoides*
5300	dense	*A. scabra, A. prolifera, A. flexuosa*
2500	dense	*A. scabra, D. bromeliifolius*
2700	dense	*A. scabra, A. gracilis, A. prolifera*
3300	semi-open	*A. fraseriana, A. scabra, A. gracilis, A. prolifera*
8000	semi-open	*D. bromeliifolius, A. gracilis, A. prolifera, A. juniperina, H. furfuracea, M. thymoides*
3500	dense	*A. fraseriana, A. scabra, A. leioderma*
1100	semi-open	*A. juniperina, M. thymoides*
6300	dense	*A. scabra, A. fraseriana, A. juniperina*
9900	dense	*A. scabra, D. bromeliifolius, A. prolifera, Pultenaea reticulata, A. hypericifolia, M. thymoides*
8000	semi-open	*E. marginata, A. scabra, A. gracilis, A. juniperina, A. hypericifolia, A. prolifera, Xanthorrhoea sp.*
3550	open	*A. fraseriana, A. leioderma, A. scabra, A. juniperina, A. prolifera, A. hypericifolia*

APPENDIX 2 CONT. South-West Transect from Trap point 20

9500	semi-open	*A. juniperina, D. bromeliifolius, A. scabra, A. prolifera, Banksia attenuata*
5150	semi-open	*A. juniperina, A. scabra, A. leioderma, A. fraseriana*
3200	dense	*A. scabra, A. juniperina, A. leioderma, E. marginata, Tremandra stelligera*
9400	dense	*A. fraseriana, Eucalyptus calophylla, H. furfuracea, A. scabra, Hakea eliptica, Pteridium esculentum, A. leioderma*
4600	semi-open	*A. scabra, Xanthorrhoea sp., A. prolifera, E. marginata, H. furfuracea, A. parviceps, A. juniperina*
12900	dense	*A. scabra, P. esculentum, Boronis gracilipes, A. juniperina, A. hypericifolia, E. marginata, A. leioderma, M. thymoides*
4700	dense	*A. fraseriana, B. gracilipes, A. hypericifolia, A. scabra, A. prolifera, P. reticulata*
3700	dense	*E. marginata, A. juniperina, Leucopogon propinguus, A. prolifera, A. scabra, D. bromeliifolius*
4000	open	*D. bromeliifolius, A. gracilis, L. obovatus,* 60% bare earth
2400	open	*100% bare earth,* crossing firebreak track
1500	dense	*M. thymoides, A. juniperina, A. scabra*
1900	open	*A. scabra, D. bromeliifolius, A. hypericifolia*
4300	dense	*A. juniperina, A. scabra, M. thymoides, L. obovatus*
13800	dense	*A. scabra, E. marginata, A. juniperina, L. obovatus, M. thymoides, T. stelligera, Leucopogon parviflorus, A. leioderma*
2800	dense	*A. hypericifolia, H. furfuracea, A. scabra, A. prolifera, E. marginata, A. juniperina, A. fraseriana*
4150	open	*A. leioderma, Hakea ruscifolia, E. marginata, A. juniperina, A. scabra*
3700	semi-open	*H. furfuracea, P. reticulata, A. hypericifolia, L. obovatus, A. scabra, Xanthorrhoea sp., A. juniperina*
4300	open	*A. fraseriana, A. scabra, A. juniperina*
5500	semi-open	*A. juniperina, A. scabra, B. gracilipes, Xanthorrhoea sp., E. marginata, L. obovatus. A. hypericifolia*
5100	dense	*A. fraseriana, A. hypericifolia, A. prolifera, A. scabra, A. gracilis, E. marginata*
10100	semi-open	*A. hypericifolia, A. scabra, E. marginata, Xanthorrhoea* sp., *A. juniperina, Hakea ceratophylla, H. ruscifolia, A. leioderma*
4500	open	*A. hypericifolia, M. thymoides, Chorizema reticulatum, E. marginata, A. scabra*
5100	semi-open	*A. hypericifolia, Xanthorrhoea* sp., *H. ceratophylla, M. thymoides, C. reticulatum, E. marginata, A. scabra*
6200	open	*A. juniperina, E. marginata, A. scabra, M. thymoides, Isopogon longifolius, H. ruscifolia,* 40% bare earth
5800	dense	*A. scabra, M. thymoides, A. juniperina, H. ruscifolia, D. bromeliifolius, A. prolifera*
15700	open	*E. marginata, M. thymoides, A. hypericifolia, Xanthorrhoea* sp.,

APPENDIX 2 CONT. South-West Transect from Trap point 20

12800	semi-open	*A. juniperina, I. longifolius* *A. scabra, A. fraseriana, A. hypericifolia, M. thymoides, E. marginata*

Acacia leioderma
Adenanthos cuneatus
Agonis flexuosa
Agonis juniperina
Agonis hypericifolia
Agonis marginata
Agonis parviceps
Allocasuarina fraseriana
Allocasuarina humilis
Anarthria gracilis
Anarthria prolifera
Anarthria scabra
Banksia attenuata
Banksia grandis
Boronia gracilipes
Bossiaea sp.
Chorizema reticulatum
Conospermum caeruleum
Dasypogon bromeliifolius
Daviesia sp.
Dryandra formosa
Eucalyptus calophylla
Eucalyptus cornuta
Eucalyptus megacarpa
Eucalyptus marginata
Gastrolobium bilobum
Gastrolobium lanceolatum
Hakea ceratophylla
Hakea eliptica
Hakea ruscifolia
Hakea varia
Hibbertia furfuracea
Hypocalymma sp.
Isopogon longifolius
Lambertia uniflora
Leucopogon obovatus
Leucopogon parviflorus
Leucopogon propinquus
Leucopogon verticillatus
Melaleuca thymoides
Melaleuca striata
Nuytsia floribunda
Pteridium esculentum
Pultenaea reticulata
Petrophile sp.
Sphenotoma dracophylloides
Tremandra stelligera
Xanthorrhoea sp.

TABLE 9 TRANSECT DATA:Summary of Cover by Frequency

Variable	Frequency	Percent
open	252	23.1
semi-open	393	36.0
dense	448	41.0
Total	1093	100.0

Valid cases 1093

TABLE 10 TRANSECT DATA: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	4859.3779	4851.3839	1093	100.0
open	4711.1111	6962.9809	252	22.4
semi-open	5084.3511	4344.6869	393	37.6
dense	4745.4241	3694.4886	448	40.0

Total Cases = 1093

TABLE 11 TRANSECT DATA: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	422	38.6
Sedgeland	122	11.2
100% bare	27	2.5
Woodland with heathland	326	29.8
Forest with open heathland	124	11.3
Tall forest with open heathland	72	6.6
Total	1093	100.0

TABLE 12 TRANSECT DATA: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	4859.3779	4851.3839	1093	100.0
Heathland with sedgeland	4310.4265	3685.0565	422	34.2
Sedgeland	3118.8525	3038.8145	122	7.2
100% bare	7655.5556	16547.7475	27	3.9
Woodland with heathland	4518.0982	3218.2237	326	27.7
Forest with open heathland	6127.4194	4476.7482	124	14.3
Tall forest with open heathland	9338.8889	7047.3810	72	12.7

Total Cases = 1093

TABLE 13 TRANSECT DATA: Summary of Cover by Vegetation Group

Count	COVER open 1.00	semi-open 2.00	dense 3.00	Row Total
VEG. GROUP				
Heathland with sedgeland	73	145	204	422 38.6
Sedgeland	62	24	36	122 11.2
100% bare	27			27 2.5
Woodland with heathland	60	146	120	326 29.8
Forest with open heathland	18	49	57	124 11.3
Tall forest with open heathland	12	29	31	72 6.6
Column Total	252 23.1	393 36.0	448 41.0	1093 100.0

TABLE 14 SPOOL 1 MALE 16 (3/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	37	46.8
semi-open	22	27.8
dense	20	25.3
Total	79	100.0

TABLE 15 SPOOL 1: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of total length
	3694.0506	3295.6854	79	100.0
open	4581.6216	3709.2119	37	58.0
semi-open	3185.4545	3472.0993	22	24.1
dense	2611.5000	1459.2943	20	17.9

TABLE 16 SPOOL 1:Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
heathland with sedgeland	34	43.0
sedgeland	16	20.3
100% bare	2	2.5
woodland with heathland	23	29.1
forest with open heathland	4	5.1

TABLE 17 SPOOL 1: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of total length
For Entire Population	3694.0506	3295.6854	79	100.0
Heathland with sedgeland	3497.0588	2758.1115	34	40.8
Sedgeland	2703.7500	2146.6373	16	14.8
100% bare	2790.0000	2814.2850	2	1.9
Woodland with heathland	4821.7391	4419.6109	23	38.0
Forest with open heathland	3297.5000	3691.1821	4	4.5

TABLE 18 SPOOL 1:Summary of Cover by Vegetation Group

Count / VEG. GROUP	COVER open 1.00	semi-open 2.00	dense 3.00	Row Total
heathland with sedgeland	10	10	14	34
				43.0
sedgeland	11	2	3	16
				20.3
100% bare	2			2
				2.5
woodland with heathland	12	8	3	23
				29.1
forest with open heathland	2	2		4
				5.1
Column Total	37	22	20	79
	46.8	27.8	25.3	100.0

TABLE 19 SPOOL 2 MALE 16 (20/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	23	43.4
semi-open	16	30.2
dense	14	26.4
Total	53	100.0

TABLE 20 SPOOL 2: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5156.0377	4982.0583	53	100
open	7458.2609	6439.3504	23	62.8
semi-open	2841.8750	1898.9654	16	16.6
dense	4018.5714	2754.8052	14	20.6

Total Cases = 53

TABLE 21 SPOOL 2: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	24	45.3
Sedgeland	10	18.9
100% bare	4	7.5
Woodland with heathland	14	26.4
Forest with open heathland	1	1.9
Total	53	100.0

TABLE 22 SPOOL 2: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5156.0377	4982.0583	53	100.0
Heathland with sedgeland	3911.2500	2460.5183	24	34.4
Sedgeland	6052.0000	5618.8785	10	22.1
100% bare	2785.0000	2235.9711	4	4.1
Woodland with heathland	7595.0000	7745.2502	12	35.2
Forest with open heathland	11400.0000	.	1	4.2

Total Cases = 53

TABLE 23 SPOOL 2:Summary of Cover by Vegetation Group

Count	COVER open 1.00	semi-open 2.00	dense 3.00	Row Total
VEG. GROUP				
Heathland with Sedgeland	4	11	9	24
				45.3
Sedgeland	8	1	1	10
				18.9
100% bare	4			4
				7.5
Woodland with Heathland	6	4	4	12
				22.6
Forest with open heathland	1			1
				1.9
Column Total	23	16	14	53
	43.4	30.2	26.4	100.0

TABLE 24 SPOOL 3 MALE 20 (9/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	8	20.5
semi-open	14	35.9
dense	17	43.6
Total	39	100.0

TABLE 25 SPOOL 3: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	8052.3077	10944.9475	39	100.0
open	3208.7500	2554.8801	8	8.2
semi-open	8220.7143	9737.1852	14	36.6
dense	10192.9412	13710.9823	17	55.2

Total Cases = 39

TABLE 26 SPOOL 3: Summary of Vegetation Group by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	8	20.5
Sedgeland	1	2.6
100% bare	3	7.7
Woodland with heathland	4	10.2
Forest with open heathland	6	15.4
Tall forest with open heathland	17	43.6
Total	39	100.0

TABLE 27 SPOOL 3: Summary of Vegetation Group by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	8052.3077	10944.9475	39	100.0
Heathland with sedgeland	3880.0000	2710.3611	8	9.9
Sedgeland	670.0000	.	1	0.2
100% bare	3233.3333	4130.7788	3	3.1
Woodland with heathland	5000.0000	2080.0641	4	6.4
Forest with open heathland	3445.0000	1854.1818	6	6.6
Tall forest with open heathland	13644.7059	14740.7544	17	73.9

TABLE 28 SPOOL 3: Summary of Cover by Vegetation group

Count	COVER open 1.00	semi-open 2.00	dense 3.00	Row Total
TYPE				
Heathland with sedgeland	3	1	4	8
				20.5
Sedgeland			1	1
				2.6
100% bare	1	2		3
				7.7
Woodland with heathland	1	2	1	4
				10.3
Forest with open heathland	1	3	2	6
				15.4
Tall forest with open heathland	2	6	9	17
				43.6
Column Total	8	14	17	39
	20.5	35.9	43.6	100.0

TABLE 29 SPOOL 4 MALE 20 (20/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	12	29.3
semi-open	12	29.3
dense	17	41.5
Total	41	100.0

TABLE 30 SPOOL 4: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2870.7317	2716.3858	41	100.0
open	2231.6667	961.6826	12	22.8
semi-open	1953.3333	950.6776	12	19.9
dense	3969.4118	3869.0623	17	57.3

Total Cases = 41

TABLE 31 SPOOL 4: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	27	65.9
Sedgeland	5	12.2
100% bare	4	9.8
Woodland with heathland	4	9.8
Forest with open heathland	1	2.4
Total	41	100.0

TABLE 32 SPOOL 4: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2870.7317	2716.3858	41	100.0
Heathland with sedgeland	3347.4074	3203.6453	27	76.8
Sedgeland	2160.0000	868.8786	5	9.2
100% bare	1330.0000	741.4850	4	4.5
Woodland with heathland	1945.0000	763.3916	4	6.6
Forest with open heathland	3420.0000	.	1	2.9

Total Cases = 41

TABLE 33 SPOOL 4: Summary of Cover by Vegetation Groups

	COVER			
Count	open	semi-open	dense	Row
VEG. GROUP	1.00	2.00	3.00	Total
Heathland with sedgeland	2	10	15	27
				65.9
Sedgeland	2	1	2	5
				12.2
100% bare	4			4
				9.8
Woodland with heathland	3	1		4
				9.8
Forest with open heathland	1			1
				2.4
Column Total	12	12	17	41
	29.3	29.3	41.5	100.0

TABLE 34 SPOOL 5 FEMALE 21 (2/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	15	39.5
semi-open	14	36.8
dense	9	23.7
Total	38	100.0

TABLE 35 SPOOL 5: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	7497.6316	7672.1643	38	100.0
open	10298.6667	8167.2524	15	54.2
semi-open	6322.8571	8134.6490	14	31.1
dense	4656.6667	4665.7127	9	14.7

Total Cases = 38

TABLE 36 SPOOL 5: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with Sedgeland	12	31.6
Sedgeland	13	34.2
Woodland with heathland	13	34.2
Total	38	100.0

TABLE 37 SPOOL 5: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	7497.6316	7672.1643	38	100.0
Heathland with sedgeland	6538.3333	8744.1213	12	41.0
Sedgeland	4822.3077	6805.7796	13	22.0
Woodland with heathland	6909.0000	8077.9101	13	37.0

Total Cases = 38

TABLE 38 SPOOL 5: Summary of Cover by Vegetation Groups

	COVER			
Count	open	semi-open	dense	Row
TYPE	1.00	2.00	3.00	Total
Heathland with sedgeland	4	4	4	12
				31.6
Sedgeland	6	3	4	13
				34.2
Woodland with heathland	5	7	1	13
				34.2
Column Total	15	14	9	38
	39.5	36.8	23.7	100.0

TABLE 39 SPOOL 6 FEMALE 21 (6/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	10	43.5
semi-open	8	34.8
dense	5	21.7
Total	23	100.0

TABLE 40 SPOOL 6: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2756.9565	1468.0892	23	100.0
open	2490.0000	1357.6532	10	39.3
semi-open	2646.2500	1027.2006	8	33.4
dense	3468.0000	2241.8006	5	27.3

Total Cases = 23

TABLE 41 SPOOL 6: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	10	43.5
Sedgeland	10	43.5
100% bare	3	13.0
Total	23	100.0

TABLE 42 SPOOL 6: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2756.9565	1468.0892	23	100.0
Heathland with sedgeland	2878.0000	1188.0685	10	45.4
Sedgeland	2807.0000	1701.6466	10	44.3
100% bare	2186.6667	1937.1457	3	10.3

Total Cases = 23

TABLE 43 SPOOL 6: Summary of Cover by Vegetation Groups

		COVER			
	Count	open	semi-open	dense	
		1.00	2.00	3.00	Row Total
VEG. GROUP					
Heathland with sedgeland		1	7	2	10
					43.5
Sedgeland		6	1	3	10
					43.5
100% bare		3			3
					13.0
	Column Total	10	8	5	23
		43.5	34.8	21.7	100.0

TABLE 44 SPOOL 7 FEMALE 21 (20/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	22	31.4
semi-open	32	45.7
dense	16	22.9
Total	70	100.0

TABLE 45 SPOOL 7: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	4536.5714	3398.8770	70	100.0
open	4860.0000	3753.7105	22	33.7
semi-open	4325.3125	3606.7920	32	43.63
dense	4514.3750	2506.0087	16	22.7

Total Cases = 70

TABLE 46 SPOOL 7: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	27	38.6
Sedgeland	16	22.9
100% bare	4	5.7
Woodland with heathland	17	24.3
Forest with open heathland	6	8.6
Total	70	100.0

TABLE 47 SPOOL 7: Summary of Vegetation group by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	4536.5714	3398.8770	70	100.0
Heathland with sedgeland	4197.0370	2787.9960	27	35.6
Sedgeland	3334.3750	2768.2051	16	16.8
100% bare	2450.0000	1059.0877	4	3.0
Woodland with heathland	6027.6417	4329.7871	17	32.4
Forest with open heathland	6436.6667	3837.8206	6	12.2

Total Cases = 70

TABLE 48 SPOOL 7: Summary of Cover by Vegetation Groups

	COVER			
Count	open	semi-open	dense	Row
TYPE	1.00	2.00	3.00	Total
Heathland with sedgeland	3	13	11	27
				38.6
Sedgeland	8	6	2	16
				22.9
100% bare	4			4
				5.7
Woodland with heathland	4	10	3	17
				24.3
Forest with open heathland	3	3		6
				8.6
Column Total	22	32	16	70
	31.4	45.7	22.9	100.0

TABLE 49 SPOOL 8 FEMALE 23 (3/5/96): Summary of Cover by Frequeny

Variable	Frequency	Percent
open	41	39.0
semi-open	31	29.5
dense	33	31.4
Total	105	100.0

TABLE 50 SPOOL 8: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2917.8095	2011.7573	105	100.0
open	3453.6585	2486.1172	41	46.2
semi-open	2551.6129	1493.7360	31	25.8
dense	2596.0606	1652.5642	33	28.0

Total Cases = 105

TABLE 51 SPOOL 8: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	42	40.0
Sedgeland	12	11.4
100% bare	3	2.9
Woodland with heathland	47	44.8
Forest with open heathland	1	1.0
Total	105	100.0

TABLE 52 SPOOL 8: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2917.8095	2011.7573	105	100.0
Heathland with sedgeland	2595.4762	1674.3170	42	35.6
Sedgeland	4037.5000	3648.0259	12	15.8
100% bare	896.6667	554.2863	3	0.9
Woodland with heathland	3045.1064	1658.3581	47	46.7
Forest with open heathland	3100.0000	.	1	0.1

Total Cases = 105

TABLE 53 SPOOL 8: Summary of Cover by Vegetation Groups

Count	COVER open 1.00	semi-open 2.00	dense 3.00	Row Total
VEG. GROUP				
Heathland with sedgeland	10	15	17	42
				40.0
Sedgeland	9	2	1	12
				11.4
100% bare	3			3
				2.9
Woodland with heathland	19	13	15	47
				44.8
Forest with open heathland		1		1
				1.0
Column Total	41	31	33	105
	39.0	29.5	31.4	100.0

TABLE 54 SPOOL 9 FEMALE 25 (3/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	18	30.5
semi-open	19	32.2
dense	22	37.3
Total	59	100.0

TABLE 55 SPOOL 9: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5292.2034	5462.1532	59	100.0
open	4671.6667	6108.1568	18	26.9
semi-open	4240.0000	3602.8908	19	25.8
dense	6708.6364	6135.0448	22	47.3

TABLE 56 SPOOL 9: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	28	47.5
Sedgeland	10	16.9
100% bare	2	3.4
Woodland with heathland	14	23.7
Forest with open heathland	5	8.5
Total	59	100.0

TABLE 57 SPOOL 9: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5292.2034	5462.1532	59	100.0
Heathland with sedgeland	5634.6429	5523.6907	28	50.5
Sedgeland	1404.0000	1064.6773	10	4.5
100% bare	1385.0000	261.6295	2	0.9
Woodland with heathland	7899.2857	6002.9588	14	35.4
Forest with open heathland	5414.0000	6076.0991	5	8.7

Total Cases = 59

TABLE 58 SPOOL 9: Summary of Cover by Vegetation Groups

Count	COVER			
	open	semi-open	dense	
	1.00	2.00	3.00	Row Total
VEG. GROUP				
Heathland with sedgeland	1	10	17	28
				47.5
Sedgeland	8	1	1	10
				16.9
100% bare	2			2
				3.4
Woodland with heathland	6	5	3	14
				23.7
Forest with open heathland	1	3	1	5
				8.5
Column Total	18	19	22	59
	30.5	32.2	37.3	100.0

TABLE 59 SPOOL 10 FEMALE 25 (9/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	9	20.9
semi-open	16	37.2
dense	18	41.9
Total	43	100.0

TABLE 60 SPOOL 10: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2508.6047	1293.1976	43	100.0
open	2130.0000	1467.1060	9	17.8
semi-open	2741.2500	1157.6002	16	40.7
dense	2491.1111	1345.0952	18	41.5

Total Cases = 43

TABLE 61 SPOOL 10: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	12	27.9
Sedgeland	4	9.3
Woodland with heathland	10	23.3
Forest with open heathland	9	20.9
Tall forest with open heathland	8	18.6
Total	43	100.0

TABLE 62 SPOOL 10: Summary of Vegetation groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	2508.6047	1293.1976	43	100.0
Heathland with sedgeland	2580.8333	1315.4084	12	28.8
Sedgeland	1760.0000	1306.0883	4	6.5
Woodland with heathland	2069.0000	1117.6608	10	19.2
Forest with open heathland	3337.7778	1442.5739	9	27.8
Tall forest with open heathland	2391.2500	1046.2783	8	17.7

Total Cases = 43

TABLE 63 SPOOL 10: Summary of Cover by Vegetation Groups

Count	COVER			
	open	semi-open	dense	
	1.00	2.00	3.00	Row Total
VEG. GROUP				
Heathland with sedgeland	2	4	6	12
				27.9
Sedgeland	2	1	1	4
				9.3
Woodland with heathland	3	2	5	10
				23.3
Forest with open heathland		6	3	9
				20.9
Tall forest with open heathland	2	3	3	8
				18.6
Column Total	9	16	18	43
	20.9	37.2	41.9	100.0

TABLE 64 SPOOL 11 FEMALE 25 (20/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	13	26.5
semi-open	22	44.9
dense	14	28.6
Total	49	100.0

TABLE 65 SPOOL 11: Summary of Cover by Distance

Summaries of DISTANCE
By levels of COVER

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	3313.8776	3195.4237	49	100.0
open	4605.3846	4016.7288	13	36.9
semi-open	2055.4545	1395.1232	22	27.8
dense	4092.1429	3829.3265	14	35.3

Total Cases = 49

TABLE 66 SPOOL 11: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	22	44.9
Sedgeland	8	16.3
100% bare	2	4.1
Woodland with heathland	15	30.6
Forest with open heathland	2	4.1
Total	49	100.0

TABLE 67 SPOOL 11: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	3313.8776	3195.4237	49	100.0
Heathland with sedgeland	3468.6364	3614.2012	22	47.0
Sedgeland	2715.0000	2553.5521	8	13.4
100% bare	5425.0000	6187.1843	2	6.7
Woodland with heathland	3205.3333	2911.2463	15	29.6
Forest with open heathland	2710.0000	84.8528	2	3.3

Total Cases = 49

TABLE 68 SPOOL 11: Summary of Cover by Vegetation Groups

	COVER			
Count	open	semi-open	dense	Row
VEG. GROUP	1.00	2.00	3.00	Total
Heathland with sedgeland	2	9	11	22
				44.9
Sedgeland	5	3		8
				16.3
100% bare	2			2
				4.1
Woodland with heathland	3	10	2	15
				30.6
Forest with open heathland	1		1	2
				4.1
Column Total	13	22	14	49
	26.5	44.9	28.6	100.0

TABLE 69 SPOOL 12 MALE 26 (3/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	13	33.3
semi-open	19	48.7
dense	7	17.9
Total	39	100.0

TABLE 70 SPOOL 12: Summary of Covery by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5688.4615	5389.9046	39	100.0
open	7320.0000	6970.4149	13	42.9
semi-open	5456.8421	4745.4435	19	46.7
dense	3287.1429	2567.9351	7	10.4

Total Cases = 39

TABLE 71 SPOOL 12: Summary of Vegetation Groups by Frequency

Value	Frequency	Percent
Heathland with sedgeland	7	17.9
Sedgeland	7	17.9
Woodland with heathland	20	51.3
Forest with open heathland	5	12.8
Total	39	100.0

TABLE 72 SPOOL 12: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5688.4615	5389.9046	39	100.0
Heathland wityh sedgeland	2692.8517	1052.1203	7	8.5
Sedgeland	2815.7143	2297.8893	7	8.9
Woodland with heathland	5582.0000	3355.8631	20	50.3
Forest with open heathland	14330.0000	9453.1846	5	32.3

Total Cases = 39

TABLE 73 SPOOL 12: Summary of Cover by Vegetation Groups

	COVER			
Count	open	semi-open	dense	Row
VEG. GROUP	1.00	2.00	3.00	Total
Heathland with sedgeland		4	3	7
				17.9
Sedgeland	4	1	2	7
				17.9
Woodland with heathland	6	12	2	20
				51.3
Forest with open heathland	3	2		5
				12.8
Column Total	13	19	7	39
	33.3	48.7	17.9	100.0

TABLE 74 SPOOL 13 MALE 26 (9/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	20	27.0
semi-open	28	37.8
dense	26	35.1
Total	74	100.0

TABLE 75 SPOOL 13: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	4444.3243	5952.2877	74	100.0
open	8804.5000	9784.1217	20	53.5
semi-open	2607.8571	1733.5798	28	22.2
dense	3068.0769	2549.3074	26	24.3

Total Cases = 74

Table 76 SPOOL 13: Summary of Vegetation Groups By Frequency

Variable	Frequency	Percent
Heathland with sedgeland	39	52.7
Sedgeland	19	25.7
100% bare	4	5.4
Woodland with heathland	12	16.2
Total	74	100.0

TABLE 77 SPOOL 13: Summary of Vegetation Groups By Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	4444.3243	5952.2877	74	
Heathland with sedgeland	5021.0256	6519.0796	39	59.6
Sedgeland	2873.6842	3327.4618	19	16.6
100% bare	2922.5000	1628.6881	4	3.5
Woodland with heathland	5564.1167	7862.5851	12	20.3

Total Cases = 74

TABLE 78 SPOOL 13: Summary of Cover by Vegetation Groups

	COVER			
Count	open	semi-open	dense	
	1.00	2.00	3.00	Row Total
VEG. GROUP				
Heathland with sedgeland	4	15	20	39
				52.7
Sedgeland	8	7	4	19
				25.7
100% bare	4			4
				5.4
Woodland with heathland	4	6	2	12
				16.2
Column Total	20	28	26	74
	27.0	37.8	35.1	100.0

TABLE 79 SPOOL 14 MALE 26 (20/5/96): Summary of Cover by Frequency

Variable	Frequency	Percent
open	21	35.0
semi-open	21	35.0
dense	18	30.0
Total	60	100.0

TABLE 80 SPOOL 14: Summary of Cover by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5641.6667	6028.9503	60	100.0
open	8901.9048	9093.2924	21	55.2
semi-open	3272.8571	1841.2853	21	20.3
dense	4601.6667	1916.8425	18	24.5

Total Cases = 60

TABLE 81 SPOOL 14: Summary of Vegetation Groups by Frequency

Variable	Frequency	Percent
Heathland with sedgeland	22	36.7
Sedgeland	7	11.7
100% open	7	11.7
Woodland with heathland	20	33.3
Forest with open heathland	4	6.7
Total	60	100.0

TABLE 82 SPOOL 14: Summary of Vegetation Groups by Distance

Variable	Mean	Std Dev	Cases	% of Total Length
For Entire Population	5641.6667	6028.9503	60	100.0
Heathland with sedgeland	5522.2727	4688.5727	22	35.9
Sedgeland	6627.1429	9519.9557	7	13.7
100% bare	4751.4286	6074.0224	7	9.8
Woodland with heathland	4947.5000	5385.5155	20	20.8
Forest with open heathland	9602.5000	9689.3081	4	29.2

Total Cases = 60

TABLE 83 SPOOL 14: Summary of Cover by Vegetation Groups

Count	COVER			
	open 1.00	semi-open 2.00	dense 3.00	Row Total
VEG. GROUP				
Heathland with sedgeland	5	7	10	22
				36.7
Sedgeland sedge	4	3		7
				11.7
100% bare	7			7
				11.7
Woodland with heathland	3	10	7	20
				33.3
Forest with open heathland	2	1	1	4
				6.7
Column Total	21	21	18	60
	35.0	35.0	30.0	100.0

Measurements of runnel height				
240		Number of observations = 34.00		
200				
300		Mean = 242.35		
310		Standard deviation = 39.93		
160		Maximum = 310.00		
270		Minimum = 160		
260				
240				
310				
230				
210				
200				
210				
260				
240				
240				
280				
220				
170				
200				
220				
300				
200				
280				
280				
220				
260				
250				
300				
220				
220				
260				
200				
280				