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REPORT TO THE SHIRE OF KELLERBERRIN
**VEGETATION CONDITION AND THREATENED
AND ENDANGERED FLORA ON FOUR ROAD
RESERVES WITHIN THE SHIRE OF
KELLERBERRIN**

PORTIONS OF:

BAANDEE NORTH ROAD

GOLDFIELDS ROAD

DOODLAKINE SOUTH ROAD

KWOLYIN WEST ROAD

Baandee North Rd



INTRODUCTION

I have been contracted by the Shire of Kellerberrin to survey a number of roads in the Shire to specifically report on the condition of vegetation in those areas and to search for certain plant species which have been identified by the Department of Environmental Regulation as being likely to exist in those areas.

Although not able to offer any opinion on the habitat value of the trees in the survey area, which was requested by DER, I did also assist Dylan Copeland to compile the baseline data required to effectively continue that line of enquiry by a qualified expert in the field. This was done in conjunction with the flora survey.

METHODOLOGY

Prior research allowed me to study and identify the particular plant species which DER targeted as threatened or priority species and may be present on the road verges of the road reserves which were surveyed.

The roads were driven and vegetation conditions were noted during progress, and meticulous care was taken where any remnant vegetation was identified to search for the target species. Attention was also paid to species which were unusual or unknown to me.

Numerous stops were made to identify understory and mid story species where they occurred.

The results of these surveys are outlined in the following narrative and are described under headings according to each separate road.

BAANDEE NORTH ROAD FROM GOLDFIELDS ROAD TO 2.3 KM NORTH.



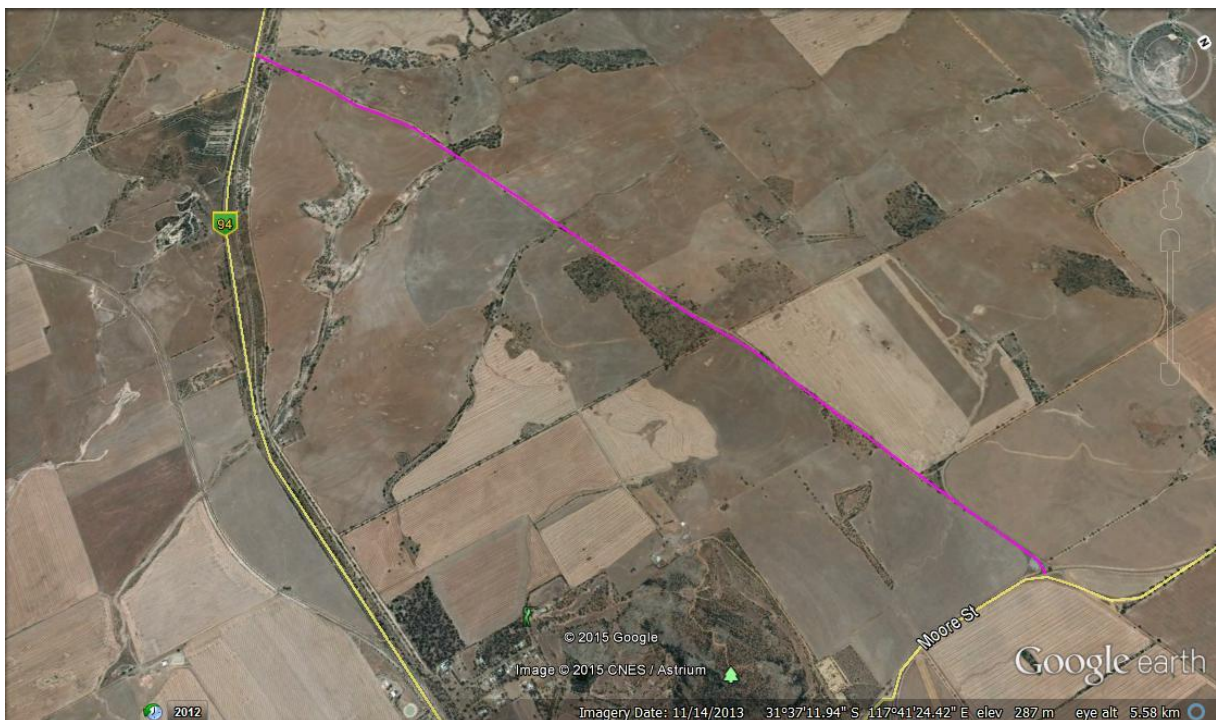
The road reserve is a 2 chain road reserve and therefore has wide verges beyond the constructed road width. The land is flat with few undulations and supports low drainage and creek areas. The overstory is predominantly *Eucalyptus salmonophloia* (Salmon Gum), with intrusions of *Eucalyptus salubris* (Gimlet) and *Eucalyptus longicornis* (Morell). *Eucalyptus* species are mature and dominate the road reserve for the entire length of the survey area. It is likely that approximately 15% of these trees will be impacted by road widening activities.

Mid story species are sporadic in density and occur in open areas not dominated by *Eucalypts*. They are typical valley floor species comprised of *Melaleuca lateriflora*, *Melaleuca pauperiflora*, *Pittosporum phylliaroides* and *Senna artemisioides*.

Understory species were dominated by saltbush species and included *Atriplex nummularia*, *Atriplex vesicaria*, *Atriplex semibaccata*, *Maireana brevifloia*, *Maireana georgii* and *Enchylaena tomentosa*. Various developing annual species of flowers were also evident in open areas away from *Eucalypts*.

Except for an area at the corner of Baandee Rd and Goldfields Rd, weed burdens were low due to the dominance of saltbush species. Generally the ecosystem on this road is functioning well, with the understory species providing stable habitat and diversity commensurate with a dominant *Eucalyptus* overstory on valley floor soils of mostly clay bases.

GOLDFIELDS ROAD FROM GREAT EASTERN HIGHWAY TO BENCUBBIN – KELLERBERRIN ROAD. 6 KILOMETRES



This road is undulating country with a variety of soil types along its' 6 kilometre length, intersecting creeklines and hills. It is only a one chain wide road reserve and after taking into account the present constructed road width, there is only 2 – 3 metres of remnant left before fencing is encountered.

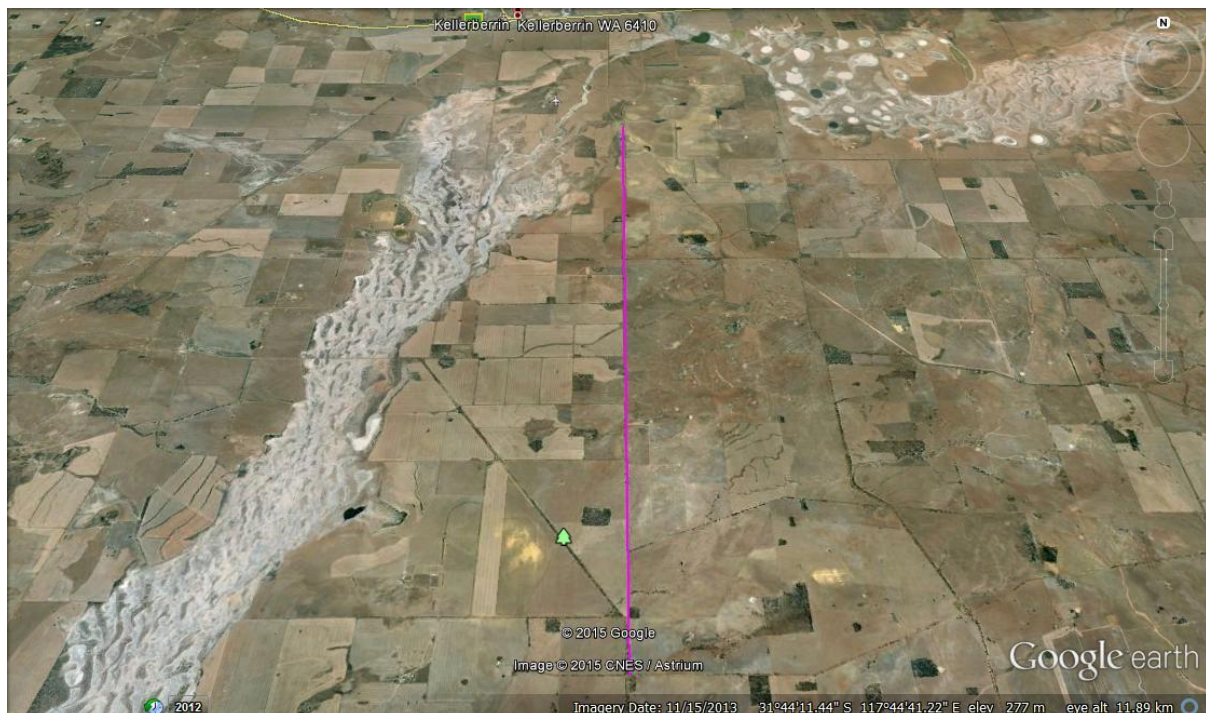
Overstory species are dominated by *Eucalyptus loxophleba* – *loxophleba* (York Gum) and *Acacia acuminata* (Jam). There are isolated occurrences of *Eucalyptus capillosa* (White gum) and *Eucalyptus longicornis* but only as single trees. The overstory trees are sporadic except where they traverse through a sparse bush area near Melvin Road, where they become more frequent. In all, Eucalypt species occur on about 20% of the road reserve. There are also occurrences of a declared weed tree species, the Tamarisk (*Tamarix aphylla*).

Mid story species are sparse and include *Acacia microbotria* (Manna wattle), *Pittosporum phylliaroides* (Willow), *Allocasuarina huegelliana*(Rock sheoak), *Senna artemisioides*, *Grevillea paniculata* (Vanilla bush) and *Maireana brevifolia* (Bluebush).

Understory species are completely non existent. The road verges and reserve are completely dominated by agricultural weeds. Weed density on the road reserve is close to 99%. Ecosystem function at ground level is zero. Remnant overstory and mid story are in a state of decline and there is evidence of damage by agricultural chemical spraying also.

Generally the road as a whole is in a serious state of decline, with little ecosystem function. It is dominated by agricultural weeds. Road widening activities will impact the majority of remnant trees left in this road reserve.

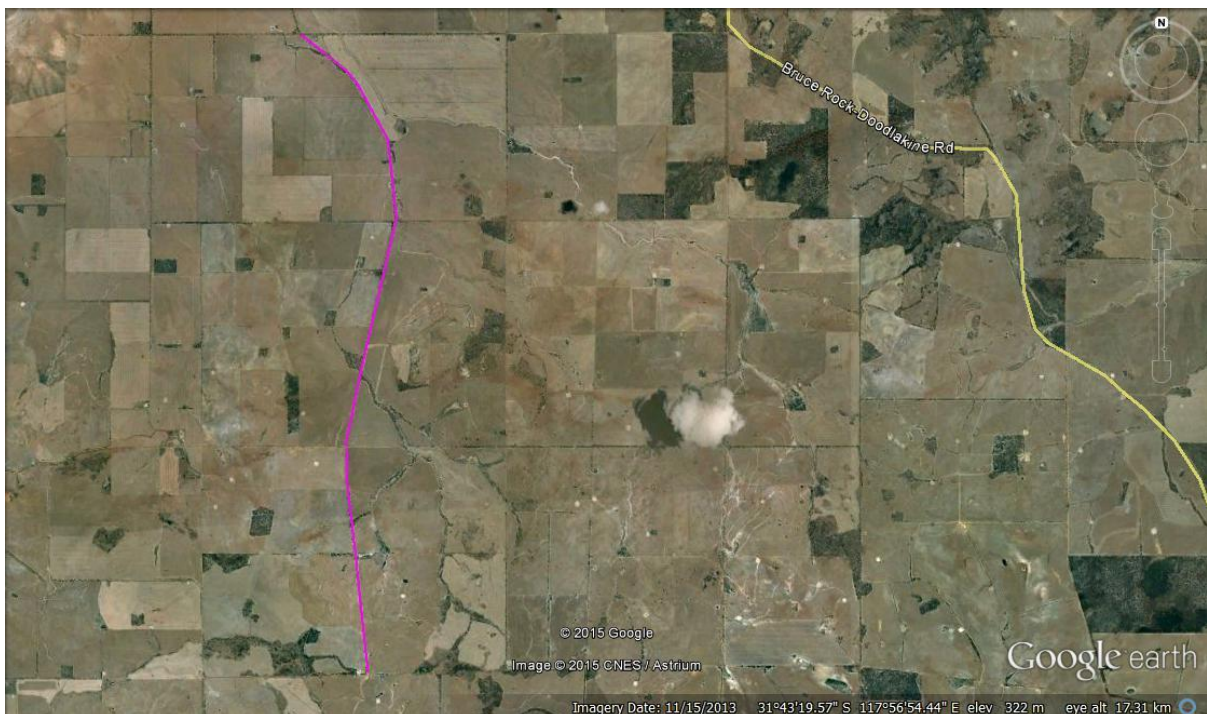
KWOLYIN WEST ROAD FROM DAADENING CREEK ROAD TO SHACKLETON – KELLERBERRIN ROAD. 12.1 KILOMETRES



Kwolyin West Road is a two chain road reserve and is mildly undulating. It comprises overstory species which alternate depending on the soil type, from *Eucalyptus salmonophloia* to *Eucalyptus loxophleba*. The majority of tree species on the roadside however, are cultivated species of mixed Eucalypt species. Remnant Eucalypts comprise half the Eucalypts on the road and generally, the remnant comprises approximately 10% coverage over the length of the road.

There are no mid story species apart from the odd *Acacia acuminata* and *Senna artemisioides*. There are no occurrences of understory, except isolated saltbush (*Atriplex nummularia* and *Maireana brevifolia*) where the road intersects drainage lines. The road is dominated by agricultural weeds. It is likely that approximately 10% of roadside trees will be impacted by road widening activities.

DOODLAKINE SOUTH ROAD FROM STONE GILES ROAD TO FIRE ROAD, 11.5 KM



This is a one chain road reserve dominated by *Eucalyptus salmonophloia* and *Eucalyptus salubris* for the northern half of the road. Trees are mature and are intersected by small *Eucalyptus loxophleba* occurrences where the road meets drainage lines. Approximately 20% coverage of Salmon gum is evident for the first 5.5 km heading south from Stone Giles Rd. York gum occurs for the next 1 km until Smith Rd. From Smith Rd to the end soils change from low landscape position to undulating sandplain. From Smith Rd to the end, mostly cultivated mixed Eucalypts have been planted as windbreaks.

Salmon gum occurrences tend to be isolated to one side of the road or the other over much of the northern half of the road. Road widening activities will impact the majority of the trees. They are most numerous at the northern end of the road for the first 1 kilometre.

Small occurrences of *Senna artemisioides* and saltbush species near drainage lines are the only evidence of mid story species. On the sandplain hill 1 kilometre south of Smith Rd there

are small occurrences of sandplain species such as *Acacia bidentata* and *Grevillea paradoxa*, but are single shrubs in isolation.

Understory is non-existent and totally dominated by agricultural weeds.

In summary, although there are numerous soil type changes, very mature Salmon gum dominates as the overstory to 20% cover on the northern half of the road. The majority will be impacted by road widening activities. There is no mid or understory ecosystem function.

TARGET SPECIES SURVEY

In their response to the Shire of Kellerberrin in relation to clearing permit applications, the Department of Environmental Regulation listed specific species which should be searched for.

BAANDEE NORTH ROAD

Boronia adamsiana,
Philothea basistyla
Eucalyptus leptophylla var. *floribunda*
Acacia sclerophylla var. *pilosa*

DOODLAKINE SOUTH ROAD

Grevillea dryandroides
Baeckea sp. *Tampia Hill*

GOLDFIELDS ROAD

Acacia cowaniana

KWOLYIN WEST ROAD

Leucopogon amplexans
Baeckea sp. *Kellerberrin*

DISCUSSION

None of the species listed by DER were found and no species were found which were threatened or priority listed, which were not listed by DER.

My role was to report on the vegetation condition of the road reserves discussed above and to specifically search for those species listed by the Department of Environmental Regulation.

Apart from Baandee North Road which has a functioning ecosystem at ground level, all roads were dominated by agricultural weeds with few sparsely occurring remnant mid and

understory species. Baandee North Road has the advantage of a two chain road reserve and road widening activities will not impact the majority of the mid and understory populations identified, as they will be outside of the work area.

Overstory species were very mature species and provided excellent bird nesting habitat, evidence of which will be reported separately by Dylan Copeland, consulting NRM officer for Kellerberrin Shire.

As I am not privy to the scope of works which are planned, any comment as to the percentage of trees which will be impacted by road widening activities have been based on the fact that the trees are so close to the present constructed road, that it will be unavoidable not to clear them.

There are no other mitigating circumstances, botanically, to add which are significant enough to warrant mention.

Stephen Fry
23.9.2015