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# REPORT

## Evaluation of Environmental Assessmentof Sues Road Transport Route

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# EVALUATION OF ENVIRONMENTAL ASSESSMENT OF SUES ROAD TRANSPORT ROUTE, WITH REGARD TO THE PHYTOPHTHORA CINNAMOMI FUNGUS CAUSING DIEBACK DISEASE.

## 1). INTRODUCTION

A report has been submitted by Environmental consultants W. G. Martinick & Associates Pty Ltd for Cable Sands (W.A.) Pty Ltd. The report details environmental impact of the proposed transport route for the Jangardup project. The specific impact of the fungus Phytophthora cinnamomi (Pc) was mapped according to four categories.

viz: i). No observed impact.
ii). Moderate impact.
iii). High impact.
iv). Interpretation made difficult by recent burning.

Bunbury Inventory interpreters assessed the report with regard to Pc impact, during 5 days of field reconnaisance. Six gravel pits proposed for servicing the upgrading of Sues Road were also assessed for Pc presence.

## 2). METHOD

Sues Road was traversed by vehicle starting at the northern end. Changes in categories on the map supplied with the report were scaled off and measured by vehicle odometer. These categories were verified or changed according to interpretation standards of C.A.L.M. dieback interpreters. A new map was compiled using standard C.A.L.M. Hygiene categories.

viz: i). Dieback
ii). Dieback free
iii). Low potential risk
iv). Uninterpretable

The hygiene category 'Not effectively quarantined' (NEQ) is assumed to apply to the entire length of Sues Road.

## 3). RESULTS

### 3.1 UNINTERPRETABLE

No uninterpretable category was allowed for by the consultants in their report. Interpreters assumed any uninterpretable forest would be categorised 'No observed impact' by the consultants. Uninterpretable forest was found in two forms:-

i) Uninterpretable due to a natural lack of Pc indicator species.
ii) Uninterpretable due to recent burning (less than 3 years since the last burn).

1250m uniterpretable forest, due to natural lack of Pc indicator species, was found in four separate locations (refer to maps).

11450m uninterpretable forest, due to recent burning was located in two main sections on separate sides of Sues Road.

The first section of uninterpretable, due to burning, is on the western side of Sues Road for 4350m north of Sues Bridge. Understorey species within this section have not regenerated sufficiently to allow interpretation.

The second section of uninterpretable forest resulting from recent burning is situated on the eastern side of Sues Road, south of Sues Bridge through to the Brockman Highway (7100m).

Low Potential risk of Pc spread is associated with uninterpretable forest. The section North of Sues Bridge, a result of recent burning, places 127 ha of forest at risk at this point in time. The section south of Sues Bridge (eastern side of the road) transects flat swampy terrain. This increases the Low Potential Risk area dramatically. In fact, it is not practical to calculate the whole area that may be affected by the Low Potential risk category. Moreover, it is suspected that their may be vast areas of dieback disease within these flats. Indicated by sporadic sudden death of Pc indicator species.

### 3.2 DIEBACK AND DIEBACK FREE FOREST

34km of Sues Road is infected by Pc. This figure accounts for the disease being located on at least one side of the road. 2km of Sues Road is Pc free on both sides of the road. This category occurs in 3 separate sections (refer to maps). There are many discrepencies between the consultants report and the map produced by Inventory, with regard to actual disease location. The

report recognised eleven separate locations of Pc free road on both sides, compared to 3 areas found by a dieback interpreter.

Twelve separate low potential risk areas have been identified, with a total area of 343 ha. These areas are at risk of infection as a result of the N.E.Q. status of the road. They describe the area that may be infected if Pc is introduced. For the purpose of this survey the low potential risk area has only been taken to the first micro catchment area from the road.

3.2.1 DISEASE EXPRESSION

Except through uninterpretable areas, disease expression was positive and obvious. Common Pc indicator species were abundant. They included Banksia grandis, Xanthorrhea preissii, Xanthorrhea gracilis, Persoonia longifolia and Patersonia xanthina. Less common Pc indicators found were Lomandra sanderi and Patersonia rudis.

3.3 DISEASE IMPACT

Many current high Pc impact sites exist along Sues Road. These have been accurately recorded in the report and mapped in the category 'high impact'.

3.4 PREDICTED DISEASE IMPACT

The consultants report distiguishes six separate vegetation types that may be used to predict Pc impact.

3.4.1 VEGETATION TYPE 1

This type is summarised by the report as Jarrah, Banksia grandis and Sheoak forest. The type correlates with Havel vegetation types P and S, which are often considered to suffer a potential high impact after introducing Pc.

3.4.2 VEGETATION TYPE 2

This type is summarised as Banksia attenuata open woodland. The report describes the soil profile of this type as a 'deep grey sand with no gravel'. This fact may lessen the impact of Pc on the type, however, the vegetation components still align well with Havel P type. Overall, this type should be classed as having a potential high impact if Pc is introduced.

### 3.4.3 VEGETATION TYPE 3

This type is summarised as Jarrah-Marri forest. The report recognises an increase in Marri (Eucalyptus calophylla) and a decrease in Allocasurina fraseriana and Banksia grandis. These changes suggest an increase in soil fertility within the type. This suggestion is supported by the presence of recognised fertile indicator species, Acacia extensa, Leucopogon veticillatus and Persoonia longifolia. Pc impact is predicted to be low, as a result of increased fertility in the soil of this type.

### 3.4.4 VEGETATION TYPE 4

This type is summarised as Jarrah, Marri Agonis flexuosa, Riverine forest. This type is obviously fertile, as shown by the soil description of yellow brown and red brown loamy soils. Fertility is also indicated by the height of the forest, reported as the 'tallest and densest' within the area.
Pc impact is predicted to be low within this type.

### 3.4.5 VEGETATION TYPE 5

This type is summarised as 'Thicket'. The presence of Agonis parviceps on this type may indicate impeded drainage due to clay or laterite cap rock. If Jarrah did occur within this type it is likely they would be affected by Pc. Crown dieback may be slow, but the tree would eventually succumb to the disease.

### 3.4.6 VEGETATION TYPE 6

Summarised by the report as 'Heath'. It is suspected that this type will react to Pc in the same way a type 5. If Jarrah did occur slow dieback would affect the tree with the introduction of Pc.

### 3.4.7 PREDICTING Pc IMPACT OF DIEBACK FREE SECTIONS OF SUES ROAD

Three dieback free sections are identified by the amended assessment of Sues Road. These sections have no Pc symptoms on either side of the road. All three sections are of Vegetation Type 3 and therefore Pc is predicted to have a low impact on these sites.

Where dieback free sections occur on one side of the road only, the vegetation type may be read from the amended maps and conclusion made on the predicted impact status of the site.

4). DISEASE MANAGEMENT HISTORY OF SUES ROAD

Sues Road has had a poor standard of hygiene management in past years. Dieback pegging of the road appears to be at least 8 to 9 years old. The accuracy of these pegs is highly questionable. Road maintenance has been done using these pegs. Grading of Sues Road was taking place while the road was being assessed by a Dieback Interpreter. Moreover, the road has open access status and is well used by log trucks and tourist traffic.

5). DISCUSSION AND CONCLUSION

The evaluation of the report and maps by Martinick & Associates Pty Ltd has revealed differences in standards of dieback interpretation. It was found that Sues Road was more infected by Pc than reported by the consultants. It was also found that much of the road south of Sues Bridge was uninterpretable due to recent burning.
Concern is expressed by dieback interpreters in Bunbury regarding the previous hygiene standards applied to Sues Road. It is thought that there is a high potential for incipient disease to be present along the entire length of Sues Road, especially since the recent grading of the road. Concern lies in requesting a higher standard of hygiene to be applied by others in the future, but not by the Department in the past.

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