

Your ref:

Our ref: EspPort18

Enquiries: Peter Batt

Phone: (08) 9083 2121

Email: peter.batt@dbca.wa.gov.au

Mr. Alex Richardson
Electrical Engineer
Bluemar
PO Box 815
ESPERANCE WA 6450

Dear Alex,

Phytophthora dieback assessment of Hughes Road - Esperance Port

Introduction

On Wednesday 14 November 2018, a Phytophthora dieback assessment was conducted over a parcel of land accessed off Hughes Road within the Esperance Port area.

It was carried out at the request of Bluemar following acceptance of a quotation.

The assessment was carried out by Fire Operations Officer Peter Batt, a Registered Dieback Interpreter with the Department of Biodiversity, Conservation and Attractions (DBCA).

The assessment area comprised land bounded by Hughes Road in the north, a portion of Bostock Road and undefined boundary in the south and undefined boundaries in the east and the west.

A section of the eastern area of the project is contained within a security fence and was not accessible internally on the day of the assessment.

A modified strip line method was employed for the assessment, due to access issues, including inaccessibility due to security fencing, steepness of the terrain and the thickness of the vegetation.

The total area of the project is approximately 3.1 hectares.

The assessment follows the methods laid out in section 8.3 Transect Assessments, of the FEM047 Phytophthora Dieback Interpreters Manual for lands managed by the Department.

Back ground

There are no known prior Phytophthora dieback assessments recorded for the area.

There was a previous assessment for the Dempster Head precinct, to the south, carried out in 2017 for the Shire of Esperance. That assessment found that the majority of the area was uninterpretable, with coastal scrub on limestone and sand and granite areas

dominated by Eucalypt, Melaleuca and Acacia species which are resistant to *Phytophthora cinnamomi* (*P.c.*), the primary pathogen causing Phytophthora dieback.

There were also small areas of uninfested scrub and *Banksia speciosa* woodland that were probably unprotectable, due to their small size and location surrounded by disturbance and probable *P.c.* vectors such as walk trails and fire access tracks.

It is unknown how long since the area was last burnt but given its location within the urban zone and lack of evidence of previous fires, it is probably over ten years. Normally an area needs to be at least three years since last burnt to be able to assess for Phytophthora dieback. The vegetation was sufficiently old enough to assess.

The project area is currently a mix of developed and undeveloped residential land as well as naturally vegetated land.

Rainfall for the location is approximately 800mm per annum, placing the area within the Dieback vulnerable zone of the State.

Results

This assessment found that the majority of the western portion of the project area is situated between the Esperance Port in the north and residential areas along Bostock Street in the south west. The eastern section of the assessment area immediately adjoins natural coastal scrubland to the south, part of the Dempster Head precinct.

There is evidence that houses once stood on several parcels of land in the western section of the area, along Bostock Street. There are the remains of gardens with exotic plants, as well as cleared areas. Aerial photography shows one house at the end of Bostock Street that has been demolished since the photography was taken. These areas contain no vegetation native to the area, making it very difficult to be able to accurately assess for Phytophthora dieback. These disturbed areas were categorized as Excluded.



Disturbed area off Hughes Road classified as Excluded.

Other sections of the assessment area were found to contain native vegetation in good condition. These areas were primarily in the west and the east, away from the former residential lots.



Typical natural vegetation areas overlooking the Port.

The vegetation here is typical of the scrub of the Esperance coastal areas, with a predominance of *Eucalyptus*, *Acacia* and *Melaleuca* species in the overstory and mid story. They are resistant to *P.c.*, so it is not possible to accurately assess for the presence of absence of the pathogen. For this reason, these areas have been assessed as being Uninterpretable.

These natural areas are located down-slope from Bostock Street, which has been subject to varying levels of disturbance from housing and other infrastructure developments.

There are also walk trails and fire access tracks up-slope of the project area in the south east, adjoining the Dempster head precinct.

The boundaries of the uninterpretable and excluded areas have been recorded but have not been taped in the field as the boundaries are obvious and the area is subject to a clearing application. They can be taped if required.

No dead and dying indicator species were found during the assessment, so no samples were taken.

Discussion

The Hughes Road project area is effectively sandwiched between the busy and highly modified Esperance Port and Bostock Road in the south west and adjoining natural areas which are part of the Dempster head precinct in the south east.

No reliable indicator species were found during the assessment. This may be due to *Phytophthora* dieback having removed vulnerable species in the past or more likely the natural vegetation community of the area lacks Proteaceous species and favours *Acacia*,

Melaleuca and Eucalyptus species in the dominant overstory and mid storey levels, which are resistant to P.c.

A part of the south eastern section of the project area is fenced with a high security fence to keep people away from cliff areas. While not able to access inside the security area, due to the steep slopes it was possible to view the vegetation structure from outside of the fence. There were no signs of Proteaceous vegetation within the comparatively narrow fenced area. All vegetation was similar to vegetated areas outside of the enclosure, being uninterpretable. For this reason, the area was able to be interpreted with a degree of certainty from a distance. With safety being a concern, due to the cliffs, this is the best and safest option available for this area.



Vegetation within the security area as viewed from the rotunda lookout.

No dead or dying indicator species were found during the assessment so no samples were taken.

The land to the south west adjoining Bostock Street is subject to disturbance from previous houses on some of the blocks and houses on the south side of the street. With no obvious controls in place in relation to hygiene, it is highly likely that *P.c.* has been introduced through gravel, sand, infrastructure developments including road building and services as well as vehicle movements, but without indicator species, any infestations will not be apparent. For this reason, the area adjoining Bostock Street is recommended to be treated as unprotectable.

The area in the south east, adjoining the Dempster head precinct, is also subject to disturbance through years of people using the walk trails up slope of the project area. This coupled with the construction of a lookout rotunda and unknown previous use of the fire access tracks by vehicles is likely to have introduced *P.c.* to the Dempster head area also. For this reason, it is recommended that the south eastern section of the project area, within the uninterpretable vegetation is also treated as unprotectable.

The Port activity is also likely to have introduced *Phytophthora* dieback to the area in the north, through infrastructure construction and vehicle movements. Due to the lack of Proteaceous vegetation, any impact of *P.c.* will be limited.

Shapefiles have been recorded for the boundaries between the Excluded and Uninterpretable areas, however demarcation tape has not been applied in the field. The boundaries between the two categories are obvious and as the area is the subject of a clearing permit, it was not thought necessary to tape the boundaries in the field. If the areas need to be demarcated, then boundary taping can be applied if required.

Recommendations

The following recommendations are made:

- The entire area is treated as unprotectable (effectively infested), following the assessment findings;
- A comprehensive *Phytophthora* dieback management plan is not necessary if the entire area is accepted as being unprotectable;
- Manage any material that is removed from the area, to prevent possible introduction or spread of *P.c.* to uninfested areas outside of the assessment area.

The Interpreter has supplied operational information which can be used as the basis for a *Phytophthora* dieback management plan (DMP), although this is not necessary in this case if the recommendation is accepted to treat the entire area as unprotectable. Parks and Wildlife is happy to assist with developing a DMP if requested.

A Protectable Areas map has been produced for the assessment. It is referred to as: EspPort18_Prot_2.5_A3

Thank you for your interest in *Phytophthora cinnamomi* management

Yours sincerely,



Peter Batt
Fire Operations Officer

16 November 2018



ESPERANCE DISTRICT
ESPERANCE PORT
Hughes Road
Phytophthora cinnamomi
PROTECTABLE AREAS MAP

- OCCURRENCE CATEGORIES**
- INFESTED**
Determined by a registered interpreter to have plant disease symptoms consistent with the presence of *Phytophthora cinnamomi*
- UNINFESTED**
Determined by a qualified Interpreter to be free of plant disease symptoms which indicates the presence of *Phytophthora cinnamomi*
- UNINTERPRETABLE**
Where susceptible plants are absent or too few to enable the interpretation of *Phytophthora cinnamomi* presence or absence
- TEMPORARILY UNINTERPRETABLE (included within assessment area)**
Areas of temporary disturbance where natural vegetation is likely to recover
- NOT YET RESOLVED (included within assessment area)**
Areas where *Phytophthora cinnamomi* occurrence diagnosis cannot be easily made within the required timeframe because of inconsistent evidence
- EXCLUDED (excluded from assessment area)**
Areas of long-term high disturbance where natural vegetation has been cleared and is unlikely to recover.
- OVERLAYS**
- HIGH IMPACT (current and predicted-forest areas only)**
(Demarcated to include Very High impact areas which may occur within)
Where the overstorey impact from *Phytophthora cinnamomi* is greater than 10 % or predicted to be greater than 10 % in less than 50 years
- VERY HIGH IMPACT (current-forest areas only)**
(Delineated but not demarcated within High impact areas)
Where the overstorey impact from *Phytophthora cinnamomi* is greater than 50%, and including areas where post epidemic recovery of overstorey is occurring
- UNPROTECTABLE**
Where current *Phytophthora cinnamomi* symptoms may spread into these areas autonomously.
- PROJECT BOUNDARY**
- DISEASE RISK ROAD**

MAP METHOD
Interpreted using strip line survey. Boundaries captured using GPS. Boundaries positioned relative to map features.

MAP LIMITATIONS
The smallest areas of interpretation that can be portrayed on this map are 1 millimetre in diameter, representing 2.5 metres diameter on the ground. Areas less than this area symbolized to this size.
The management information depicted on this map is positioned relative to mapped features and may not be accurate, consequently the field demarcation should be followed.
This map is valid until proven otherwise by further assessment and is superseded by a later map. Until then information on this map will not expire and revalidation will not be required while infested / unprotectable areas remain unchanged.

PRODUCT VERSION STATEMENT						
Product	Code	Assessment Completion	Interpreters	Map Produced By	Expires	
Protectable Areas	Blank = No Colour	14/11/18	PRB	PRB	14/11/18	N/A
This Map ID	EspPort18-Prot_2.5_A3					

AREA STATEMENT				
Primary Categories	Area HA	Overlays		
		Unprotectable	High Impact	Very High Impact
Infested				
Uninfested				
Uninterpretable	2.3	2.3		
Not Yet Resolved				
Temporarily Uninterpretable				
Assessed Area	2.3	3.1		
Excluded Area	0.8	0.8		
Project Area	3.1			

- LEGEND**
- Sealed Roads
 - Unsealed Roads
 - Tracks
 - Relegated Tracks
 - Existing road, upgrade to shunt
 - Shunt Construction
 - Bibbulmun Track
 - Munda Biddi Cycle Trail
 - Cape To Cape Walk Trail
 - Bridle Trail
 - Bike Trail
 - Walk Trail
 - Contour (5 metre intervals)
 - Hydrology
 - Cadastre
 - Powerline
 - Stream Reserve
 - National Park
 - Swamp
 - Dam
 - Water Point
 - Plantations
 - Bridge
 - Reference tree
 - BRM pit construction