

WESTERN AREAS LTD



DIEBACK HYGIENE PROCEDURE

VERSION 1



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1.0 INTRODUCTION

1.1 Purpose

To define the process required for the management of Dieback attributed to *Phytophthora* species (Dieback) at the Forrester Nickel Operation (FNO).

1.2 Scope

This procedure applies to the FNO and is intended for use by all employees, contractors and visitors to the site. Current occurrence mapping for dieback is shown in Figure 1.

1.3 Definitions and Acronyms

Table 1: Acronyms and abbreviations

Abbreviation or Acronym	Definition
DBCA	Department of Biodiversity and Attractions
Dieback	Dieback attributed to <i>Phytophthora</i> species
FNO	Forrester Nickel Operation
PPE	Personal Protective Equipment
VHS	Vegetation Health Service
WSA	Western Areas Limited

1.4 Responsibilities and Accountabilities

Table 2: Responsibility table

Role	Responsibility
Mine General Manager	<ul style="list-style-type: none"> Ensure all staff have access to this procedure. Ensure that all contractors and staff are fully inducted and are aware of responsibilities and obligations. Allocate resources to ensure commitments are met.
Group Environmental Manager	<ul style="list-style-type: none"> Ensure that any approvals required under State or Commonwealth legislation are obtained. Ensure environmental risks are managed through development and implementation of management plans/management systems.
Environmental Superintendent/ Environmental advisor	<ul style="list-style-type: none"> Implementing and maintaining this Dieback Management Plan and this procedure. Providing advice to site on dieback and developing specific dieback and hygiene controls for relevant works through the FNO Ground Disturbance Permit Process. Undertaking inspections of vehicles and machinery entering the FNO for ground disturbing purposes. Coordinating dieback assessments and occurrence mapping at agreed intervals. Provide required training and education to all employees, contractors and site visitors.
Environmental Technician	<ul style="list-style-type: none"> Maintenance of dieback infested area signage. Undertaking inspections of vehicles and machinery entering the FNO for ground disturbing purposes. Undertaking soil sampling for dieback detection where deemed necessary.
All employees, contractors and site visitors	<ul style="list-style-type: none"> Attend mandatory inductions and specific dieback awareness training as required. Adhere to dieback and hygiene controls as specified in the Dieback Management Plan, this procedure and specific controls developed through the FNO Ground Disturbance Permit process. Reporting of non-compliances to FNO Environmental Department.



1.5 Personal Protective Equipment (PPE)

During vehicle washdown at the FNO specific PPE requirements must be worn when cleaning vehicles. Minimum PPE requirements include:

- hearing protection;
- gloves;
- safety boots; and
- safety glasses.

2.0 PROCEDURE

The following steps are applicable to all WSA employees, contractors and consultants travelling into the FNO, or working in bushland with confirmed dieback infestation or identified as at risk from dieback (Figure 1).

2.1 Considering the risk of spreading dieback

- Where possible avoid dieback risk areas as shown in Figure 1 and only use designated roads, footpaths and established tracks to access work areas within the FNO
- Consult FNO Environmental Department prior to entering dieback risk areas as shown in Figure 1.
- All ground disturbing works require an FNO Ground Disturbance Permit to be issued by the FNO Environmental Department. Specific hygiene and dieback controls will be outlined within a Ground Disturbance Permit for any activity deemed a risk to dieback infestation or spread.
- In addition to liaison with the FNO Environmental Department, review of this procedure and the Dieback Management Plan should be undertaken to ensure controls and principals are understood.
- Ground disturbing activities within dieback risk areas should only be scheduled in dry conditions. Wet soil more readily sticks to surfaces of boots, equipment and vehicles which exacerbates potential spread of dieback and other diseases.
- Focus on hygiene using Clean On Entry/Clean On Exit practice:
 - 'Clean on entry' is the primary principle upon which entry into the FNO protectable areas is based. Any person, machine and/or equipment arriving at the FNO which will be working in bushland areas or previously undisturbed areas shall be clean and free of all material that could be carrying dieback and other diseases prior to entry (i.e. soil and organic material). Clean on entry will be verified through inspections conducted by the FNO Environmental Department as specified in Ground Disturbance Permits. Proforma WSA-ENV-FOR-016 Vehicle / Equipment Inspection Form will be used when conducting inspections (Appendix 1).
 - 'Clean on exit' applies to any person, machine and/or equipment that has been working within a dieback risk area as shown in Figure 1. More specific controls for exiting dieback risk areas are described below.
- Report all unplanned significant drainage/spillage of water to the environment (including fresh water);
- Report any unauthorised access to known dieback infested areas immediately to your supervisor and/or the FNO Environmental Department.

2.2 Clean down Footwear on EXIT of designated infected zones

- Prior to exiting dieback risk area, remove as much mud and soil as possible from boots with a brush over a collection sheet or tray, minimising water use.
- Spray 70 percent methylated spirits on boot soles and allow to dry for a few minutes.
- Collect all mud and soil removed in a bag or bucket for disposal to FNO bioremediation cells which are located at Flying Fox mine and Cosmic Boy TSF.



2.3 Clean down equipment and vehicles between samples and on EXIT of designated infected zones

- Remove as much mud and soil as possible from equipment with a brush over a collection sheet or tray, minimising water use.
- Spray with 70 percent methylated spirits over all surfaces and allow to dry for a few minutes
- Alternatively equipment can be soaked in a disinfectant such as diluted household bleach or Phytoclean©. Household bleach (typically containing 3-6% Sodium Hypochlorite) should be diluted to one part bleach to 10 parts water for soaking tools. Phytoclean© should be diluted to 200 ml per 10L of water for soaking tools. Tools and equipment should be soaked in disinfectant for at least 3 minutes before being rinsed.
- Refer to the manufacturers safety instructions when using disinfecting chemicals.
- All vehicles exiting dieback risk areas must proceed directly to the nearest washdown station (Spotted Quoll) for thorough cleandown and removal of all material that could be carrying dieback and other diseases (i.e. soil and organic material). The FNO Environmental Department will provide a designated route to washdown stations for specific works.

3.0 RECORDS MANAGEMENT

The *Environmental Superintendent / Environmental Advisor* shall ensure that compliance with the Dieback Management Plan and the Dieback Hygiene Procedure is reviewed and recorded through audits and inspections of the identified risk controls. Non-compliances and incidents shall be managed in accordance with WSA's Incident Reporting and Investigation Procedure.

4.0 REFERENCE DOCUMENTS

Dieback Working Group (2000) Best practise guidelines, Management of *Phytophthora* Dieback in Extractive Industries. Dieback Working Group.

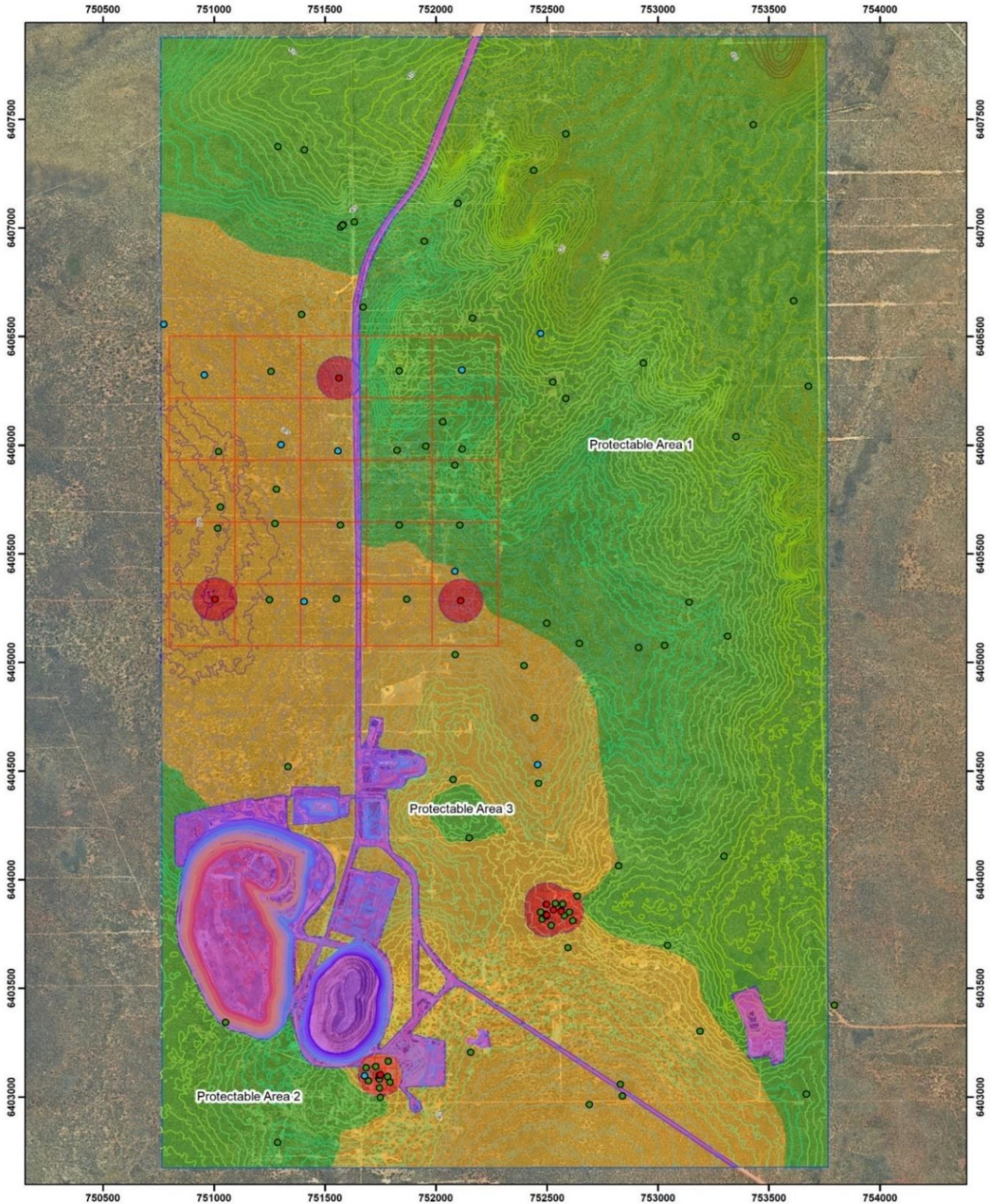
Dieback Working Group (2015) Managing *Phytophthora* Dieback in Bushland. Dieback Working Group.

Western Areas (2015) FNO-ENV-PRO-015_Vehicle Hygiene procedure. Unpublished procedure by Western Areas Ltd.

South Coast NRM (2013) *Phytophthora* Dieback hygiene guidelines. South Coast NRM.

5.0 REVIEW REQUIREMENTS

This document shall be reviewed every two (2) years.



Map 5: *Phytophthora boodjera* Occurrence Map, Western Areas

Map produced by Damien Rathbone on 5/11/2018.
Report Reference: *Phytophthora boodjera* Occurrence Map, Western Areas (SE1804)
Map Projection: Transverse Mercator Horizontal Datum GDA 1984
Grid: MGA Zone 50 Map Size: A3 Scale 1:16,000



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|---------------------------------|---------------------|--|
| Soil and Root Sampling | Contours (m) | <i>P. boodjera</i> Mapping Category |
| ● <i>P. boodjera</i> | 405 - 408 | Infested |
| ● Neg | 432 - 439 | <i>P. boodjera</i> Risk Area |
| ● <i>Phytophythium; Pythium</i> | 425 - 431 | Protectable |
| □ Grid Sampling Areas | 419 - 424 | Mining Operations Area |
| □ Assessment Area | 414 - 418 | |
| | 409 - 413 | |

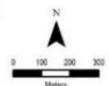


Figure 1: *Phytophthora boodjera* occurrence map (Verified by Southern Ecology in June 2020)



APPENDIX 1 – VEHICLE / EQUIPMENT INSPECTION FORM



VEHICLE / EQUIPMENT INSPECTION FORM

PART 1: DETAILS			
Company:		Location:	
Make and Model:		Project Area:	
Registration:		Weed Risk:	Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/>
Photo Taken?	Yes / No	Phytophthora Management Area:	Yes / No
Purpose and Risk of Spreading Weeds/Pathogens	Low Risk Sealed Roads/Areas <input type="checkbox"/>	Medium Risk Off Roads (gravel/dirt) <input type="checkbox"/>	High Risk Vegetation Clearing & Earthmoving <input type="checkbox"/>
PART 2: VISUAL INSPECTION ON ARRIVAL			
4WD Vehicle	<p>4WD VEHICLE WITH KEY SPOTS TO CHECK AND CLEAN</p>		Notes:
Excavator	<p>EXCAVATOR WITH KEY SPOTS TO CHECK AND CLEAN</p>		Notes:



<p>Bulldozer</p>	<p>BULLDOZER WITH KEY SPOTS TO CHECK AND CLEAN</p>	<p>Notes:</p>	
<p>Backhoe</p>	<p>BACKHOE WITH KEY SPOTS TO CHECK AND CLEAN</p>	<p>Notes:</p>	
<p>Other Vehicles and Portable Machinery Units</p>	<p>Trucks, tractors, mowers, slashers, trailers, skidders, loaders etc. Check all points for mud, soil, plant material and debris. Ensure they are clean and dry. Pay particular attention to the underside, tracks, rollers, tyres, wheel arches, guards, blades, bucket, other attachments, spare tyres, chassis, engine bay, radiator and grill, tray, cabin, foot wells, pedals, mats and seats.</p>	<p>Notes:</p>	
<p>PART 3: SITE AUTHORIZATION</p>			
<p>Inspectors Name:</p>	<input type="text"/>	<p>Date:</p>	<input type="text"/>
<p>Signature:</p>			