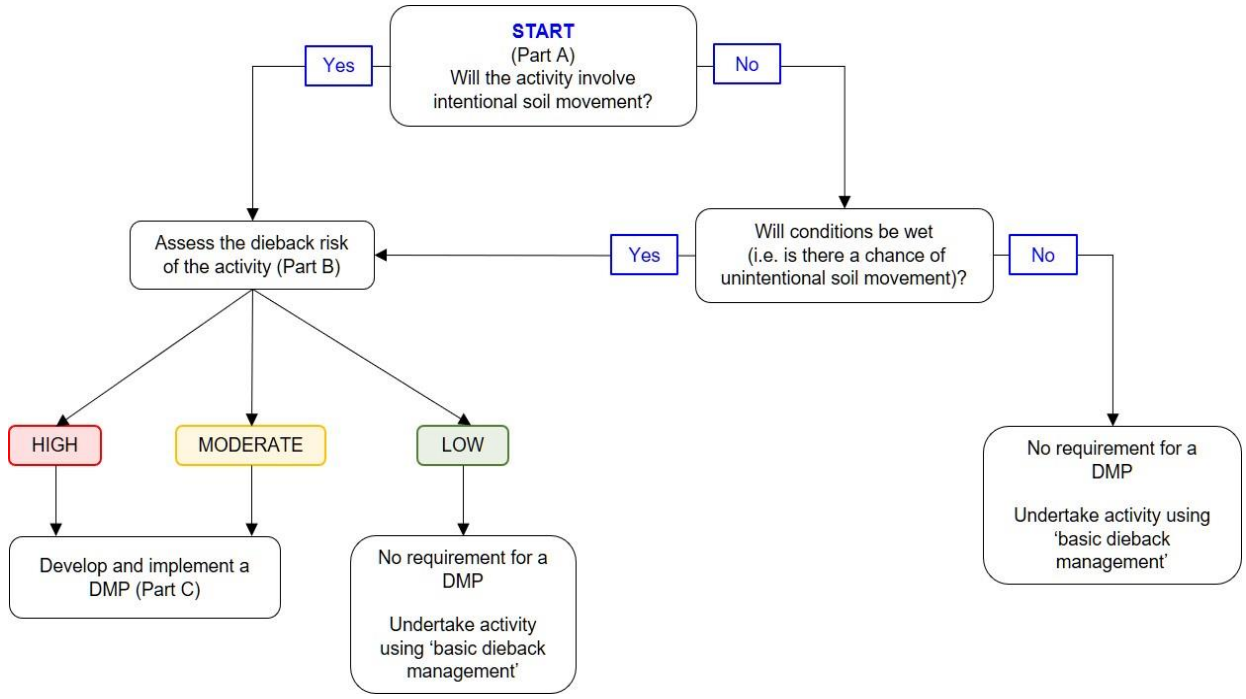
Department of Biodiversity, Conservation and Attractions	**PHYTOPHTHORA DIEBACK RISK ASSESSMENT & MANAGEMENT PLAN FORM**	FEM079

PART A: DISTURBANCE ACTIVITY

The decision tree below will help determine if the activity constitutes a disturbance and requires a risk assessment (Part B), and the risk assessment will determine if a DMP is required (Part C).



Details of disturbance activity

Region/District of activity:		**Date of activity:** *(give date range if a prolonged activity)*	
Location of site of activity: *(Forest Block, Reserve or coordinates)*		**Disease Risk Area:** *(yes or no)*	
Vegetation type/complex:			
Description of the activity: *(timber harvesting, road upgrade etc.)*			
Proponent of the activity: *(DBCA, FPC, MRWA, Water Corp. etc.)*			
Departmental objective for dieback management:	To minimise the potential for the introduction or spread of dieback associated with planned disturbance activities.		

Indicate what parts of the form have been completed for the activity described above:

Part	Purpose	Requirement	Tick parts completed
B	Risk Assessment	To be completed if decision tree in Part A indicates that intentional or unintentional soil movement will occur during the activity.	
C	DMP	To be completed if risk is assessed in Part B to be 'High' or 'Moderate'	
		Dieback Management Plan No. *Allocated by District*	

PART B: RISK ASSESSMENT

Step 1: MOISTURE conditions

Higher moisture during a disturbance activity increases the likelihood that soil will stick to a carrier (e.g. vehicles, equipment and/or footwear). Tick the box adjacent to the moisture conditions that are forecast for the period of the activity. If the activity will continue for an extended period, planning should consider the highest possible risk (wettest) conditions that may occur. If the activity is planned for dry conditions but the conditions change to become wetter prior to or during the activity, a contingency plan is required.

Dry soil	where dust forms when exposed soil is disturbed	
Moist soil	where soil is damp but does not stick to tyres, equipment and/or footwear	
Wet soil	where soil and moisture combine so that soil sticks to tyres, equipment and/or footwear	

Step 2: Determine the LIKELIHOOD of introducing or spreading dieback

Circle the description in each column that best describes the activity. An activity may fit between descriptions, in which case write a description into the appropriate blank cell.

The overall likelihood rating is determined by the criteria with the highest rating.

Disturbance type (e.g. action)	Introduction of raw material	Access	Complexity of activity	Extent of activity	Duration of activity	Drainage	Unmanaged access	Likelihood rating
Heavy earth moving, tracked vehicles	Infested or unknown raw material	Access crosses water (irrespective of frequency)			Activity area disturbed & map expired so impossible to revalidate boundaries		Increased public access in area of high public use	**Very likely**
Soil disturbance over a distance		Activity requires frequent access to site	Highly complex	Vehicle traverses several mini-catchments	Activity extends over several wet seasons	Surface water increased		**Likely**
Soil disturbance at single points	Crushed rock with no organic fraction		Complex		Activity occurs during a single wet season		Increased public access, but access restricted and/or site remote	**Possible**
Rubber tyred vehicle, bicycle	'High confidence' uninfested raw material	Activity requires infrequent access to site		Single mini-catchment	Entry in short timeframe under dry conditions	Minimal increase in surface water		**Unlikely**
Human, animal traffic			Not complex	Point or human traffic	Single entry in short timeframe under dry conditions		Activity does not alter frequency of access to site	**Very unlikely**

Step 3: Determine the CONSEQUENCE of introducing or spreading dieback

Determine the potential CONSEQUENCE that introducing or spreading dieback may cause by going through the table below systematically and circling the description in each column that best estimates the consequence.

The overall consequence rating is determined by the criteria with the highest rating.

Area put at risk	Predicted impact	Biodiversity and sensitive areas at risk	Consequence rating
Ongoing potential[1] to completely infest all protectable areas in activity landscape unit[2]	Predicted **very high** impact: (majority of species at the activity area are susceptible and/or introducing dieback will result in extinction of species or populations) **or** Wet areas which contain any *Banksia* species or jarrah	>1 threatened/priority plant or animal species, critical habitat, TEC and/or Ramsar wetlands that is susceptible to dieback **and/or** Old-growth jarrah forest	**Severe**
Potential to infest all protectable areas in activity landscape unit[1]	Predicted **high** impact: (many susceptible species and/or introducing the pathogen will result in loss of populations or localised extinction of species) **or** Where predicted impact cannot be determined, jarrah forest on upland areas	At least one threatened/priority plant or animal species, critical habitat, TEC and/or Ramsar wetlands that is susceptible to dieback **and/or** Sensitive neighbouring property	**Significant**
Potential to infest more than 5% of any protectable area or 4 ha's (whichever is greater – assessor may set a lower minimum protectable area where appropriate)	Predicted **moderate** impact: (moderate numbers of susceptible species and/or introducing the pathogen will result in a reduction in species/populations)		**Intermediate**
	Predicted **low** impact (low numbers of susceptible species)	Fauna Habitat Zones	**Minor**
No protectable areas estimated within any related landscape unit **and/or** The area is already infested[3]	No susceptible species and/or the activity area is in the 'excluded' category. **or** Introducing dieback will have no impact discernible outside natural variation[3]	No threatened/priority plant or animal species; critical habitat; TEC; and/or Ramsar wetlands that are susceptible to dieback. **or** As the activity area is already infested there will be no increased risk to threatened species and communities present[3]	**Insignificant**

[1] Ongoing potential for an area to become infested occurs when the disturbance activity involves construction of permanent infrastructure e.g. roads or camp sites especially high in the landscape

[2] Landscape unit is an area bounded by features such as creeks, ridges, saddles, open roads and/or freehold land

[3] Provide a map showing evidence that area is infested and attach to the risk assessment

Step 4: Determine the overall dieback RISK rating

a) Refer to the table below that corresponds to the soil MOISTURE conditions (Step 1)

b) Circle where the LIKELIHOOD rating (Step 2) intersects the CONSEQUENCE rating (Step 3)

This is the overall dieback RISK rating for the activity.

DRY SOIL

LIKELIHOOD	Disturbance examples	CONSEQUENCE				
		Insignificant	Minor	Intermediate	Significant	Severe
Very likely	tracked machines ripping, pushing soil	Low	Moderate	High	High	High
Likely	snigging/light surface skim over distance	Low	Moderate	Moderate	High	High
Possible	installing posts, exploration drilling	Low	Low	Moderate	Moderate	High
Unlikely	driving with rubber tyres	Low	Low	Low	Moderate	Moderate
Very unlikely	walking	Low	Low	Low	Low	Low

MOIST SOIL

LIKELIHOOD	Disturbance examples	CONSEQUENCE				
		Insignificant	Minor	Intermediate	Significant	Severe
Very likely	tracked machines ripping, pushing soil	Low	High	High	High	High
Likely	snigging/light surface skim over distance	Low	Moderate	High	High	High
Possible	installing posts, exploration drilling	Low	Moderate	Moderate	High	High
Unlikely	driving with rubber tyres	Low	Low	Low	Moderate	High
Very unlikely	walking	Low	Low	Low	Moderate	Moderate

WET SOIL

LIKELIHOOD	Disturbance examples	CONSEQUENCE				
		Insignificant	Minor	Intermediate	Significant	Severe
Very likely	tracked machines ripping, pushing soil	Low	High	High	High	High
Likely	snigging/light surface skim over distance	Low	High	High	High	High
Possible	installing posts, exploration drilling	Low	Moderate	High	High	High
Unlikely	driving with rubber tyres	Low	Moderate	Moderate	High	High
Very unlikely	walking	Low	Low	Low	Moderate	Moderate

Step 5: Can the RISK be reduced by altering the activity or conditions?

If the risk rating is 'High' consideration should be given to:

- Cancelling the activity which avoids the risk; or
- Postponing the activity until conditions are dry for activities scheduled during moist or wet conditions.

If cancelling or postponing is not possible the activity should be re-assessed to determine if the risk can be reduced by altering some of the parameters of the activity. For example, tyred machinery generally causes less soil disturbance and are easier to clean, compared to tracked machines which cause more damage and pick up soil in the cleats which is hard to remove. Refer to the appendices for further guidance on reducing risk associated with an activity.

Step 6: Determine requirements based on RISK rating

Tick the box adjacent to the RISK rating of the activity as determined by the risk table.

High	• Complete Part C based on valid comprehensive dieback interpretation with Regional Manager (or delegate) approval before implementation, and sign-off after close-out • Green Card training[1] for all proponents and contractors involved in activity	
Moderate	• Complete Part C based on valid comprehensive dieback interpretation OR conditional dieback occurrence information with Regional Manager (or delegate) approval before implementation, and sign-off after close-out • Green Card training[1] for proponent and contractors involved in activity	
Low	• Part C not required. Activity can proceed using basic dieback management • Green Card training[1] for all proponents and contractors involved in activity	

[1] Green Card training is mandatory for nominated departmental staff

Step 7: Risk Assessment sign-off

	Full Name	**Position**	**Signature**	**Date**
Risk Assessment conducted by:				
Risk Assessment checked by: *(Regional Manager or delegate)*				

Additional comments or conditions:

PART C: DIEBACK MANAGEMENT PLAN

Dieback Management Plan No. *Allocated by District*	

Step 1: Dieback occurrence information & map *(supervising officer/proponent)*

Valid comprehensive occurrence information			or	Conditional occurrence information	
Interpreter report/map no. and/or name	Is the assessment evidence DHSO endorsed?			Source	

Step 2: DMP meeting *(supervising officer/proponent)*

Date:		Convened by:	
Attended by:			

Step 3: Risk management tactics *(supervising officer/proponent)*

Tactic no.	TACTICS TO BE DEPLOYED *Refer to the Appendices in the Phytophthora Dieback Management Manual for guidance*	**To be implemented** *(✓= required)*	**Implemented** *(initialled when complete)*	**Checked** *(initialled when checked)*
MOISTURE CONDITIONS				
1	Moisture conditions as per Part B/Step1 dry_____ moist_____ wet_____			
2	Contingency in event that conditions become wetter than those planned for before or during the activity:			
	• postpone/cease activity			
	• fall back to low risk area (e.g. infested area)			
	• risk reassessed and new DMP developed based on wetter conditions			
PROTECTABLE AREAS *(and other management boundaries)*				
3	Protectable area (and management unit boundaries within them) have been established in the field and are identified as P_____ to P_____ on the attached dieback management map			
4	Management boundaries (unrelated to Protectable Areas) have been established in the field and identified on the management map e.g. mini-catchments, impact etc.			
HYGIENE				
5	Clean on Entry (COE) points and No Soil Movement (NSM) roads identified on map and signs installed in-field (record COE numbers in appropriate boxes): _____ COE road access _____ COE NSM _____ COE entering vegetation / protectable areas			
6	_____ COE gates installed and indicated on map against COE no.			

Tactic no.	TACTICS TO BE DEPLOYED *Refer to the Appendices in the Phytophthora Dieback Management Manual for guidance*		To be implemented (✓= required)	Implemented (initialled when complete)	Checked (initialled when checked)
7	_____ turnarounds for COE points, numbered and marked on map				
8	COE points _____ will be closed to Type _____ when the operation is to cease for _____ weeks, and on completion of all _____ activities all temporary COE will be closed to Type _____ by the proponent				
9	Cleandown points established in field and indicated on map How is effluent to be managed for wet cleandown?				
10	Machines and vehicles with portable hygiene kits				
11	Records kept (circle relevant): COE clean down NSM				
12	Management points (if applicable) numbered on map. Provide detail below on the decision or action that must be taken at each management point: M1: M2:				
TRAINING AND COMMUNICATION					
13	Staff/contractors with Green Card training				
14	DMP briefings (circle relevant): at commencement weekly daily other				
DISTURBANCE					
15	Machinery type(s):	Machine Nos: _____			
RAW MATERIALS					
16	Type:	Supplier/Source:			
17	Status (attach evidence):				
ACCESS					
18	Disease Risk Area permit obtained if required (attach copy)				
19	Access route planned to place least amount of protectable area downslope at risk, and shown on map				
20	Road maintenance uses tactics to mitigate harm to protectable areas:	use interpreted boundaries			
21		push soil downslope only			
22		clean bucket, shovel, auger after digging culverts/holes			
23		use uninfested/low risk material to patch road			
24	_____ roads to be closed, each road closure is numbered and marked on map				
25	Each road closure has been constructed to effectively control access				
26	Roads effectively closed/rehabilitated within _____ weeks of end of activity				
27	Road construction uses tactics to mitigate harm to protectable areas:	located in infested/unprotectable categories when possible			
28		low in profile			
29		high crown for better drainage			
30		deep roadside drains & coarse material to minimise erosion			
31		mitre/offshoot drain preferentially located towards base of the slope			

Tactic no.	TACTICS TO BE DEPLOYED *Refer to the Appendices in the Phytophthora Dieback Management Manual for guidance*			To be implemented (✓= required)	Implemented (initialled when complete)	Checked (initialled when checked)
32	'Green bridge' implemented (mark on map)					
33	Activity to be undertaken using split-phase (provide detail):					
DURATION						
34	Duration of activity >1 year, engage Interpreter to recheck the boundaries					
EXTENT						
35	Divide area into management units for work in dry, moist or wet (circle relevant)					
36	Select factors to be used to split dry, moist and wet soil management units	1	Protectability			
37		2	Presence of biodiversity values			
38		3	Predicted impact			
39		4	Potential for spread			
40		5	Machine/vehicle floatation			
41		6	Access prone to bogging			
42		7	Ability to control unmanaged access			
43		8	Distance from roads			
44	Operate to mini-catchments					
DRAINAGE						
45	Drainage directed away from protectable areas, and drainage points numbered and marked on map					
46	Imported water	Source:				
47		Disinfectant type and dosage:				
WEEDS						
48	In areas infested with Declared/Prohibited or very high to moderate priority weeds, which are marked _____ on the map, the proponent (circle appropriate): a) will not enter area b) will clean down machinery when leaving area					
ADDITIONAL CONDITIONS						

Step 4: Dieback management map checklist *(supervising officer/proponent)*

Tactics decided on above should be clearly marked on the map using the symbols in brackets. Each point will have a unique no. (e.g. COE1; COE2; X1) and the total number recorded below (e.g. total 2 COE points; 1 road closure)
Note: staff and contractors in the field must be briefed and supplied with a management map

DMP No. recorded on management map ☐	Road drainage points (D): No. ☐
Protectable areas and/or management units ☐	Roads/areas with 'No Soil Movement' (NSM): No. ☐
'Clean on Entry' points (COE): No. ☐	Road closures (X): No. ☐
COE with gates (COE with gates): No. ☐	Turnarounds and roads for rehab. (map legend)
Management points (M): No. ☐	Access route (map legend)
Clean down locations (W): No. ☐	

Step 5: Proponent sign-off *(external i.e. non-DBCA proponent)*

I, the undersigned, agree to implement the above DMP:

Full Name	**Position**	**Agency/Organisation**	**Signature**	**Date**

Step 6: DMP approval *(Regional Manager or delegate)*

I, the undersigned, have reviewed the Risk Assessment and approved the DMP:

Full Name	**Position**	**Signature**	**Date**
Comment *(if required)*			

Step 7: DMP close-out *(supervising officer/proponent)*

All tactics identified in the DMP were implemented as approved? Yes ☐ No ☐

Full Name	**Position**	**Signature**	**Date**
Comment *(if required)*			

Step 8: DMP sign-off *(Regional Manager or delegate)*

I, the undersigned, am satisfied that the DMP has been implemented and closed-out as approved:

Full Name	**Position**	**Signature**	**Date**
Comment *(if required)*			

Step 9: Document management checklist

Records ticked below are filed in the following location:	

	Dieback occurrence information (Interpretation report and map) have been uploaded to DAS. If a DAS is not required, then forward FEM079 and occurrence information to Forest Management Branch at femweb@dbca.wa.gov.au
	Dieback Management Map
	Dieback Risk Assessment and Management Plan form (Parts A, B and C)
	COE and clean down records
	Disease Risk Area permit