

RES AUSTRALIA

MURRA WARRA WIND ENERGY FACILITY

BIOSECURITY MANAGEMENT PLAN

FINAL REPORT

PLANNING AND ENVIRONMENT ACT
YARRIAMBICK PLANNING SCHEME
PERMIT NO. PA1600128
ENDORSED PLAN
SHEET 1 OF 17
SIGNED [Signature] FOR
MINISTER FOR PLANNING
DATE: 15/8/17

PLANNING AND ENVIRONMENT ACT
HORSHAM PLANNING SCHEME
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Prepared by Think Agri Pty Ltd
Version 2.2 April 2017



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Agri Expertise

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Draft Submission Details:

| Draft | Submitted | Approved by Kevin Garthwaite |
|-----------|-----------|------------------------------|
| 1.0 | 4/12/2016 | |
| 1.1-final | 9/01/2017 | |
| 2.1-draft | 30/3/2017 | |
| 2.2-draft | 13/4/2017 | |

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1 Introduction

1.1 Background

RES Australia has commissioned Think Agri Pty Ltd to write a Biosecurity Management Plan preparation for the construction of the Murra Warra Wind Energy Facility in Western Victoria, north of Horsham.

The Murra Warra district is a renowned grain growing region so the Biosecurity Management Plan was prepared in consultation with DEDJTR Grains Biosecurity officer.

The project area contains farming land of 18 private landowners as well as Crownland; Crown Roads, Government Roads and Water Corporation channel sites.

1.2 Objective

The purpose of the Biosecurity Management Plan is to manage the risk of animal and plant pests and diseases entering, emerging, establishing or spreading within or beyond the Project Boundary

2 Project description

Key infrastructure components of the MWWF are described in the following sections.

2.1 The turbines:

116 wind turbine generators (WTGs) of which up to 70 turbines are sited in YSC and up to 46 turbines are proposed in HRCC (refer to Figure 1 and Figure 2).

Each having an expected capacity of approximately but not limited to 3.6 MW (rated capacity will depend on final turbine selection) with an indicative combined generation capacity of up to 417 MW.

Each having a maximum tip height of 220 m above ground level and will be three bladed, with tubular steel tower, mounted by a nacelle containing the generator, gear box and electrical equipment.

Incorporating crane pads (crane hard stands) of approximately 40 x 60 m, which will be located at the base of each turbine tower.

Transformer and switchgear will be housed inside the tower base, or externally, immediately adjacent to the base. Should an external transformer be required, typical dimensions are 5.5 m long by 3 m wide by 3 m high.

2.2 Supporting infrastructure

A network of turbine access tracks and entrances from public roads, which are not subject to planning approval, will be required to support the wind turbine infrastructure.

The access tracks will generally be 6 m wide to allow access for construction and for ongoing maintenance throughout the life time of the wind farm. Where possible, site access tracks will be established to utilise existing access points and roads. It is estimated that there will be approximately 75 km of new tracks and upgraded roads required and approximately 50 access points from minor rural roads. There may be a need for some alterations to existing road junctions close to the site (all are minor local roads).

Six potential locations have been identified for the placement of hub height anemometry masts. These will be used for monitoring the performance of the wind farm. Final selection of no more than four permanent locations will be made after final turbine selection has been made.

There will be a utility area which will be within a secure enclosed compound comprising of an operations building, car parking, warehousing/ workshop facility and an external yard area for storage which may include a bunded area for fuel storage, and other ancillary equipment.

The collector/switchyard is where overhead and underground cables from the wind farm collection system are terminated. Typically, this comprises of bus bars, switchgear, metering, a control building, reactive and harmonic filtering plant and other ancillary equipment.

Overhead and underground internal electrical reticulation system. Internally, electricity will be distributed from each wind turbine to the Terminal Station (shown in Figure 3) via a network of medium voltage 33 kV underground and overhead cables. It is estimated that there will be approximately 18 km of overhead line, with pole heights of approximately 30 m and 70-75 km of underground cabling.

2.3 Temporary construction compounds

The main construction compound will be located adjacent to the Terminal Station and quarry. The compound will comprise a concrete batching plant, site offices, workshops, laydown areas, a water storage dam and bunded fuel storage and other ancillary construction facilities and equipment.

Due to the extent of the site, there may be need for an additional two general construction compounds, one in the south-west adjacent to the Kings Roads and one in the north-east adjacent to the Kewell North School Road. These compounds will contain a sub-set of the elements described above for the main compound. All of the temporary infrastructure will be removed at the end of the construction programme with the compound sites rehabilitated as required by regulators and landowners.

An on-site quarry and associated crushing plant, materials stockpiling, and water storage will be sited adjacent to and immediately north of the main construction compound and Terminal Station (in YSC). The quarry will be approximately 12 ha inclusive of temporary stock piles for overburden material and will be used to provide base materials for road building.

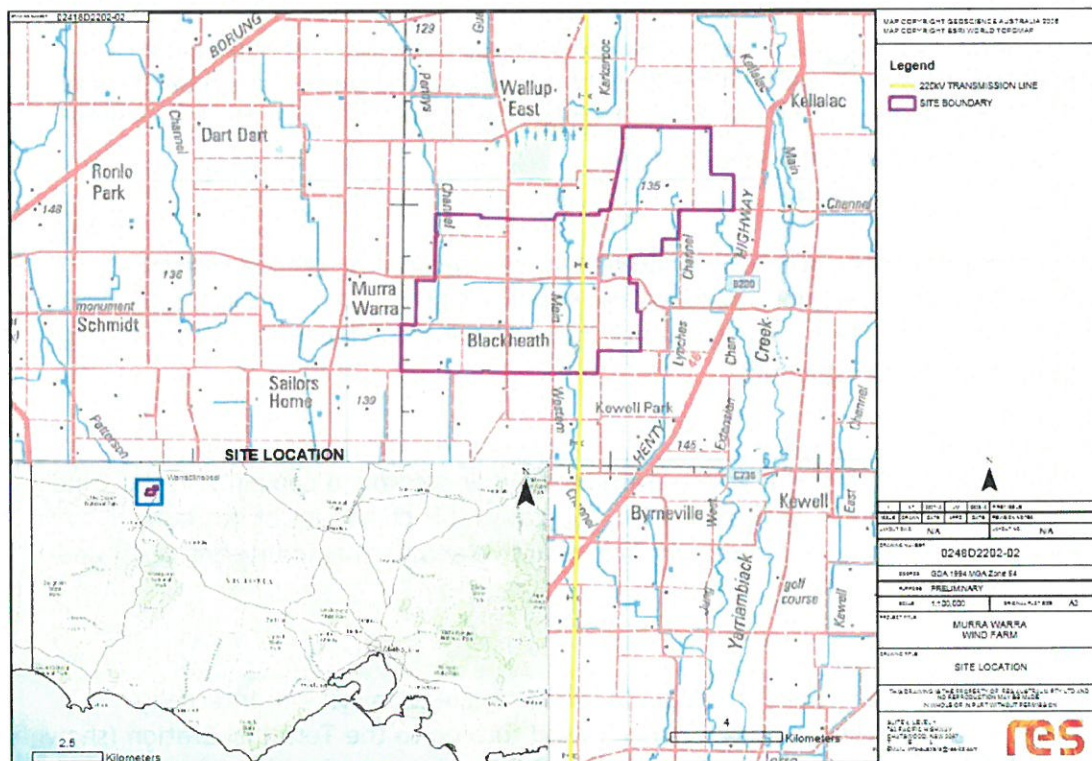
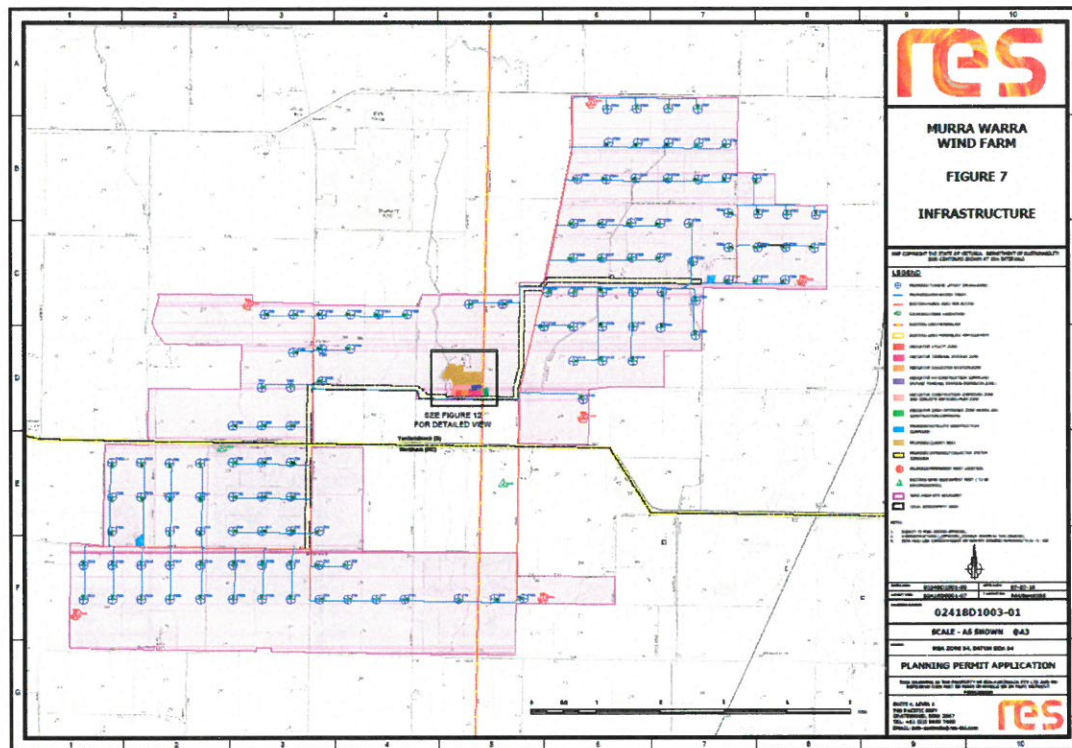
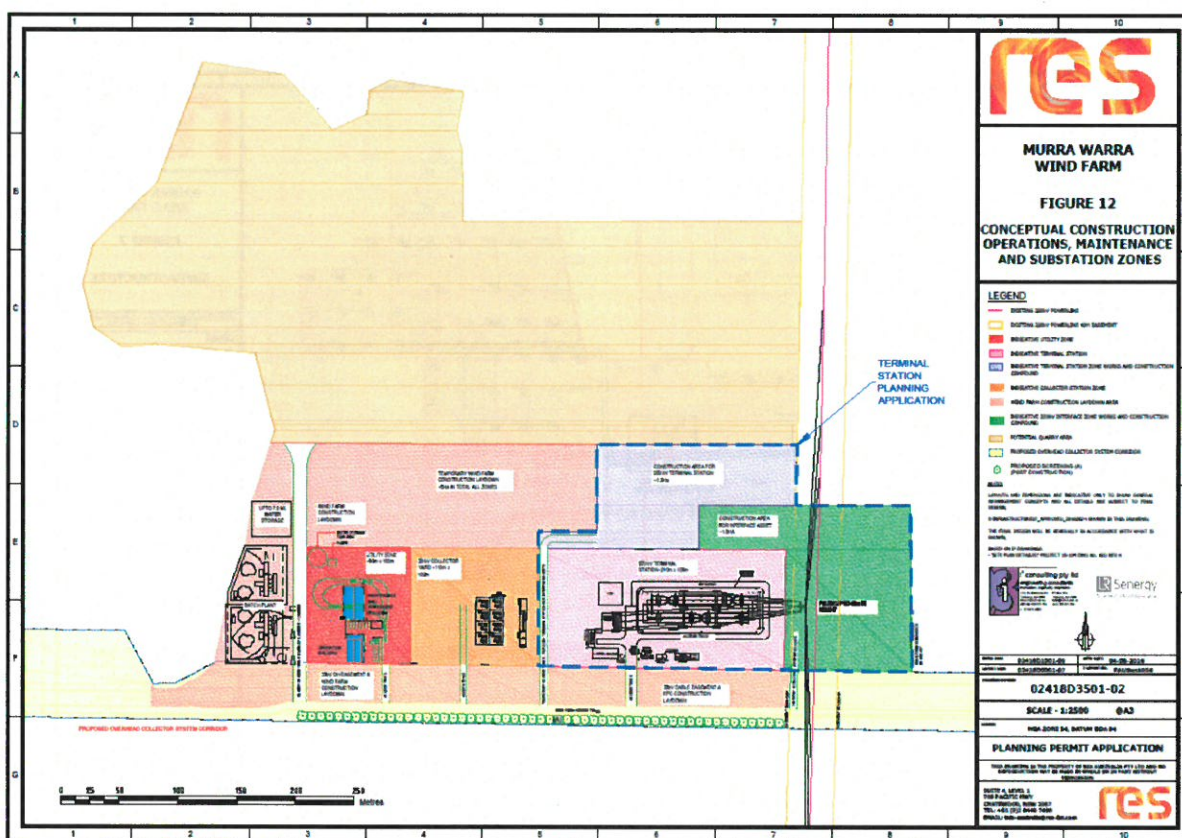


Figure 1: MWWF - location plan





3 Methodology

This Biosecurity Management Plan (Plan) has been compiled from the literature and resources listed in Section 5 to satisfy the planning requirements for the construction of the Wind energy facility:

Horsham Rural City Council Planning Scheme, Permit No. PA-1600127

Yarriambiack Shire Council Planning Scheme, Permit No. PA-1600128

DEDJTR Grains Biosecurity office Mr Jim Moran was consulted during the process.

The Plan was prepared in accordance with Guidelines from Plant Health Australia, DEPI Invasive Plant and Animal Management Policy Framework, the DEDJTR Biosecurity Guidelines for Movement of Equipment Contractors Between Farms and DELWP recommended standards and practices for managing viticulture biosecurity and plant biosecurity risks.

The use of the term **pest** in this report, refers to all insects, mites, snails, nematodes, pathogens, (diseases) and weeds that may harm plants or animals or their products. Exotic pests are those not currently present in Australia. Established pests are those present within Australia.

Site refers to any area owned by a public or private entity on which works are being conducted within the project boundary.

4 Permit conditions

Table 1: Permit Conditions

| Condition | Description | Addressed in |
|-----------|--|--------------|
| 1. | <p>Procedures to prevent biosecurity risks (including but not limited to):</p> <ul style="list-style-type: none"> i. the cleaning of all plant and equipment before transport onto and off the site; ii. the use of material/products on site which are free of invasive plants and animals. | Section 5 |
| 2. | <p>Protocol for:</p> <ul style="list-style-type: none"> i. effective identification of biosecurity risks; ii. early intervention to manage biosecurity risks; iii. ongoing monitoring of biosecurity risks; iv. Tracebacks; v. integrated control measures when entry, establishment or spread of specific risk targets is identified. | Section 6 |
| 3. | <p>A requirement to comply with approved government or industry standards and procedures for the identification, prevention and management of biosecurity risks that apply from time to time, which include (but are not necessarily limited to):</p> <ul style="list-style-type: none"> i. the DEDJTR's Invasive Plant and Animal Management Policy Framework (undated); ii. the DEDJTR's Biosecurity Guidelines for Movement of Equipment Contractors Between Farms (Note Number: AG1171 published in January 2005 and updated in July 2009); iii. the DEDJTR's recommended standards and practices for managing viticulture biosecurity and plant biosecurity risks. | Section 5 |

5 Procedures to prevent biosecurity risk

5.1 Compliance documents

The site will be managed in compliance with the following the principles of which have been encapsulated in this plan

1. the DEDJTR's Invasive Plant and Animal Management Policy Framework (undated);
2. the DEDJTR's Biosecurity Guidelines for Movement of Equipment Contractors Between Farms (Note Number: AG1171 published in January 2005 and updated in July 2009);
3. the DEDJTR's recommended standards and practices for managing viticulture biosecurity and plant biosecurity risks.

In addition to this as required by DEDJTR (Biosecurity)

- DEDJTR Machinery Hygiene Information Note
<http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weed/weeds>
- 'The Guide for Machinery Hygiene for Civil Construction' > 'Machinery Hygiene Code of Practice'
<https://www.ccfvic.com.au>

5.2 Considerations for site hygiene

Within the project boundary there are several sites as each individual private or public landholding or roadway is considered for the purposes of this plan an individual site.

Guidelines below apply to the movement of individuals, materials and machinery from one site to another as well as into and out of the Project Area

Potential high risk pathways for the spread of invasive plants and pathogens include contaminated vehicles, machinery and materials. Entry and exit procedures must ensure this risk is minimised.

The most critical risk point will be the construction phase for the vehicle track as this is when there is the most movement of dirt.

Training and induction should enable all entrants to the site to be responsible for ensuring that appropriate biosecurity risk management measures are taken and may include training for noxious weed exotic pest identification and protocols for reporting and containment.

The site should be inspected for any biosecurity risks present prior to work commencing and the feasibility of control during construction. This document shall be referred to at

the completion of construction to assess if any site wide pest control measures are required.

A suitable clean down area should be located at a designated wash down point (clear of watercourses and drainage lines) and shall be inspected regularly for pest species.

Waste and contaminants resulting from cleaning should remain on site if possible and disposed of in a responsible manner.

Site record keeping should include:

- Record of permission to enter
- Vehicle/machinery log books to include:
 - Record of cleaning and decontamination
 - Risk assessment and identification of potential pests
 - Record of reporting suspected biosecurity risks.

5.3 Site entry and exit

In addition to the guidelines in Section 5.2, Entry and exit procedures may include:

- Limited number of entry and exit points.
- Documented risk assessment on each vehicle entry and exit point for the biosecurity risk they pose in relation to the distance from livestock and crops.
- Display of biosecurity signs, with clear instructions and contact details, at all vehicle entry points.
- Clearly signed and locked restricted access areas.
- Upon arrival, all personnel, their clothing and personal equipment and machinery and other equipment should be in a state of cleanliness and free of any material that may host pests.

5.4 Cleaning of plant and equipment and personnel

All plant and vehicles entering the site should be cleaned or washed prior to entry to the site. All off-road earthworks equipment (or equipment that has otherwise been driving on unformed Wind Farm site tracks) exiting the site should also be inspected and cleaned and washed if necessary before exit at the designated wash down facility (Table 2). The process of inspecting and cleaning will vary with machinery type and the extent of contamination. Cleaning and decontamination procedures include:

- Physical removal soil and debris from tools, equipment and machinery.
- Air blast for decontamination in hard to reach areas
- Vacuuming to remove contaminants from the interior surfaces of machinery.
- Wash-down with water at a high pressure using a pressure cleaner or spray tank and pump or for difficult stains or soil a steam cleaning facility, paying attention to the tyres, tracks and undercarriage of vehicles and machinery (Figure 4).

Table 2: Typical equipment and critical areas to that harbour weed seeds, pests or pathogens (Civil Contractors Federation 2010).

| Plant and Equipment (not exhaustive) | Critical Areas for cleaning and decontamination (not exhaustive) |
|---|--|
| Cars and utilities | Tyres/ axels and differentials |
| Tractors and implements | Radiators |
| All-terrain Vehicles (ATV) and two and fur wheel motorbikes | Grills/filters |
| Earthmoving machinery | Buckets and blades |
| Backhoes | Within slashing mulching and ripping equipment |
| Graders | Chassis and body |
| Trucks. | Between dual wheels |
| Fuel and generator trailers | Ledges and frames |
| Harvesting and mowing equipment | Inside driver's cab |
| | Mudguards. |

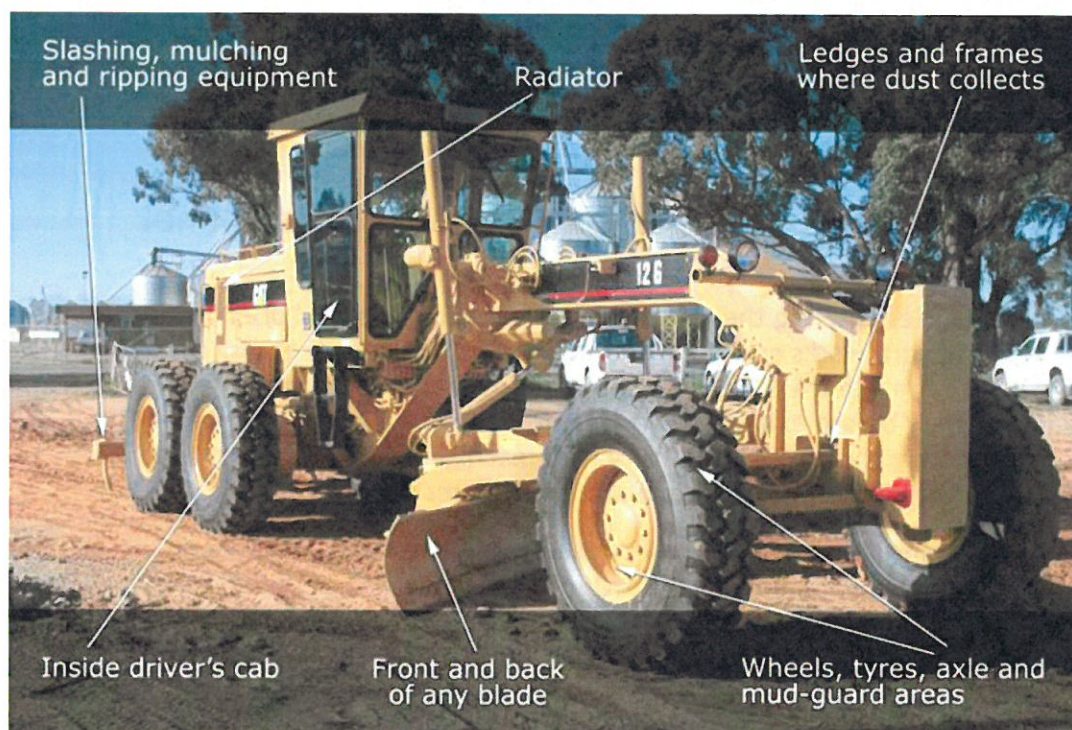


Figure 4: Example of critical contamination areas requiring through cleaning (Civil Contractors Federation).

5.5 Transport of materials

All materials moved onto the project site are a potential source of pests that may cause a biosecurity risk. Procedures to reduce biosecurity risk when transporting materials include:

- Ensure the transport provider follows the cleaning and hygiene practices described in Section 5.4.
- Inspect materials when they arrive and store away from other plant products.
- Record keeping of material transported to site including composition, source and potential risks identified.
- Removal of noxious weeds before stockpiling soil or other materials.
- Request declaration form or equivalent from the supplier when receiving soil or other materials to the work site to confirm they are free of weeds and other pests.
- Do not remove material or soil from a site that may be contaminated without prior treatment and permits.
- Regularly check storage areas for the appearance of pests or unusual symptoms on plants or livestock nearby.

6 Protocol for identification and management of a biosecurity risk

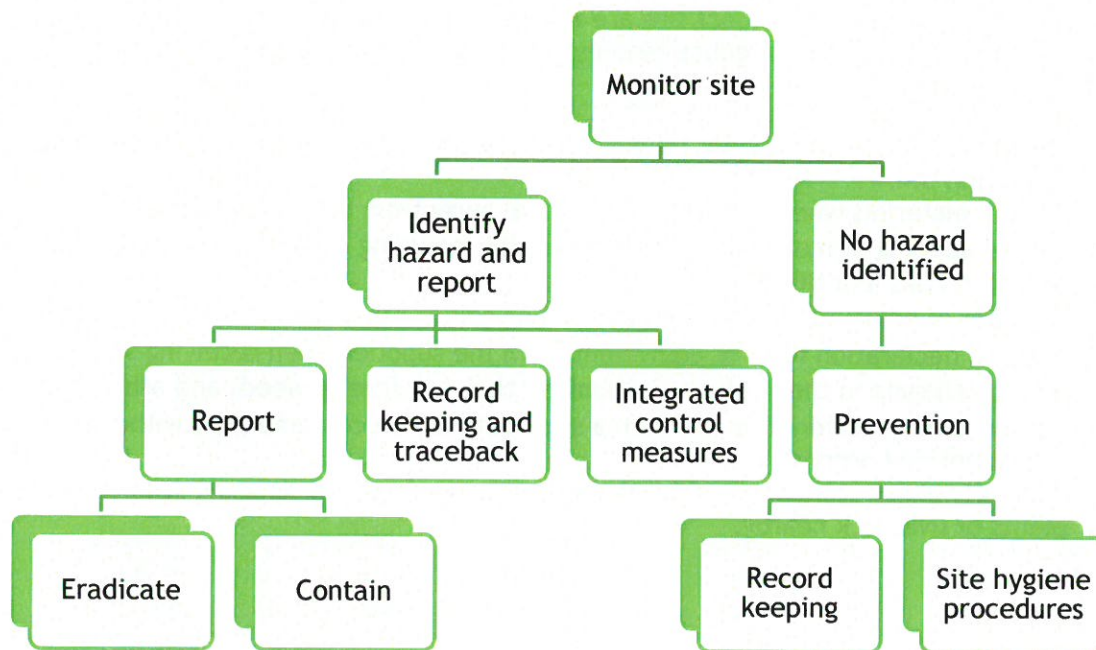


Figure 5: Suggested protocol for biosecurity risk monitoring and subsequent actions.

6.1 Identification

- Adequate training to enable identification to occur.
- Consultation with all landholders or representative and log responses including:
 - Prior knowledge of Biosecurity issues (like invasive weeds and major agricultural weeds).
 - Access points.
- Regular site checking for the presence of new pests and unusual signs:
 - Access roads and onsite laneways.
 - Cleaning and wash down sites.
 - Loads of material delivered to site.
 - Material storage areas.
 - Plant and equipment contaminant disposal sites.

- Any suspect pest should be reported using the numbers in Figure 6:
 - The relevant state authority will be notified and provide guidance.
 - For plants, mark the area with pegs and take a GPS location recording.
 - If animals exhibit symptoms, isolate affected livestock immediately
 - Do not allow movement of people and equipment near the affected area and animals.
 - Wash hands, clothes and boots that have been in contact with affected livestock, plant material or soil.
 - Do not touch, move or transport affected plant material or livestock without advice from DEDJTR.



Figure 6: Contact numbers for reporting.

6.2 Early intervention

The land holder and DEDJTR must be consulted to advise on eradication or containment possibilities (Figure 7) and the requirements going forward to ensure a rapid and effective response.

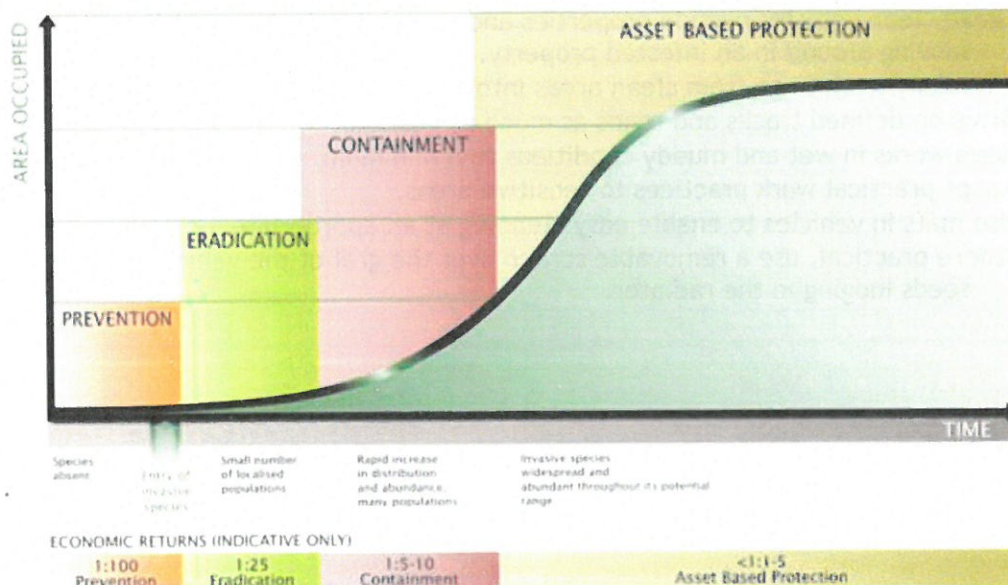


Figure 7: Biosecurity management framework Source: Plant Health Australia

6.3 Monitoring

- Establish an active monitoring program and record the results, even when nothing is found.
- Seek advice and identify the pests that are the target of surveillance.
- Ensure staff are familiar with the usual diseases, pests and weeds found on the property, so unusual observations are identifiable and procedures in 6.2 are conducted upon such observations.
- Maintain prevention practices always.

6.4 Traceability

Procedures to enable 'trace back' and 'trace forward' if there is a pest identified, include:

- Up to date registry of every visitor to site.
- Up to date record of all material that comes onto site, including the source, date, treatments, certifications and where it is stored on your property.
- Up to date record of vehicle and equipment logs including hygiene practices.

6.5 Integrated control measures

In the event of an identified area that may contain a pest plant or pathogen:

- Avoid driving through infested areas.
- Leave clean vehicles outside properties and use contaminated vehicles when moving around in an infested property.
- Plan daily work to go from clean areas into infested areas.
- Drive on defined tracks and roads as much as possible.
- Keep works in wet and muddy conditions to a minimum.
- Adapt practical work practices to sensitive areas.
- Use mats in vehicles to enable easy cleaning at an appropriate location.
- Where practical, use a removable screen over the grill of the vehicle to prevent seeds lodging in the radiator.

7 Implementation of the Plan

Table 3: Timeframe for implementation of the Biosecurity Management Plan

| Project Phase | Implementation | Relevant section |
|------------------------|--|--|
| Preconstruction | Staff training Consultation with landowners | 5.1 Considerations for site hygiene 6.1 Identification 6.2 Early intervention |
| Construction | Active Biosecurity Management | 5.1 Considerations for site hygiene 5.2 Site entry and exit 5.3 Cleaning of plant and equipment and personnel 5.4 Transport of materials 6.2 Early intervention 6.3 Monitoring 6.4 Traceability 6.5 Integrated control measures |
| Operations | Active Biosecurity Management | 6.3 Monitoring 6.4 Traceability 6.5 Integrated control measures |
| Decommissioning | Active Biosecurity Management | All sections of this plan |

8 Codes of practice and resources

The biosecurity management plan should comply with the following guidelines:

<http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/protecting-victoria-from-pest-animals-and-weeds/weeds-and-vertebrate-pests>

<http://agriculture.vic.gov.au/agriculture/horticulture/moving-plants-and-plant-products/plant-biosecurity-legislation>

<http://agriculture.vic.gov.au/agriculture/emergencies/response>

<http://www.farmbiosecurity.com.au/>

Civil Contractors Federation 2010. Environmental guidelines for civil construction
<https://www.ccfvic.com.au/wp-content/uploads/2014/04/Environmental-Guidelines-for-Civil-Construction-CCF.pdf> <http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/weeds>

'The Guide for Machinery Hygiene for Civil Construction' > 'Machinery Hygiene Code of Practice' <https://www.ccfvic.com.au>