

# **Mardie Project**

## Mesquite Management Plan

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# DEFINITIONS AND ABBREVIATIONS

Term	Definition/Description
<b>BAM Act</b>	<i>Biosecurity and Agriculture Management Act 2007</i>
<b>BCI</b>	BCI Minerals Limited
<b>DCCEEW</b>	Department of Climate Change, Energy, the Environment and Water
<b>Declared Pest</b>	Plants declared under the <i>Biosecurity and Agriculture Management Act 2007 (WA)</i> .
<b>DFES</b>	Department of Fire and Emergency Service
<b>DPIRD</b>	Department of Primary Industries and Regional Development
<b>EP Act</b>	<i>Environmental Protection Act 1986 (WA)</i>
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth.)</i>
<b>GDP</b>	Ground Disturbance Permit
<b>ha</b>	hectare
<b>km</b>	Kilometres
<b>ktpa</b>	Kilotonne per annum
<b>Mardie Minerals</b>	Mardie Minerals Pty Ltd: A proprietary company (ACN 152 574 457) wholly controlled by BCI Minerals Limited
<b>MMP</b>	Mesquite Management Plan
<b>Mtpa</b>	Million tonne per annum
<b>Pest Plant</b>	Plants prescribed by local laws, made by a local government, under subsection (2)(a) of the <i>Biosecurity and Agriculture Management Act 2007</i> . A Pest Plant is considered a noxious organism in that particular district but cannot be a Declared Pest for that area
<b>PMMC</b>	Pilbara Mesquite Management Committee
<b>Project/Proposal</b>	The Mardie Project
<b>SoP</b>	Sulphate of Potash
<b>WA</b>	Western Australia
<b>WAOL</b>	Western Australian Organism List
<b>Weeds</b>	Plants that establish in an environment where they do not naturally occur (generic definition). For the purposes of the Australian Weeds Strategy (2006), a weed is considered pragmatically as a plant that requires some form of action to reduce its harmful effects on the economy, the environment, human health, and amenity.
<b>Weeds of National Significance</b>	Invasive plant species as determined by the Federal Australian Government (Australian Weeds Strategy, 2006). These are plant species selected on the basis of their invasiveness and impact characteristics, their potential and current area of spread and their primary industry, environmental and socioeconomic impacts. In Western Australia many Weeds of National Significance are also Declared Pests under the <i>Biosecurity and Agriculture Management Act 2007 (WA)</i> .

# EXECUTIVE SUMMARY

<b>Proposal Name</b>	Mardie Project (and Optimised Mardie Project)
<b>Proponent Name</b>	Mardie Minerals Pty Ltd (ACN 152 574 457) a wholly owned subsidiary of BCI Minerals Limited (ACN 120 646 924)
<b>EPBC Approval No.</b>	EPBC 2018/8236 (and EPBC 2022/9169 – pending)
<b>Purpose of the EMP</b>	To provide management actions for Mesquite invasion present within the Mardie Project and Optimised Mardie Project areas
<b>Key environmental factor/s, outcome/s and objective/s</b>	<p>Flora and Vegetation: To protect flora and vegetation so that biological diversity and ecological integrity are maintained</p> <p>Outcomes:</p> <ul style="list-style-type: none"> <li>Control the spread of Mesquite within the Original and Optimised Proposal Development Envelopes as shown in Figure 1; and</li> <li>Prevent the spread of Mesquite outside of the Proposal Development Envelopes</li> </ul> <p>Protected Matters</p> <ul style="list-style-type: none"> <li>Minimise impacts to protected matters from Mesquite infestation</li> </ul>
<b>Condition clauses</b>	<p>EPBC 2018/8236: Condition 13d</p> <p><i>“Implement the approved Mesquite Management Plan for the <b>life of the project.</b>”</i></p> <p>EPBC 2022/9169: To be confirmed</p>
<b>Key components in the EMP</b>	<p>Weed hygiene and controls (including washing, certification, tracking of mobilisation and auditing of vehicles, equipment, mobile plant and machinery)</p> <p>Controls apply to all species registered as Declared Pests, Pest Plants, and Weeds of National Significance (WONS).</p>
<b>Proposed construction date</b>	Construction commenced 21 February 2022
<b>EMP required pre-construction?</b>	No, required prior to operations

## 1. BACKGROUND

### 1.1 The Project

Mardie Minerals has approval under Ministerial Statement 1175 and EPBC 2018/8236 to develop a greenfield high-quality salt and Sulphate of Potash (SoP) project, the Mardie Project, and associated export facility at Mardie, approximately 80 kilometres south-west of Karratha, in the Pilbara region of Western Australia (WA).

Approvals are currently being sought for the Optimised Mardie Project. The Optimised Mardie Project approvals cover the following changes from the Original Project:

- Increase in the Terrestrial Development Envelope by 3,978 ha;
- Increase in the disturbance footprint within the Terrestrial Development Envelope by 2,334 ha;
- Increase in project throughput, which includes:
  - Increase in seawater intake to 180 GL/a;
  - Increase in brine discharge to 5.5 GL/a;
  - Increase in export volumes to 5.35 Mtpa of salt and 140 ktpa of SoP;
- Inclusion of another secondary seawater intake option within Mardie Creek;
- Minor alteration of the dredge footprint and methodology within the Dredge Channel;
- Development Envelope (10 ha increase in dredge disturbance footprint but no change to dredge volume);
- Increase the Dredge Channel Development Envelope by 3.5 ha; and
- Development of a quarry adjacent to Mardie Road.

### 1.2 Mesquite

Mesquite is a common name for several plants in the genus *Prosopis*, which contains over 40 species of small leguminous trees. Native to North and South America, mesquite was introduced to Australia as fodder for stock, ornamentals in station homestead or town gardens, and used in mine dumps and other soil stabilisation programs.

Due to its invasiveness and subsequent ecological, economic and social impacts, all Mesquite (*Prosopis* species and hybrids) are declared plants in WA and have been prioritised at a national level as Weeds of National Significance (WoNS).

*Prosopis* species known to be present in WA are *P. glandulosa*, *P. glandulosa* × *velutina* and *P. pallida*, most are now hybrid forms. Mesquites are mostly thorny and can be either a multi-stemmed shrub with branches drooping to ground level, or a single-stemmed tree with a spreading canopy that can grow to 15m in height.

A thornless variety of Mesquite was introduced onto pastoral stations, including Mardie, around the 1920's as a potential shade and fodder plant. By the 1950's a dense infestation of hybrid mesquite had established and covered over 1000 ha of Mardie Station (Meadly, 1962) and attempts began at controlling spread and eradicating the populations, both on Mardie and other stations in the Pilbara. This has since further spread with many 1000s of hectares infested across the rangelands. Mardie

Station is recognised as the largest single core infestation in Australia (Figure 2), covering over 150,000 hectares (ha) (National Heritage Trust (NHT), 2003), of which 45,000 ha is considered to be medium to high density.

Numerous methods to eradicate and contain the infestation have been trialled at Mardie Station. Due to the extent and spread of the infestation, Mardie Station has a declaration status of ‘containment’ for most of the station (see Section 2). The priority is to prevent the spread of mesquite outside the current infestation areas.

### 1.3 The Mesquite Management plan

The purpose of this Mesquite Management plan (MMP) is to outline how Mardie Minerals will ensure that the footprint of Mesquite (*Prosopis spp*) weed infestations, both inside and outside of the Original and Optimised Mardie Project Development Envelopes (DEs), does not increase as a direct result of construction and operational activities, compared to the cover surveyed prior to commencement of works; and to protect flora and vegetation so that biological diversity and ecological integrity are maintained by controlling the spread of Mesquite within the Proposal area

It is intended that this MMP satisfies legislative requirements regarding mesquite management under the Western Australian *Biosecurity and Agriculture Management Act 2007* (BAM Act) administered by the Department of Primary Industries and Regional Development (DPIRD) and the Federal *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) administered by the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

This plan applies to Mardie Minerals where undertaking activities in the Original and Optimised Mardie Project Development Envelopes (DEs) (Figure 1).

### 1.4 Flora and Vegetation Survey

Detailed flora and vegetation surveys were completed from 2017-2020 (Phoenix, 2020). The survey area was 29,020.4 ha in size. Eight introduced flora species were recorded. Two species of Mesquite, both listed as both WoNS and Declared Species; *Prosopis glandulosa x velutina* and *Prosopis pallida*, were recorded. Mesquite was widespread across the study area ranging from isolated shrubs to tall closed shrublands (Figure 1).

With the exception of the tidal mudflats and tidal creeks, the species occurred in all habitats including flat/undulating sandy plains, coastal sand dunes, sandy islands on the tidal mudflats, sandy rises on the tidal mudflats, riparian vegetation of creeks and drainage lines and low-lying clay plains. Within the Development Envelope, the densest infestation occurs in the north, in the location of the proposed crystalliser areas (Figure 2).



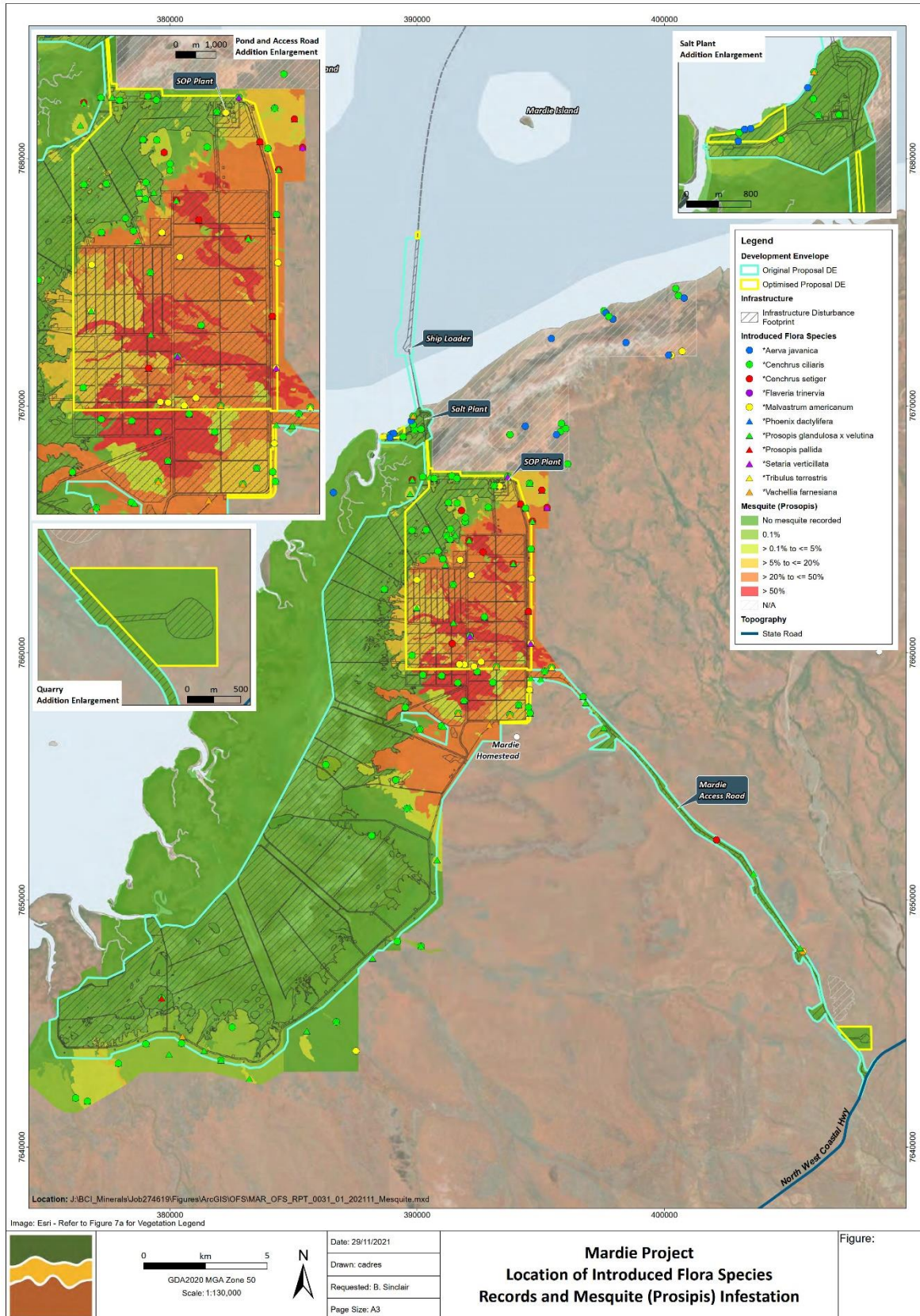
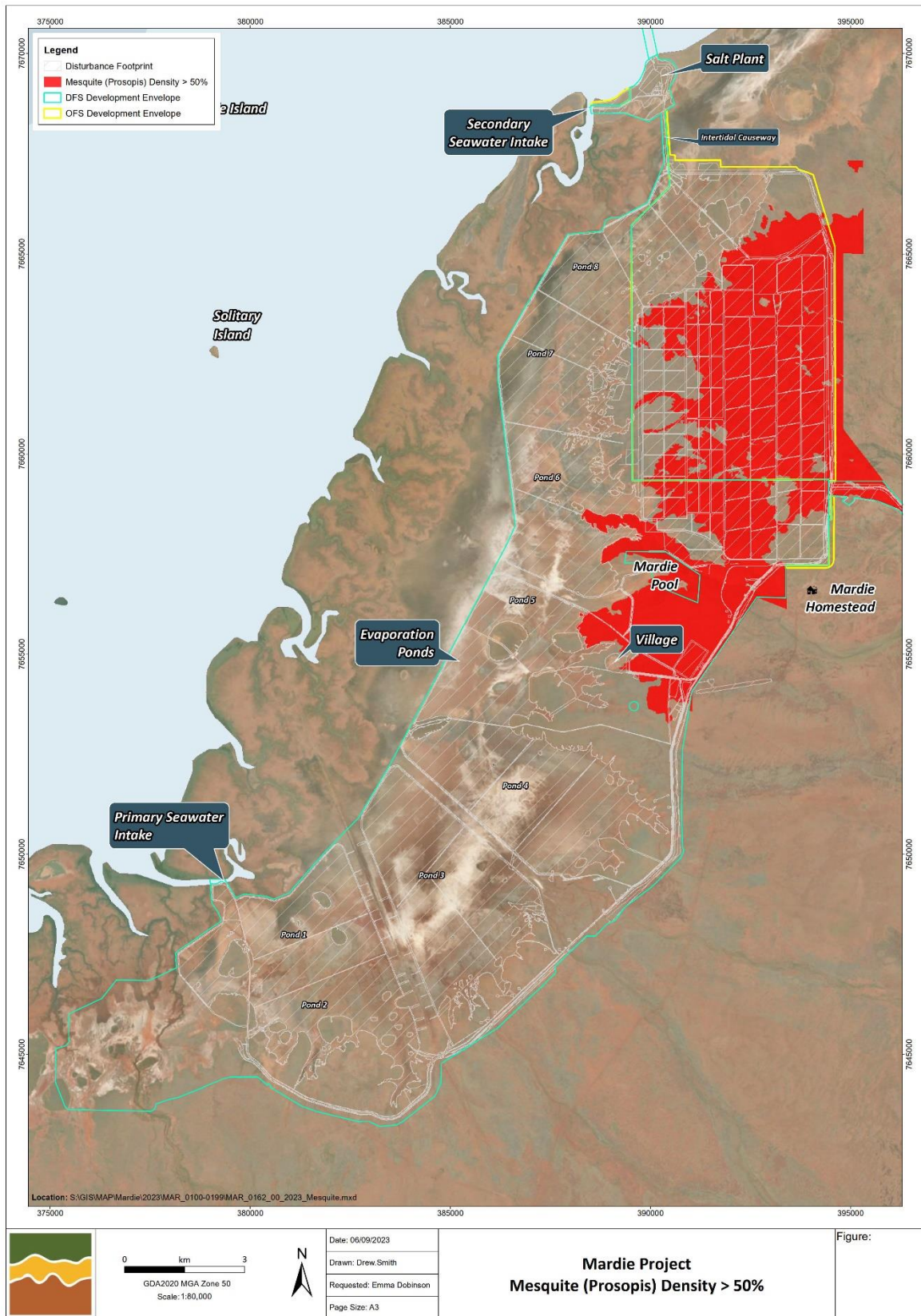


Figure 1. Mesquite densities across the Project Development Envelopes (Phoenix 2020).



**Figure 2: Mapping of Mesquite (*Prosopis*) Density >50%**

## 2. PRINCIPLE MANAGEMENT REQUIREMENTS

### 2.1 Legislative context

Mesquite is a declared plant under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) and associated regulations. The objective of the BAM Act is to prevent the introduction, manage the impacts and limit the spread of animal and plant pests within the state. Under the BAM Act the Minister for Agriculture may 'declare' classes of plants (and animals) as species that need to be controlled in WA. These species may also be assigned to categories depending on the level of control they require. Under the Act the owner/occupier is responsible for the control/management/eradication on a property.

Both *Prosopis glandulosa x velutina* (C3 status on Mardie; C2 rest of state) and *Prosopis pallida* (C2 status whole of state) have been recorded at Mardie Station, with most individuals being the hybridised form and as such under the control category C3 (containment) for most of the Station.

Mardie Station has a management plan in place, with specific requirements to prevent spread, eradicate in certain areas to maintain buffers, and contain the weed species. As the Mardie Project Development Envelopes sit within this area, certain requirements are included within this plan to ensure that the Station requirements are met.

#### **Category 2 (C2) – Eradication / Prohibited**

Organisms which should be eradicated from part or all of Western Australia.

- Whole of state
- Except for Mardie and Karratha Stations (which is Category 3 – Management/Prohibited)<sup>1</sup>.

#### **Category 3 (C3) – Management / Prohibited**

Organisms that should have some form of management applied that will alleviate the harmful impact of the organism, reduce the numbers or distribution of the organism or prevent to contain the spread of the organism.

For the area on Mardie Station bordered by the coast, the boundary between Mardie and Karratha stations, the North West Coastal Highway, Peter's Creek and the boundary between Yarraloola and Mardie Stations.

The following (Table 1) applies as a requirement for land owners/occupiers and other persons.

**Table 1: Requirements for C2 and C3 organisms in an area (DPIRD, 2019)**

Requirement	Recommendation
<b>C2</b>	
<b>Introduction</b> of the plant or its seeds into, or <b>movement</b> within this area is prohibited	Mark the location of the pest in such a way that it can be found again
<b>Report</b> the presence or suspected presence of this pest in this area (08 9368 3080)	C1 and C2 category pests are of high importance to WA and must be reported as a priority. Please report sightings to your local DPIRD Office (Karratha – 9143 7003) or the <b>Pest and Disease Information Service</b> (9368 3080).
<b>Supply</b> or advertising supply of this pest into this area is prohibited	-
If the Declared Pest is found in this area, <b>control measures</b> must be taken to destroy, prevent or eradicate it.	Treat to destroy all plants, prevent seed set and prevent the spread of seed or plant parts within and from the area on or in livestock, fodder, grain, vehicles and/or machinery. Treat prior to seed set each year
Ensure that any <b>person conducting an activity on the land</b> is aware that measures are required to be taken to control the Declared Pest	Erect a biosecurity sign for persons conducting an activity on the land
<b>C3</b>	
<b>Introduction</b> of the plant or its seeds into this area is prohibited	-
<b>Supply</b> or advertising supply of this pest into this area is prohibited	-
The infested area must be managed in such a way that alleviates the impact, reduces the number or distribution or prevents or contains the spread of the declared pest in this area	Treat to destroy all plants, prevent seed set and prevent the spread of seed or plant parts within and from the area on or in livestock, fodder, grain, vehicles and/or machinery. Treat prior to seed set each year.
Ensure that <b>any person conducting an activity on the land</b> is aware that measures are required to be taken to control the declared pest	Erect a biosecurity sign for persons conducting an activity on the land

All members of the genus *Prosopis* are declared plants in Western Australia. The following requirements and guidance applies:

1. Mesquite presence must be reported to DPIRD local Biosecurity Officer at the Karratha Office, phone 9143 7003.
2. Advice may be obtained from DPIRD Karratha Biosecurity Officer (phone +61 8 9143 7003) or the Pilbara Mesquite Management Committee (PMMC) (phone +61 457 035 013).
3. The WAOL (<https://www.agric.wa.gov.au/organisms>) contains information on the area(s) in which a pest is declared and the control and keeping categories to which it has been assigned in WA.
4. As mesquite is a long-lived perennial, spread only by seed; controlling seed spread is paramount.
5. To prevent spread, implement strict weed hygiene controls for vehicles, equipment, supplies, mobile plants, machinery etc., including washing, certification, isolation, tracking of mobilisation. Ensure all vehicles, machinery and equipment arrive clean and leave clean to minimise the risk of spreading weed seed material.
6. Infestations in upper catchments should be targeted for strategic control to prevent continual reinfestation of downstream sites.

7. Implement follow-up controls to prevent re-infestation of areas.
8. Individual plants can be removed mechanically if undertaken in a manner which prevents regrowth. If removing mechanically, ensure roots are severed at least 300mm below the soil surface to prevent regrowth.
9. Control minor infestations, isolated outbreaks and seedlings first.
10. Designate wash down areas and actively work to prevent contamination of clean areas.
11. Monitor areas that have been treated and monitor for re-infestations. Seed durability can be decades for mesquite, and current seed banks are high, so follow-up control work will be required. Additionally disturbed ground will stimulate plant growth. So, an ongoing weed management plan will be required.
12. BCI Minerals preferred mesquite controls consist of mechanical removal, disposal by stockpiling then burning, followed by chemical controls for ongoing management (see details below).

## **2.2 Mardie Station**

As the Mardie Project Development Envelopes overlap Mardie Station, certain requirements are included within this plan to ensure that the Station requirements are met (refer Box 1). Those pertaining to stock, stock movement and pastoral business, have not been included in this plan. Pastoral boundary buffers have only been included where related to the access road.

Mardie Minerals will work collaboratively with Mardie Station on Mesquite control within the Mardie area, particularly to maintain shared roads and tracks and buffer areas as areas free of mesquite, and to prevent the spread of Mesquite.

The main points of consideration and issues affecting Mardie Minerals activities regarding prevention of spread, maintaining buffers and ongoing maintenance control to keep tracks 'open' (points 1, 2 and 3).

### Box 1. Mardie Station Mesquite Management

**The following applies for mesquite management:** the infested area must be managed in such a way to alleviate the harmful impact of the organism, reduce the numbers or distribution of the organism or prevent or contain the spread within and from the property on or in livestock, fodder, grain, vehicles and/or machinery.

#### 1. Prevention of spread:

- a. Ensure no seed is spread on vehicles and machinery by removing all plant material. This can be achieved by washing-down with water or using high pressure compressed air to remove plant material and seed from potentially infested vehicles/machinery prior to departure.

#### 2. Eradication

- a. Extreme vigilance needs to be exercised in maintaining 'new' areas as Mesquite free. It is absolutely essential that any new occurrence is dealt with immediately and further inspections in the wider area carried out.
- b. Ongoing and opportunistic maintenance control carried out along Station tracks as necessary.

#### 3. Containment

- a. Maintain 1 km buffer around lease in the area bordered by the northwest coastal highway.
- b. All control efforts other than buffer zone to be concentrated in doing initial spray and maintenance of that area bounded by: the exclusion fence running from the coast to Flynns and Gatecrasher mills and through to the Yabberoo yards, the fence running on the eastern side of the main access to the Mardie homestead, and the fence that will fence off the worst of the Robe paddock infestation. Ongoing and opportunistic maintenance control carried out to ensure mills and station tracks remain 'open' is also necessary.
- c. Mature, colonising mesquite trees in areas of otherwise relatively mesquite free areas to be controlled in the course of general station duties.

### Considerations & Issues for the management of Mesquite on Mardie

1. Mesquite is highly suited to the conditions of the northwest and in particular the predominance of a summer rainfall pattern. Not only does summer rain account for 83% of the yearly average but it has the propensity to fall in heavy single events such as tropical cyclone systems. The consequence of this can be the flooding events and rapid spread of Mesquite seed.
2. Even with the extraordinary input of time, effort, resources and ultimately money it will be flood events that will do much to spread seed and dramatically increase the densification of mesquite outside of the core infestation (30,000ha of dense thicket in the northwest of the property). In particular, it is the banded thickets near the southern boundary that are at risk of developing into these widespread thicket formations. This is the very reason why such a focused and costly control effort is being carried out in precisely this area.
3. Ultimately every suitable area on Mardie would be colonised by mesquite with the process following along the lines of the pasture potential map. That is, the best country colonised first with the rest being infested at densities and speeds dependent on the quality of the land.
4. The consequences of no action to control mesquite apart from the legal obligation of the previously described 1 km buffer would be catastrophic for the long-term viability of the Mardie lease. The southern areas of the lease and in particular Robe paddock would become a satellite

but discrete core infestation of impenetrable thicket. Unfortunately, due to flooding in 2004 work other than the buffer zone in Robe paddock is no longer a tenable proposition for the lessees alone.

5. If no containment work was undertaken, the spread of mesquite off the lease particularly in a southerly direction would be assured. The areas at present, immediate and imminent threat are the Yarraloola lease followed by Peedamulla, Minderoo and Urala.
6. Mechanical control as tried so far is having a limited effect. Straight dozing is very time consuming and quite costly when hiring equipment. Whilst effective on larger trees and bushes it tends to leave seedlings in situ unless the whole topsoil to a depth of 30 cms is moved. Any plants (seedling to adult) not removed to this depth simply shoot again from the bud zone on the remaining root stock. Any plants that are snapped off in any way other than below the bud zone of the root system will tend to re-shoot. Unless follow up firing of resultant trash can be carried out it appears to have a limited effect as a realistic control option. Double chaining also tended to relocate trash into heaps rather than leaving a uniform spread of felled trees in situ. This compounds problems with getting subsequent fires to carry.
7. Whilst the temptation sometimes is to attack the more visible greater problem of the core infestation the focus must be on saving the salvageable country and the maintenance of areas that are free of mesquite in that condition. This will require maintenance of areas that are already subject to control efforts and vigilance to ensure that the movement of stock does not create new infestations in otherwise 'clean' country.
8. Although presently centred on Mardie this infestation is not a single station problem. The Pilbara Mesquite Management Committee was formed to assist with the management of Mesquite in the Pilbara. The committee is made up of pastoralists, mining industry individuals and Government. Much direct and many in kind contributions have been made by this group and others to control operations and especially in support to the project officer's position. The continued support of these people and others will be essential to obtain the best possible control and research programs on Mardie for the long term.

### 3. MANAGEMENT APPROACH

An integrated management approach will be applied using best practice methods at various stages of development. Preferred mesquite controls for the Project consist of mechanical removal of Mesquite, disposal by stockpiling and burning, followed by chemical controls for ongoing management (see details below).

#### 3.1 Mechanical controls

##### 3.1.1 Clearing

Mechanical control (the direct removal) of plants will be undertaken in the densely populated mesquite infested areas (Figure 2). Mesquite plant material will be stockpiled in specifically engineered areas for later burn-off. It is noted that:

- Roots will be removed up to a depth of at least 300 mm.
- In areas of mechanical control where permanent Project infrastructure is not going to be constructed, follow up control and/or revegetation will be completed.
- Mechanical control work will not be undertaken in situations where excessive damage to natural features is caused, such as directly adjacent to water course (promote erosion) or on fragile soils.

##### 3.1.2 Contaminated Topsoil Management

Topsoil from within the crystalliser footprint, and containing/potentially containing Mesquite seed, will be blended with subsoil fill. This blend will form the base of the crystallisers, which will be filled with hypersaline brine, and a salt base formed. This is expected to neutralise the seed bank.

In areas where contaminated topsoil cannot be blended, the topsoil will be stockpiled at a specifically engineered location to allow for annual chemical treatment to destroy any plants that germinate, and over time the seed bank will become neutralised. Topsoil from 'infested' areas will not be moved into 'clean' areas.

#### 3.2 Chemical Controls

A spraying program will target roadsides, topsoil stockpiles, firebreaks and cleared areas surrounding infrastructure across the Project. On-going chemical controls will be undertaken to ensure regrowth is targeted. It is noted that:

- The best time to treat mesquite is when the plants are actively growing, as the herbicide is readily absorbed and taken up. Best conducted from April to November. The onset of a late wet season, or a significant wet season, may delay the commencement of chemical control programs due to access limitations.
- Certified contractors will be engaged for treatment, and details of the procedures must be confirmed prior to implementation. Official recommendations on herbicides, chemical controls and protocols can be found at <https://www.agric.wa.gov.au/herbicides/mesquite-control>, and on the Pilbara Mesquite Management Committee (PMMC) website (<https://pilbaramesquite.com.au/>).



- Licenced Pest Management Technicians are required when using herbicide. When engaging pest management technician their licence will be checked for the type of pest treatment (e.g., insecticide, herbicide etc.) they are qualified to do.
- Use of agricultural chemical products must always strictly comply with the directions on the label, DPIRD recommended control options (<https://www.agric.wa.gov.au/herbicides/mesquite-control>) and the conditions of any minor use permits.

Chemical control options recommended by the WA Department of Primary Industries and Regional Development (DPIRD) are given in Table 2:

**Table 2: Chemical Control Options**

<p>Recommended Herbicide (<a href="https://www.agric.wa.gov.au/herbicides/mesquite-control">https://www.agric.wa.gov.au/herbicides/mesquite-control</a>). Refer to full table on DPIRD website for rates of application, timing of control and method of application at various growth stage.</p>	When actively growing, basal bark spray and/or overall foliar spray
	Triclopyr
	Triclopyr + picloram
	At any time
	Velpar®
	Access™ Herbicide
	Small Plants
	Tryclopyr

### 3.3 Disposal by Fire Treatment

Where trees and shrubs are stripped, the material will be stockpiled in a specifically engineered location for later burn-off. The remaining topsoil will be either blended for use as crystalliser base or stockpiled at a strategically designed location with annual chemical treatment (refer to Section 3.1).

Mesquite burn-off is to be conducted only on days where the natural climatic conditions do not pose a risk to safety and is coordinated with the City of Karratha.

#### Where Stockpiling

- Stockpiling will not involve clearing of new land and will be within the existing Development Envelope.
- Stockpiled organic material will naturally decay.
- Decaying stockpiles will require active inspections to chemically target any regrowth.

### 3.4 Maintenance of Cleared Areas

The maintenance of cleared areas within the Mardie Project will be addressed as follows:

- Intensive maintenance of cleared patches will be undertaken, where high regrowth rates can be expected due to existing seed bank and ground disturbance. Disturbed ground will stimulate plant growth. Owing to the longevity of seeds, which can be decades, follow-up control to target the contaminated topsoil and roadsides will be implemented.
- A licensed contractor will be engaged for annual maintenance using chemical controls for the first 5 years; then every 2 years. Mesquite plants won't reach maturity (and thus seed production) for at least 2-3 years.
- Chemical controls are the preferred choice for maintenance. Ongoing chemical controls will be required to ensure new regrowth is targeted.
- Only small patches and seedlings should be chemically treated, by EO on site. A licensed contractor may be required for large areas (see Section 3.2).
- Mesquite in small, isolated groups is easy to control, but long-term monitoring and follow-up control programs must be done to stop re-establishment from seed banks that can stay viable for more than 10 years.

### 3.5 Prevention of spread

The following will be adopted for the prevention of the spread of Mesquite within the Project area:

- **Any person conducting an activity on the land** is to be made aware, through inductions, that measures are required to be taken to control the declared pest and prevent movement and spread, including the clean down and hygiene protocols that are in place.
- A strict Ground Disturbance Permit (GDP) process applies to all clearing and ground disturbance, including material movement and stockpiling.
- Implement early detection and eradication programs and treat to control minor infestations and isolated outbreaks or seedlings first.
- Map infestations and treated areas – the location of the pest in such a way that it can be found again, this enables follow-up treatment, monitoring and control.
- Treat to destroy all plants, prevent seed set and prevent the spread of seed or plant parts within and from the area on or in equipment, vehicles and/or machinery. Treat prior to seed set each year.
- Ensure no seed is spread on vehicles, equipment and machinery by inspection prior to departure from site. This will be achieved by vehicle inspections; if plant material or soil is observed on the vehicle then washing-down with water will be completed to remove plant material and/or seeds prior to departure from site.
- Designating wash down areas and actively work to prevent contamination of clean areas. Washdown locations will be situated outside of 'clean' areas. A wheel-wash facility is available to assist in the clean-down of vehicles in a designated area.
- Ongoing monitoring of areas that have been treated.
- Watch for re-infestations.

## 4. ROLES AND RESPONSIBILITIES

The Roles and Responsibilities in relation to this plan are outlined in Table 3.

**Table 3: Roles and Responsibilities**

Role	Responsibility
Manager Environment and Approvals	<p>Ensure the annual submission of the Ministerial Statement Compliance Assessment Report (CAR) and the annual EPBC compliance report.</p> <p>Oversee the reporting and the provision of data as required under this plan.</p> <p>Oversee the implementation of the monitoring and control programs as required under this plan.</p>
Environmental Advisor	<p>Deliver the monitoring and control programs and maintain monitoring records.</p> <p>Deliver the reporting and the provision of data as required under this plan.</p> <p>Ensure all visitors to the project are made aware of the measures required to be taken to prevent movement and spread of mesquite, including the clean down and hygiene protocols.</p>
All Employees and Contractors	<p>Understand and meet the obligations of this plan.</p> <p>Report weed occurrences, spreading infestations or any suspected movement of mesquite or contaminated material outside of the project.</p>

## 5. REPORTING AND MONITORING

Control work undertaken will be reported to DPIRD each year. Reports will include the number and location of plants removed and/or sprayed, GPS data, and a map of infestations and treated areas. Monitoring of areas that have been treated for re-infestations will also occur annually. The data will be used to provide densities and distribution and help plan for the following year including control locations, follow up monitoring and treatments.

A weed survey of the Project Development Envelope will be undertaken every five years, with a map of the current weed distribution submitted to DCCEEW. A report on the progress in controlling weeds in the Development Envelope, and a summary of the outcomes from implementing the Mesquite Management Plan, will also be produced and submitted to DCCEEW.

Any updates or changes in control options and/or declaration status of Mesquite (or other weeds) will be incorporated into updates of the Mesquite Management Plan as required, in consultation with DPIRD and the PMMC, to ensure the requirements of the BAM Act are met.

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