February 2009

RAIL OPERATIONS

CHICHESTER DEVIATION
WEED MANAGEMENT PLAN

Revision A

IRON ORE

bhpbilliton

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EXECUTIVE SUMMARY

BHP Billiton Iron Ore (BHPBIO) propose to increase the efficiency of transporting iron ore from operations in the Pilbara region to Port Hedland, through the construction of 23 km of dual track railway through the Chichester Ranges (known as the Chichester Deviation). The Chichester Deviation will diverge to the west of the existing Mainline between Shaw Siding and Cowra Siding (i.e. approximately between Ch 220 and Ch 237 on the Mainline).

Baseline flora surveys conducted within the project area identified six environmental weed species, most of which were observed within drainage lines and areas close to the existing Mainline. The spatial footprint of weeds is considered minimal, relative to the total project area.

Weeds can impact the ecology and biodiversity of natural systems by out-competing native species for habitat, nutrients and water. Once established, weeds can also alter the composition and structure of vegetation communities.

This Weed Management Plan (WMP) has been prepared to guide the prevention, control and monitoring of weeds during the construction and operational phases of the Chichester Deviation. General weed management measures to minimise the potential impacts of the Chichester Deviation Project are outlined in this WMP.

1 INTRODUCTION

1.1 BACKGROUND

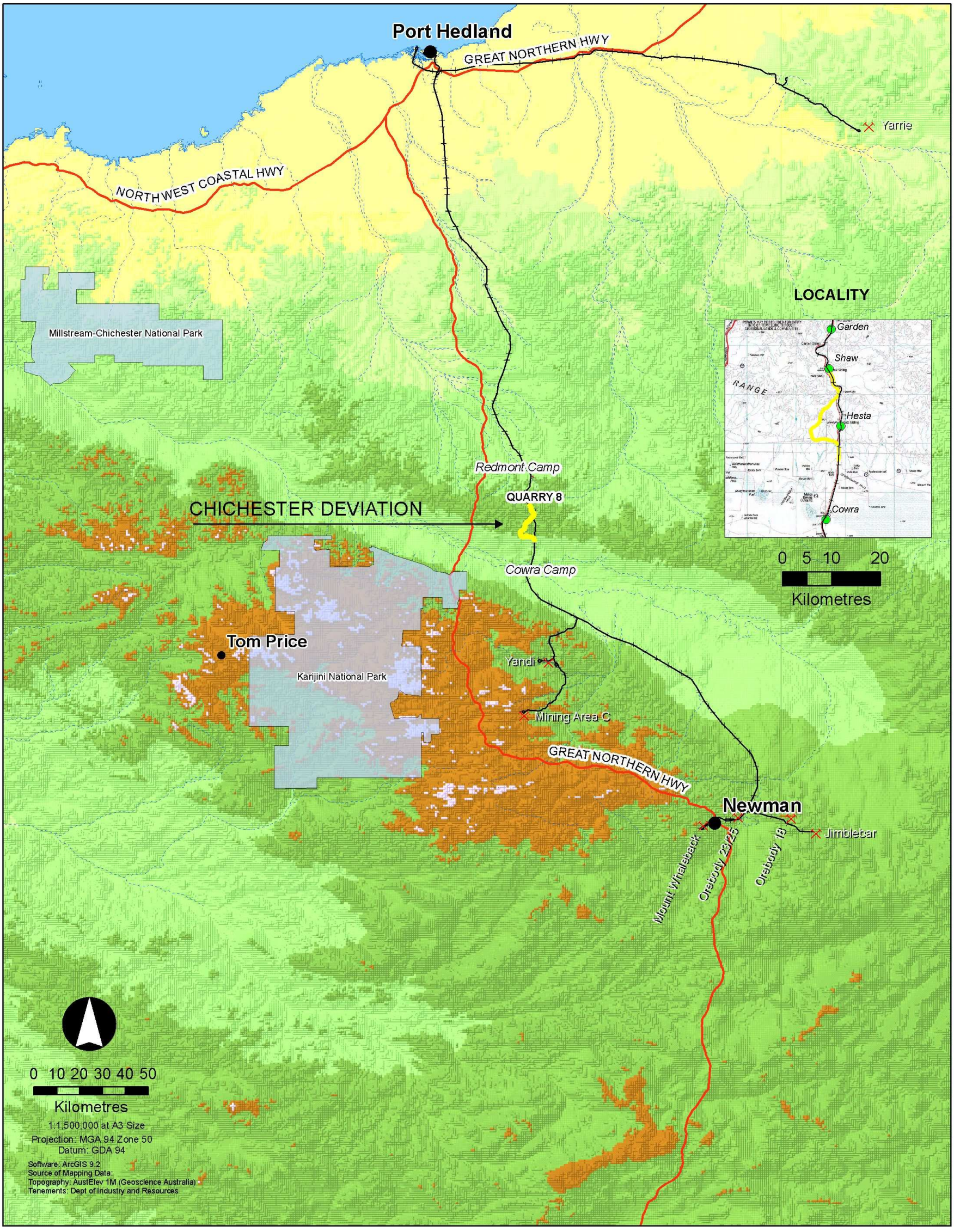
BHP Billiton Iron Ore (BHPBIO) propose to increase the efficiency of transporting iron ore from operations in the Pilbara region to Port Hedland, through the construction of 23 km of dual track railway through the Chichester Ranges (known as the Chichester Deviation), located approximately 230 km south of Port Hedland (Figure 1.1). The Chichester Deviation will diverge to the west of the existing Mainline between Shaw Siding and Cowra Siding (i.e. approximately between Ch 220 and Ch 237 on the Mainline).

The Chichester Deviation is located in an area of relatively undisturbed land. Results of baseline flora surveys indicate the spatial footprint of weeds is minimal, relative to the total project area. This Weed Management Plan (WMP) discusses the potential for the introduction and spread of weeds through construction and operational activities and the management controls to be implemented.

1.2 PURPOSE OF THIS PLAN

The purpose of this WMP is to assist BHPBIO and its contractors in the implementation of appropriate weed management measures, to prevent the introduction and spread of weed species during the construction and operation of the Chichester Deviation.

Figure 1.1 – Location Plan

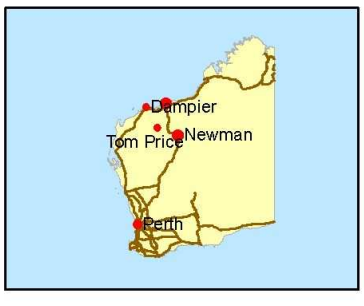


Legend:

- Proposal Area
- BHPB Mainline
- BHPBIO Mines
- National Parks
- Town
- Highway
- Drainage

GENERALISED TERRAIN (metres above sea level)

0 - 110	440 - 660
110 - 220	660 - 880
220 - 440	880 - 1,200



1.3 RELEVANT LEGISLATION

The management measures contained within this WMP have been developed with reference to Commonwealth, State and Local government weed management strategies, policies and action plans, which are summarised below. The information presented herein is intended solely to provide a summary of the subject matter covered and is not intended as a complete summary of all environmental legislation which may be applicable to the Project.

National Weeds Strategy

The Commonwealth National Weeds Strategy: A Strategic Approach to Weed Problems of National Significance (the Strategy), which has been jointly prepared by the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), Australian and New Zealand Environment and Conservation Council (ANZECC) and Forestry Ministers (1997), describes broad strategies which aim to reduce the impact of weeds through nationally coordinated weed management programs. The Strategy focuses on weeds classified as being of 'National Significance' and defines the broad goals and objectives for managing these weeds at a National level. The Strategy encourages the development of complementary State, regional and local weed management plans.

Baseline flora surveys did not identify any weed species of 'National Significance' within the Project area. Ongoing monitoring and implementation of preventative management measures, as detailed in Section 5 of this WMP, will be conducted throughout the construction and operation phases of the Project to minimise the potential for introduction of weed species of 'National Significance' into the Project area.

Declared Weeds

The management of weeds in WA is primarily regulated through the provisions of the *Agriculture and Related Resources Protection Act 1976* (ARRP Act), which is administered by the Department of Agriculture. The ARRP Act lists gazetted 'Declared' weeds that require control in WA (DAF, 2008). The Declared Plant Control Handbook (6th Edition) was produced by the Department of Agriculture in 2002 and provides recommendations for the control of Declared weeds (Peirce & Pratt, 2002).

Baseline flora surveys did not identify any Declared weeds within the Chichester Deviation Project area. Ongoing monitoring and implementation of preventative management measures, as detailed in Section 5 of this WMP, will be conducted throughout the construction and operation phases of the Project to minimise the potential for introduction of Declare' weed species into the Project area.

Environmental Weeds

A second category of weeds (i.e. 'Environmental Weeds'), is used to describe introduced plants which establish themselves in natural ecosystems and proceed to modify natural processes, often causing adverse effect to the communities they invade (DEC, 1999). The Environmental Weed Strategy for Western Australia (DEC, 1999) details management priorities and general control measures and monitoring of environmental weeds.

Baseline flora surveys identified several environmental weed species within the Chichester Deviation Project area. Additional species, which have not been identified in the area to date, are considered to have the potential to occur. Sections 3.2 and 4.1 describe the management measures for the existing and potential weed species, respectively.

State Weed Plan

In 2001, the then WA Department of Agriculture (now known as the Department of Agriculture and Food) released a Weed Plan for Western Australia (Department of Agriculture, 2001) which is known as the State Weed Plan. The State Weed Plan is an overarching document which aims to achieve coordinated, collaborative and effective weed management throughout WA (Department of Agriculture, 2001). The State Weed Plan is to be supported by a work plan for implementation (the State Weed Action Plan, which is currently being drafted).

BHPBIO will continue to monitor the development of the State Weed Action Plan. Where appropriate, BHPBIO will review and revise weed management practices (including this WMP) to be consistent with the State Weed Action Plan.

1.4 RELATIONSHIP BETWEEN THIS PLAN AND OTHER MANAGEMENT PLANS

BHPBIO's Asset Development Projects construction Environmental Management Plan (EMP) will be adopted for the Chichester Deviation project (BHPBIO, 2008). The construction EMP provides an overall framework for environmental management for the Project. The construction EMP also contains specific measures regarding the management of weeds, which are included in this WMP.

1.5 POTENTIAL IMPACTS

Weeds can impact the ecology and biodiversity of natural systems by out-competing native species for habitat, nutrients and water. Once established, weeds can also alter the composition and structure of vegetation communities.

The construction of the proposed Chichester Deviation has the potential to spread existing weed infestations and to introduce weeds into previously weed-free areas. Weeds are commonly spread through:

- the transfer of seeds via tyres and tracks as a result of inadequate vehicle hygiene;
- use of non-designated tracks and roads; and
- uncontrolled personnel and vehicle access to site.

Once established, weed seeds can also be spread by feral and native animals.

1.6 EPA OBJECTIVES

The Environmental Protection Authority's (EPA) objective with regard to weed management is to maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities through the avoidance or management of adverse impacts and improvement in knowledge.

1.7 KEY PERFORMANCE INDICATORS

The key performance indicators (KPIs) for this Weed Management Plan are:

- no new weed species introduced into the Project area as a result of construction or operational activities; and
- existing weed species are not spread outside of their current footprint.

1.8 ROLES AND RESPONSIBILITIES

As the proponent, BHPBIO is responsible for the implementation of the proposal and adherence to the commitments made within this management plan.

Table 1.1 identifies the responsibilities associated with the key management positions.

Table 1.1 – Roles and Responsibilities

Position	Responsibility
Project Manager (Construction Phase)	• Responsible for overall planning of the project to ensure construction is conducted in accordance with the WMP. • Responsible for compliance with statutory regulations.
Construction Manager (Construction Phase)	• Ensures that the work is continuing in accordance with the WMP. • Instructs subcontractors on control measures. • Directs site activities according to WMP. • Ensures all site personnel are aware of any changes to the WMP and any revised procedures. • Reports to the Site Environmental Officer or Project Manager of any breaches of the WMP. • Ensures that construction activities support achievement of the KPIs set by the WMP. • Ensures adequate training of all construction and field staff in the requirements of the WMP.
Operations Manager (Operational Phase)	• Ensures that site work is conducted in accordance with the WMP. • Instructs subcontractors on control measures. • Directs site activities according to WMP. • Ensures all site personnel are aware of any changes to the WMP and any revised procedures. • Reports to the Environmental Manager of any breaches of the WMP. • Ensures that operational activities support achievement of the KPIs set by the WMP. • Ensures adequate training of all operational field staff in the requirements of the WMP.
Environmental Manager (Construction Phase and Operational Phase)	• Ensures that the system for weed management is planned, documented, implemented and maintained in accordance with the WMP. • Monitors operations of the WMP and recommends any necessary changes to the Project Manager (Construction Phase) or Operations Manager (Operational Phase). • Provides advice, assistance and direction to the Project Manager (Construction Phase) or Operational Manager (Operational Phase) to ensure operations are conducted in accord with the WMP.
Site Environmental Officer (Construction Phase)	• Provides advice, assistance and direction to the Environmental Manager to ensure operations are conducted in accord with the WMP. • Monitors operations of the WMP and recommends any necessary changes to the Environmental Manager.

	• Keeps copies of monitoring results. • Ensures that weed hygiene and weed management measures are implemented • Oversees implementation of environmental controls, monitoring programs, inspections and audits. • Verifies that the requirements set in this WMP are adequate to the Project scope, should the project scope change. • Assists the construction manager in ensuring that the project team are trained in the requirements of the WMP • Completes compliance reporting requirements. • Prepares environmental monitoring reports. • Provides advice with respect to environmental issues where required.
Supervisors	• Implements management actions as directed by the Project Manager, Construction Manager or Site Environmental Officer. • Reports verbally to the Site Environmental Officer, Project Manager or Construction manager any breaches of the WMP. • Re-iterates the requirements of this WMP to workgroups through pre-starts and HSEC meetings.
All BHPBIO employees and contractors	• Comply with the requirements of this WMP. • Comply with legal requirements under the approvals documents and relevant Acts. • Exercise a Duty of Care to the environment. • Report all environmental incidents to an immediate supervisor or the Site Environmental Officer.

2 GENERAL WEED MANAGEMENT, HYGIENE AND MONITORING MEASURES

General weed management measures to minimise the potential impacts of the Chichester Deviation Project are presented in Table 2.1. They have been grouped under five categories (awareness measures, hygiene measures, monitoring measures, reporting measures and rehabilitation measures) and the project phase to which the measure is applicable is identified. There are four distinct Project phases: planning, construction, rehabilitation and operational and maintenance.

Table 2.1 – General Weed Management Measures

Management Measure	Project Phase	Responsible Person
Awareness		
Baseline flora reports will be assessed to determine the location of existing weed infestations within the Project area.	Planning	Site Environmental Officer
Areas of known weed infestation will be shown as 'Weed Risk' areas on construction plans and marked on the ground (using signs or other clearly recognisable measures) through the PEAHR (Project Environmental Aboriginal Heritage Review) process in order to minimise the potential for spreading weeds.	Planning	Site Environmental Officer
Employees will be advised in the project induction that personnel and equipment are not to enter a designated weed risk area, unless specifically directed by a project supervisor	Construction	Construction Manager
The induction programme will be used to promote awareness of weed management measures that are to be used within the Project area. An example 'Enviro Alert' fact sheet for Ruby Dock is provided in Appendix B.	Construction / Operation	Construction Manager/ Operations Manager
Specific training in weed identification and management measures will be provided to relevant BHPBIO personnel and contractors.	Construction / Operations	Construction Manager/ Operations Manager
Review annually the classification status of weed species (i.e. Declared, Environmental or other), development of State and Commonwealth weed management strategies and action plans, developments in weed control methods by keeping abreast of relevant literature (see references in Section 7) and consultation with the Department of Environment and Conservation and the Department of Agriculture.	Construction / Operations	Site Environmental Officer/ Environmental Manager
Hygiene		
Mobile machinery and equipment will be inspected, cleaned and certified prior to being brought into the Chichester Deviation Project area, being moved from a 'Weed Risk' area to another part of the site, or being removed from the Project area. Details of inspections and cleaning will be documented via a Vehicle/Equipment Weed Hygiene Certificate (Appendix A), to be signed off by the Site Environmental Officer or approved delegate.	Construction / Operation	Construction Manager/ Operations Manager
All inspections and cleaning of mobile machinery and equipment will be conducted in accordance with procedures specified by the BHPBIO Environmental Officer (or nominated delegate).	Construction / Operation	Construction Manager/ Operations Manager
Vegetation and topsoil stripped from 'Weed Risk' areas will be stockpiled separately, and the stockpiles marked and recorded on relevant databases and plans by the BHPBIO Environmental Officer (or nominated delegate).	Construction	Construction Manager
Topsoil stockpiles from 'Weed Risk' areas shall be bunded to minimise release of run-off water to the environment.	Construction	Construction Manager

Management Measure	Project Phase	Responsible Person
Ruby Dock has been identified at Quarry 8, from which ballast is likely to be sourced for the Project. Ballast will be certified weed free prior to transport to the Chichester Deviation project area.	Construction	Site Environmental Officer
Imported fill material shall be assessed for the presence of weeds prior to being brought on site, and treated if necessary. The Site Environmental Officer will determine whether treatment is necessary based on the baseline weed mapping to be undertaken.	Construction	Construction Manager
Monitoring		
Conduct baseline weed mapping prior to commencement of construction to identify existing weed populations, determine appropriate management actions and update this WMP as required.	Planning	Site Environmental Officer
Undertake, supervise and/or guide all weed eradication programmes to be conducted in a manner that minimises impacts on native species.	Construction / Operations	Site Environmental Officer / Environmental Manager
Conduct annual inspections of the Chichester Deviation Project area, including borrow pits, in order to monitor for the presence of weeds. Where possible, the inspections will be conducted in the weeks following rainfall events in order to maximise the potential for weed species being observed.	Construction / Operations	Site Environmental Officer / Environmental Manager
Conduct annual audits to ensure implementation of management controls stipulated in this WMP.	Construction / Operations	Site Environmental Officer / Environmental Manager
Document weed records, locations, and 'Weed Risk' areas in BHPBIO's environmental management database.	Construction / Operations	Site Environmental Officer / Environmental Manager
Provide details (and samples where possible) of new weeds or any weeds found outside their (current) known range to the WA Herbarium.	Construction / Operation	Site Environmental Officer / Environmental Manager
Reporting		
In the event that any new weed species are identified, adjustment to the level of management can be applied as necessary, including documentation of the species name, population, location (on relevant construction plans) and control method to be used in the BHPBIO's environmental management database.	Construction / Operation	Site Environmental Officer / Environmental Manager
Report the discovery of any weeds suspected to be new to the Pilbara to the Department of Agriculture.	Construction / Operation	Site Environmental Officer / Environmental Manager
Rehabilitation		
Topsoil stripped from 'Weed Risk' areas will be used to rehabilitate the area it was collected from. Soils from 'Weed Risk' areas that are used in the rehabilitation programme will be closely monitored after rehabilitation, and any weeds that germinate will be treated as appropriate.	Rehabilitation	Construction Manager

Management Measure	Project Phase	Responsible Person
The presence of weeds following the rehabilitation phase will be assessed (via a weed mapping event) as part of the site demobilisation process. Should this inspection indicate that the KPIs under this WMP have not been met, BHPBIO will undertake further weed management measures.	Rehabilitation	Site Environmental Officer

3 RECORDED WEED SPECIES

3.1 BASELINE VEGETATION SURVEYS IN THE PROJECT AREA

Baseline biological and flora surveys and assessments were conducted within the Chichester Deviation Project area by *ecologia* Environmental Consultants in 2008 (*ecologia* Environment, 2008). These surveys and assessments identified the following introduced flora within the Project area:

- Kapok Bush (*Aerva javanica*);
- Bipinnate Beggartick (*Bidens bipinnata);*
- Ulcardo Melon (*Cucumis melo subsp. agrestis*);
- Spiked Malvastrum (*Malvastrum americanum)*; and
- Mimosa Bush (*Vachellia farnesiana).*

Buffel-Grass (*Cenchrus ciliaris*) was also identified within the Chichester Deviation Project area during baseline biological surveys. Buffel-Grass has historically been planted in pastoral regions as a pasture grass and has since become widespread throughout the Pilbara. This species is favoured by pastoralists due to its drought tolerance. No specific control or eradication programs will be implemented for Buffel-Grass.

Figure 2.1 shows the locations where there species were identified during baseline flora surveys of the Project area.

3.2 SPECIFIC WEED MANAGEMENT, HYGIENE AND MONITORING MEASURES

Species-specific weed management measures for the six weed species identified within the Chichester Deviation Project area are provided in the following sub-sections.

Figure 2.1 – Baseline Weed Records

(Sheet 1 of 2)

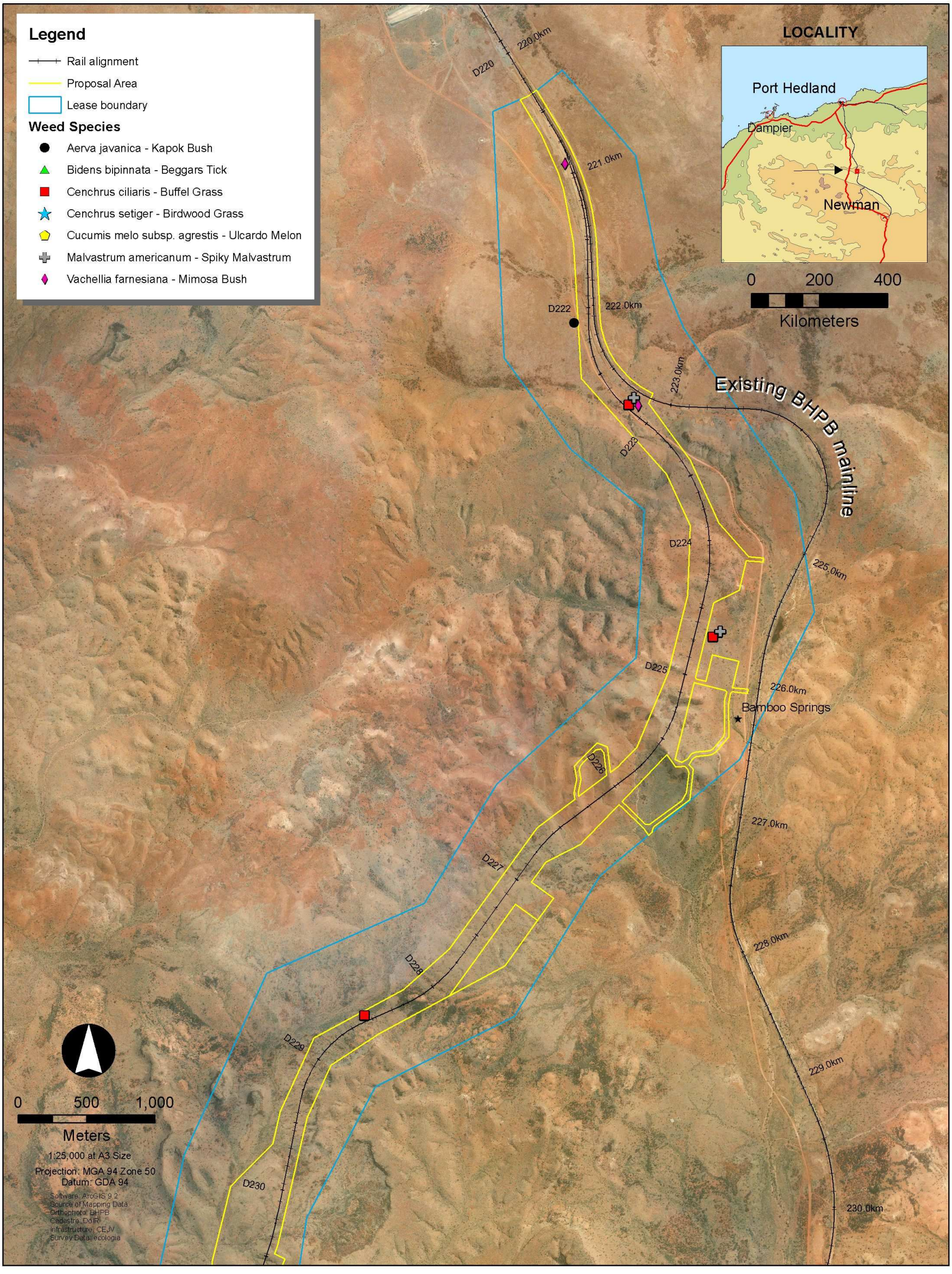
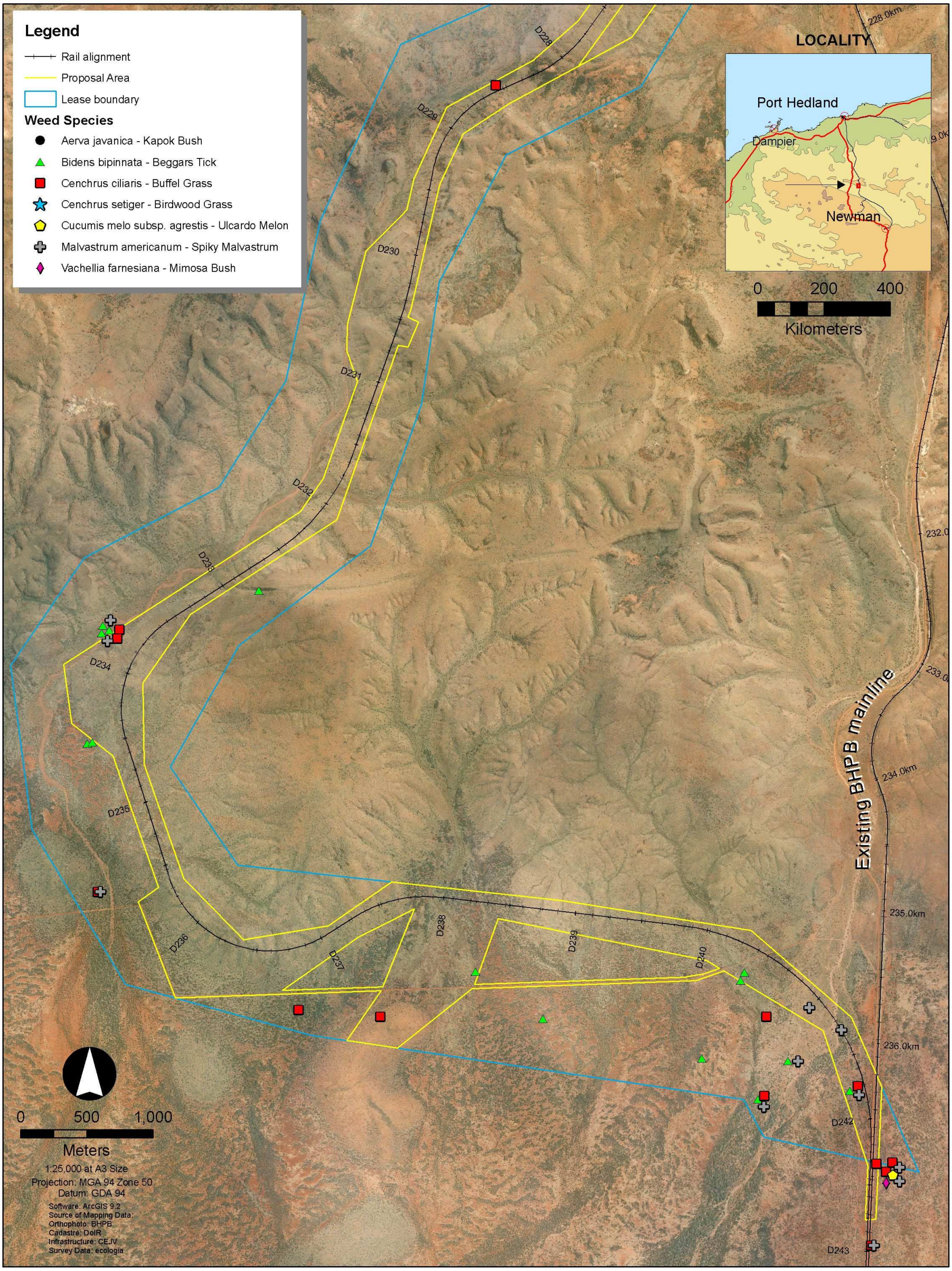


Figure 2.1– Baseline Weed Records

(Sheet 2 of 2)



3.2.1 Kapok Bush

Kapok Bush

Aerva javanica

Description: Erect, multi-branched perennial shrub reaching 0.4 – 1.4 m in height. Leaves are 2 - 7cm long and alternate along the stems (e*cologia* Environment, 2001)

Flowers: White flowers between January – October and resemble 'woolly' clusters at the tops of stems which contain thousands of seeds (*ecologia* Environment, 2001).

Habitat: Sandy soils

Status: Environmental Weed (DEC, 1999).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Refer to Figure 2.1

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Kapok Bush eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

3.2.2 Beggars Tick

Beggars Tick

Bidens bipinnata

Description: Erect annual herb reaching from 0.1 to 0.9 m in height.

Flowers: Yellow flowers are produced between March – September.

Habitat: Commonly found in alluvium, clay, loam over sandstone, limestone and along rivers, creeks, coastal areas and rocky hillsides

Status: Environmental Weed (DEC, 1999).

(Image source: *ecologia* Environment, 2008)

Recorded Locations within the Project area:

- Refer to Figure 2.1

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Beggars Tick eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

3.2.3 Ulcardo Melon

Ulcardo Melon

Cucumis melo subsp. agrestis

Description: A trailing annual herb or climber.

Flowers: Yellow flowers between February – June and September – October.

Fruit: Produces fleshy fruit.

Habitat: Woodland or grassland on clay soils (Royal Botanic Gardens & Domain Trust, 2007).

Status: Environmental Weed (DEC, 1999).

(Image source: Australian National Botanic Gardens, 2008)

Recorded Locations within the Project area:

- Refer to Figure 2.1

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Ulcardo Melon eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

3.2.4 Spiked Malvastrum

Spiked Malvastrum

Malvastrum americanum

Description: Erect, hairy, perennial herb or shrub growing to between 0.5 and 1.3 m in height.

Flowers: Yellow/orange flowers are produced between April – July.

Habitat: River and creek margins, wastelands, and many arid zone habitats from the Nullarbor to the Pilbara and Kimberley Regions of Western Australia.

Status: Environmental Weed (DEC, 1999).

(Image source: *ecologia* Environment, 2008)

Recorded Locations within the Project area:

- Refer to Figure 2.1

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Spike Malvastrum eradication programmes if required based on inspections and/or identification of new outbreaks. Eradication will be undertaken preferably after rainfall events and prior to seed set.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

3.2.5 Mimosa Bush

Mimosa Bush

Vachellia farnesiana

Description: Erect, spreading, thicket-forming, thorny tree or shrub growing to 4 m in height. Its bark is dark grey and rough.

Flowers: Produces yellow flowers between June -August.

Habitat: Low-lying areas, river and creek banks and disturbed sites.

Status: Environmental Weed (DEC, 1999).

(Image source: *ecologia* Environment, 2008)

Recorded Locations within the Project area:

- Refer to Figure 2.1

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Mimosa Bush eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of trees in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4 WEED SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Based on results of other vegetation and flora surveys conducted along sections of the Mainline (outside of the Project area), 13 additional weed species are considered to have the potential to occur within the Chichester Deviation Project area (*ecologia* Environment, 2008). These species include:

- *Acetosa vesicaria* (Ruby Dock);
- *Argemone ochroleuca* (Mexican Poppy);
- *Citrullus colocynthis* (Colocynth);
- *Cynodon dactylon* (Couch);
- *Digitaria ciliaris* (Summer Grass);
- *Echinochloa colona* (Awnless Barnyard Grass);
- *Passiflora foetida* (Stinking Passion Flower);
- *Portulaca oleracea* (Purslane);
- *Setaria verticillata* (Whorled Pigeon Grass);
- *Sonchus oleraceus* (Common Sowthistle);
- *Tamarix aphylla* (Athel Pine); and
- *Tribulus terrestris* (Caltrop).

In the event that one or more of these species is identified within the Chichester Deviation Project area, the WMP will be updated and revised as appropriate to manage the species. A complete list of weed species found in the Pilbara region is included in Appendix C (WA Herbarium, 2008).

The general weed management controls listed in Table 2.1 also apply to any of the potential weed species listed above.

4.1 SPECIFIC WEED MANAGEMENT, HYGIENE AND MONITORING MEASURES

Species-specific weed management measures are provided in the following sub-sections for the thirteen weed species that have been previously identified along the existing Newman to Port Hedland Mainline.

4.1.1 Ruby Dock

Ruby Dock

Acetosa vesicaria

Description: Succulent, multi-stemmed annual herb which reproduces vegetatively or via seed production. Grow to 0.2 – 1m in height.

Flowers: Red/pink flowers are clustered at the ends of stems between May and June.

Fruit: Bright red/pink fruit.

Habitat: Sandy alluvial or gravely ironstone soils on roadsides or in disturbed areas.

Status: Environmental Weed (DEC, 1999).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Ruby Dock eradication programmes if required based on inspections and/or identification of new outbreaks. Eradication will be undertaken preferably after rainfall events and prior to seed set.
- The personnel or contractor commissioned to undertake the Ruby Dock herbicide spraying programmes will use the following methodology (unless otherwise specified by the Site Environmental Officer):
    - Roundup (10mL per 1 L of water) or similar glyphosate product will be used when the plant is actively growing and in accordance with the manufacturers specifications (BHPBIO 2006).
    - PPE and site safety measures will be followed in accordance with the herbicide manufacturer's specifications and Project requirements.
    - Spraying will be undertaken using vehicle mounted units where plants are easily accessible and back pack spray units where infestations are less accessible.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.2 Mexican Poppy

Mexican Poppy

Argemone ochroleuca

Description: Erect herbaceous annual, which reaches 0.2 – 1m in height.

Flowers: Solitary white-yellow flowers with dark red stigma between February/ March – July/November (*ecologia* Environment 2001).

Habitat: Sandy soils and red/brown clay loam on moist flats or open, cobble creekbeds where there is no native competition (WA Herbarium 2008; ecologia Environment 2001).

Status: P1 "Declared" Plant under *Agriculture and Related Resources Act 1976*, but not for the Pilbara region. Environmental weed (WAPC, 2003).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Mexican Poppy eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximately numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.3 Colocynth

Colocynth

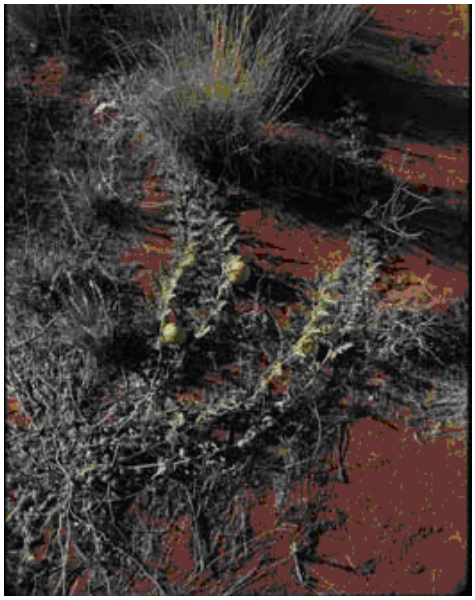
Citrullus colocynthis

Description: Trailing perennial, herb or climber.

Flowers: Yellow flowers between January – October.

Habitat: Sandy, rocky, stony loam, clay or wet soils in disturbed areas and floodplains.

Status: Environmental Weed (DEC, 1999).



(Image source: Australian National Botanic Gardens, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Colocynth eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.4 Couch

Couch

Cynodon dactylon

Description: Grass-like or herb, from 0.05 – 0.3 m in height.

Flowers: Green/purple flowers between June – November/February.

Habitat: Sand, loam, clay soils.

Status: Environmental Weed (DEC, 1999).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Couch eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.5 Summer Grass

Summer Grass

Digitaria ciliaris

Description: Tufted annual, grass-like or herb, from 0.02 – 1m in height.

Flowers: Green flowers between November – June.

Habitat: Sand, clay, alluvium and sandstone.

Status: Environmental Weed (DEC, 1999).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Summer Grass eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximately numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.6 Awnless Barnyard Grass

Awnless Barnyard Grass

Echinochloa colona

Description: Tufted annual, grass-like or herb, growing from 0.2 – 0.6 m in height.

Flowers: Green, purple flowers between February – July.

Habitat: Black sand or black clay near watercourses and swamps.

Status: Environmental Weed (DEC, 1999).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Awnless Barnyard Grass eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.7 Stinking Passion Flower

Stinking Passion Flower

Passiflora foetida

Description: Woody climber with an unpleasant smell, which grows to 9m in height.

Flowers: Cream, white and blue flowers between February – November.

Habitat: Coastal areas, rivers and creek banks.

Status: Environmental Weed (DEC, 1999)

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Stinking Passion Flower eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximately numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.8 Purslane

Purslane

Portulaca oleracea

Description: Succulent prostrate to decumbent annual herb, growing to 0.2 m high.

Flowers: Yellow flowers between April – May.

Habitat: Clay loam and sandy soils.

Status: Alien (WA Herbarium, 2008)

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Purslane eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.9 Whorled Pigeon Grass

Whorled Pigeon Grass

Setaria verticillata

Description: Loosely tufted annual, grass-like or herb, growing to 0.1 – 1.3 m in height.

Flowers: Flowers December – June.

Photo not available.

Habitat: Sand, clay or loam.

Status: Environmental Weed (DEC, 1999).

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Whorled Pigeon Grass eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximately numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.10 Common Sowthistle

Common Sowthistle

Sonchus oleraceus

Description: Erect annual herb ranging from 0.1 – 1.5m in height.

Flowers: Yellow flowers between January – December.

Habitat: Grows in a range of soil types in disturbed areas.

Status: Environmental Weed (DEC, 1999).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Common Sowthistle eradication programmes if required based on inspections and/or identification of new outbreaks. Eradication will be undertaken preferably after rainfall events and prior to seed set.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.11 Athel Pine

Athel Pine

Tamarix aphylla

Description: Tree to 12 m high.

Flowers: White or pink flowers between February – May.

Habitat: Among medium trees, along river banks and in disturbed native vegetation.

Status: P1 Declared Plant under the *Agriculture and Related Resource Act* 1976. Environmental Weed (DEC, 1999).

(Image source: WA Herbarium, 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Athel Pine eradication programmes if required based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

4.1.12 Caltrop

Caltrop

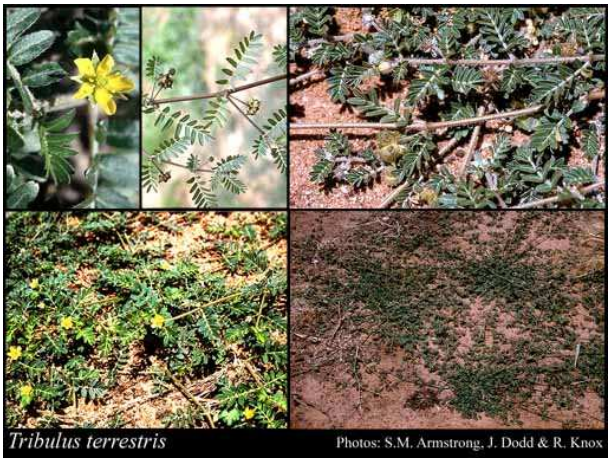
Tribulus terrestris

Description: Prostrate annual herb

Flowers: Yellow flowers between January – December.

Habitat: Often on sandy soils and waste places.

Status: Alien (WA Herbarium, 2008)



(Image source: WA Herbarium 2008)

Recorded Locations within the Project area:

- Not recorded in Project area.

General Control Measures:

- Implement management measures described in Section 2 of this WMP.

Specific Management Measures:

- The Site Environmental Officer (or nominated delegate) will co-ordinate and manage Caltrop eradication programmes if required, based on inspections and/or identification of new outbreaks.
- The Site Environmental Officer will undertake or co-ordinate follow-up inspections (and respraying if necessary) of treated areas within 8 weeks of the initial eradication programme.
- Details of all eradication programs and follow-up inspections/programmes will be recorded and will include, but not necessarily be limited to, the following: location and approximate numbers of plants in each of the areas treated, method used and timing.

Further Information: BHPBIO Site Environmental Officer

Further Reading: WA Herbarium (2008) *Florabase* - http://florabase.calm.wa.gov.au/

5 MONITORING AND PERFORMANCE INDICATORS

5.1 OVERVIEW

Monitoring will consist of two components:

- monitoring and audit of management controls; and
- monitoring of weed infestations during construction and operational activities.

5.2 MONITORING OF MANAGEMENT CONTROLS

The implementation of general weed management and hygiene controls (Section 2) and species-specific management controls (Sections 3.2 and 4.1) will be monitored on a quarterly basis during construction and annually during operational phases of the project. Non-conformances identified during inspections will be documented, addressed with appropriate corrective and preventive actions, and rectified within an agreed time frame.

5.3 WEED MONITORING AND INSPECTION

The success of the general weed management, hygiene and monitoring measures described in this WMP (Sections 2) will be evaluated through routine inspections of disturbance areas (including borrow pits) and weed risk areas by the Site Environmental Officer. These inspections will be conducted on a quarterly basis (minimum) during construction and annually once operational. Records of inspections will be kept by the Site Environmental Officer.

The success of the species-specific weed control measures described in this WMP (Sections 3.2 and 4.1) will be assessed via follow-up inspections. These inspections will be conducted within eight weeks of the initial control programme (preferably after a rainfall event and subsequent inspections) and will include an evaluation of the success of the control measures that were used. Details of all weed management and eradication programmes and follow-up inspections or programs conducted will be recorded in BHPBIO's environmental management database and will include qualitative observations and quantitative measurements where relevant. These observations and measurements may include, but are not necessarily limited to, the following:

- the location timing, and approximate number of individual plants in each of the areas treated;
- the treatment methods used;
- the effectiveness of control measures;
- schedule of further treatments; and
- other observations of relevance to the control of the weed species.

In the event that a weed control measure for a particular species appears not to be effective, control measures will be adjusted following consultation, if necessary, with the Department of Environment and Conservation or Department of Agriculture. This WMP will be updated to reflect any significant changes to control measures.

The Site Environmental Officer will provide details (and samples where possible) of the discovery of weeds new to the Pilbara region or any weeds found outside their (current)

known range to the DEC herbarium. Additionally, the Site Environmental Officer will report any weeds new to the Pilbara to the Department of Agriculture.

The WMP will be reviewed annually and updated as required. The Site Environmental Officer will review annually the classification status of weed species (i.e. Declared, Environmental or other), development of State and Commonwealth weed management strategies and action plans, developments in weed control measures by keeping abreast of relevant literature and consultation with DEC and the Department of Agriculture.

The success of rehabilitation will be assessed as part of the site demobilisation process and on-going field assessment. This will include an assessment of the weed species present, their size, scale and distribution. BHPBIO will implement weed control measures as required to ensure weeds are not spread beyond areas where they currently exist and that no new weeds are introduced into the area.

6 REPORTING

Outcomes of implementation of the Weed Management Plan will be provided in BHPBIO's annual environmental report for rail operations, reporting on the previous 12 month period.

7 REFERENCES

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Western Australian Planning Commission (WAPC) (2003) *Coastal Planning and Management Manual – 8 Weeds and Weed Management*. Western Australian Planning Commission, Perth. available at www.wapc.wa.gov.au/Publications/8_Weeds_Management.pdf?id837

Appendix A – Vehicle / Equipment Weed Hygiene Certificate

MOBILISATION WEED & SEED HYGIENE CERTIFICATE

BHP BILLITON IRON ORE

Equipment will not be granted entry to site if not thoroughly clean

bhpbilliton Iron Ore

Project:		**Location:**		**Date:**
Name:				
Company:		**Company to be using equipment:**		
Purchase Order #:		**Contract # WA #:**	**Site Contact:**	
Address:		**Phone:**	**Facsimile:**	
Contractor Cited Equipment Prior to Mobilisation:		**Yes:** ☐ **No:** ☐	**Signed:**	**Date:**

Details Equipment # 1		**Checklist**	**Clean**	**Contaminated**	**Comments**
Unit #:	**Registration Number:**	Foreign Soil/Gravel	☐	☐	
Equipment Description:		Foreign Objects	☐	☐	
Location of last works undertaken by equipment:		Overall Appearance	☐	☐	
		Oil Leaks/ hydraulic drips	☐	☐	
Date Last Cleaned:		Diesel Leaks	☐	☐	

Details Equipment # 2		**Checklist**	**Clean**	**Contaminated**	**Comments**
Unit #:	**Registration Number:**	Foreign Soil/Gravel	☐	☐	
Equipment Description:		Foreign Objects	☐	☐	
Location of last works undertaken by equipment:		Overall Appearance	☐	☐	
		Oil Leaks/ hydraulic drips	☐	☐	
Date Last Cleaned:		Diesel Leaks	☐	☐	

Details Equipment # 3		**Checklist**	**Clean**	**Contaminated**	**Comments**
Unit #:	**Registration Number:**	Foreign Soil/Gravel	☐	☐	
Equipment Description:		Foreign Objects	☐	☐	
Location of last works undertaken by equipment:		Overall Appearance	☐	☐	
		Oil Leaks/ Hydraulic drip	☐	☐	
Date Last Cleaned:		Diesel Leaks	☐	☐	

Details Equipment # 4		**Checklist**	**Clean**	**Contaminated**	**Comments**
Unit #:	**Registration Number:**	Foreign Soil/Gravel	☐	☐	
Equipment Description:		Foreign Objects	☐	☐	
Location of last works undertaken by equipment:		Overall Appearance	☐	☐	
		Oil Leaks/ Hydraulic drip	☐	☐	
Date Last Cleaned:		Diesel Leaks	☐	☐	

Details Equipment # 5		**Checklist**	**Clean**	**Contaminated**	**Comments**
Unit #:	**Registration Number:**	Foreign Soil/Gravel	☐	☐	
Equipment Description:		Foreign Objects	☐	☐	
Location of last works undertaken by equipment:		Overall Appearance	☐	☐	
		Oil Leaks/ Hydraulic drip	☐	☐	
Date Last Cleaned:		Diesel Leaks	☐	☐	

Overall Comments

Signoff	
Inspected By:	Signature:
Approved for Access By:	Signature:
Position:	Date:

FRM-IEN-LAND-001 Mobilisation Weed and Seed Hygiene Certificate (Rev 2.0)

Issued 26/10/2007

Appendix B – Ruby Dock 'Enviro Alert' Fact Sheet

ENVIRO MATTERS

Environmental Management System

Weed Control Programme – Ruby Dock

A weed control programme is currently being conducted across BHPBIO's inland sites. The programme focuses primarily upon the control of ***Ruby Dock (Acetosa vesicarius)***. ***Ruby Dock*** is the most common weed associated with disturbance around mining operations across the Pilbara and the Goldfields. Ruby Dock is a highly vigorous coloniser that can spread rapidly on disturbed areas, especially along transport and communication corridors. This can result in rapid spread across sites, it may reduce the effectiveness of rehabilitation and impact on neighbouring native vegetation communities.

Ruby Dock was introduced from the Mediterranean and Western Asia for ornamental and, ironically, rehabilitation purposes. As time progressed it was recognised as a threat to the native Australian environment and thankfully this practice has been discontinued.

Ruby Dock is an annual, multi-stemmed succulent that can grow rapidly to 50 cm or more following rain (particularly during the start of the winter period). Leaves are oval to heart-shaped. Flowers are clustered at the ends of stems. The most conspicuous part of the plant is the brightly coloured, red-pink fruit.

What can you do to help control Ruby Dock?

- Maintain Vehicle Hygiene procedures for travel around and between sites. Mud attached to the undercarriage of unwashed vehicles is a prime mechanism for the transport of weeds.
- Keep an eye out for the weed-spraying crew. They will be conducting work at your site over the next couple of months.
- Look for ways to minimise the area of disturbance required for your activities.
- Notify your Site Environmental Officer of areas that you have seen ***Ruby Dock***. This will allow them to direct the weed-spraying crew to the areas of greatest infestation.

Environmental management is everyone's responsibility

For further information please contact your site Environmental Officer

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bhpbilliton ENVIRO MATTERS

Appendix C – Weed Species Occuring Within the Pilbara Region

(Source: WA Herbarium 2008)

Scientific Name	Common Name
Acacnthospermum hispidum	Starburr
Acetosa vesicaria	Ruby Dock
Aerva javanica	Kapok Bush
Alternanthera pungens	Khaki Weed
Amaranthus viridis	Green Amaranth
Andropogon gayanus	Gamba Grass
Argemone ochroleuca	Mexican Poppy
Arundo donax	Giant Reed
Asclepias curassavica	Redhead Cottonbush
Asphodelus fistulosus	Onion Weed
Bidens bipinnata	Bipinnate Beggartick
Bidens pilosa	Cobbler's Pegs
Catharanthus roseus	Pink Periwinkle
Cenchrus biflorus	Gallon's Curse
Cenchrus ciliaris	Buffel-Grass
Cenchrus echinatus	Burrgrass
Cenchrus setiger	Birdwood Grass
Chenopodium murale	Nettle-leaf Goosefoot
Chloris barbata	Purpletop Chloris
Chloris virgata	Feathertop Rhodes Grass
Citrullus colocynthis	Colocynth
Citrullus lanatus	Pie Melon
Clitoria ternatea	
Coccinia grandis	
Conyza bonariensis	Flaxleaf Fleabane
Crotalaria juncea	Sunnhemp
Cucumis melo subsp. agrestis	Ulcardo Melon
Cucumis myriocarpus	Prickly Paddy Melon
Cyclospermum leptophyllum	
Cyperus involucratus	
Cyperus polystachyos	Bunchy Sedge
Cyperus rotundus	Nut Grass
Datura leichhardtii	Native Thornapple
Datura metel	Downy Thornapple
Desmodium scorpiurus	
Digitaria ciliaris	Summer Grass
Echinochloa colona	Awnless Barnyard Grass
Eragrostis pilosa	
Gomphrena celosioides	Gomphrena Weed
Gossypium hirsutum	Upland Cotton
Indigofera oblongifolia	
Indigofera sessiliflora	
Jatropha gossypifolia	Bellyache Bush
Lactuca saligna	Wild Lettuce

Scientific Name	Common Name
Lactuca serriola	Prickly Lettuce
Lamarckia aurea	Goldentop
Lepidium didymum	
Leptochloa fusca subsp. *uninervia*	
Leucaena leucocephala	Leucaena
Malvastrum americanum	Spiked Malvastrum
Malvastrum coromandelianum	
Melochia pyramidata	
Merremia dissecta	
Moringa oleifera	
Opuntia stricta	Common Prickly Pear
Oxalis corniculata	Yellow Wood Sorrel
Parkinsonia aculeate	Parkinsonia
Paspalum fasciculatum	
Passiflora foetida	Stinking Passion Flower
Pennisetum setaceum	Fountain Grass
Phoenix dactylifera	Date Palm
Phyla nodiflora	
Phyla nodiflora	
Physalis angulata	
Polypogon monspeliensis	Annual Beardgrass
Portulaca oleracea	Purslane
Prosopis glandulosa x velutina	
Prosopis pallida	Algaroba
Pupalia lappacea	
Ricinus communis	Castor Oil Plant
Salvinia molesta	Salvinia
Senna occidentalis	Coffee senna
Setaria italica	Italian Millet
Setaria sphacelata	South African Pigeon Grass
Setaria verticillata	Whorled Pigeon Grass
Sigesbeckia orientalis	Indian Weed
Sisymbrium orientale	Indian Hedge Mustard
Solanum nigrum	Black Berry Nightshade
Solidago Canadensis	Goldenrod
Sonchus oleraceus	Common Sowthistle
Stylosanthes guianensis	Stylo
Stylosanthes hamata	Verano Stylo
Tamarindus indica	Tamarind
Tamarix aphylla	Athel Pine
Trianthema portulacastrum	Giant Pigweed
Tribulus terrestris	Caltrop
Vachellia farnesiana	Mimosa Bush
Washingtonia filifera	