Fortescue
The New Force in Iron Ore

Weed Management Plan

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9 March 2011

45-PL-EN-0013

Document Title:	**Weed Management Plan**
Document No:	**45-PL-EN-0013**
Document Type:	**Environmental Management Plan**
First Issue Date:	**4 September 2006**

Rev	Issue Date	Description of Revisions Made	Signatures		
			Originator	Checked	Approved
a	April 2005	Plan developed	Nicky Hogarth	CALM	
0	4 September 2006	Issued for Use			DEC
0a	7 August 2009	Minor changes to take account of possible groundwater discharge to surface.	Greg Barrett	Paul Connolly	
1	11 August 2009	Issued for use			Diane Dowdell
1a	27 October 2010	Revision per Review Working Group (RWG) recommendations	Tristy Fairfield		
1b	16 February 2011	New template and further updates based on RWG feedback	Tristy Fairfield	Andy Laurenson, Zéna Harman, Alex Langley	
2	9 March 2011	Issued for Use		Tristy Fairfield	Brett McGuire

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1. INTRODUCTION

Fortescue is an integrated business comprised of mine, rail and port operations based in the Pilbara region of Western Australia, with its head office located in Perth.

Detailed background information regarding the timing and nature of Fortescue Metals Group (Fortescue)'s environmental approvals under the *Environmental Protection Act 1986 (WA)*, the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, current operations and plans for future expansion is contained in Appendix A.

1.1 REQUIREMENT FOR A WEED MANAGEMENT PLAN

A *Weed Hygiene and Management Plan* was initially developed to meet the requirements of the Ministerial Statements issued under Part IV of the *Environmental Protection Act 1986*. This is now called the *Weed Management Plan*, however the objectives and management activities have not been changed.

The sections of this Plan which address each of the Ministerial requirements are identified in Appendix B.

1.2 OBJECTIVE AND SCOPE

Weeds pose a serious threat to Australia's natural ecosystems and agricultural industries. Fortescue is committed to:

- preventing the introduction of weeds, and
- controlling (if possible reducing) existing weed populations

in areas in which it operates.

The purpose of this plan is to guide the management of weeds and to meet existing weed management obligations specified in Ministerial Statements issued under Part IV of the *Environmental Protection Act 1986*, using a combined integrated approach of weed control, hygiene, prevention and rehabilitation.

The guidance and principles in this Weed Management Plan apply to all exploration, design, construction, operation and decommissioning stages of current and future operations in the Pilbara region of Western Australia. It covers the following areas:

- Christmas Creek, Cloudbreak and Solomon mines and associated infrastructure;
- Current, approved and future roads, railways and associated infrastructure;
- Current, approved and future terrestrial based port infrastructure.

It contains guidelines for designing site-specific weed monitoring plans but does not contain the site-specific *Weed Management and Monitoring Program.*

1.3 WEEDS – OVERVIEW

Weeds are usually opportunistic plant species that are not native to an area, but once introduced, are able to compete effectively for resources. They can be intentional introductions, such as garden plants or even commercial crops.

Weeds create numerous environmental impacts including resource competition and the prevention of seedling recruitment of native plant species, alteration of geomorphological and hydrological cycles, changes to soil nutrients, fire regimes and the abundance of indigenous fauna, and genetic changes (DEC, 1999).

1.3.1 Declared Weeds

In order to protect agricultural interests, the Agriculture Protection Board maintains a list of "Declared Plants" (weeds) (Appendix C). Declared Weeds, under the *Agriculture and Related Resources Protection Act 1976*, are those that landowners are required by law to control. They are required to be controlled as they are considered a significant risk to the Western Australian economy. Many weed species, however, are not declared under this Act as they may have an agricultural role. They may, however, be serious environmental weeds with the potential to affect native ecosystems.

1.3.2 Environmental Weeds

'Environmental weeds' is a secondary category of weeds, used to describe "plants that establish themselves in natural ecosystems and proceed to modify natural processes, usually adversely, resulting in the decline of communities they invade" (DEC, 1999; page iii).

1.3.3 Weeds of National Significance

The Australian and state and territory governments have agreed a list of twenty Weeds of National Significance (WONS), based on the weed species' invasiveness,

impacts, potential to spread and socio-economic and environmental values. The full list of WONS can be accessed at www.weeds.gov.au/weeds/lists/wons/html

1.3.4 Australian Weed Strategy

The Australian Weeds Strategy (AWS) (http://www.weeds.gov.au/publications/strategies/pubs/weed-strategy.pdf),first developed in 1997 as the National Weeds Strategy, identifies priorities for weed management across Australia and seeks to achieve a strategic approach to weed management, in order to minimise their economic, environmental and social impact.

1.3.5 State Weed Plan

A Weed Plan for Western Australia (referred to as the 'State Weed Plan') (http://www.agric.wa.gov.au/objtwr/imported_assets/content/pw/weed/bull4490.pdf) was released in 2001. It was developed to contribute to effective weed management in Western Australia and to assist in the coordination of weed management activities at all levels of government, industry, community and individual landholders.

1.4 WEEDS IN FORTESCUE EXPLORATION, CONSTRUCTION AND OPERATIONAL AREAS

As part of developing Fortescue's port, rail and mines projects, extensive flora surveys were undertaken. Seventeen species of introduced flora were recorded from the port, rail, and Cloudbreak and Christmas Creek areas in these initial surveys. Flora surveys undertaken over the Solomon Project areas also identified the presence of thirteen of these species of weeds.

While the majority of the species recorded are common and widespread throughout the Pilbara region, some are considered significant environmental weeds and could pose a risk to the Pilbara ecology. Of the species identified at that time, Ruby Dock, Kapok, Verano Stylo and Mexican Poppy have been identified as serious environmental weeds and identified for control and eradication by Fortescue.

In addition to the weeds found during initial surveys, one of the WONS, Parkinsonia, has since been found to be present on Fortescue tenements within the boundary of the Roy Hill Station. Additional infestations are also present upstream of the Fortescue tenements. Parkinsonia invades mesic habitats and seasonal wetlands threatening waterbird habitats of continental significance. Parkinsonia has therefore been added to the weed species which are priorities for control, although effective management requires a collaborative approach with other stakeholders, which is discussed further in Section 3.

Appendix D provides a summary of the common weeds of the project areas that have been identified.

1.5 LEGISLATIVE AND REGULATORY FRAMEWORK

Fortescue Metal Groups employees and contractors are obliged to comply with all relevant environmental Commonwealth and State legislation. There is a range of legislation that relates to weed hygiene and management in Western Australia (Table 1).

Table 1: Commonwealth and State Legislation Relating to Weed Management

Legislation	Application
Environment Protection and Biodiversity Conservation Act 1999	Protection on environmental matters of national significance.
Agriculture and Related Resources Protection Act 1976	Declared plants and animals which are nominated by the Agriculture Protection Board as current or potential pests.
Environmental Protection Act 1986	Prevention, control and abatement or pollution and conservation protection and enhancement of environment.
Soil and Land Conservation Act 1945	Deals with the conservation of soil and land resources and with the mitigation of the effects of erosion.
Wildlife Conservation Act 1950	Provides for the conservation and protection of wildlife (flora and fauna). Special provisions and schedules cover protection and management of gazetted rare flora and fauna.

2. ROLES AND RESPONSIBILITIES

Accountability for fulfilling the requirements of this Weed Management Plan is dependent on the stage of project development (exploration, construction, operations, decommissioning) and the project type (port, rail, mine).

For example, during exploration stages, the Head of Exploration is accountable for fulfilling the requirements of the *Weed Management Plan*, although responsibility may be delegated to an Environmental Coordinator.

Construction activities may be undertaken by an external service provider, or internal Fortescue personnel; the Project Manager will be accountable for ensuring the requirements of this *Weed Management Plan* are met. Responsibility may be delegated to the Environmental Manager or other personnel.

During operational stages, the General Manager (Port, Rail or Mine) will be accountable for ensuring the requirements of this Weed Management Plan are met. Again, responsibility for specific tasks may be delegated.

Table 5 attributes specific Management Actions to the appropriate personnel.

Where responsibilities are delegated to others, this delegation must be clearly recorded and communicated.

3. STAKEHOLDER CONSULTATION

Earlier versions of this Weed Management Plan have been approved by the Office of the Environmental Protection Authority (OEPA).

Since that time, an additional weed species (Parkinsonia) has been located on Fortescue tenements as well as upstream locations. Due to the water-borne nature of Parkinsonia, collaboration with owners of the upstream areas is an essential component of effective management. Liaison with pastoralists and other land holders to agree weed management processes will be undertaken, particularly with Roy Hill Station, the Department of Agriculture and Food (WA) and industry stakeholders, in relation to the management of Parkinsonia.

4. KEY ENVIRONMENTAL ACTIVITIES

Many of the activities [1] associated with Fortescue's exploration, construction, operation and decommissioning activities have the potential to impact on the environment.

Key activities which have the potential to spread weeds within Fortescue's project areas include:

- Vegetation clearing;
- Ground disturbance;

[1] Fortescue uses the term 'activities' to refer to 'Environmental Aspects' as defined by ISO14001.

- Construction and establishment of infrastructure and linear infrastructure;
- Vehicle movement;
- Rehabilitation.

5. POTENTIAL ENVIRONMENTAL IMPACTS

The key potential impacts arising from the introduction and spread of weeds in Fortescue's project areas are presented in Table 2.

Table 2: Potential environmental impacts arising from the introduction and spread of weeds in Fortescue's project areas.

Potential Environmental Impact (Primary)	Details
Destruction of habitat – terrestrial and aquatic	Through prevention of seedling recruitment and resource competition, weeds can invade and damage native habitat, rendering it less valuable to indigenous fauna.
Alteration of fire regimes	Weeds can create additional fuel loads for fire by virtue of their abundance in the landscape.
Alteration of hydrological cycle	Weeds can clog water courses, causing erosion and alterations to streamflow. Weeds can reduce light and oxygen to aquatic flora and fauna.
Change to soil nutrient status	Weeds can both remove nutrients from soil over time essential to the effective functioning of the natural ecosystem, as well as add unwanted nutrients to soil through shedding foliage or emitting chemicals.
Reduced biological diversity	Throughout-competing native plants for light, moisture and space, weeds can reduce the biological diversity of an area.
Cultural heritage	Weeds can impact on the availability of bush tucker and medicine as well as impacting cultural heritage sites.

Potential Environmental Impact (Secondary)	Details
Genetic changes to indigenous flora	Over time, genetic changes may occur in native flora species as hybridization through cross-pollination may occur.
Changes to geomorphological processes	Weeds can cause increased erosion (for example, when annual weeds die off, leaving soil exposed to rains), and other impacts on landforms through the nature of their interaction with soil and water flows.
Changes to abundance of indigenous fauna	As a result of impacts on indigenous vegetation and waterways, fauna is also affected through changes to habitat.

6. ENVIRONMENTAL MANAGEMENT

A series of management objectives with respect to mitigating potential environmental impacts has been developed, consistent with Fortescue's statutory requirements and commitment to effectively managing weeds. These are:

1. Identify the location of target weed species and ensure that regard for weed outbreaks is included in project planning.
2. Control existing infestations or future outbreaks of WONS and Declared Weeds within the project area.
3. Prevent the introduction and spread of weeds by plant and equipment.

For each objective, management actions have been developed to ensure the impacts from Fortescues operations are managed, and that appropriate monitoring, reporting and corrective action functions are implemented to support the successful implementation of the management actions.

The key elements of the environmental management process associated with each objective are described in Table 3.

Table 3: Description of key elements of environmental management process to achieve identified objectives.

Element	Definition/Description
Objective	What is intended to be achieved.
Management Action	Tasks undertaken to enable the objective to be met.
Performance Indicators	Metrics for evaluating the outcomes achieved by Management Action.
Reporting Evidence	Demonstrates that the Management Action has been applied and the outcome evaluated.
Timing	When the management action needs to occur.
Responsibility	Accountability for ensuring management action is completed.

Table 4: Key Management Actions for management of weeds in the Fortescue exploration, construction and operational areas

Objective 1	**Identify the location of target weed species and ensure that regard for weed outbreaks is included in project planning.**				
Reference	**Management Action**	**Performance indicators**	**Reporting / Evidence**	**Timing**	**Responsibility**
1.1	Compile maps of known occurrences of weed species and amend as the results of further surveys, e.g. detailed surveys of the rail route and borrow pits, are to hand.	• Weed maps are created on an annual basis	• Weed occurrence maps to be included in annual report	Annual	GIS Superintendent
1.2	Develop and maintain a weed register. Register will include, for each species, details of distribution, abundance, relevant biological information, and a history of control methods, and their relative success.	• Up to date weed register	• Up to date weed register	Monthly	Site Environmental Superintendent
1.3	Ensure records of known weed populations are maintained within the Plant and Animal Register in BMS and record previously unknown outbreaks in BMS.	• Plant & Animal Register records are being created for weed sightings	• BMS records	As soon as occurs	Site Environmental Superintendent
1.4	Conduct inspections during exploration, construction, operations and decommissioning to identify new weed outbreaks. Pay particular attention to areas of groundwater discharge, should this occur.	• All known sites are inspected annually and the control activity at each site is recorded in BMS	• Inspection record, including reports • Weed Monitoring Forms. • Additions to GIS dataset at Y:\GIS\0_PIL_Pilbara\2_Environment\Flora\Weeds	Following groundwater discharge events. Opportunistically, following rainfall events. As per site-based monitoring timetable in the case of quarries and borrow pits.	Site Environmental Superintendent or Project Manager (Environment) (for Operational Areas) Project Manager, Exploration
1.5	Review the list of Declared Weeds and Weeds of National Significance annually and update this Management Plan and BMS with any changes.	• BMS up to date. • Management Plan up to date. • Liaison with DEC, or DAFWA or other government agencies, regarding weed control activities, where appropriate.	• BMS records • Weed Management Plan	Annually	Manager, Governance and Sustainability
Objective 2	**Control existing infestations or future outbreaks of WONS and Declared Weeds within the project area.**				
Reference	**Management Action**	**Performance indicators**	**Reporting / Evidence**	**Timing**	**Responsibility**
2.1	Develop site-specific *Weed Management and Monitoring Program* which will include annual spraying plan of known populations, and procedures relevant to particular types of weeds (e.g. chemicals, volume, safety).	• Site-specific *Weed Management and Monitoring Program* for each project area.	• Site-specific *Weed Management and Monitoring Program* for each project area.	Annually.	Site Environmental Superintendent.
2.2	Conduct timed spot spraying of emergent plants in the project area, to gradually deplete seed stocks and reduce or	• Show infestation reductions at all known sites with the aim to achieve "Zero	• Internally report all monitoring and control	March – September,	Site Environmental

	eliminate any new colonisation; and Implement control measures for known populations prior to seed set, taking into account the role of rainfall and the fact that seed set may occur as soon as 2-3 weeks after rain and some time thereafter. *Target known weeds that have the potential to spread quickly including Ruby Dock, Kapok, Mexican Poppy, Verano stylo and Parkinsonia.*	Density" (all plants at a given site are treated annually to prevent from seeding). • Number of times control measures are undertaken per infestation.	activities annually	depending on species.	Superintendents
2.3	Develop and implement control procedures for high risk areas (roads, watercourses and groundwater discharge areas) where weeds have the potential to quickly establish and specific procedures for borrow pits, quarry sites.	• Annually inspect and treat as necessary all roadways, watercourses and groundwater discharge points.	• Spray diaries • Weed Monitoring Forms • Chemical Register • Weed Register Entries • BMS • Annual works plan	Develop procedures – complete. Implement: March – September, depending on species.	Site Environmental Superintendents
2.4	Undertake control methods to reduce the standing crop of target species prior to construction or ground disturbing activities.	• Annually inspect, monitor and control all known weed sites	• BMS • Spray diaries • Weed Monitoring Forms • Weed Register	Prior to construction and ground disturbance.	Site Environmental Superintendent or Project Manager (Environment) (for Operational Areas) Project Manager, Exploration
2.5	In areas of interest to the DEC, or DAFWA or other government agencies, liaise with them regarding weed control activities.	• Number of complaints from government agencies	• Correspondence with agencies • Diary records	As required	Manager, Governance & Sustainability
2.6	Ensure seed collected for use in rehabilitation is free of weeds.	• Use accredited seed collection/supplier	• Report from germination consultant • Seed Certificates	As required	Site Environmental Superintendents
2.7	Include information on Declared Weeds and Weeds of National Significance (see Appendix A) in environmental inductions.	• Inductions include weed identification	• Induction content	Weekly	Site Environmental Superintendents
2.8	Develop and circulate posters and other educational information about weeds.	• Posters and training materials	• Posters and training materials	As required	Site Environmental Superintendents
2.9	Provide specialist training to employees directly involved in weed control.	• Training matrices	• Training records	As required	Site Environmental Superintendents
Objective 3	**Prevent the introduction and spread of weeds by plant and equipment.**				
Reference	**Management Action**	**Performance indicators**	**Reporting / Evidence**	**Timing**	**Responsibility**

3.1	Establish a Weed Quarantine Area at each active site within which vehicles and equipment can move freely.	• Presence of Weed Quarantine Area	• Photo graphic evidence • Site Maps showing • signage in place • Induction material	Immediately as required?	Site Environmental Superintendent or Project Manager (Environment) (for Operational Areas) Project Manager, Exploration
3.2	Ensure all plant and equipment, including vehicles coming onto exploration, mining and other Fortescue sites for the first time, or re-entering from outside a Weed Quarantine Area, are clean, inspected and certified (in accordance with procedure) (E-EN-PP1134).	• Number of new vehicles/plant to site compared with weed number of weed hygiene certificates issued.	Vehicles and equipment on site without a Weed Hygiene Certificate (E-EN-CT-0001) shall be recorded as an incident, and investigated as such. Incidents in BMS Weed Hygiene Register	As required	Site Environmental Superintendent or Project Manager (Environment) (for Operational Areas) Project Manager, Exploration

6.1 DIAGRAMS/ PHOTOGRAPHS

The following photographs and diagrams are to be used to assist in the identification of priority weed species.

Figure 1 Ruby Dock *(Acetosa vesicaria)*

Figure 2 Kapok *(Aerva javanica)*

Figure 3 Verano Stylo (*Stylosanthes hamata)*

Figure 4 Mexican Poppy *(Agremone ochroleuca)*

Figure 5 Parkinsonia (*Parkinsonia aculeate)*

7. MONITORING

Guidelines for the monitoring of weeds in the Fortescue's Operations area can be found in Appendix E.

These guidelines are to assist the development and implementation of site-specific Weed Monitoring Programs; by adopting these guidelines a consistent monitoring approach can be applied across all of the Fortescue Operations.

The two objectives of this monitoring program are:

1. Develop and maintain an understanding of existing weed populations in Fortescue exploration, construction and operational areas; and
2. Assess the effectiveness of weed management techniques intended to prevent the introduction of new weed populations and the spread of existing weed populations in Fortescue's exploration, construction and operational areas.

An example Weed Monitoring Form is available at Appendix F.

8. AUDIT

Internal auditing of activities associated with this management plan will be carried out in accordance with Fortescue's internal audit schedule.

Audit criteria may include, but is not limited to:

- Management actions within this document;
- *Agriculture and Related Resources Protection Act 1976*; and
- The State Weed Plan and/or the Australian Weed Strategy.

Where non-conformance issues or opportunities for improvement are identified these will be documented and tracked via BMS.

9. CORRECTIVE ACTIONS

Contingency measures will be triggered in the event of two or more monitoring events revealing spread in existing weed populations or introduction of new weeds to Fortescue exploration, construction or operations areas.

Expert opinion will be sought if and when required, to guide contingency measures which will include further survey work to better understand influences causing those changes in the environment. By understanding why certain management strategies or monitoring does not work, specialist advice can be used to modify these and develop new mitigation and monitoring measures.

10. REVIEW

It is important that plans and procedures are frequently reviewed and revised as Fortescue's operations change and opportunities for improved management practices are identified.

This Management Plan will be reviewed every five years, or when significant additional information comes to hand. Upon review, the document will be revised where appropriate and the revision status will be updated in accordance with Fortescue's document control procedures.

11. REFERENCES

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Figures

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Figure 1.

Ruby Dock (*Acetosa vesicaria*)

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Figure 2.

Kapok (Aerva javanica)

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Photos: Andy Laurenson

Figure 3.

Verano Stylo (Stylosanthes hamata)

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Stylosanthes hamata

Photos: G. Byrne

Figure 4.

Mexican Poppy (Agremone ochroleuca)

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Photos: Andy Laurenson

Figure 5.

Parkinsonia (Parkinsonia aculeate)

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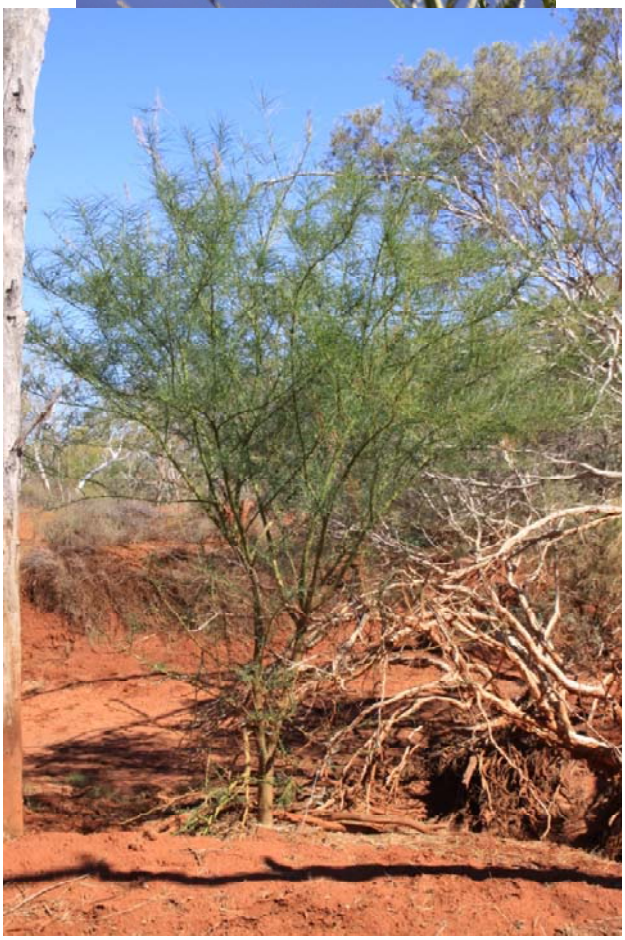

Appendices

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Appendix A.

Project Background

FORTESCUE METALS GROUP BACKGROUND

Fortescue Metals Group (Fortescue) has commenced operation of the Pilbara Iron Ore and Infrastructure Project (the Project), which consists of several iron ore mines and associated rail and port infrastructure in the Pilbara region of Western Australia.

The Pilbara Iron Ore and Infrastructure Project was granted Major Project Facilitation Status in December 2004 and Fortescue has signed two Agreements with the State of Western Australia:

- *The Railway and Port (The Pilbara Infrastructure Pty Ltd) State Agreement* for the port and rail infrastructure to transport ore from the mines to the port
- *The Iron Ore (FMG Chichester Pty Ltd)* Agreement for the iron ore mines.

The project has been developed in four stages:

- Stage A, consisting of a two-berth iron ore export facility at Port Hedland and a north-south railway from the central Pilbara to Port Hedland, approved under Ministerial Statement 690;
- Stage B, consisting of iron ore mines in the eastern Pilbara (Christmas Creek) and an east-west spur rail line connecting to the Stage A railway; approved under Ministerial Statement 707. (Note this approval included the Mindy Mindy mine site but this has not been developed to date);
- Cloudbreak iron ore mine west of the Christmas Creek area, approved under Ministerial Statement 721;
- Port facility upgrade consisting of a third berth at Anderson Point, Port Hedland, approved under Ministerial Statement 771.

Under Section 45C of the *Environmental Protection Act 1986*, the Minister for Environment is able to approve a change to a Ministerial Statement without a new proposal being submitted. Changes were approved to both Ministerial Statements 690 and 707 in 2009 and 2010.

The project has also received approval under the Commonwealth *Environment Protection and Biodiversity Conservation* (EPBC) *Act 1999*.

Fortescue is extending its current operations in the Pilbara by developing the Solomon Project, which includes two proposed new mine sites (Firetail and Kings), and a rail line to support the new sites. The Solomon Project area (Solomon) is located approximately 60 kilometres (km) north of Tom Price and is situated on both sides of the rail line operated by Pilbara Iron (Rio Tinto). Access to Solomon is

via the public roads running north of Tom Price and also from the Pilbara Iron rail access road.

In addition to the Solomon project, expansion of mining to the west is proposed within the Western Hub Project area of which there are approximately 10 ore bodies.

Fortescue is also conducting drilling programmes to further delineate resources and iron ore reserves within these tenements.

In addition to its wholly owned tenements, Fortescue is party to joint ventures and agreements with other tenement holders within the Pilbara region and is the manager of iron ore exploration operations upon these tenements.

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Appendix B.

Cross Reference to Ministerial Requirements

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Ministerial Conditions and Commitments Related to Weed Management Plan		
Ministerial Statement and Section	Requirement or Issue	Objectives in this Plan
690 – 10-1	Identify target weeds, having regard for weed species outside the corridor.	Section 4, Table 5: Objective 1 Appendix A
707 - Comm 7	Identify target weeds	
721 - Comm 6	Identify target weeds	
690 – 10-1	Weed control during construction and operation	Section 4, Table 5: Objective 2
707 - Comm 7	Control measures which may be necessary for some species	
721 - Comm 6	Control measures which may be necessary for some species	
690 – 10-1	Hygiene and wash-down for all plant and equipment.	Section 4, Table 5: Objective 3
707 (Comm 7)	Hygiene inspection and wash-down procedures for all mobile plant and equipment.	
721 (Comm 6)	Hygiene inspection and wash-down procedures for all mobile plant and equipment.	
690 – 10-1	Monitoring the success of weed control.	Section 7
707 (Comm 7)	Monitoring and any follow up control, including reporting to relevant authorities.	
721 (Comm 6)	Monitoring and any follow up control, including reporting to relevant authorities.	

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Appendix C.

Declared Weeds (WA)

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AGRICULTURE AND RELATED RESOURCES PROTECTION ACT 1976

Agriculture Protection Board
December 2009

DECLARED PLANTS

The following is an updated list of plants that are declared plants under the *Agriculture and Related Resources Protection Act 1976.*

1. The plants listed below (other than those stated to be excluded from the declaration) are declared plants and are assigned to the categories indicated in the list in relation to those plants;
2. A declared plant listed below (unless it is stated to be excluded from the declaration) is either a declared plant in the whole of the State and every part of the State or a declared plant only in respect of the part or parts of the State specified in the list in relation to that plant, as applicable;
3. A declared plant listed below (unless it is stated to be excluded from the declaration) is declared generally or only in the particular circumstances specified in the list in relation to that plant, as applicable;

NOTE:

- The following summarises the effect of the declaration categories for plants under the *Agriculture and Related Resources Protection Act 1976*:
    - P1 - Introduction of the plant into, or movement of the plant within, an area is prohibited;
    - P2 - Plant to be eradicated in the area.
    - P3 - Plant to be controlled by reduction in number or distribution of the plant or both.
    - P4 – Spread of plant beyond where it currently occurs to be prevented.
    - P5 – Particular action to be taken on public land or land under the control of a local government.
- Information about requirements relating to the introduction, movement, eradication and control of declared plants is available from the Department of Agriculture and Food.

LIST OF DECLARED PLANTS

Aquarium Plants (plants of any class used or grown in aquariums unless they are plants that are on premises for the time being accredited by the Chief Agriculture Protection Officer as premises free from any snails capable of acting as intermediate hosts for the fluke *Fasciola hepatica*, or are in the course of being moved from such premises): P1; for the whole of the State.

Aquatic Weeds:

Alligator weed (*Alternanthera philoxeroides*);	P1, P2; for the whole of the State.
Arrowhead (*Sagittaria montevidensis*);	P1, P3; for the whole of the State.
Canadian pond weed (*Elodea canadensis*);	P1, P3; for the whole of the State.
Cabomba (*Cabomba caroliniana*);	P1, P2; for the whole of the State.
Floating water chestnut (*Trapa* spp.);	P1, P2; for the whole of the State.
Hydrocotyl (*Hydrocotyle ranunculoides*);	P1, P3; for the whole of the State.
Lagarosiphon (*Lagarosiphon spp.*);	P1, P2; for the whole of the State.
Leafy elodea (*Egeria densa*);	P1, P3; for the whole of the State.
Parrot's feather (*Myriophyllum aquaticum*);	P1, P3; for the whole of the State.
Pond apple (*Annona glabra*);	P1, P2; for the whole of the State.
Sagittaria (*Sagittaria platyphylla*);	P1, P3; for the whole of the State.
Salvinia (*Salvinia molesta*);	P1, P2; for the whole of the State.
Senegal tea (*Gymnocoronis spilanthoides*);	P1, P3; for the whole of the State.
Shield pennywort (*Hydrocotyle verticillata*);	P1, P2; for the whole of the State.
Water hyacinth (*Eichhornia crassipes*);	P1, P3; for the whole of the State.
Water lettuce (*Pistia stratiotes*);	P1, P3; for the whole of the State.

Acacias:

Bolivian wattle, white ball acacia (*Acacia boliviana*);	P1, P2; for the whole of the State.
Camel thorn, giraffe thorn (*Acacia erioloba*);	P1, P2; for the whole of the State.
Cutch tree (*Acacia catechu*);	P1, P2; for the whole of the State.
Fever tree (*Acacia xanthophloea*);	P1, P2; for the whole of the State.
Karroo thorn (*Acacia karroo*);	P1, P2; for the whole of the State.

Prickly acacia (*Acacia nilotica*); P1, P2; for the whole of the State.
Red thorn (*Acacia gerrardii*); P1, P2; for the whole of the State.
Soap nut (*Acacia sinuata*); P1, P2; for the whole of the State.
Umbrella tree (*Acacia tortilis*); P1, P2; for the whole of the State.

African rue (*Peganum harmala*); P1, P2; for the whole of the State.

African thistle (*Berkheya rigida*); P1, P3; for the whole of the State.

Apple of Sodom (*Solanum linnaeanum*);
P1, P2; for the municipal districts of the City of Albany (except for Plantagenet Locations 4901, 3433, 5154, 3434, 5959 and 3435), Cranbrook, Denmark, Gnowangerup, Jerramungup and Plantagenet.
P1, P3; for Plantagenet Locations 4901, 3433, 5154, 3434, 5959 and 3435.
P1, P4; for the municipal districts of Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Dardanup, Donnybrook-Balingup, Harvey, Manjimup, Mandurah, Murray, Nannup, Serpentine-Jarrahdale and Waroona

Artichoke thistle or cardoon (*Cynara cardunculus*); P1, P3; for the whole of the State.

Athel pine *(Tamarix aphylla*); P1; for the whole of the State.

Arum lily (*Zantedeschia aethiopica*); P1, P4; for the whole of the State.

Bathurst burr (*Xanthium spinosum*);
P1; for the whole of the State.
P2; for all municipal districts except the Shire of Coolgardie and the City of Kalgoorlie-Boulder.
P3; for the municipal districts of Coolgardie and the City of Kalgoorlie-Boulder.

Bellyache bush (*Jatropha gossypifolia*);
P1; for the whole of the State.
P2; for all the municipal districts in that portion of the State south of the 26th parallel.
P4; for all the municipal districts in that portion of the State north of the 26th parallel.

Bitou bush, boneseed:
Bitou bush (*Chrysanthemoides monilifera* subsp. *rotundata*);
P1, P2; for the whole of the State.

Boneseed (*Chrysanthemoides monilifera* subsp. *monilifera*);
P1, P2; for the whole of the State.

Blackberry (*Rubus anglocandicans*);
P1; for the whole of the State.
P2; for the municipal district of Boddington.
P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Cranbrook, Dardanup, Denmark, Donnybrook-Balingup, Harvey, Manjimup, Mandurah, Murray, Nannup, Plantagenet, Serpentine-Jarrahdale and Waroona.

Blackberry (*Rubus fruticosus*);
P1; for the whole of the State.
P2; for the municipal district of Boddington.
P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Cranbrook, Dardanup, Denmark, Donnybrook-Balingup, Harvey, Manjimup, Mandurah, Murray, Nannup, Plantagenet, Serpentine-Jarrahdale and Waroona.

Blackberry (*Rubus laudatus*);
P1; for the whole of the State.
P2; for the municipal district of Boddington.
P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Cranbrook, Dardanup, Denmark, Donnybrook-Balingup, Harvey, Manjimup, Mandurah, Murray, Nannup, Plantagenet, Serpentine-Jarrahdale and Waroona.

Blackberry (*Rubus rugosus*);
P1; for the whole of the State.
P2; for the municipal district of Boddington.
P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Cranbrook, Dardanup, Denmark, Donnybrook-Balingup, Harvey, Manjimup, Mandurah, Murray, Nannup, Plantagenet, Serpentine-Jarrahdale and Waroona.

Blackberry (*Rubus ulmifolius*);
P1; for the whole of the State.
P2; for the municipal district of Boddington.
P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Cranbrook, Dardanup, Denmark, Donnybrook-Balingup, Harvey, Manjimup, Mandurah, Murray, Nannup, Plantagenet, Serpentine-Jarrahdale and Waroona.

Bridal creeper (*Asparagus asparagoides*); P1; for the whole of the State.

Broomrape - branched broomrape (*Orobanche ramosa*) and all other *Orobanche* species except *O. minor*; P1, P2; for the whole of the State.

Calotropis (*Calotropis procera*);
P3; for the municipal districts of Ashburton, East Pilbara, Port Hedland and Roebourne.
P1; for the rest of the State North of the 26th parallel of latitude, except the municipal districts of Ashburton, Broome, Halls Creek, Derby-West Kimberley and Wyndham-East Kimberley.

Camelthorn (*Alhagi maurorum*); P1, P3; for the whole of the State.

Candle bush (*Senna alata*); P1, P3; for the whole of the State.

Cape tulips:
One-leaf cape tulip (*Moraea flaccida*);
P1; for the whole of the State.
P3; for the municipal districts of Denmark, Kent and Cranbrook, except that area bordered by Albany Highway, Weir Rd, Boyup-Cranbrook Road, Shamrock & Yeriminup Roads & Frankland-Cranbrook Road.
P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Broomehill, the City of Bunbury, Busselton, Capel, Collie, Corrigin, Cuballing, Dardanup, Donnybrook-Balingup, Dumbleyung, Esperance Gnowangerup, Jerramungup, Harvey, Katanning, Kojonup, Mandurah, Manjimup, Murray, Narrogin, Nannup, Pingelly, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Wandering, West Arthur, Wickepin, Williams, Woodanilling, Waroona and Yilgarn and that area of the Cranbrook Shire bordered by Albany Highway, Weir Rd, Boyup-Cranbrook Road, Shamrock & Yeriminup Roads & Frankland-Cranbrook Road.

Two-leaf cape tulip (*Moraea miniata*);
P1; for the whole of the State.
P3; for the municipal districts of Denmark, Kent and Cranbrook, except that area bordered by Albany Highway, Weir Rd, Boyup-Cranbrook Road, Shamrock & Yeriminup Roads & Frankland-Cranbrook Road.
P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Broomehill, the City of Bunbury, Busselton, Capel, Collie, Corrigin, Cuballing, Dardanup, Donnybrook-Balingup, Dumbleyung, Esperance Gnowangerup, Jerramungup, Harvey, Katanning, Kojonup, Mandurah, Manjimup, Murray, Narrogin, Nannup, Pingelly, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Wandering, West Arthur, Wickepin, Williams, Woodanilling, Waroona and Yilgarn and that area of the Cranbrook Shire bordered by Albany Highway, Weir Rd, Boyup-Cranbrook Road, Shamrock & Yeriminup Roads & Frankland-Cranbrook Road.

Chilean needle grass (*Nassella neesiana*); P1; for the whole of the State.

Chinee apple (*Ziziphus mauritiana*);
P1, P5; for the municipal districts of Broome, Derby– West Kimberley, Halls Creek and Wyndham-East Kimberley.
P1; for the remainder of the State.

Cleavers (*Galium aparine*); P1, P2; for the whole of the State.

Cotton bush, narrow leaf (*Gomphocarpus fruticosus*);
P1, P3; for the municipal districts of Broomehill, Dumbleyung, Gnowangerup, Jerramungup, Katanning, Kent, Kojonup, Tambellup, West Arthur and Woodanilling.
P1, P4; for the municipal districts of the City of Albany, Augusta-Margaret River, Beverley, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, the City of Bunbury, Busselton, Capel, Collie, Corrigin, Cranbrook, Cuballing, Cunderdin, Dardanup, Denmark, Donnybrook-Balingup, Dowerin, Esperance, Goomalling, Harvey, Kellerberrin, Kondinin, Koorda, Kulin, Lake Grace, Mandurah, Manjimup, Mt Marshall, Murray, Nannup, Narrogin, Northam, the Town of Northam, Pingelly, Plantagenet, Quairading, Ravensthorpe, Serpentine-Jarrahdale, Tammin, Toodyay, Trayning, Wandering, Waroona, Wickepin, Williams, Wyalkatchem and York.

Creeping knapweed (*Rhaponticum repens*); P1, P3; for the whole of the State.

Devil's claws:
Purple flower devil's claw (*Proboscidea louisianica*); P1, P2; for the whole of the State.

Small fruit devil's claw (*Martynia annua*); P1, P2; for the whole of the State.

Doublegee (*Emex australis*);
P1; for the municipal districts of Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Dardanup, Donnybrook-Balingup, Dumbleyung, Harvey, Katanning, Manjimup, Mandurah, Murray, Nannup, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona and Woodanilling.
P1, P3; for the municipal districts of Broomehill, Kojonup and West Arthur.
P1, P4; for the municipal districts of Jerramungup, Kent and Ravensthorpe.
P5; for the municipal districts of Esperance, Gnowangerup, Kondinin, Kulin and Lake Grace.

Field bindweed (*Convolvulus arvensis*); P1; for the whole of the State
P3; for the municipal district of Esperance.

Gamba grass (*Andropogon gayanus*); P1, P2; for the whole of the State.

Glaucous star thistle (*Carthamus leucocaulos*);
P1, P3; for the municipal districts of Gnowangerup and Tambellup.
P1, P4; for the municipal districts of Broomehill, Dumbleyung, Katanning, Kojonup, Wagin, West Arthur and Woodanilling.

Golden dodder (*Cuscuta campestris*);
P1, P2; for the whole of the State, except for the municipal districts of the City of Albany, Cranbrook, Denmark and Plantagenet.
P1, P4; for the municipal districts of the City of Albany, Cranbrook, Denmark and Plantagenet.

Gorse (*Ulex europaeus*);
P1; for the whole of the State.
P2; for the whole of State, except for the municipal districts of the City of Albany, Cranbrook, Denmark and Plantagenet.
P3; for the municipal districts of the City of Albany, Cranbrook, Denmark and Plantagenet.

Harrisia cactus (*Harrisia martinii*); P1, P3; for the whole of the State.

Heliotrope (*Heliotropium europaeum*);
P1, P3; for the municipal districts of the City of Albany, Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, Broomehill, the City of Bunbury, Busselton, Capel, Cranbrook, Dardanup, Denmark, Donnybrook-Balingup, Gnowangerup, Kojonup, Manjimup, Plantagenet, Nannup, Woodanilling and West Arthur.
P1, P4; for the municipal districts of Wagin, Dumbleyung, Katanning and Tambellup.

Hoary cress (*Lepidium draba*); P1, P2; for the whole of the State.

Horehound (*Marrubium vulgare*);
P1, P2; for the municipal districts of the City of Albany, Ashburton, Broome, Broomehill, Carnarvon, Cranbrook, Cue, Denmark, Derby–West Kimberley, Dumbleyung, East Pilbara, Exmouth, Gnowangerup, Halls Creek, Katanning, Leonora, Laverton, Meekatharra, Menzies, Mt Magnet, Murchison, Ngaanyatjarraku, Port Hedland, Roebourne, Sandstone, Shark Bay, Tambellup, Upper Gascoyne, Wagin, West Arthur, Wiluna, Woodanilling, Wyndham-East Kimberley and Yalgoo.
P1, P3; for the municipal district of Plantagenet.
P1, P4; for the municipal districts of Coolgardie, Dundas, Esperance, Jerramungup, the City of Kalgoorlie-Boulder, Kent, Kojonup and Ravensthorpe.

Horsetails - common horsetail (*Equisetum arvense*) and all other plants within the genus *Equisetum*;
P1, P3; for the whole of the State.

Hymenachne (*Hymenachne amplexicaulis*); P1, P2; for the whole of the State.

Ivy gourd (*Coccinia grandis*); P1, P3; for the whole of the State.

Jointed goatgrass (*Aegilops cylindrica*); P1, P2; for the whole of the State.

Kochia (*Bassia scoparia*); P1, P2; for the whole of the State.

Lantana (*Lantana camara*); P1; for the whole of the State.

Lesser jack (*Emex spinosa*);
P1; for the municipal districts of Augusta-Margaret River, Boyup Brook, Bridgetown-Greenbushes, the City of Bunbury, Busselton, Capel, Collie, Dardanup, Donnybrook-Balingup, Dumbleyung, Harvey, Katanning, Manjimup, Mandurah, Murray, Nannup, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona and Woodanilling.
P1, P3; for the municipal districts of Broomehill, Kojonup and West Arthur.
P1, P4; for the municipal districts of Jerramungup, Kent and Ravensthorpe.
P5; for the municipal districts of Esperance, Gnowangerup, Kondinin, Kulin and Lake Grace.

Mesquite (*Prosopis glandulosa* x *velutina*);
P1; for the whole of the State.
P2; for the whole of the State, except 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.
P4; 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.

Mesquite (*Prosopis* – all other species and hybrids);
P1; for the whole of the State.
P2; for the whole of the State, except 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.
P4; 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.

Mexican poppy (*Argemone mexicana*);
P1; for the whole of the State, except the municipal districts of Ashburton, East Pilbara, Port Hedland and Roebourne.
P2; for the municipal districts of the City of Albany, Armadale, Augusta-Margaret River, Bassendean, Bayswater, Belmont, Beverley, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Broome, Broomehill, Bruce Rock, the City of Bunbury, Busselton, Cambridge, Canning, Capel, Claremont, Cockburn, Collie, Corrigin, Cottesloe, Cranbrook, Cuballing, Cue, Cunderdin, Dardanup, Denmark, Derby–West Kimberley, Donnybrook-Balingup, Dowerin, Dumbleyung, East Fremantle, Esperance, Fremantle, Gnowangerup, Goomalling, Gosnells, Halls Creek, Harvey, Jerramungup, Joondalup, Kalamunda, Katanning, Kellerberrin, Kent, Kojonup, Kondinin, Koorda, Kulin, Kwinana, Lake Grace, Mandurah, Manjimup, Melville, Meekatharra, Merredin, Mosman Park, Mt Magnet, Mt Marshall, Mukinbudin, Mundaring, Murray, Nannup, Narembeen, Narrogin, Nedlands, Nungarin, Peppermint Grove, Perth, Pingelly, Plantagenet, Quairading, Ravensthorpe, Rockingham, South Perth, Serpentine-Jarrahdale, Stirling, Subiaco, Swan, Tambellup, Tammin, Toodyay, Trayning, Victoria Park, Vincent, Wagin, Wandering, Wanneroo, Waroona, West Arthur, Westonia, Wickepin, Williams, Woodanilling, Wyalkatchem, Wyndham-East Kimberley, Yalgoo, Yilgarn and York.
P3; for the municipal districts of Carnamah, Chapman Valley, Chittering, Coorow, Dandaragan, Dalwallinu, the City of Geraldton, Gingin, Greenough, Irwin, Morawa, Mingenew, Moora, Mullewa, Northam, the Town of Northam, Northampton, Perenjori, Three Springs, Victoria Plains and Wongan–Ballidu.
P4; for the municipal districts of Carnarvon, Coolgardie, Dundas, Exmouth, the City of Kalgoorlie-Boulder, Leonora, Laverton, Murchison, Ngaanyatjarraku, Menzies, Sandstone, Shark Bay, Upper Gascoyne, and Wiluna.

Mexican poppy (*Argemone ochroleuca*);
P1; for the whole of the State, except the municipal districts of Ashburton, East Pilbara, Port Hedland and Roebourne.
P2; for the municipal districts of the City of Albany, Armadale, Augusta-Margaret River, Bassendean, Bayswater, Belmont, Beverley, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Broome, Broomehill, Bruce Rock, the City of Bunbury, Busselton, Cambridge, Canning, Capel, Claremont, Cockburn, Collie, Corrigin, Cottesloe, Cranbrook, Cuballing, Cue, Cunderdin, Dardanup, Denmark, Derby–West Kimberley, Donnybrook-Balingup, Dowerin, Dumbleyung, East Fremantle, Esperance, Fremantle, Gnowangerup, Goomalling, Gosnells, Halls Creek, Harvey, Jerramungup, Joondalup, Kalamunda, Katanning, Kellerberrin, Kent, Kojonup, Kondinin, Koorda, Kulin, Kwinana, Lake Grace, Mandurah, Manjimup, Melville, Meekatharra, Merredin, Mosman Park, Mt Magnet, Mt Marshall, Mukinbudin, Mundaring, Murray, Nannup, Narembeen, Narrogin, Nedlands, Nungarin, Peppermint Grove, Perth, Pingelly, Plantagenet, Quairading, Ravensthorpe, Rockingham, South Perth, Serpentine-Jarrahdale, Stirling, Subiaco, Swan, Tambellup, Tammin, Toodyay, Trayning, Victoria Park, Vincent, Wagin, Wandering, Wanneroo, Waroona, West Arthur, Westonia, Wickepin, Williams, Woodanilling, Wyalkatchem, Wyndham-East Kimberley, Yalgoo, Yilgarn and York.
P3; for the municipal districts of Carnamah, Chapman Valley, Chittering, Coorow, Dandaragan, Dalwallinu, the City of Geraldton, Gingin, Greenough, Irwin, Morawa, Mingenew, Moora, Mullewa, Northam, the Town of Northam, Northampton, Perenjori, Three Springs, Victoria Plains and Wongan–Ballidu.
P4; for the municipal districts of Carnarvon, Coolgardie, Dundas, Exmouth, the City of Kalgoorlie-Boulder, Leonora, Laverton, Murchison, Ngaanyatjarraku, Menzies, Sandstone, Shark Bay, Upper Gascoyne, and Wiluna.

Miconia *(Miconia* spp.); P1, P2; for the whole of the State.

Mimosa (*Mimosa pigra*); P1, P2; for the whole of the State.

Mintweed (*Salvia reflexa*); P1, P3; for the whole of the State.

Needle Burr (*Amaranthus spinosus*); P1, P2; for the whole of the State

Nodding thistle (*Carduus nutans*); P1, P2; for the whole of the State.

Noogoora burr (*Xanthium strumarium*);
P1; for the whole of the State.
P2; for the whole of the State, except for the municipal districts of Broome, Derby – West Kimberley, Halls Creek and Wyndham-East Kimberley.
P4; for the municipal districts of Broome, Derby – West Kimberley, Halls Creek and Wyndham-East Kimberley.

Parkinsonia (*Parkinsonia aculeata*);
P1; for the Whole of the State.
P2; for the municipal districts of Ashburton, Carnarvon, Coolgardie, Cue, Dundas, East Pilbara, Exmouth, City of Kalgoorlie-Boulder, Laverton, Leonora, Meekatharra, Menzies, Mt Magnet, Murchison, Ngaanyatjarraku, Port Headland, Roebourne, Sandstone, Shark Bay, Upper Gascoyne, Wiluna, Yalgoo.
P4; for the municipal districts of Broome, Derby – West Kimberley, Halls Creek and Wyndham-East Kimberley.

Parthenium weed (*Parthenium hysterophorus*); P1, P2; for the whole of the State.

Paterson's curse (*Echium plantagineum*);
P1; for the whole of the State.
P3; for the municipal districts of Augusta-Margaret River, Broomehill, the City of Bunbury, Busselton, Capel, Chittering, Collie, Cranbrook, Dandaragan, Dalwallinu, Dardanup, Denmark, Donnybrook-Balingup, Harvey, Esperance, Gingin, Kent, Kojonup, Mandurah, Moora, Murray, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Victoria Plains, Waroona, Wongan – Ballidu, Wagin, West Arthur and Woodanilling.
P4; for the municipal districts of the City of Albany, Boddington, Boyup Brook, Bridgetown-Greenbushes, Gnowangerup, Brookton, Bruce Rock, Corrigin, Cuballing, Dumbleyung, Jerramungup, Katanning, Kondinin, Kulin, Lake Grace, Manjimup, Merredin, Mukinbudin, Nannup, Narembeen, Narrogin, Nungarin, Pingelly, Plantagenet, Wandering, Westonia, Wickepin, Williams, Yilgarn and those portions of the municipal districts of Carnamah and Coorow west of the Midlands Road.

Penny cress (*Thlaspi arvense*);
P1, P2; for the whole of the State.

Perennial thistle or Canada thistle (*Cirsium arvense*); P1, P3; for the whole of the State.

Physic nut (*Jatropha curcas*);
P1; for the whole of the State.
P2; for all the municipal districts in that portion of the State south of the 26th parallel.
P4; for all the municipal districts in that portion of the State north of the 26th parallel.

Praxelis *(Praxelis clematidea)*; P1, P2; for the whole of the State.

Prickly pear (*Opuntia elata*);
P1; for all municipal districts in that portion of the State North of the 26th parallel of latitude.
P2; for all municipal districts in that portion of the State North of the 26th parallel of latitude except for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.
P4; for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.

Prickly pear (*Opuntia engelmannii*);
P1; for all municipal districts in that portion of the State North of the 26th parallel of latitude.
P2; for all municipal districts in that portion of the State North of the 26th parallel of latitude except for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.
P4; for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.

Prickly pear (*Opuntia ficus-indica*);
P1; for all municipal districts in that portion of the State North of the 26th parallel of latitude.
P2; for all municipal districts in that portion of the State North of the 26th parallel of latitude except for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.
P4; for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.

Prickly pear (*Opuntia monacantha*);
P1; for all municipal districts in that portion of the State North of the 26th parallel of latitude.
P2; for all municipal districts in that portion of the State North of the 26th parallel of latitude except for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.
P4; for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.

Prickly pear (*Opuntia stricta*);
P1; for all municipal districts in that portion of the State North of the 26th parallel of latitude.
P2; for all municipal districts in that portion of the State North of the 26th parallel of latitude except for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.
P4; for the municipal districts of Exmouth, Carnarvon, Murchison, Upper Gascoyne and Shark Bay.

Ragwort (*Senecio jacobaea*); P1, P2; for the whole of the State.

Rubber vine (*Cryptostegia grandiflora*); P1, P2; for the whole of the State.

Rubber vine (*Cryptostegia madagascariensis*); P1, P3; for the whole of the State.

Saffron thistle (*Carthamus lanatus*);
P1; for the whole of the State.
P3; for the municipal districts of the City of Albany, Augusta-Margaret River, Broomehill, the City of Bunbury, Busselton, Capel, Carnamah, Collie, Coorow, Cranbrook, Cunderdin, Dardanup, Denmark, Donnybrook-Balingup, Dowerin, Dumbleyung, Gnowangerup, Harvey, Katanning, Kellerberrin, Kojonup, Koorda, Mandurah, Mt Marshall, Murray, Plantagenet, Serpentine-Jarrahdale, Tambellup, Tammin, Trayning, Wagin, Waroona, West Arthur Woodanilling and Wyalkatchem.
P4; for the municipal districts of Ashburton, Beverley, Boddington, Brookton, Broome, Bruce Rock, Carnarvon, Chittering, Coolgardie, Corrigin, Cuballing, Cue, Dandaragan, Dalwallinu, Derby–West Kimberley, Dundas, East Pilbara, Esperance, Exmouth, Gingin, Goomalling, Halls Creek, Jerramungup, City of Kalgoorlie-Boulder, Kent, Kondinin, Kulin, Lake Grace, Laverton, Leonora, Meekatharra, Menzies, Merredin, Moora, Mt Magnet, Mukinbudin, Murchison, Narembeen, Narrogin, Ngaanyatjarraku, Northam, the Town of Northam, Nungarin, Pingelly, Port Hedland, Quairading, Ravensthorpe, Roebourne, Sandstone, Shark Bay, Toodyay, Upper Gascoyne, Victoria Plains, Wandering, Westonia, Wickepin, Williams, Wiluna, Wongan–Ballidu, Wyndham-East Kimberley, Yalgoo Yilgarn, and York.

Sensitive plant, common (*Mimosa pudica*); P1, P3; for the whole of the state

Sensitive plant, giant (*Mimosa invisa*); P1, P2; for the whole of the State.

Serrated tussock (*Nassella trichotoma*); P1, P2; for the whole of the State.

Siam weed (*Chromolaena odorata*); P1, P2; for the whole of the State.

Sicklepod (*Senna tora*); P1, P2; for the whole of the State.

Sicklepod, javabean (*Senna obtusifolia*); P1, P3; for the whole of the State.

Sida (*Sida acuta* and *Sida cordifolia*);
P1; for all that part of the State north of the 26th parallel of latitude.

Skeleton weed (*Chondrilla juncea*);
P1, P3; within the municipal districts of Yilgarn and Narembeen.
P1, P2; for the remainder of the State.

Stemless thistle (*Onopordum acaulon*);
P1, P2; for the municipal districts of the City of Albany, Boddington, Brookton, Broomehill, Bruce Rock, Corrigin, Cranbrook, Cuballing, Denmark, Dumbleyung, Gnowangerup, Katanning, Kojonup, Merredin, Mukinbudin, Narembeen, Narrogin, Nungarin, Pingelly, Plantagenet, Tambellup, Wagin, Wandering, West Arthur, Westonia, Wickepin, Williams, Woodanilling and Yilgarn.
P1, P3; for the municipal districts of Chapman Valley, City of Geraldton, Greenough, Irwin, Jerramungup, Kent, Kondinin, Kulin, Lake Grace, Mullewa, Northampton and Ravensthorpe.
P1, P4; for the municipal district of Esperance.

South African cape rush (*Elegia tectorum)*; P1, P2; for the whole of the State.

St. John's wort (*Hypericum perforatum*);
P1, P2; for the whole of the state except the municipal districts of Augusta-Margaret River, Beverley, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Bruce Rock, the City of Bunbury, Busselton, Capel, Collie, Corrigin, Cuballing, Cunderdin, Dardanup, Donnybrook-Balingup, Dowerin, Goomalling, Harvey, Kellerberrin, Koorda, Mandurah, Manjimup, Merredin, Mt Marshall, Mukinbudin, Murray, Nannup, Narembeen, Narrogin, Northam, the Town of Northam, Nungarin, Pingelly, Quairading, Serpentine-Jarrahdale, Tammin, Toodyay, Trayning, Wandering, Waroona, Westonia, Wickepin, Williams, Wyalkatchem, Yilgarn and York.

Thatching reed (*Thamnochortus insignis)*; P1, P2; for the whole of the State.

Thornapples:
Common thornapple (*Datura stramonium*);
P1; for the whole of the state except the municipal districts of Ashburton, Broome, Derby-West Kimberley, East Pilbara, Halls Creek, Port Hedland, Roebourne and Whyndam-East Kimberley.
P3; for the municipal districts of the City of Albany, Broomehill, Chapman Valley, Collie, Cranbrook, Denmark, Dumbleyung, the City of Geraldton, Greenough, Harvey, Irwin, Jerramungup, Gnowangerup, Katanning, Kent, Kojonup, Mandurah, Mullewa, Murray, Northampton, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona, West Arthur and Woodanilling.
P4; for the municipal districts of Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Bruce Rock, the City of Bunbury, Busselton, Capel, Carnarvon, Chittering, Coolgardie, Corrigin, Cuballing, Cue, Cunderdin, Dandaragan, Dalwallinu, Dardanup, Donnybrook-Balingup, Dowerin, Dundas, Esperance, Exmouth, Gingin, the City of Kalgoorlie-Boulder, Kellerberrin, Koorda, Laverton, Leonora, Manjimup, Meekatharra, Menzies, Merredin, Moora, Mt Magnet, Mt Marshall, Mukinbudin, Murchison, Nannup, Narembeen, Narrogin, Nungarin, Ngaanyatjarraku, Pingelly, Sandstone, Shark Bay, Tammin, Trayning, Upper Gascoyne, Victoria Plains, Wandering, Westonia, Wickepin, Wiluna, Williams, Wongan – Ballidu, Wyalkatchem, Yalgoo and Yilgarn.

Downy thornapple (*Datura inoxia*);
P1; for the whole of the state except the municipal districts of Ashburton, Broome, Derby-West Kimberley, East Pilbara, Halls Creek, Port Hedland, Roebourne and Whyndam-East Kimberley.
P3; for the municipal districts of the City of Albany, Broomehill, Chapman Valley, Collie, Cranbrook, Denmark, Dumbleyung, the City of Geraldton, Greenough, Harvey, Irwin, Jerramungup, Gnowangerup, Katanning, Kent, Kojonup, Mandurah, Mullewa, Murray, Northampton, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona, West Arthur and Woodanilling.
P4; for the municipal districts of Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Bruce Rock, the City of Bunbury, Busselton, Capel, Carnarvon, Chittering, Coolgardie, Corrigin, Cuballing, Cue, Cunderdin, Dandaragan, Dalwallinu, Dardanup, Donnybrook-Balingup, Dowerin, Dundas, Esperance, Exmouth, Gingin, the City of Kalgoorlie-Boulder, Kellerberrin, Koorda, Laverton, Leonora, Manjimup, Meekatharra, Menzies, Merredin, Moora, Mt Magnet, Mt Marshall, Mukinbudin, Murchison, Nannup, Narembeen, Narrogin, Nungarin, Ngaanyatjarraku, Pingelly, Sandstone, Shark Bay, Tammin, Trayning, Upper Gascoyne, Victoria Plains, Wandering, Westonia, Wickepin, Wiluna, Williams, Wongan – Ballidu, Wyalkatchem, Yalgoo and Yilgarn.

Fierce thornapple (*Datura ferox*);
P1; for the whole of the state except the municipal districts of Ashburton, Broome, Derby-West Kimberley, East Pilbara, Halls Creek, Port Hedland, Roebourne and Whyndam-East Kimberley.
P3; for the municipal districts of the City of Albany, Broomehill, Chapman Valley, Collie, Cranbrook, Denmark, Dumbleyung, the City of Geraldton, Greenough, Harvey, Irwin, Jerramungup, Gnowangerup, Katanning, Kent, Kojonup, Mandurah, Mullewa, Murray, Northampton, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona, West Arthur and Woodanilling.
P4; for the municipal districts of Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Bruce Rock, the City of Bunbury, Busselton, Capel, Carnarvon, Chittering, Coolgardie, Corrigin, Cuballing, Cue, Cunderdin, Dandaragan, Dalwallinu, Dardanup, Donnybrook-Balingup, Dowerin, Dundas, Esperance, Exmouth, Gingin, the City of Kalgoorlie-Boulder, Kellerberrin, Koorda, Laverton, Leonora, Manjimup, Meekatharra, Menzies, Merredin, Moora, Mt Magnet, Mt Marshall, Mukinbudin, Murchison, Nannup, Narembeen, Narrogin, Nungarin, Ngaanyatjarraku, Pingelly, Sandstone, Shark Bay, Tammin, Trayning, Upper Gascoyne, Victoria Plains, Wandering, Westonia, Wickepin, Wiluna, Williams, Wongan – Ballidu, Wyalkatchem, Yalgoo and Yilgarn.

Hairy thornapple (*Datura wrightii*);
P1; for the whole of the state except the municipal districts of Ashburton, Broome, Derby-West Kimberley, East Pilbara, Halls Creek, Port Hedland, Roebourne and Whyndam-East Kimberley.
P3; for the municipal districts of the City of Albany, Broomehill, Chapman Valley, Collie, Cranbrook, Denmark, Dumbleyung, the City of Geraldton, Greenough, Harvey, Irwin, Jerramungup, Gnowangerup, Katanning, Kent, Kojonup, Mandurah, Mullewa, Murray, Northampton, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona, West Arthur and Woodanilling.
P4; for the municipal districts of Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Bruce Rock, the City of Bunbury, Busselton, Capel, Carnarvon, Chittering, Coolgardie, Corrigin, Cuballing, Cue, Cunderdin, Dandaragan, Dalwallinu, Dardanup, Donnybrook-Balingup, Dowerin, Dundas, Esperance, Exmouth, Gingin, the City of Kalgoorlie-Boulder, Kellerberrin, Koorda, Laverton, Leonora, Manjimup, Meekatharra, Menzies, Merredin, Moora, Mt Magnet, Mt Marshall, Mukinbudin, Murchison, Nannup, Narembeen, Narrogin, Nungarin, Ngaanyatjarraku, Pingelly, Sandstone, Shark Bay, Tammin, Trayning, Upper Gascoyne, Victoria Plains, Wandering, Westonia, Wickepin, Wiluna, Williams, Wongan – Ballidu, Wyalkatchem, Yalgoo and Yilgarn.

Hoary thornapple (*Datura metel*);
P1; for the whole of the state except the municipal districts of Ashburton, Broome, Derby-West Kimberley, East Pilbara, Halls Creek, Port Hedland, Roebourne and Whyndam-East Kimberley.
P3; for the municipal districts of the City of Albany, Broomehill, Chapman Valley, Collie, Cranbrook, Denmark, Dumbleyung, the City of Geraldton, Greenough, Harvey, Irwin, Jerramungup, Gnowangerup, Katanning, Kent, Kojonup, Mandurah, Mullewa, Murray, Northampton, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona, West Arthur and Woodanilling.
P4; for the municipal districts of Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Bruce Rock, the City of Bunbury, Busselton, Capel, Carnarvon, Chittering, Coolgardie, Corrigin, Cuballing, Cue, Cunderdin, Dandaragan, Dalwallinu, Dardanup, Donnybrook-Balingup, Dowerin, Dundas, Esperance, Exmouth, Gingin, the City of Kalgoorlie-Boulder, Kellerberrin, Koorda, Laverton, Leonora, Manjimup, Meekatharra, Menzies, Merredin, Moora, Mt Magnet, Mt Marshall, Mukinbudin, Murchison, Nannup, Narembeen, Narrogin, Nungarin, Ngaanyatjarraku, Pingelly, Sandstone, Shark Bay, Tammin, Trayning, Upper Gascoyne, Victoria Plains, Wandering, Westonia, Wickepin, Wiluna, Williams, Wongan – Ballidu, Wyalkatchem, Yalgoo and Yilgarn.

Leichhardt's thornapple, Mexican thornapple (*Datura leichhardtii*);
P1; for the whole of the state except the municipal districts of Ashburton, Broome, Derby-West Kimberley, East Pilbara, Halls Creek, Port Hedland, Roebourne and Whyndam-East Kimberley.
P3; for the municipal districts of the City of Albany, Broomehill, Chapman Valley, Collie, Cranbrook, Denmark, Dumbleyung, the City of Geraldton, Greenough, Harvey, Irwin, Jerramungup, Gnowangerup, Katanning, Kent, Kojonup, Mandurah, Mullewa, Murray, Northampton, Plantagenet, Ravensthorpe, Serpentine-Jarrahdale, Tambellup, Wagin, Waroona, West Arthur and Woodanilling.
P4; for the municipal districts of Augusta-Margaret River, Boddington, Boyup Brook, Bridgetown-Greenbushes, Brookton, Bruce Rock, the City of Bunbury, Busselton, Capel, Carnarvon, Chittering, Coolgardie, Corrigin, Cuballing, Cue, Cunderdin, Dandaragan, Dalwallinu, Dardanup, Donnybrook-Balingup, Dowerin, Dundas, Esperance, Exmouth, Gingin, the City of Kalgoorlie-Boulder, Kellerberrin, Koorda, Laverton, Leonora, Manjimup, Meekatharra, Menzies, Merredin, Moora, Mt Magnet, Mt Marshall, Mukinbudin, Murchison, Nannup, Narembeen, Narrogin, Nungarin, Ngaanyatjarraku, Pingelly, Sandstone, Shark Bay, Tammin, Trayning, Upper Gascoyne, Victoria Plains, Wandering, Westonia, Wickepin, Wiluna, Williams, Wongan – Ballidu, Wyalkatchem, Yalgoo and Yilgarn.

Three-horned bedstraw (*Galium tricornutum*); P1, P2; for the whole of the State.

Tutsan (*Hypericum androsaemum*); P1, P2; for the whole of the State.

Tutsan, flair (*Hypericum* x *inodorum*);
P2; for the whole of the State, except lands approved for cultivation by the Chief Officer.
P4; for lands approved for cultivation by the Chief Officer.

Variegated thistle (*Silybum marianum*);
P1; for the whole of the State.
P2; for the whole of the State (except for the municipal districts of the City of Albany, Augusta-Margaret River, Boyup Brook, Bridgetown, Busselton, Capel, Chapman Valley, Collie, Cranbrook, Dardanup, Denmark, Donnybrook-Balingup, the City of Geraldton, Greenough, Harvey, Irwin, Mandurah, Manjimup, Mullewa, Murray, Nannup, Northampton, Plantagenet, Serpentine-Jarrahdale and Waroona).

P3; for the municipal districts of Augusta-Margaret River, Boyup Brook, Busselton, Capel, Chapman Valley, Collie, Cranbrook, the City of Geraldton, Greenough, Harvey, Irwin, Mandurah, Mullewa, Murray, Nannup, Northampton, Serpentine-Jarrahdale and Waroona.
P4; for the municipal districts of the City of Albany, Bridgetown, Dardanup, Denmark, Donnybrook-Balingup, Manjimup and Plantagenet.

Willows:

Basket willow, **common osier** (*Salix viminalis*);	P1; for the whole of the State.
Chilean willow (*Salix chilensis*);	P1; for the whole of the State.
Common sallow (*Salix cinerea*);	P1; for the whole of the State.
Corkscrew willow (*Salix matsudana*);	P1; for the whole of the State.
Golden weeping willow (*Salix* x *chrysocoma*);	P1; for the whole of the State.
White willow (*Salix alba*);	P1; for the whole of the State.
Willows (*Salix* - all other species and hybrids, except *S. babylonica*, *S.* x *calodendron* and *S.* x *reichardtii*);	P1; for the whole of the State.
Witchweed *(Striga* spp.) (all non-indigenous *Striga* species);	P1, P2; for the whole of the State.
Yellow burr weed (*Amsinckia* spp.);	P1, P2; for the whole of the State.

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Appendix D.

Weed Monitoring Guidelines (45-GU-EN-0003)

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Weed Monitoring Guidelines

9 March 2011

45-GU-EN-0003

Document Title:	**Weed Monitoring Guidelines**
Document No:	**45-GU-EN-0003**
Document Type:	**Guideline**
First Issue Date:	**9 March 2011**

Rev	Issue Date	Description of Revisions Made	Signatures		
			Originator	Checked	Approved
a	16 February 2010	Initial Draft	Andrew Laurenson	Tristy Fairfield	
0	9 March 2011	Issued For Use		Tristy Fairfield	Brett McGuire

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1. INTRODUCTION

The guidelines incorporate best practice methods currently used in weed management in arid areas and are designed to address the goals and objectives of the Fortescue Metals Group (Fortescue) in relation to weed management.

In addition, the implementation of the monitoring guidelines will address the conditions outlined in the Minister for Environment Statements 690, 707 and 721 that require commitments for weed management in the Fortescue operations area.

By adopting these guidelines a consistent monitoring approach can be applied across all of the Fortescue Operations.

These guidelines describe the:

- Goals and objectives of the weed monitoring program;
- Rationale underpinning the monitoring design;
- Approach to data management, reporting and review.

1.1 OBJECTIVES

The objectives of these Weed Monitoring Guidelines are to enable Fortescue project sites to develop weed monitoring programs which:

1. Develop and maintain an understanding of existing weed populations in Fortescue exploration, construction and operational areas; and

2. Assess the effectiveness of weed management techniques intended to prevent the introduction of new weed populations and the spread of existing weed populations in Fortescue exploration, construction and operational areas.

1.2 LIMITATIONS

Although the methodologies presented in this document are the result of a review of previous work in the area, they will continue to evolve. Fortescue will incorporate improvements to the methods presented as further knowledge is gained and these methods are used more extensively.

The limitations of monitoring methods must be acknowledged when assessing the effectiveness of weed management techniques across Fortescue project areas.

2. MONITORING

2.1 MONITORING SITE SELECTION

The number of sites to be selected for monitoring depends on the number and type of weed communities present on site. Where the number of communities is relatively small, all sites could potentially be monitored. Where large numbers of communities are present, representative sites should be selected.

Before selecting a site for monitoring, the following maps and data should be reviewed:

- Infestation maps: these may be simple GPS points on a topographic map;
- Aerial maps detailing roadways, waterways, wells or bores;
- Initial inspection data (this could be first hand information stored in a diary or from a completed monitoring form from the initial inspection);
- Relevant photos of the weed site.

After reviewing all of the available data, the following rules can be used to select the number and location of monitoring sites:

1. Resources available
2. Expertise of the people carrying out the monitoring
3. The questions you want to answer
4. The likely disturbance to those monitoring points
5. Ease of access for personnel and equipment
6. Time constraints
7. Seasonal limitations
8. Ability to replicate the site to provide valid comparisons
9. Sufficient sites to provide for a suitable control site/sites.

2.2 MONITORING SITE DESIGN

Photopoints

Photopoints are a photographic record of change occurring over time taken from the same point each time. They are a simple and effective monitoring method.

Setting up a photopoint:

- Place a permanent marker such as a stake or star-picket at the point from where you will take the photo each time.
- Take the picture with the same camera and same settings each time (rest the camera on the stake so they are taken at the same height and use distinctive objectives as focal points).
- Take photos as frequently as required to reflect changes at the site, but ensure photos are taken at the same time each year to make valid comparisons.
- Label each photo with the date, location and the reason for taking the photo (e.g. annual monitoring).

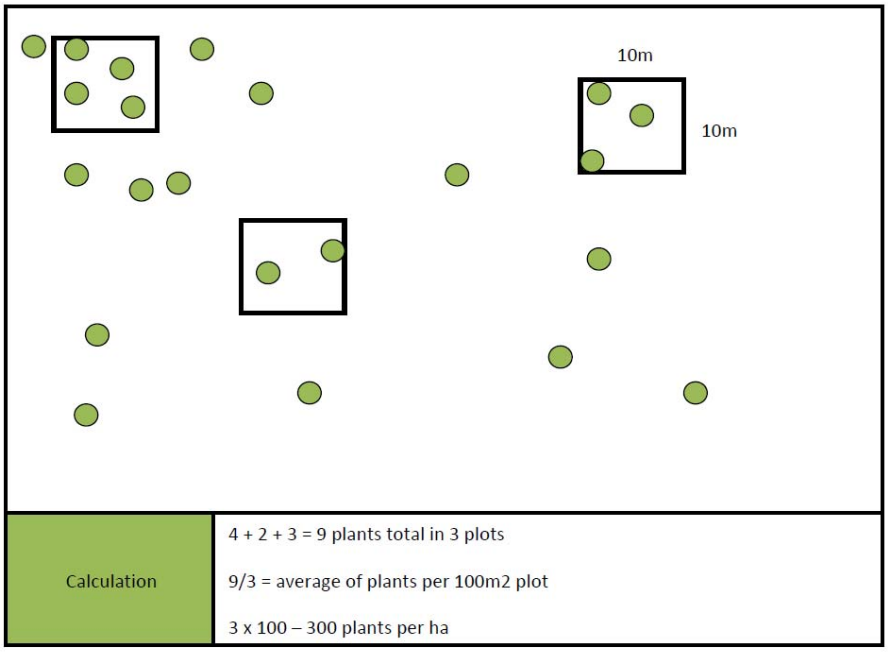
Measuring Density

Density is defined as the number of individual plants per unit area. Density is a good measure to determine the changes in a plants population before and after treatment. Measuring density by age or plant size classification will reflect the changes at those sites even further.

1) **Quadrats**

- Mark out 3 or more plots (quadrats) of 10mx10m (plots should be located randomly over the site)
- Count the number of plants within the plots (break them in to age classification if this is possible).
- Multiply the average number of plants in the plots by 100 to get the number per hectare.

Figure 1: Calculating Density Using Plot Counts



2) **Plot Transects**

Plots are often placed along sample lines called transects. Transects are commonly 100m long, and are placed 10-50m apart parallel to each other. Using multiple transects will give you results that are more representative of your entire site.

- Mark out the 100m transects keeping them parallel to one another (10m-50m apart)
- Using a 2m x 2m plot frame (easily made using some pvc pipe) place plots at intervals along the transect.
- Count the number of plants within the plot (Break them in to age classification if this is possible).
- Average the number of plants in each of the plots and convert to a density measure (i.e. individuals per square metre or individuals per hectare)

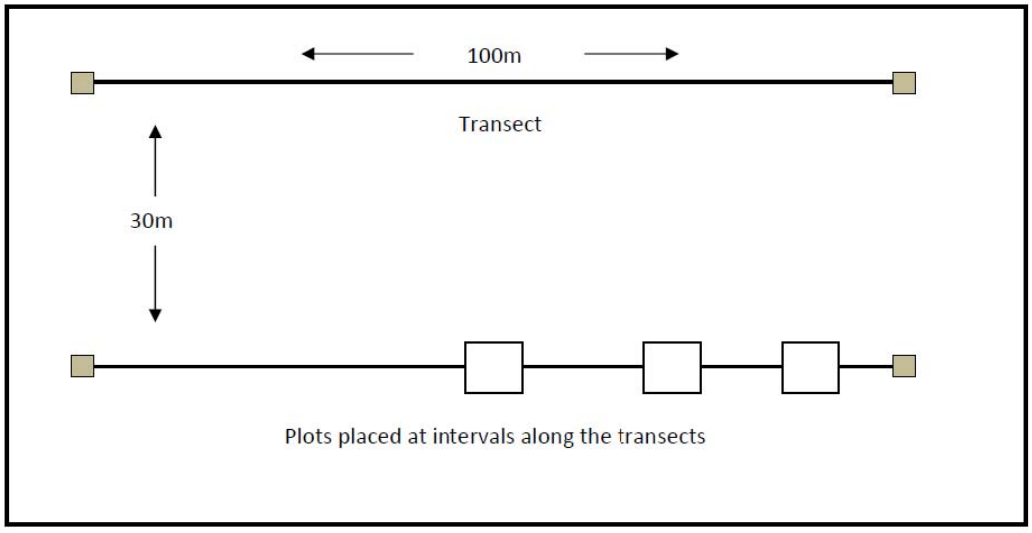


Figure 2: Calculating Density Using Plot Transects

2.3 MONITORING PARAMETERS RATIONALE

The parameters have been set to provide for simple, effective monitoring systems that are easily replicated in the field by staff with varying skill levels. The data provided by these systems will allow for simple but quantitative data that can map change in the weed populations over time.

2.4 MONITORING PARAMETERS ASSESSMENT METHODS

The assessment methods described below can be used to identify changes in weed populations:

1. Visual assessment of photographic evidence looking at % of ground cover, canopy cover or standing stem count of plants visible;

2. Statistical comparison of plant density based on plant numbers per m2 or plants per hectare;

3. Plant population composition changes (only where plots have been assessed by the number and age of the plants within the sample plot).

2.5 DATA MANAGEMENT, ANALYSIS AND INTERPRETATION

In the future, data collected from monitoring parameters described above will be used to assess the effectiveness of the weed control programs being undertaken. For this reason,

data collection storage and analysis as well as interpretation are crucial to monitoring success. In the short term, general trend lines and the data from additional research projects within Fortescue's Operations, as well as other scientific literature can be used to make better informed decisions on what ecological significance level might be for changes in monitoring parameters.

Data collection and storage

All data collected will be stored on the corporate EMS & BMS systems. All hard copy monitoring forms, herbarium samples, field diaries and spray records are to be kept by the individual mine site based departments.

2.5.1 Data analysis and interpretation

All data analysis and interpretation should be quantifiable. Refrain from making definitive statements or using words that are open to interpretation. Where populations have not been visible/recorded for a period of time, never be tempted to use the term "eradicated", instead opt for terms like "zero density" or "historic".

2.6 MONITORING FREQUENCY

Sites should be monitored as frequently as possible, especially during the growing season, but at the very least be inspected and controlled annually. For sites where specific research or trials are being conducted monitoring should be conducted on a monthly basis.

3. REPORTING

Reporting on site based activities should occur monthly with the full 12 months activities reported on in December of any given year.

Results will be summarised in the Annual Environmental Report.

4. REVIEW AND REVISION

These Monitoring Guidelines will be reviewed every two years, or when significant additional information comes to hand. Upon review, the document will be revised where appropriate and the revision status will be updated in accordance with Fortescue's document control procedures.

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Appendix E.

Weed Monitoring Form (45-FR-EN-0010)

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Weed Monitoring Form

Date | Site ID | Operator

Location | Plant Pest

Inspection O

Monitoring O

Direct Control O

Photo Taken: YES / NO

Weather Conditions

Comments

Easting | Northing

Site Map

Chemical used:

Information Recorded in Weeds Database: YES / NO