



Edna May Operations Flora Management Plan



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1. INTRODUCTION

1.1 PURPOSE

The purpose of this plan is to detail the flora management requirements including weed management at Edna May Operations (EMO) with the aim of minimising or avoiding adverse impacts to the environment specifically the Declared Rare Flora (DRF), Priority Flora and vegetation communities. The objectives of this plan are to:

- Maintain the abundance, diversity, geographic distribution and productivity of terrestrial flora at species and ecosystem levels;
- Protect and minimise impact to DRF and Priority Flora located within the Edna May Operations Leases;
- Identify and control weed species which impact native flora and fauna;
- Clear vegetation only within approved areas and where possible minimise clearing activity; and
- Ensure that land rehabilitation is implemented progressively.

1.2 SCOPE

This plan applies to all activities undertaken at Edna May Operations and applies to all Ramelius employee, contractors and visitors.

1.3 BACKGROUND

In 2003, EMO prepared a management plan for DRF species *Eremophila resinosa*, which was endorsed by CALM (now DBCA). The management plan was subsequently updated in 2007 (Westonia Gold Mine Threatened Flora Management Plan, 2007) to include both the mining and exploration activities. Ongoing compliance with the plan will ensure that all due care is taken in preserving this species during planning and operational stages of the EMO.

This plan complements (but does not replace) the existing Westonia Gold Mine Threatened Flora Management Plan, 2007 (Outback Ecology, 2007).

Of the 767 ha which make up the mining leases of the Edna May Gold Project, over 50% of the area consists of cleared farmland. The farmland was cleared before the 1930's and has been regularly cropped. The remaining land consists of previously disturbed mined areas and natural bushland.

Eucalyptus Woodland is the dominant native vegetation type in the region, with *Eucalyptus salubris* (gimlet), *E. salmonophloia* (salmon gum) and *E. longicornis* (Red Morrell) the common tree and mallee species. The understorey composition and structure is variable in response to changing soil conditions, however typical associations are low chenopod shrubs or mid-tall *Acacia*/*Melaleuca* shrubs. Four vegetation 'map-units' (associations) have been identified within the tenement boundaries. These included; Mixed Eucalypt Low Forest, Gimlet Low Forest, Dense Thicket with various dominants, and Open Low Grass. Of the various vegetation map units identified, the Gimlet Low Forest is noted as having regional value.

The DRF species *E. resinosa* was identified within the vicinity of the operation. Nearly all the plants were found growing in areas of disturbance where the earlier vegetation had been removed, but where the topsoil had been left in place.

In addition to the DRF *E. resinosa*, ten Priority Flora species have been sampled within or very close to, the EMO tenements. These species include:



- *Acacia ancistrophylla* var. *perarcuata* (P3) – this species has been recorded approximately 10.7 km south of the Westonia mine on the Carrabin Nature Reserve (No. 16235). It is described as favouring undulating plains of red sand or clay loam.
- *Acacia filifolia* (P3) – this species has previously been identified approximately 17.5 km south–east of the mine site near Bodallin in remnant bushland adjacent to Great Eastern Highway. It is described as favouring yellow sand or gravely lateritic sand on sandplains.
- *Dicrasyllis corymbosa* (P3) – has been recorded 10.7 km south of the mine in remnant vegetation near Carrabin (in or near Carrabin Nature Reserve No. 16235). It favours yellow/brown sand (Florabase, 2007).
- *Dryandra horrida* (P3) – the closest known occurrence of this species is 16.5 km to the southwest of the mine. This species occurs on sand, sometimes with gravel.
- *Dryandra shanklandiorum* (P4) – this species has been recorded 10.4 km south of the mine near Carrabin (in or near Carrabin Nature Reserve No. 16235). It is described as favouring white/yellow sand with lateritic gravel.
- *Euryomyrtus leptospermoides* (P3) – has been recorded approximately 12.3 km south-west of the mine in vegetation described as ‘heath’ within the Conservation of Flora and Fauna Reserve No. 16000. It favours undulating plains of yellow or white sand, clayey sand or gravel.
- *Hibbertia glabriuscula* (P2) - this species has been recorded approximately 13.1 km south-east of the Westonia mine. It favours yellow sand over laterite on sandplains with some laterite breakaways.
- *Muriophyllum petraeum* (P4) – according to the database search, this species has been identified 9.3 km west of the mine on Bullarragin Rock (a granite outcrop that lies within Parkland and Recreation Reserve No. 18273) near the corner of Warralackin Road and Leaches Road. Although surrounded by Westonia Mines exploration tenements, the reserve is excluded.
- *Verticordia mitodes* (P3) – this species has been recorded 10.7 km south of the mine in remnant vegetation south of Carrabin (in or near Carrabin Nature Reserve No. 16235). It favours yellow sand on undulating plains.
- *Verticordia stenopetala* (P3) – has been recorded 11.2 km south–west of the mine in or near Carrabin Nature Reserve No. 16235. It favours undulating plains of yellow sand, sometimes with gravel (Outback Ecology, 2007).

1.3.1 Distribution and Habitat Surrounding the Mining operations

E. resinosa favours sandy loams and clays and is found in areas of Open Mallee Woodland with mixed Acacia Scrub understorey. Species associated with *E. resinosa* include *Eucalyptus salubris* (Gimlet), *E. salmonophloia* (Salmon Gum), *E. longicornis* (Red Morrel), *E. transcontinentalis* (Redwood) and *Acacia acuminata* (Jam), *A. erinacea*, *A. hemiteles* and *Eremophila oppositifolia* (Weeooka) (Outback Ecology, 2007A).

The habitat surrounding the mine site supporting *E. resinosa* was described by Armstrong and Osborne (2003) as Mixed Eucalypt Low Forest of *Eucalyptus longicornis*, *E. yilgarniensis*, *E. salubris* and *E. corrugata*. The mid stratum was Scrub to Thicket dominated by *Melaleuca lanceolata* while the understorey consisted of Open Dwarf Scrub to Dwarf Scrub of *Acacia*, *Eremophila*, *Dodonaea* and *Atriplex* species. Patches of Open Low Grass dominated by *Austrodanthonia* sp. and *Amphipogon strictus* were occasionally present (Outback Ecology, 2007A).

Around EMO, *E. resinosa* tends to favour disturbed areas where there is a substantial part of the original vegetation and/or its associated soil present. Within the boundary of the tenements, a number of small populations (sometimes single plants) exist on road verges, exploration tracks and within areas cleared



for agricultural use. The greatest threat to such populations appears to be road maintenance and weed infestation.

1.3.2 *Eremophila resinosa* Translocation Program

As a result of mine planning, 15 plants of *E. resinosa* were removed in 2003 - 2004, after approval from the Minister for the Environment was obtained. While every attempt was made to limit the impact on DRF, it was necessary to remove the plants that occurred within the proposed location of the processing plant and expanded pit. Seed and tissue culture were utilised from these plants in a Translocation Program.

The translocation program for *E. resinosa* was started in 2004 by the Botanic Gardens and Park Authority (BGPA) and led by Bob Dixon. BGPA managed the translocation program up until the retirement of Bob Dixon in mid-2015. Environmental staff at EMO now maintain and monitor all of the Translocation Sites and a report is developed annually and submitted to DBCA.

There are currently seventeen translocation sites. This includes six trial sites located around the Westonia townsite and one in farmland North of the mine. In 2015, EMO commenced a revegetation program on farmland to the north of the town and the mining operation. One of the aims of the program was to try to establish *E. resinosa* using broadacre direct seeding methods and to integrate its establishment into a wider revegetation program. In 2016, *E. resinosa* seed was included for the first time in the revegetation program and this has continued on an annual basis across multiple sites (Sites 7-9, 13, 16). In 2018, EMO incorporated *E. Resinosa* seed within the seed mix for rehabilitation of mining landforms for the first time (Site 10 & 11). Other translocation sites include monitoring revegetation areas in which topsoil that may contain *E. resinosa* seed was used (Site 14 & 15).

An annual survey of *E. resinosa* on the mining lease and surrounds is undertaken and a report is submitted to the DBCA. This report provides information on the health of the population. In recent years the survey area has been extended and further searches conducted for new populations.

1.3.3 Biodiversity Corridor Project

This project was established with the aim of creating a wildlife corridor on EMO leases north of the pit, which consisted of cleared agricultural areas and mining infrastructure and link these to the Westonia Common and other remnant vegetation surrounding the mine site.

As part of the project Dr Geoff Woodall was engaged to provide advice and direct seeding services using a specialised machine he developed, the CommVeg seeder. A small trial area of approximately 5ha was directed seeded and hand planted with seedlings in winter 2015 and this was followed up by a further 92ha in 2016. Over 75,000 seedlings were planted in 2015-2016 by hand planting or a Chatsfield tree planter.

This project met a commitment which was made in a previous Mining proposal to establish a vegetation corridor along the western side of the Integrated Waste Landform (IWL). The project also trialled direct seeding 10ha of *E. resinosa* at two sites (Translocation Site 7 and 8) as part of the 92ha project.

1.3.4 Weeds

Weeds which may occur in the local area include:

- Double Gee (*Emex australis*);
- Paterson's Curse (*Echium plantagineum*);
- Skeleton Weed (*Chondrilla juncea*)
- Saffron Thistle (*Carthamus lanatus*);

- African Lovegrass (*Eragrostis curvula*);
- Prickly Pear (*Opuntia stricta*);
- Ward’s Weed (*Carrichtera annua*);
- Ruby Dock (*Acetosa vesicaria*);
- Caltrop (*Tribulus terrestris*);
- Paddy melon (*Cucumis myriocarpus*);
- Afghan melon (*Citrullus lanatus*);
- Wild radish (*Raphanus raphanistrum*); and
- Maltese Cockspur (*Centaurea melitensis*).

Many of these species are agricultural weeds. Although baseline vegetation surveys undertaken for the Project to-date did not extend to the 40 m buffer surrounding the Eucalypt Woodlands of the Western Australia Wheatbelt TEC, it can be expected that some of these weeds may occur within this buffer.

Skeleton Weed was detected on General Purpose Lease G77/122 in December 2015. The lease is a property which was purchased by EMO in 2014 for the construction of a waste dump. The weed was detected over an area less than 1 ha and had been stripped of topsoil for the construction of the waste dump. The WA Department of Primary Industries and Regional Development (DPIRD) - Agriculture and Food, is notified as and when detection is made. DPIRD visited the site in this instance to view the plants. They also provided coordinates of other areas on the property where the plants had been detected in previous years. Adjacent landholders were also notified of the detection and invited to view the site, of which some took up the offer.

The detected plants were sprayed with herbicide at the label rate however some of the plants had already set seed (Figure 1). EMO signed a Landholder Acknowledgement of Obligations which details the control and monitoring commitments required. Ongoing monitoring of these areas is continuing.



Figure 1: Skeleton Weed Plants Detected on EMO Lease which had Set Seed



2. POTENTIAL IMPACTS

Potential impacts to flora resulting from mining activities including clearing and include:

- Establishment and spread of introduced species (weeds);
- Reduced habitat connectivity;
- Damage or loss of DRF or Priority Flora;
- Damage or loss of native flora
- Breach of legislation should clearing be undertaken without a permit to clear; and
- Breach of legislation should DRF be removed without a permit to remove.

3. MANAGEMENT AND IMPLEMENTATION STRATEGY

The management actions which are implemented at EMO are detailed in Table 1. These actions ensure EMO is compliant with relevant legal requirements and aim to minimise adverse impacts to native flora.



Table 1: Management Actions

REFERENCE		MANAGEMENT ACTION	TIMING	RESPONSIBILITY	EVIDENCE
General	FMIS 1	All land clearing activities and activities with the potential to impact on flora at Edna May will comply with Clearing Permits, Program of Works (POW), relevant local and state regulations and Australian standards.	Ongoing	Department Managers/ Superintendents	Procedure documentation. Clearing permit forms.
Stakeholder Consultation	FMIS 2	Where required, EMO will liaise with neighbours where land clearing, or activities which potentially impact upon the regions flora, may impact upon them.	Ongoing	General / Community Manager	Communications Register and records.
	FMIS 3	Complaints register to assist in indicating improvements or failings in flora management actions	Ongoing	Community Manager	INX Incidents. Summarised in AER.
Land clearing / ground disturbance	FMIS 4	<p>Prior to clearing any remnant vegetation, the following should be undertaken:</p> <ul style="list-style-type: none"> Determine whether ground disturbance can be relocated to a previously disturbed area. The clearing and ground disturbance procedure is followed. Where an external Clearing Permit is required the Native Vegetation Assessment Branch (NVAB) of the DMIRS is contacted to discuss the requirement for a clearing permit. A flora survey of the area to be cleared has been completed including a targeted survey for <i>E. resinosa</i>. A Clearing Permit has been obtained and approved by the NVAB if required. <p>The standard approval period for a clearing permit varies (2-6 months -it may exceed this), and it is essential that mine planning accommodate such time frames.</p>	Ongoing	General Manager	Clearing Permit and relevant documentation. Survey records.
	FMIS 5	Vegetative material and topsoil removed by clearing is retained and the EMO Topsoil Stripping Procedure is followed. The topsoil and vegetative material is stockpiled in an area that has already been cleared. Top soil stockpiles should not exceed 2 m in bush land areas and 4 m in farmland areas. Signs are to be erected marking topsoil stockpiles.	Ongoing	Environment Department / Mining Supervisors	Evidence of topsoil stockpiles. Topsoil Register. Evidence of signage.
	FMIS 6	<p>During clearing activities:</p> <ul style="list-style-type: none"> Earth moving machinery must be cleaned of soil and vegetation prior to entering and leaving the area to be cleared. 	Ongoing	Environment Department / Mining Supervisors	Field Inspections



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	<ul style="list-style-type: none"> The clearing permit holder must ensure that no weed-affected soil, mulch, fill or other material is brought into the area to be cleared. <p>The movement of machines and other vehicles must be restricted to the limits of the area to be cleared.</p>			
FMIS 7	<p>Prior to exploration activities occurring within mining or exploration tenements;</p> <ul style="list-style-type: none"> A flora survey of the area should be undertaken during an appropriate period (spring) to identify locations of any DRF or Priority Flora. Historic tracks and gridlines that require reestablishment for mining or exploration purposes should be searched for <i>E. resinosa</i>. All localities of DRF and Priority Flora should be clearly demarcated to prevent accidental damage. Prior to exploration activities occurring, it is an EMO requirement that a Pre-Exploration Vegetation Checklist be completed, to ensure the area has been searched for DRF and Priority Flora. If DRF are identified within 50 m of disturbance or the disturbance is within an environmentally sensitive area (ESA) a clearing permit will need to be obtained. Otherwise, permission to clear can be obtained through a POW. If drilling activities are to impact on Priority Flora, liaison with DBCA Merredin should be undertaken. If DRF are identified in the proposed disturbance area the following actions should be taken: <ul style="list-style-type: none"> Modify grid to avoid DRF; If this is not possible, obtain a Permit to Take DRF from the DBCA Liaison with DBCA Merredin should be undertaken. Apply for a Clearing Permit. <p>No clearing to be undertaken without the appropriate clearing permit, POW or Permit to Take DRF in place and a completed internal clearing form.</p> <p>The standard approval period for a clearing permit varies (2-6 months -it may exceed this), and it is essential that mine planning accommodate such time frames.</p>	Ongoing	Geology Manager / Environment Department	Flora surveys. Pre-Exploration Vegetation Checklist. Correspondence Register.



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REFERENCE		MANAGEMENT ACTION	TIMING	RESPONSIBILITY	EVIDENCE
Taking of rare flora	FMIS 8	Taking of protected flora will only occur when it is authorised by, and carried out in accordance with the terms and conditions of the licence issued by DBCA under section 23F of the Wildlife Conservation Act 1950.	Ongoing	Environment Department	Permit to Take Reports. Permit to Take licence.
	FMIS 9	A person shall not wilfully take any protected flora unless: <ul style="list-style-type: none"> Written approval from the DBCA has been received; and Approval from the Environmental Advisor is received. 	Ongoing	Environment Department	Permit to Take Reports Permit to Take licence
Vehicle usage	FMIS 10	In order to minimise disturbance and prevent unintentional impacts through the use of machinery and vehicles, no machinery or vehicle is to travel off designated roads and tracks.	Ongoing	All employees / contractors	Field Inspections
Waste dumping strategy	FMIS 11	To ensure that waste rock does not encroach on <i>E. resinosa</i> : <ul style="list-style-type: none"> Dumping of waste rock on existing landforms and the old TSF is restricted to the approved clearing area and current toe; Toe pegs will be put in place to indicate the extent of the waste dump and a design map will be available to all site personnel. <p>The dumping strategy will be checked by the Principal Engineer prior to dumping in new areas. Where dumping is to occur in areas in close proximity to <i>E. resinosa</i>, then mining crews are to be informed of the potential risks of operating in areas where <i>E. resinosa</i> are located.</p>	Ongoing	Mining Manager / Principal Engineer	Waste Dump Design
	FMIS 12	To ensure that operations do not encroach on <i>E. resinosa</i> during selective mining of low-grade stockpiles: <ul style="list-style-type: none"> Access routes and buffer zones will be clearly marked for vehicles and machinery prior to work commencing; and <p>The mining strategy will be checked by the Principal Engineer and mining crews informed of the potential risks of operating in areas where <i>E. resinosa</i> are located.</p>	Ongoing	Mining Manager / Principal Engineer	Weekly Plan
Saline water and dust control	FMIS 13	To prevent the vegetation (including <i>E. resinosa</i>) from being adversely affected by saline water which will be used to suppress dust on haul and ancillary roads, the following will be undertaken: <ul style="list-style-type: none"> Roads will be bunded in areas adjacent to <i>E. resinosa</i> to prevent saline water from draining into the surrounding environment. 	Ongoing	Mining Manager / Environment Department	Vegetation Photo. Monitoring records. Water Cart operating procedures.



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REFERENCE	MANAGEMENT ACTION	TIMING	RESPONSIBILITY	EVIDENCE
	<ul style="list-style-type: none"> Where considered necessary, runoff from the roads will be directed to drainage sumps. Operators of water trucks will be informed of the potential environmental consequences of over spraying onto vegetated zones along the side of roads; Bunding, drains and sumps will be maintained. <p>Further information on the management actions for minimising dust emissions is presented in the EMO Air Emissions Management Plan</p>			
	<p>FMIS 14</p> <ul style="list-style-type: none"> All water pipelines carrying saline water will, wherever practically feasible, be located along major roads; The pipelines will either be buried or banded; All buried pipelines will have leak detection measures in place; and <p>The pipelines will be inspected weekly for maintenance requirements.</p>	Ongoing	Processing Manager / Superintendent	Records of routine inspections, servicing and maintenance. Evidence of bunding / burial for entire length of pipeline.
Drainage	<p>FMIS 15</p> <p>Surface water management structures are required to affectively capture stormwater and allow for safe and efficient operations. Drainage must be designed to prevent the release of hazardous substances to the environment and protect flora and vegetation (particularly <i>E. resinosa</i>). In order to achieve this:</p> <ul style="list-style-type: none"> All mine affected water is to be contained and utilised on site; Hazardous storage areas are not to drain to vegetation or waterways; Surface water drains are not to direct overflow to natural areas where vegetation is present (particularly where <i>E. resinosa</i> is known to occur); Drainage is to be constructed so that runoff from rainfall does not cause erosion leading to sediment being spread over surrounding vegetation and in particular populations of <i>E. resinosa</i> situated next to waste landforms; <p>Drains and sediment traps are to be regularly inspected and maintained.</p>	Ongoing	Mining / Processing Managers	Field Inspections
Weeds	<p>FMIS 16</p> <p>Weeds will be managed and controlled by the relevant Area Supervisors with advice from the Environmental Advisor/s. Should weed problems be excessive in areas where <i>E. resinosa</i> are present, weed control will be carried out by hand.</p>	Ongoing	Area Supervisors	Field Inspections records



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REFERENCE	MANAGEMENT ACTION	TIMING	RESPONSIBILITY	EVIDENCE
	Should chemically control of weeds be necessary on the Mining Leases, spot spraying will be carried out and care taken to avoid the spraying on windy days. DO NOT spray near DRF.			
	FMIS 17 Weed control activities will follow current best practice.	Ongoing	All employees / contactors	Weekly, monthly reports
	FMIS 18 In order to minimise disturbance and prevent unintentional impacts through the use of machinery and vehicles, no machinery or vehicle is to travel off designated roads and tracks.	Ongoing	All employees / contractors	Field Inspections
Fire	<p>Control of bushfires in Western Australia is provided through the Bush Fires Act 1954 and its regulations. The management objective is to reduce the threat of fire to the public, site personnel, property and the environment. In order to achieve this, the following will be implemented:</p> <ul style="list-style-type: none"> Acquisition and maintenance of site based mobile firefighting equipment; Each vehicle will contain a portable fire extinguisher; The training of personnel in the use of firefighting equipment to combat a fire; No fires are to be lit on the mine site without the approval of the General Manager; and Adherence to the Bush fires Act 1954 and local government regulations. <p>The sites Emergency Response Plan and related procedures contain further details regarding the management of the risk of fire.</p>	Ongoing	HSE Superintendent	Maintenance and Training records
Rehabilitation	FMIS 20 As part of revegetation activities <i>E. resinosa</i> will be included in the native species seed mix to be applied to disturbed areas. Approval from the DBCA will be sought prior to: <ul style="list-style-type: none"> Undertaking translocation of DRF; and Prior to the collection of any seed from <i>E. resinosa</i> .	Ongoing	Environment Department	Summarised in AER. Translocation Approval documents. Permit to Take reports.
	FMIS 21 Cleared areas will be progressively rehabilitated as they become available.	Ongoing	General Manager	Site Rehabilitation Plan. Summarised in AER.
Training and awareness	FMIS 22 General site inductions will be used to raise the awareness of the workforce about conservation issues and particularly the status of the DRF species <i>Eremophila resinosa</i> .	Ongoing	All employees / contractors	Induction Presentation. Delivery Inspection Sheet.



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REFERENCE	MANAGEMENT ACTION	TIMING	RESPONSIBILITY	EVIDENCE
	Pertinent contractors coming onto site are aware of weed hygiene requirements and have cleaned down vehicles and equipment prior to arriving on site.			
Monitoring	FMIS 23 The monitoring requirements are as follows: <ul style="list-style-type: none"> Annual recording of <i>E. resinosa</i> plant numbers and location, and health; and 	Ongoing	Environment Department	Field Inspection Sheets. Survey Reports.
	FMIS 24 Photographic monitoring of vegetation surrounding the IWL to determine any impacts from mining such as groundwater alteration / dust: <ul style="list-style-type: none"> Quarterly photographs every 50 m along the southern boundary of the IWL; and 	Ongoing	Environment Department	Photopoint Monitoring Records. Summarised in AER.
	FMIS 25 Where signs of plant stress as a result of mining activities (e.g., smothering of vegetation from dust or damage to vegetation via the discharge of saline water) are observed, the Native Vegetation Assessment Branch of the DMIRS will be notified.	Ongoing	Environment Department	Photopoint Monitoring Records
	FMIS 26 Non-compliances can be identified through a variety of means including; inspections, audits, environmental monitoring and opportunistic observations. Non-compliances with this management plan, relevant legislation and permits will be addressed through: <ul style="list-style-type: none"> Site based incident reporting system (INX), and remedial action tracking; External reports to relevant regulatory authorities (DBCA, DMIRS) through correspondence and the AER; Education of personnel through site-wide notifications, environmental alerts, inductions, toolbox talks, and newsletters; Response to direct complaints from stakeholders as recorded in the “Complaints Register”; and Consultation with stakeholders on a regular basis to address issues at an informal level	Ongoing	Environment Department	INX Incident database. Inspection and audit reports. Complaints Register. Stakeholder consultation register.
	FMIS 27 Areas will be informally surveyed to detect the presence of weeds.	Ongoing	Environmental Department	INX Field Inspections
	FMIS 28 Significant weed populations will be recorded in GIS. If detected, this is the trigger for appropriate corrective actions for weed management as described in Appendix 12.1	Ongoing	Environmental Department	GIS Database, Property and Paddock Records submitted
	FMIS 29 Skeleton weed monitoring will occur as per the DPIRD Landholder Acknowledgment of Obligations	Ongoing	Environmental Department	Property and Paddock Records submitted



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REFERENCE	MANAGEMENT ACTION		TIMING	RESPONSIBILITY	EVIDENCE
Auditing and reporting	FMIS 30	An annual report detailing monitoring and other activities at the translocation sites will be developed and submitted to DBCA on an annual basis, due by December 31 st each calendar year.	Annually	Environment Department	Annual Reports
	FMIS 31	In the event that an incident occurs resulting in the disturbance of <i>E. resinosa</i> (or any other DRF or Priority Flora) and/or where land is cleared without prior authorisation and permits, the General Manager and Environmental Advisor are to be notified as soon as practicable. The Environmental Advisor is to ensure that the environmental incident has been contained and made safe, cleaned up if required and actions taken to prevent a similar event occurring. Should an environmental incident result in the damage to, or loss of plants of <i>E. resinosa</i> or any other DRF or Priority Flora, then the General Manager will report the incident to the regulatory authority within 24 hrs.	Ongoing	Environment Department	INX. AER.
	FMIS 32	If adverse impacts to flora and vegetation are observed, they will be reported to the Environment Department immediately. An incident report will then be prepared and submitted within 24 hrs. The incident report will identify contingency actions to be implemented and the date for completion of contingency actions.	Ongoing	All employees / contractors	INX Incident database
	FMIS 33	Breaches of license or tenement conditions will be reported to the relevant authority (DWER or DMIRS) within 24hrs, and summarised through the AER, as part of Operating License. External reporting of incidents is the responsibility of the General Manager with assistance from the Environmental Advisors.	Ongoing	General Manager	INX. AER. Correspondence Register.
	FMIS 34	Identification of any rare or endangered flora species will be reported to the DBCA for appropriate registration and management. For each new plant discovered the location will be accurately recorded by GPS and identified on site plans and maps. Appropriate management requirements for new plant/communities and/or populations will be developed in consultation with the DBCA.	Annually	Environment Department	Threatened Flora Report Forms
	FMIS 35	An annual flora (<i>E. resinosa</i>) report will be completed on the status of the mine site populations (external consultant).	Annually	Environment Department	Annual Reports
	FMIS 36	An annual report on the translocation sites will be developed and submitted to DBCA by January 31 st each calendar year.	Annually	Environment Department	Annual Reports



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REFERENCE		MANAGEMENT ACTION	TIMING	RESPONSIBILITY	EVIDENCE
Review and revision	FMIS 37	The General Manager will allocate resources to review and implement this Management Plan. They will ensure appropriate action is being taken on non-compliances, and offer support to environmental staff through directives to site personnel.	Ongoing	General Manager	Compliance Audits
	FMIS 38	The Flora Management Plan will be internally reviewed at least on a 2-yearly basis. Reviews will be conducted at key stages of the Edna May project based on planning requirements; review of incidents, audits and corrective actions; legal requirements; and analysis of monitoring results. The reviews will incorporate feedback from stakeholders including community and regulators.	Ongoing	Environment Department	Revision Record



4. STAKEHOLDER CONSULTATION

EMO aims to maintain a healthy relationship with neighbouring stakeholders by promoting open and honest communications. In the case that a complaint is received, EMO will record the complaint and the relevant corrective actions in the site Complaints Register.

Further detail regarding community consultation undertaken for EMO is provided in the [EMO Environmental Management Plan](#).

5. TRAINING AND AWARENESS

Awareness information regarding the management of flora and specially the protection of the DRF *E.resinosa* is provided in the general site induction, toolbox meetings and pre-start meetings. Additional area specific training is undertaken where required.

Awareness information is also provided via alert and posters on noticeboards.

6. PERFORMANCE MONITORING

The following monitoring will be undertaken:

- Weekly inspection of saline water pipelines;
- Annual recording of *E. resinosa* plant numbers and location, density, cover and health.
- Quarterly photopoint monitoring every 50 m along the southern boundary of the IWL;
- An annual report detailing monitoring and other activities at the translocation sites will be developed and submitted to DBCA on an annual basis
- EFA monitoring (once rehabilitation is completed).
- Existing weed populations are monitored and controlled where required;
- Inspections by regulatory bodies such as the DWER and DMIRS;
- Regular area inspections; and

7. AUDITING AND REPORTING

This management plan will be audited and revised where required. The key management actions identified in Table 1 will be the basis for this audit.

The Edna May internal reporting system of INX will record any incidents relating to the management of flora, including corrective actions.

The results of inspections, audits, incident reports and complaints received will be included in the AER submitted to the statutory authorities.

Breaches of licenses, permits or tenement conditions which result in an adverse effect on the environment will be reported to DWER or DMIRS as soon as practicable but no later than 5pm of the next working day and summarised in the AER. External reporting of incidents is the responsibility of the General Manager with assistance from the Environmental Department.

Compliance assurance audits will be undertaken by Ramelius on an annual basis and may include this Management Plan.



8. REVIEW AND REVISION

This plan will be reviewed on at least a two-yearly basis or in the case of the following:

- Following a relevant incident;
- Signification operational scope changes;
- Changes to legal or other obligations (including licences and approvals).

9. ROLES AND RESPONSIBILITIES

Position	Responsibilities
General Manager	Ensure appropriate resources are allocated to the implementation of this plan.
Environment Department	Monitor and review the implementation of this plan and provide advice where required.
All employees	Comply the requirements of this plan.

10. REFERENCES

10.1 INTERNAL DOCUMENTS

- **EMO Environmental Management Plan**
- **EMO Air Emissions Management Plan**
- **EMO Hydrocarbon and Dangerous Goods Management Plan**
- **EMO Fauna Management Plan**
- **EMO Water Management Plan**
- **EMO Topsoil Management Plan**
- **EMO Stormwater Management Plan**
- **EMO Clearing and Ground Disturbance Procedure**
- **EMO Skeleton Weed Procedure**
- **EMO Photo Point Monitoring Procedure**
- **EMO Topsoil Stripping Procedure**
- **EMO Weed Spraying Procedure**

Other relevant documents include:

- DWER Site Operating Licence L8422/2010/2
- DWER WWTP Licence L8811/2014/1
- Westonia Gold Mine Threatened Flora Management Plan, 2007 (Outback Ecology, 2007);
- Permit to Take applications / reports
- E. resinosa Annual Survey reports
- EMO Mine Closure Plan and

10.2 RELEVANT LEGISLATION

- *Biodiversity Conservation Act 2016*
- *Mining Act 1978*
- *Work Health and Safety Act 2020*
- *Environmental Protection Act 1986*
- *Conservation and Land Management Act 1984*
- *Environmental Protection Regulations 1987*



- *Soil and Land Conservation Act 1945*
- *Environmental Protection and Biodiversity Conservation Act, 1999*

11. DEFINITIONS

Term	Definition
Actively Cleared	Remnant bushland and historically cleared areas that have been cleared legally as part of the development of the Edna May project. For example, the plant site, ROM and IWL.
Clearing Permit	Permit received from the Department of Mines, Industry, Regulation and Safety (DMIRS) Native Vegetation Branch to undertake clearing of specified areas.
Declared Rare Flora (DRF)	Threatened flora, which are native plant species that are at risk of extinction.
Ground Disturbance	Ground disturbance is any activity occurring on ground within the Project area that will result in the loss of vegetation. Examples of ground disturbance include: <ul style="list-style-type: none"> • Excavation • Removal of vegetation, topsoil, subsoil or gravel • Grading of a natural ground surface • Alteration of a surface water flow path • Creation of an exploration track • Driving vehicles off authorised roads and access tracks. Note that a dig permit may also be required for any excavation greater than 300 mm.
Ground Disturbance Form	Internal documentation to monitor and record clearing /ground disturbance and to minimise clearing incidents.
Historically Cleared Area	Areas that were previously cleared from historic mining but now supports vegetation regrowth. For example, vegetation on old waste dumps.
Remnant Vegetation	Ground covered by native vegetation in its natural state. This includes any vegetation that has had the ground disturbed around it. For example, an isolated large tree.
Weed	Any plant that requires some form of action to reduce its effect on the environment, economy, human health or amenity.

12. APPENDICES

12.1 CORRECTIVE ACTIONS TO MANAGED SIGNIFICANT WEED OUTBREAKS

The ex-farmland to be rehabilitated has historically been utilised for cropping (wheat, barley, canola) and pasture for sheep grazing. The site features a number of agricultural weeds given that has been the previous land use for a significant period of time. Of the comprehensive list of weed species occurring in the district, some of the more prevalent and common agricultural weeds which are present on the site and need to be controlled include:

- *Matricaria (Oncosiphon suffruticosum);*
- *Roly Poly (Salsola australis);*
- *Marshmallow (Malva parviflora);*
- *Annual rye grass (Lolium rigidum);*
- *Sowthistle (Sonchus oleraceus);*
- *Burr Medic (Medicago polymorpha);* and
- *Windmill grass (Chloris truncata).*



Flora Management Plan

EMO

Environment

Skeleton weed (*Chondrilla juncea*) occurs in the district and has been detected previously on the farm. However, surveillance activities and chemical control has successfully limited the weed and an ongoing programme continues to monitor for this weed and results are reported to DPIRD in February of each year.

Weed control is a key site preparation activity. Weed control of identified revegetation areas is commenced as early as possible and target grasses and broadleaf weeds. Spraying generally commences a year prior to planting and seeding providing the area isn't being cropped. A spray during winter and early spring in the year prior is sometimes followed by another application in late summer if there has been sufficient rainfall for a germination. A follow-up weed spraying campaign is completed again in March / April, and then once more immediately prior to direct seeding, however again it is entirely rainfall-dependent.

Weed spraying in the year prior to seeding and planting generally consists of applying a non-selective chemical and applied by a tractor-mounted or towed agricultural boom spray. Weed applications are intended to preserve soil moisture and reduce competition between plants. Broadacre spraying of the site will take place on an as-needed basis post-planting and seeding and most successfully applied after the first rainfall event (>5 mm).