



LUNDSTROM ENVIRONMENTAL CONSULTANTS PTY LTD

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WEED MANAGEMENT PLAN

Prepared for B&J Catalano Pty Ltd
for Lots 4 and 5 Ludlow Rd, Myalup, Shire of Harvey

1. INTRODUCTION

This Weed Management Plan (WMP) has been prepared in accordance with guidelines published by the Department of Agriculture and Food (DAF) (DAF 2014). This WMP should be read in conjunction with the report entitled "*Extractive Industries Licence Application and Environmental Management Plan (2018), Lots 4 and 5 Ludlow Road, Myalup*", prepared for B & J Catalano Pty Ltd by Lundstrom Environmental Consultants Pty Ltd.

2. LOCALITY AND OWNERSHIP

Locality: Lots 4 and 5 Ludlow Road, Myalup, Shire of Harvey
Ownership: Geoffrey Thomas Pearson T/A
Pearson Nominees Pty Ltd

Figure 1 shows the existing and proposed extraction areas with a recent aerial photograph showing the property and its surrounds.

3. THE DEVELOPMENT PROPOSAL

B & J Catalano Pty Ltd has been operating a limestone extraction operation in the area since 2009. This development proposal will expand the existing operation westward by an additional 25ha. Upon completion of extraction, the area will be returned primarily for use as pasture for cattle grazing.

4. RESPONSIBILITIES

B & J Catalano Pty Ltd accepts responsibility for weed management within the extraction areas and any areas identified within the conditions of approval set by the Shire of Harvey. All other areas on the property will remain the responsibility of the landowner.

5. CURRENT WEED STATUS OF THE PROPERTY

Two weed species present on land surrounding the site **Gomphocarpus fruticosus* (Cotton Bush) and **Solanaum linneanum* (Apple of Sodom) are declared under the *Biosecurity and Agriculture Management Act 2007*, and therefore have required control methods associated with them (DAF 2014) (Appendix 1).

6. PROPOSED WEED MANAGEMENT ACTIONS

The following is a general description of the actions that will be implemented by B & J Catalano Pty Ltd for weed management:

6.1 Weed Management Zones on the Subject Land

For the purpose of this WMP, the subject land has been allocated zones as follows:

Zone A: This is all the land within the active extraction area and includes the base of the excavation, roadways and stockpiles of topsoil, overburden and all product stockpiles.

Zone B: This is all land that is at natural level and which extends 100 meters beyond the perimeter of the active extraction areas and includes any stockpiles of soil or overburden created by the excavation.

6.2 Weed Emergence Monitoring

Monitoring of the emergence of weeds in Zones A and B will be undertaken by an experienced and licensed weed management contractor on a six monthly basis i.e. after the first seasonal rains and at the end of spring. In addition, B & J Catalano Pty Ltd personnel on site will be instructed to report any weed infestations that may occur on other occasions. Based on the type of weed that emerges, a control plan will be formulated by the licensed weed management contractor.

6.3 Import and Export of Weeds

All plant and equipment either entering or leaving the site will be clean and free of any soil. Any quarry products imported to the site will be free of weeds.

6.4 Weed Control Program

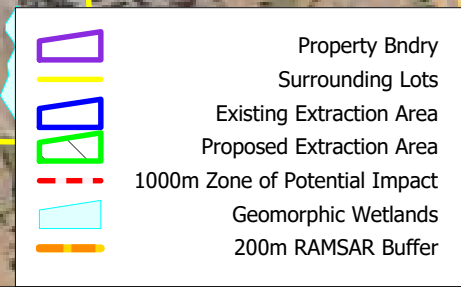
If a weed infestation occurs within Zones A and B the licensed weed management contractor will apply the appropriate method of control, in accordance with the guidelines published by the DAF, whether chemical or mechanical, at the appropriate time. Any chemical control will take careful consideration of the close proximity of Lake Preston. The weed management contractor will keep a record of all treatments.

7. REFERENCES

Department of Agriculture and Food (DAF) (2014). Department of Agriculture and Food WA Guidelines for weed control procedures for extractive industries licence.

Department of Primary Industries and Regional Development – Agriculture and Food. Western Australian Organism List (WAOL) - <https://www.agric.wa.gov.au/bam/western-australian-organism-list-waol>.

FIGURES



**Lundstrom Environmental
Consultants Pty Ltd**

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Scale: 1:21000
Original Size: A4
Air Photo Date: Nearmap Jan 2018
Datum: Australian Geocentric 1994 (GDA94)

**B&J Catalano Pty Ltd
Lots 4 & 5 Ludlow Rd
Limestone Extraction**

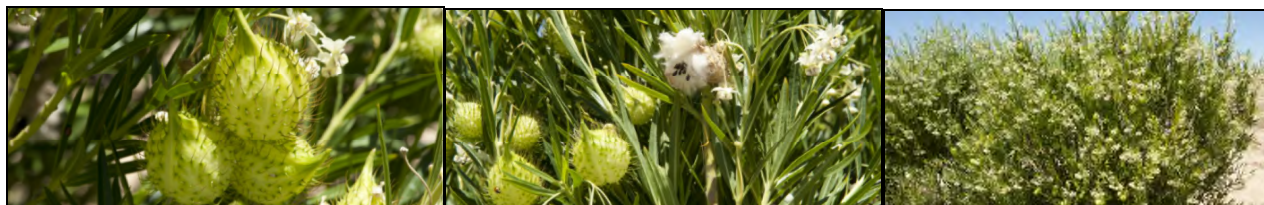
Property & Surrounds

Figure 1

APPENDIX 1
CONTROL METHODS FOR COTTON BUSH AND APPLE OF SODOM

Narrow leaf cotton bush control

Control methods for narrow leaf cotton bush (*Gomphocarpus fruticosus*), C3 Management.



| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Search | | | | | | | | | | | | |
| Germination: any time in warm, moist conditions | | | | | | | | | | | | |
| Actively growing | | | | | | | | | | | | |
| Flowering | | | | | | | | | | | | |
| Fruiting | | | | | | | | | | | | |
| Manual removal: use protective gear/gloves | | | | | | | | | | | | |
| Treatment: while actively growing | | | | | | | | | | | | |

Table Note: a faded icon means occasionally, WA Department of Primary Industry and Regional Development – Agriculture and Food

| | |
|-------------------------------|--|
| Recommended herbicides | When actively growing: spring to December Glyphosate; Triclopyr |
|-------------------------------|--|

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|--|--|
| Herbicide: Glyphosate (Group M) | |
| Active ingredient | 100, 360, 450, 470-480, 490, 500, 517, 540, 570g/L; 680, 700, 840 and 875g/kg glyphosate |
| Rate of product/ha | 1:100 for 360 g/L formulation |
| Rate of product/10L water | 100mL for 360g/L formulation 80mL for 450g/L formulation |

| Herbicide: Glyphosate (Group M) | |
|---|--|
| Rate of product/10L water cont'd | 70mL for 490/500g/L formulation 65mL for 540g/L formulation 50g for 680g/kg formulation Adjust rates for other formulations of glyphosate |
| Rate of product/ha | Not recommended |
| Wetting agent | Wetting agent and/or summer spraying oil may be beneficial |
| Time of application | When actively growing: September-December before fruit forms |
| Remarks | <ul style="list-style-type: none"> • Glyphosate is effective on mature bushes, regrowth and seedlings, provided good coverage is achieved. • Where low volume/low pressure pumps are being used the rates should be doubled. • Slash established bushes during winter, and burn, cultivate or grub seedlings and regrowth. • Roundup Biactive® or Razor® preferred treatment in wet areas or along water courses near shallow water. • The addition of 1g of metsulfuron/100L of water has also given improved control. |
| Triclopyr (Group I) | |
| Active ingredient | 600g/L triclopyr. A 755g/L formulation also available. |
| Rate of product/10L water | 30mL |
| Wetting agent | Use crop-oil such as Uptake® @ 500 mL 100 L, or DC-Trate @ 1L/100L |
| Time of application | Spring-December |

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| Triclopyr (Group I) | |
| Remarks | <ul style="list-style-type: none">• Use in place of glyphosate when annual pastures are still growing to avoid damage to grasses.• Other products containing triclopyr and picloram are also reasonably effective but further work is required.• Dicamba is effective on seedlings. |

Apple of Sodom control

Control methods for apple of Sodom (*Solanum linnaeanum*).



| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Search | | | | | | | | | | | | |
| Germination | | | | | | | | | | | | |
| Actively growing | | | | | | | | | | | | |
| Flowering | | | | | | | | | | | | |
| Fruiting | | | | | | | | | | | | |
| Treatment: while actively growing | | | | | | | | | | | | |
| Manual removal | | | | | | | | | | | | |

Table Note: a faded icon means occasionally, WA Department of Primary Industry and Regional Development – Agriculture and Food

| | |
|-------------------------------|--|
| Recommended herbicides | Amitrole T®; Triclopyr; Glyphosate; Picloram + 2,4-D amine |
|-------------------------------|--|

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| Herbicide: Amitrole T®, Weedeath® (Group F) | |
| Active ingredient | 250g/L amitrole + 220g/L ammonium thiocyanate |
| Rate of product | 1:100 |
| Amount of product/10L water | 100ml |
| Rate of Product/ha | Not recommended |

| | |
|---|---|
| Herbicide: Amitrole T® , Weedeath® (Group F) | |
| Wetting agent dilution | 1:600 |
| Time of application | Almost any time of year — spring and summer preferred |
| Remarks | <ul style="list-style-type: none"> • Mature plants killed by single treatment but follow-up needed when new seedlings emerge. • Grub and burn large plants: remove roots also. • Control of seedlings may be necessary for several years. • Brush off® (metsulfuron) @ 10-20g/100L effective in trials. |
| Herbicide: Triclopyr (Group I) | |
| Active ingredient | 600g/L triclopyr 755g/L triclopyr available |
| Amount of product/10L water | 30mL 24mL |
| Rate of dilution for spot spraying | 1:300 |
| Time of application | When actively growing (spring - summer) |
| Wetting agent | 1:400 + summer spraying oil @ 1:400 may be used |
| Remarks | <ul style="list-style-type: none"> • Grub and burn large plants: also remove roots. • Control of seedlings may be necessary for several years. • Brush off® (metsulfuron) @ 10-20g/100L effective in trials. |
| Herbicide: Glyphosate (Group M) | |
| Active ingredient | 360, 490/500 & 540g/L and 680g/kg glyphosate |

| Herbicide: Glyphosate (Group M) | |
|--|---|
| Rates of dilution for spot spraying | 1:100 for 360g/L formulation |
| Amount of product/10L water | <p>100mL for 360g/L formulation</p> <p>70mL for 490/500g/L formulation</p> <p>65mL for 540g/L formulation</p> <p>50g for 680g/kg formulation</p> <p>Other concentrations of glyphosate available. Adjust rates if using them.</p> |
| Rate of product/ha | Not recommended |
| Time of application | When actively growing spring, summer |
| Remarks | <ul style="list-style-type: none"> • Not as effective as other treatments. • Addition of the wetting agent/penetrant Pulse® @ 1:500 may increase the effectiveness. |
| Herbicide: Picloram + 2,4-D amine (Group I) | |
| Active ingredient | 75g/L picloram + 300g/L 2,4-D |
| Rates of dilution of spot spraying | 1:300 - 1:150 |
| Amount of product/10L water | 30mL - 65mL |
| Wetting agent dilution | 1:400 |
| Time of application | Flowering to early fruiting |
| Remarks | Residual effects of picloram will persist for one to two seasons, depending on rates, affecting legumes but not grasses. |

