



**FORMER RUM JUNGLE MINE SITE
5 YEAR WEED MANAGEMENT PLAN**

July 2011



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1.0 INTRODUCTION

The management of weeds has special significance to the sustainability of industries, protection of the environment and to community welfare in the Northern Territory (NT Weed Management Strategy 2001).

Weed management is a long-term process. In general the life cycle of weeds can be successfully interrupted in approximately 3 - 5 years. Sufficient changes in weed infestation should occur within that time frame to enable a revised management approach.

Development of the 5 Year Weed Management Plan for the former Rum Jungle Mine Site has drawn upon history and the present status of weed infestations at the Mine Site and the surrounding region. Understanding the growth cycle, dispersal and colonisation mechanisms of weeds and efficient methods of disrupting these are key elements of the Plan. The biological context these infestations occur in, such as native vegetation, landscape processes and land use specific to the former Rum Jungle Mine Site are also important.

It is vital to address the cause of weed infestations rather than simply adopting a 'bandaid' management approach. Recurrence of infestations will continue until the causes of dispersal are mitigated. A key strength of the Plan is that it represents a mechanism for integrated weed management. The long-term planning not only allows for effective weed treatment, but also consideration of other broad environmental issues such as erosion, fire and land management practices that often contribute to problem infestations.

The 5 Year Plan is split into two strategies. The Weed Treatment Strategy represents the eradication and control of individual weed infestations through chemical, physical and fire treatments. Prioritisation is the foundation of this strategy, which will ensure strategic and focussed allocation of available resources. The Weed Prevention Strategy is designed to reduce the amount of weed introductions onto the former Rum Jungle Mine Site and the spread of existing infestations through education and awareness programs.

Guideline implementation standards and methodologies have been developed for the 5 years. These incorporate the timing, type, application, and safety procedures of treatment as well as data collection standards and development of education programs. Specific evaluation and monitoring procedures have been detailed to ensure standardisation of data management and analysis.

This Plan will form the basis of each year's weed management implementation, which will entail the objectives and methodology specific to that year's weed management implementation. The short-term objectives for each year will collectively accomplish the long-term objectives of the 5 Year Weed Management Plan.

1.1 LOCATION AND SITE DESCRIPTION

The former Rum Jungle Mine Site is located 105km by road, south of Darwin, near Batchelor in the Northern Territory. The former Rum Jungle Site, Section 2968 Hundred of Goyder, comprises of an area of approximately 655 hectares. Uranium, copper, nickel and lead were mined at various times between 1954 and 1971. The mining operations led to significant environmental impact, primarily from the long-term generation of acid mine drainage. At the time when the former Rum Jungle mine was initiated, present environmental standards and legislation did not exist and the possible environmental consequences of mining operations received less attention than now.

On 7 October 2009 the Territory and Commonwealth Governments entered into a *National Partnership Agreement (NPA) on the management of the former Rum Jungle Mine Site*. Under the NPA, the Department of Resources (DoR) will project manage a range of site maintenance activities, environmental monitoring programs and commission investigative studies to develop an updated remediation strategy for the site by June 2013.

The site is extensively infested with exotic and weed species with at least 22 weed species currently known to occur on the site; as surveyed by Wildman Land Management (WLM) in November/December 2010 and April 2011.

1.2 PROBLEM DEFINITION

Weed management is an essential part of land management in northern Australia. Poorly managed weeds can have serious environmental consequences:

- a. Changing hydrology/water quality;
- b. Altering natural ecosystems;
- c. Loss of biodiversity;
- d. Changing fire regimes and creating increased fire hazards;
- e. Displacing native vegetation;
- f. Harboursing feral animals; and
- g. Reducing accessibility to areas.

Two comprehensive weed surveys were conducted at former Rum Jungle Mine Site in November /December 2010 and April 2011.

A total of twenty-two weed species were observed and identified during the weed surveys (refer Table 1). The species of greatest concern at the site are Gamba Grass and Mimosa given their classification and high density. Other high priority species of major concern include Mission Grass, Olive Hymenachne, Coffee Bush, Hyptis and Grader Grass due to their invasive nature. Mimosa and Olive Hymenachne are both considered a Weed of National Significance (WONS). Gamba Grass is deemed as Class A, B and C, but due to the fact that the former Rum Jungle Mine Site is situated within the Northern Gamba Grass Management Zone, it is deemed as Class B and C.

Introduced pasture grasses are rated as the most insidious and uncontrolled threats to the native vegetation communities of northern Australia (Lonsdale 1994). These highly invasive and competitive grasses are tall vigorous species that displace native communities and greatly increase the impact of fire on open woodland communities.

Under the Northern Territory Weeds Management Act, weeds in the Northern Territory are divided into the following classes:

- **Class A: To be eradicated** (Reasonable effort must be made to eradicate the plant within the NT);
- **Class B: Growth and spread to be controlled** (Reasonable attempts must be made to contain the growth and prevent the movement of the plant); and
- **Class C: Not to be introduced into the NT** (All Class A and B are also classified as Class C).

The main weed threats at the former Rum Jungle Mine Site are the introduction of weeds from neighboring properties and spread along creeks and associated drainage lines.

Ground maintenance, including contaminated vehicles and the movement of contaminated soil, are also responsible for weed introduction and spread.

1.3 LEGISLATIVE FRAMEWORK

The former Rum Jungle Mine Site operates under a range of environmental legislation. The overriding document that details the operational framework under which Rum Jungle is managed is the *National Partnership Agreement (NPA) on the management of the former Rum Jungle Mine Site*. Under the NPA, the Department of Resources (DoR) will project manage a range of site maintenance activities.

Commonwealth legislation relevant to the Rum Jungle Weed Management Plan includes:

- *Environment Protection and Biodiversity Conservation Act 1999;*
- *National Environment Protection Council Act 1994;* and
- *Endangered Species Protection Act 1992.*

Northern Territory legislation relevant to the Rum Jungle Weed Management Plan includes:

- *NT Weed Management Act 2001;*
- *NT Weeds Management Strategy (1996-2005);*
- *NT Water Act;*
- *NT Soil Conservation and Land Utilisation Act;*
- *NT Aboriginal Sacred Sites Act 2000;*
- *NT Dangerous Goods Act 1981;*
- *NT Waste Management and Pollution Control Act 1998;*
- *NT Poisons and Dangerous Drugs Act;* and
- *NT Work Health Act 2002.*

The Rum Jungle Weed Management Plan is developed in accordance with the above statutory requirements and incorporates aspects of other legislation deemed to be appropriate. The weeds contractor is responsible for implementing weed management at Rum Jungle in accordance with all relevant legislation.

1.4 OBJECTIVES

The objectives of the 5 Year Weed Management Plan are to:

- Collate existing data (including recent survey data) and summarise the existing weed problems at the former Rum Jungle Mine Site for each Weed Management Area;
- Identify data deficient areas and provide recommendations for future research;
- Develop long-term weed management strategies (preventive and reactive) for 5 years that aims to:
 - a) Ultimately eradicate or reduce the distribution and density of weed species at the former Rum Jungle Mine Site;
 - b) Maintain the integrity of weed free areas; and
 - c) Prevent further introduction of weed species.
- Develop implementation standards and methodologies that will form the foundation of each year's implementation that:
 - a) Prioritise Weed Management Areas for weed control;
 - b) Develop management objectives for each Weed Management Area including yearly treatment regimes to accomplish these;

- c) Detail evaluation and monitoring methods; and
- d) Provide a guideline schedule for each year's implementation.

2.0 PLANNING

2.1 DESKTOP ANALYSIS

To assess the past and present status of weed infestations at the former Rum Jungle Mine Site and to determine an appropriate management strategy the following documents were reviewed and analysed:

- WLM Rum Jungle weed survey data 2010/2011;
- Published weed literature, including books, journal papers and Agnotes; and
- Consultation with the former Rum Jungle Mine Site Project Coordinator.

An overview of the key findings from these documents is presented below.

2.1.1 Weed Survey Reports

The Rum Jungle Weed Survey Report 1 and 2 formulate the basis of the Rum Jungle 5 Year Weed Management Plan. The site has been divided into four management areas to assist in the implementation of weed treatment. Weeds are widespread throughout the site with Gamba Grass (*Andropogon gayanus*) being the most predominant species, accounting for almost fifty percent of all recorded weed sites. Mimosa (*Mimosa pigra*) infestations were observed in Management Areas 1 and 4 and Olive Hymenachne (*Hymenachne amplexicaulis cv Olive*) infestations were recorded in Management Areas 2 and 4.

Drainage lines and catchment areas are a major source of weeds being spread throughout the property. Catchment strategies recommended in the Plan relevant to weed management on Rum Jungle are as follows:

- Consolidate and expand remnant native bushland areas into areas that are degraded. Stabilise degraded areas and undertake spot removal of highly invasive grass species; and
- Implement a weed control program for gradual removal of weed species from remnant vegetation.

A major project component of high priority of the Plan is to implement a weed control program alongside regeneration and revegetation programs.

2.1.2 Published Weed Literature

Published weed literature, particularly Department of Resources, *Weed Management on Mine Sites* (2010); Department of Business, Industry and Resource Development (DBIRD) – Agnotes; NRETAS Weed Management Branch (2009); Department of Primary Industries Queensland - DPI notes; *Weeds of Natural Ecosystems* (Smith 2002); *A Weed Management Strategy for Kakadu National Park 1996-2001* (Storrs 1996) and *Weeds of the Wet / Dry Tropics of Australia, A Field Guide* (Smith, 2002), Florabase WA (1993), Tropical Forages (2005) and Herbiguide (2010) were the sources of the majority of weed treatment methods.

Legislation and the weed literature were used as the primary guides to prioritising weed species.

2.2 SURVEYS

As part of the RFQME – 0069 former Rum Jungle Mine Site Scope of Works (SoW), two intensive weed surveys were carried out in November / December 2010 and April 2011 to identify and record weed infestations present at different stages of growth due to change in the seasons.

Ground and aerial surveys were carried out across the former Rum Jungle Mine Site, excluding registered Sacred Sites and Monsoon Vine Thicket located along the western boundary. Each observer recorded the GPS location, weed species, density and diameter of identified weed infestations. Surveys were conducted along the road verges, tracks, fencelines, disturbed areas, woodlands, drainage and creeklines to ensure a complete coverage of the survey area. Transects spaced 100m apart were implemented systematically using quad bikes.

The data was overlaid onto a topographical map featuring observed weed species and GPS locations. The presentation of data in map form provides a visual representation of weed distribution across the former Rum Jungle Mine Site and will assist in the development of a specific Weed Management Plan.

It is possible that some weed infestations have been missed during the survey due the dense weed populations and some inaccessible areas.

Map 2 – Rum Jungle Mine Total Weed Sites (Page 41).

2.3 LIAISON AND CONSULTATION

To ascertain the context of weed management at the former Rum Jungle Mine Site, the weed problems of the region, and contemporary treatment methods, liaison and consultation with a variety of individuals and organisations was conducted.

2.3.1 External Consultation

Consultation with the DoR regarding weed legislation, local and regional weed management strategies and technical information on weed species and control methods was conducted.

As a source of technical information the Natural Resources, Environment, The Arts and Sports (NRETAS) Agnote series on weeds was particularly useful.

Liaison with the fire management contractor will be required to determine the feasible levels of fire and weed management integration. Determination of locations, timing and intensity of burns will be essential to successful burning regimes for weed control.

2.3.2 Internal Administration

Liaison and coordination with internal administration regarding the Weed Prevention Strategy was conducted (see Section 2.5). This included:

- DoR Contract Manager; and
- Ground maintenance staff.

2.4 WEED TREATMENT STRATEGY

Preventing the introduction of weeds onto the former Rum Jungle Mine Site and the spread of existing weeds into weed free areas are important preventive elements of weed management. With this in mind the Plan has been divided into two strategies. The Weed Treatment Strategy represents the chemical, physical and fire treatment of weed infestations and the Weed Prevention Strategy aims to prevent the introduction and spread of weeds.

The Weed Treatment Strategy not only aims to eradicate high priority weeds and restrict the distribution and abundance of low priority weeds, but also to maintain weed free areas. The strategy is systematic and focused upon early detection and efficient treatment. Treatment of infestations is of paramount importance due to the rapid escalation of infestation size and density if allowed to seed.

2.4.1 *Weed Species to be Managed*

The Rum Jungle Weed Surveys were conducted in November/December 2010 and April 2011 and categorised according to the NRETAS weed classification system. A total of 22 weed species have been identified at Rum Jungle.

Previous weed surveys were conducted by NRETAS in June 2009. The results of this survey were not available for review prior to writing this Weed Management Plan and were superseded by the recent survey works referred to throughout this document.

Table 1 is a list of all weeds identified at Rum Jungle during these surveys and there attributed classification as per NRETAS specifications. Different weed species present varying levels of environmental problems and maintenance issues.

Table 1 – Rum Jungle Mine Site Weed Species Recorded 2010/11

Common Name	Scientific Name	Class
Calopo	<i>Calopogonium mucunoides</i>	Unclassified
Candle Bush	<i>Senna alata</i>	B, C
Centro	<i>Centrosema pubescens</i>	Unclassified
Coffee Bush	<i>Leucaena leucocephala</i>	Unclassified
Flannel Weed	<i>Sida cordifolia</i>	B, C
Gamba Grass	<i>Andropogon gayanus</i>	B, C
Grader Grass	<i>Themeda quadrivalvis</i>	B, C
Guinea Grass	<i>Urochloa maxima</i>	Unclassified
Hyptis	<i>Hyptis suaveolens</i>	B, C
Leaf Flower	<i>Phyllanthus</i> species	Unclassified
Mimosa	<i>Mimosa pigra</i>	A, B, C, WONS
Mission Grass	<i>Pennisetum polystachion</i>	B, C
Olive Hymenachne	<i>Hymenachne amplexicaulis</i> cv Olive	B, C, WONS
Paddy's Lucerne	<i>Sida rhombifolia</i>	B, C
Para Grass	<i>Brachiaria mutica</i>	Unclassified
Phalaris	<i>Phalaris aquatica</i>	Unclassified
Red Natal Grass	<i>Melinis repens</i>	Unclassified
Spiny Head Sida	<i>Sida acuta</i>	B, C
Snakeweed	<i>Stachytarpheta australis</i>	B, C
Stylo	<i>Stylosanthes hamata</i>	Unclassified
Tully Koronivia Grass	<i>Brachiaria humidicola</i> cv Tully	Unclassified
Wild Passion Fruit	<i>Passiflora foetida</i>	Unclassified

NT Weeds Management Act 2001 declarations:

Class A Noxious Weeds - To be eradicated.

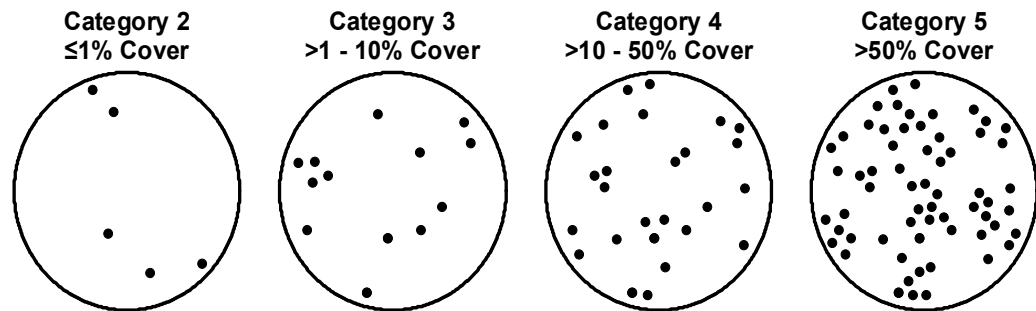
Class B Noxious Weeds - Growth and spread to be controlled.

Class C Noxious Weeds - Not to be introduced into the NT.

All Class A and B weeds are also Class C weeds.

WONS – Weed of National Significance

Weed species identified have been classified using NRETAS classification system as demonstrated below.



Size of infestation was recorded base upon NRETAS classification, which is as follows:

- 5 metres in diameter;
- 20 metres in diameter;
- 50 metres in diameter; and
- 100 metres in diameter.

Coordinates were recorded in WGS84 – decimal degrees using GPS units.

2.4.2 Weed Species

Weed infestations have the potential to cause serious environmental degradation at the former Rum Jungle Mine Site. These are the focus of the Rum Jungle Weed Management Plan with the aim of ultimately eradicating species from the facility.

Weed species encountered at Rum Jungle declared under the *NT Weeds Management Act 2001* and other recognised serious environmental weeds have been listed for control. The current and potential impact of these species has been considered.

A brief summary of the weeds species identified during the surveys is as follows:

Calopo (*Calopogonium mucunoides*)

Calopo is an annual leguminous vine with twining stems covered in yellowish hairs. Leaves have 3 densely hairy leaflets. Flowers (April - August) are small pea shaped, blue-purple and yellow-green towards the center. Pods (June - October) are pale brown, straight and densely hairy containing 5-7 pale brown or yellow seeds. Native to tropical America it was introduced as a pasture species and now inhabits tropical areas of NT and Queensland where populations are rapidly expanding. It is an extremely vigorous climber that smothers supporting vegetation. Its seed is dispersed by in mud adhering to vehicles and stock.

Candle Bush (*Senna alata*)

Candle Bush is an evergreen shrub up to 4m tall. It has short pithy stems and leaves with 8-11 pairs of large, oblong leaflets. The bright yellow flowers are followed by winged pods, which can be spread by animals and humans. Candle Bush is a weed in many tropical countries and was introduced to Darwin as an ornamental garden plant. It is now naturalised in the Northern Territory particularly in areas with a high water table. It is also naturalised in Queensland

and Western Australia. It has a tough rootstock and plants sucker when damaged. It is grown as a garden and indoor plant. Candle Bush is declared a Class B and Class C weed in accordance with the *NT Weeds Management Act*.

Centro (*Centrosema pubescens*)

Native to South America, Centro is a vigorous twining perennial herb now an established pasture plant. Centro forms a tangled mat about 50cm deep or grows up shrubs to 3m with leaflets about 2cm long and 1-1.5cm wide and covered with fine downy hairs, large mauve pea flowers grow in groups of one to several at the end of slender stalks from the leaf axils pods are long, 7.5-15cm, flat and brown when ripe, holding up to 20 brownish-red seeds with black streaks.

Coffee Bush (*Leucaena leucocephala*)

Coffee Bush is a small tree that grows to 6m. It spreads by seed of which it produces vast quantities. The thin, flat pod may be dispersed short distances by wind but many seeds fall close to the parent plant. A native of Central America, it is now found in most tropical and subtropical countries. It is a common weed in suburban Darwin and most coastal settlements.

Flannel Weed (*Sida cordifolia* L.)

Annual or short-lived perennial woody shrub that grows up to 1.5m. Leaves are bright green and flowers are pale yellow appearing from April to September. Common in disturbed and degraded areas, it will displace native vegetation. The plant possesses a well developed tap root. It is widely distributed across northern Australia and once established, it is very difficult to contain or control. Flannel Weed is declared a Class B and Class C weed in accordance with the *NT Weeds Management Act*.

Gamba Grass (*Andropogon gayanus*)

Gamba Grass is a tall perennial grass that forms large dense tussocks up to 4m in height and 70cm in diameter. It has the potential to reduce biodiversity in woodland in the Top End by competing with native vegetation and creating more intense fires. These fires impact on the tree canopy, sometimes killing the tree, even in species that are relatively fire resistant. Gamba Grass is declared a Class B and C weed in accordance with the *NT Weeds Management Act*. Rum Jungle Mine Site falls within the Northern Gamba Grass Management Zone.

Grader Grass (*Themeda quadrivalvis*)

Tufted annual or perennial grass that grows up to 2m tall, often growing in dense patches. Mature plants are golden in appearance. Large seeds are produced in prolific numbers and are distributed by attaching to clothing, fur, etc. Road graders have also been responsible for spreading seed along roadways. Machinery and vehicles also disperse seed through carrying mud containing seed. Can invade native pastures and grassland and seriously reduce diversity. Grader Grass is Class B and Class C Noxious Weed under the *NT Weeds Management Act*.

Guinea Grass (*Urochloa maximum*)

Guinea Grass is a tall perennial grass that forms dense tussocks. Its leaves are broad, flat and long; they taper to a fine point. The leaf blades and sheaths have soft hairs. Flowering stalks of taller varieties can reach 3 to 4m in height. Seeds are small, numbering 2.4 million/kg. Leaves are mainly basal, flat and mostly hairy. Seeds prolifically and germinates close to parent plant. Favours wetter areas, along roadsides and disturbed areas. Guinea Grass is a native of tropical

and sub-tropical Africa. It is suited to areas with an annual rainfall of over 1100mm, but grows better with higher rainfall. There is naturalised "Darwin" Guinea Grass in the wetter areas around Darwin, along creeks and in low-lying areas.

Hyptis (*Hyptis suaveolens*)

Hyptis is an annual or perennial upright branched plant with a characteristic aromatic minty smell, generally growing 1 to 1.5m high, but at times reaches 2m. Under favourable conditions it can act as a perennial plant. Stems are square with opposite leaves, which are broader at the base than at the tip, varying from 2.5 to 7cm long and 1 to 5cm wide, with serrated margins. Small lavender blue flowers occur in clusters in the leaf axils. Seeds are dark brown to black in colour, shield shaped, 3.5 to 4mm long and 2.5 to 3mm wide. Hyptis is a native of South America and was first recorded in the Northern Territory by the explorer Leichhardt in about 1845. It is now widespread in the Darwin, Katherine, Gulf and Victoria River Districts. This weed is continuing to invade through natural spread and is a contaminant in hay, on livestock, clothing, native animals and vehicles. Hyptis is Class B and C Noxious Weed under the *NT Weeds Management Act*.

Leaf Flower (*Phyllanthus*)

Phyllanthus is the largest genus in the family Phyllanthaceae. *Phyllanthus* has a remarkable diversity of growth forms including annual and perennial herbs, shrubs, climbers, floating aquatics, and pachycaulous succulents. Some have flattened leaf like stems called cladodes. It has a wide variety of floral morphologies and chromosome numbers and has one of the widest range of pollen types of any seed plant genus.

Despite their variety, almost all *Phyllanthus* species express a specific type of growth called "phyllanthoid branching" in which the vertical stems bear deciduous, floriferous (flower bearing), plagiotropic (horizontal or oblique) stems. The leaves on the main (vertical) axes are reduced to scales called cataphylls while leaves on the other axes develop normally. *Phyllanthus* is distributed in all tropical and subtropical regions on Earth. Leaf Flower is the common name for all *Phyllanthus* species.

Mimosa (*Mimosa pigra*)

Mimosa is a *Weed of National Significance*. It is regarded as one of the worst weeds in Australia because of its invasiveness, potential for spread, and economic and environmental impacts. Mimosa forms dense stands that replace all native vegetation on the ecologically and economically valuable wetlands of the Top End of northern Australia. Mimosa invasion threatens the production, cultural and conservation values of wetlands, and reduces the scope for exploitation of resources by land users. Pastoralists are affected because the inedible and thorny Mimosa smothers and replaces grasslands, blocks access to stock watering points and hinders mustering. Additionally, the harvesting of bush foods by indigenous people is hampered by Mimosa. Mimosa is declared a Class A, B and C weed in accordance with the *NT Weeds Management Act*.

Mission Grass (*Pennisetum polystachion*)

Mission Grass is a tall perennial grass that displaces native vegetation and will occupy a number of different types of landforms and soil types. Mission Grass remains green longer than native vegetation and provides fuel loads for much

hotter fires than would normally occur and also changes savanna fire regimes to the detriment of native vegetation. Mission Grass is declared a Class B and C Noxious Weed.

Olive Hymenachne (*Hymenachne amplexicaulis* cv *Olive*)

Olive Hymenachne is a *Weed of National Significance*. It is a grass introduced from South America and tested as a species for ponded pastures. Olive Hymenachne appears almost identical to native Hymenachne, except for shorter and broader leaves. The stems are thick, and can be over 4m long, containing 10 or more nodes. Leaves are 15-30cm long and 2-3cm wide. The plant generally has a dark green appearance. The seed head is a spike 8-10cm long. It is not recommended for sowing as a pasture in the Northern Territory. Native Hymenachne is found on the black cracking clay soils in permanent swamps, on the margins of permanent water-holes and on the coastal and sub-coastal riverine plains of the Top End of the NT where flooding occurs for 6-12 months of the year. This species is Class B and C under the *NT Weeds Management Act 2001* and also declared a *Weed of National Significance*.

Paddy's Lucerne (*Sida rhombifolia* L.)

A perennial or sometimes annual plant in the Family Malvaceae. The stems are erect to sprawling and branched, growing 50 to 120 centimeters in height, with the lower sections being woody. The dark green, diamond-shaped leaves are arranged alternately along the stem, 4 to 8 centimeters long, with petioles that are less than a third of the length of the leaves. They are paler below, with short, grayish hairs. The apical half of the leaves have toothed or serrated margins while the remainder of the leaves are entire (untoothed). The petioles have small spiny stipules at their bases. This species is usually confined to waste ground, such as roadsides and rocky areas, stock camps or rabbit warrens, but can be competitive in pasture, as it is unpalatable to livestock. This species is Class B and C under the *NT Weeds Management Act 2001*.

Para Grass (*Brachiaria mutica*)

Para Grass is a coarse, vigorous, trailing perennial, which is useful for wet and flooded soils in the higher rainfall areas of the Top End of the Northern Territory. It has stout runners (stems, stolons) which branch and root readily at all nodes. The runners grow up to 5m long, but the sward grows only to a height of 1m. Leaves and leaf sheaths are generally hairy; leaves are 6-20cm long and 1-2cm wide. The seeds are small, numbering about 935 000/kg. Para Grass is a native of tropical Africa and South America. It was introduced into Australia in 1880, and into the NT between 1905 and 1910. It prefers annual rainfall of more than 1000 mm. Para Grass is tolerant of soil salinity. It will withstand flooding for a number of weeks provided some green material is above the water surface. Stands of Para Grass can thin out if flooded, grazed, cut very short or burnt.

Phalaris (*Phalaris aquatica*)

Phalaris is a perennial grass, better suited to moderate to high fertility soils. It is sensitive to acid soils and tolerates wet soils, flooding and moderately saline soils. A winter growing annual species in southern Australia that produces a bulk of useful pasture forage but is a major weed of winter cropping systems, particularly on heavy soils. Wild Phalaris emerges at around planting time and competes strongly with winter crops. It is able to set seed before most crops are ready for harvest. Found throughout the southern and central cropping areas of Australia.

Red Natal Grass (*Melinis repens*)

An attractive 1 to 2 foot tall perennial grass with reddish to purple flower spikes that grows in full sun and looks best with regular water, but also grows well on dry slopes and edges of roadways. It is a native of Africa that was introduced to Australia. It flowers throughout the year and has a distinctive red coloured flower head, which makes it attractive as an ornamental grass. It is short lived, but freely reseeds itself.

Spiny Head Sida (*Sida acuta*)

Annual or short-lived perennial woody shrub to 1.5m. Leaves are bright green and flowers are pale yellow appearing from April to September. Common in disturbed and degraded areas it will displace native vegetation. Well developed tap root. It is widely distributed across northern Australia and once established, it is very difficult to contain or control. This species is Class B and C under the *NT Weeds Management Act 2001*.

Snakeweed (*Stachytarpheta spp.*)

Snakeweed is a perennial shrub growing up to 2m with tough stems and woody roots. Leaves are fleshy, opposite and shallowly toothed. Flowers are mauve, blue, violet or purple. They flower and fruit all year round. They readily invade disturbed areas, such as roads, creeklines and monsoon vine forests where disturbed by feral animals. They can dominate and exclude the establishment of native species. Native to the tropical and subtropical Americas they occur in parts of tropical northern Australia. Seeds are dispersed by vehicles and other human activities related to gardening and fodder. Snakeweed is a Class B and C weed under the *NT Weeds Management Act 2001*.

Stylo (*Stylosanthes hamata*)

Caribbean Stylo is a native of the Caribbean Islands and Tropical Central and South America. It is an annual or a short-lived perennial herbaceous legume and well-adapted to a wide range of soil types in the Top End and has grown well on most, except on the heavier clay soils. In the Northern Territory, they behave either as a self-regenerating annual or a biennial plant. Up to 40 percent of plants survive from one wet season to the next. It is a multi-branched, semi-erect plant that grows to a height of 75cm. The stems have short white hairs down one side. The leaves are trifoliate; the leaflets are lanceolate in shape, generally 19 to 37mm long and 3 to 6mm wide.

Tully Koronivia Grass (*Brachiaria humidicola cv Tully*)

Tully is a strong creeping perennial, which roots vigorously from lower nodes and forms a dense matted sward. Leaf blades are 12-15cm long, expanded, rounded at the base, lanceolate and tapering to an acute point. They are 8-10mm wide. Flowering stems are erect, and up to 60cm high. There are 200,000 seeds per kilogram. Tully grass is a native of East and Southeast tropical Africa and has been widely used in Fiji. Koronivia is the Fijian name. It is suitable for areas receiving more than 1,000mm average annual rainfall.

Wild Passion Fruit (*Passiflora foetida*)

Wild Passion Fruit is an herbaceous vine covered in fine yellow hairs. Leaves are alternate and three lobed. Flowers are singular with purple to white petals and fruits are yellow-orange, fleshy and rounded 2-3cm across. Flowers/fruits all year round. It is widely distributed across northern Australia, is a widespread weed of

riparian areas of northern Australia. Its seed is spread by birds and water. This weed has the ability to choke out native vegetation.

Refer **Table 2** - Published Recommended Treatments for Weed Species Identified at Rum Jungle (Page 20).

2.4.3 Weed Management Structure

Weed Management Areas are parcels of land based on general landform or operational activities (ie infrastructure, roads etc) designed to assist in weed management planning, implementation and data analysis. The former Rum Jungle Mine Site has been divided into four Weed Management Areas (1 – 4) based predominantly on the existing access roads, creeklines and topography.

Delineation and prioritisation of the Weed Management Areas also took into account:

- Distribution and density of weeds;
- Priority status of weeds;
- Potential for weed introduction and establishment;
- Potential for control on a cost-effective basis;
- Potential boundaries to contain weeds and reduce spread from untreated areas;
- Sub-catchment boundaries to ensure upstream treatment before downstream; and
- Access to weed locations.

Prioritisation of Weed Management Area treatment is based primarily upon the priority status of the weed species located within. High and Low Priority weed species will be focused on throughout the 5-year plan.

2.5 WEED PREVENTION STRATEGY

Preventing the introduction of weeds onto Rum Jungle and the spread of existing weeds into weed free areas is an important form of weed management. Not only does it reduce the threat of new weed introductions, but also allows the Weed Treatment Strategy to focus on eradicating existing infestations.

To facilitate weed control beyond the Rum Jungle boundaries, liaison and coordination with adjacent landholders will be required by the Rum Jungle Environment Officer. The weeds contractor is to provide technical assistance to the Coordinator in developing effective strategies.

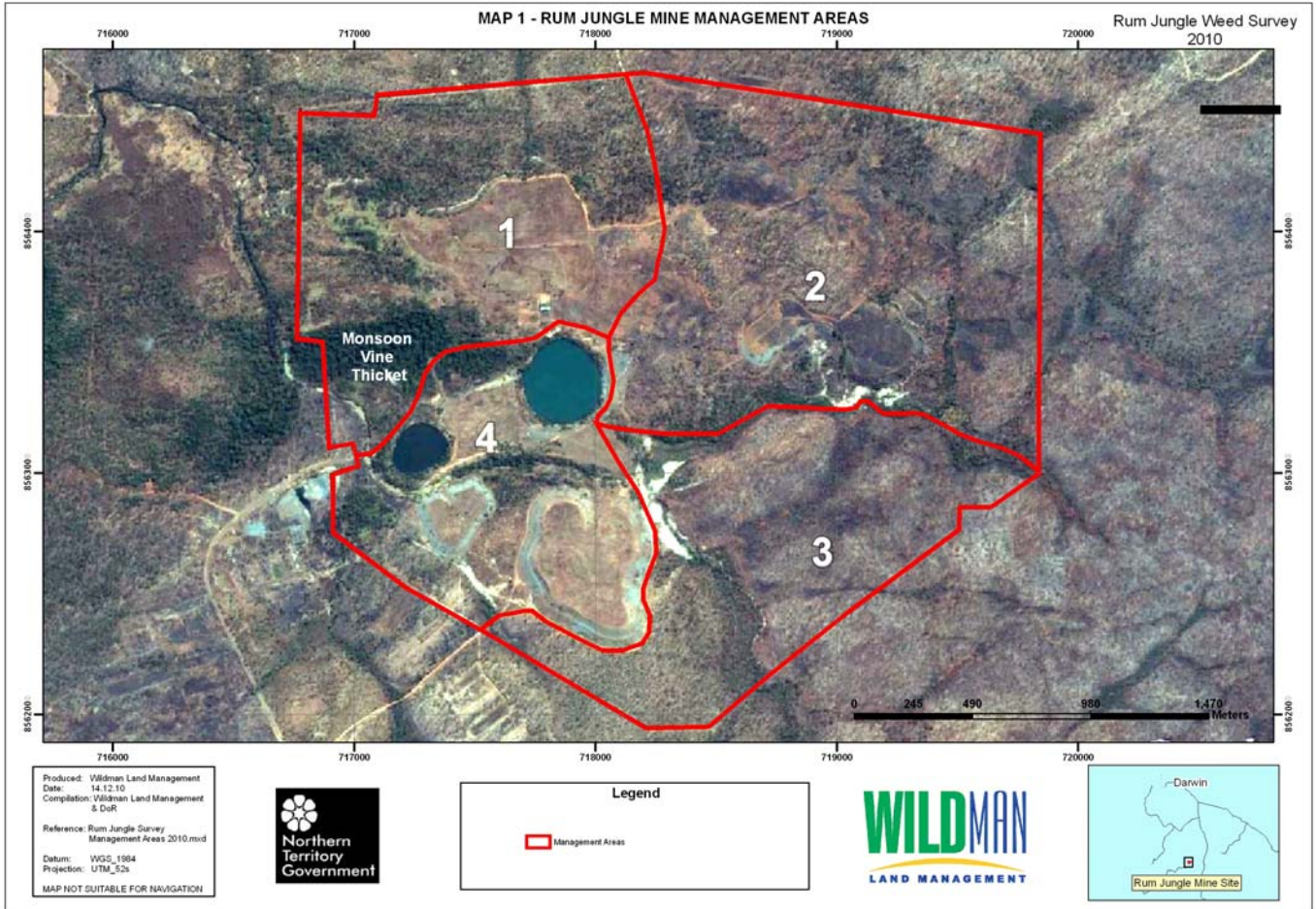
Infrastructure development and ground maintenance are the other major sources of weed introduction and spread through weed material (ie seeds) attached to machinery and vehicles used at other locations. The Weed Prevention Strategy consists of education and awareness programs aimed at enlisting the cooperation of internal staff and external contractors in preventing the introduction and spread of weeds.

To facilitate education and awareness several information packages should be developed and integrated under the former Rum Jungle Mine Site Environment Management System. These should include training, guides and briefings to internal ground maintenance staff and external contractors likely to be working in weed infested areas.

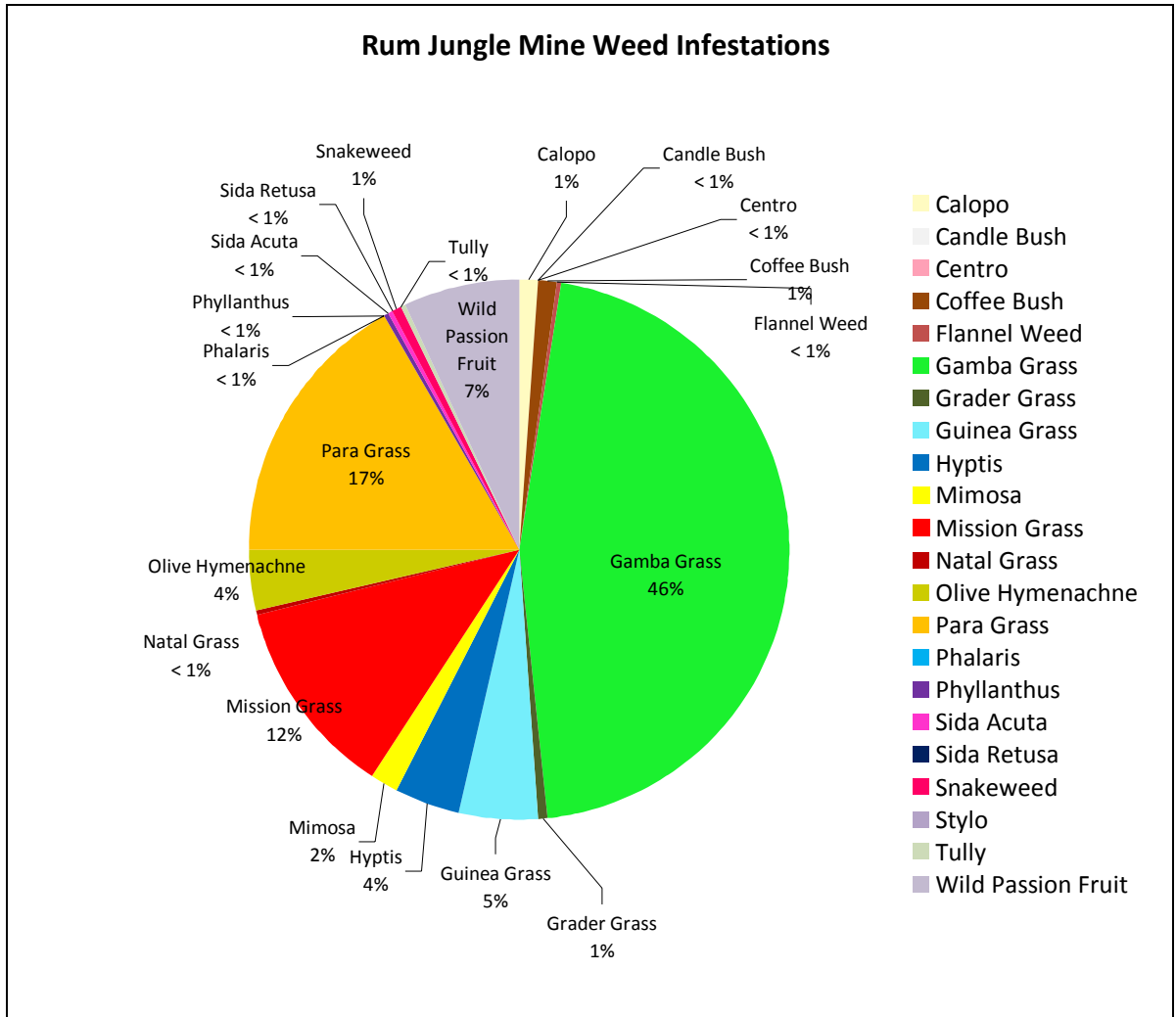
Posters displayed at prominent staff viewing positions are also recommended to further educate and aid in weed identification and therefore more effective management.

2.6 WEED MANAGEMENT AREAS

This section provides an overview of each Weed Management Area including the dominant vegetation community, weed infestations and management objectives/priorities for the 5 Year Plan.



A total of 22 weed species were identified and a total of 1,097 weed infestations were observed and recorded. Graph 1 represents all observed and recorded weed species within Rum Jungle Mine Site survey area.



Graph 1. Comparative percentage of observed weed infestations within Rum Jungle Mine Site.

2.6.1 Management Area 1

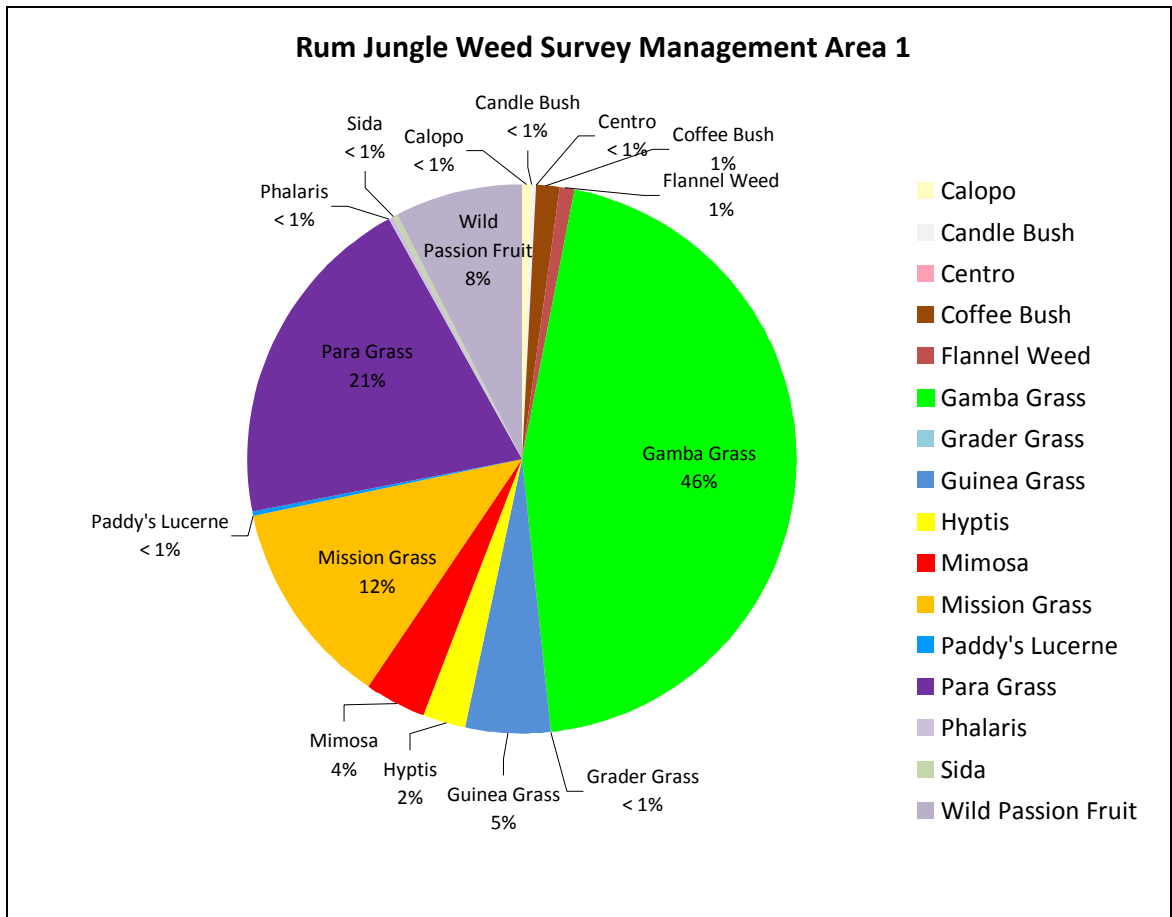
Management Area 1 contains high-density infestations of Gamba Grass, Mimosa, Para and Mission Grass. Mimosa infestations were found along the significant creeklines with almost fifty percent of recorded weed infestations being Gamba Grass, with 192 infestations observed and recorded. A total of 435 weed sites were recorded, comprising of sixteen different weed species within Management Area 1.

Phalaris (*Phalaris aquatica*), also known as Toowoomba Canary Grass, was identified and recorded towards the centre of Management Area 1. Only one infestation was observed throughout the survey area. Phalaris has not been declared a noxious weed in the NT; however it is recognised as a weed in Victoria and New South Wales. Used as a cattle feed in southern Australia, Phalaris is a major problem in Victoria along roadsides where it can overwhelm native vegetation to the detriment of endangered native bird species (Robinson, 1997).

Management Objective:

Management Area 1 can only be described as containing high to extreme density weed infestations. Buffers will need to be established along external boundaries, roads and around infrastructure in the Year 1 to break up the management area and assist in future weed management schedules.

Gamba Grass and WONS classified weed species will be targeted in the first year of the weed management program and other weed species are scheduled for treatment in Year 3 of the 5 Year Weed Management Plan.



Graph 2. Comparative percentage of observed weed infestations in Management Area 1.

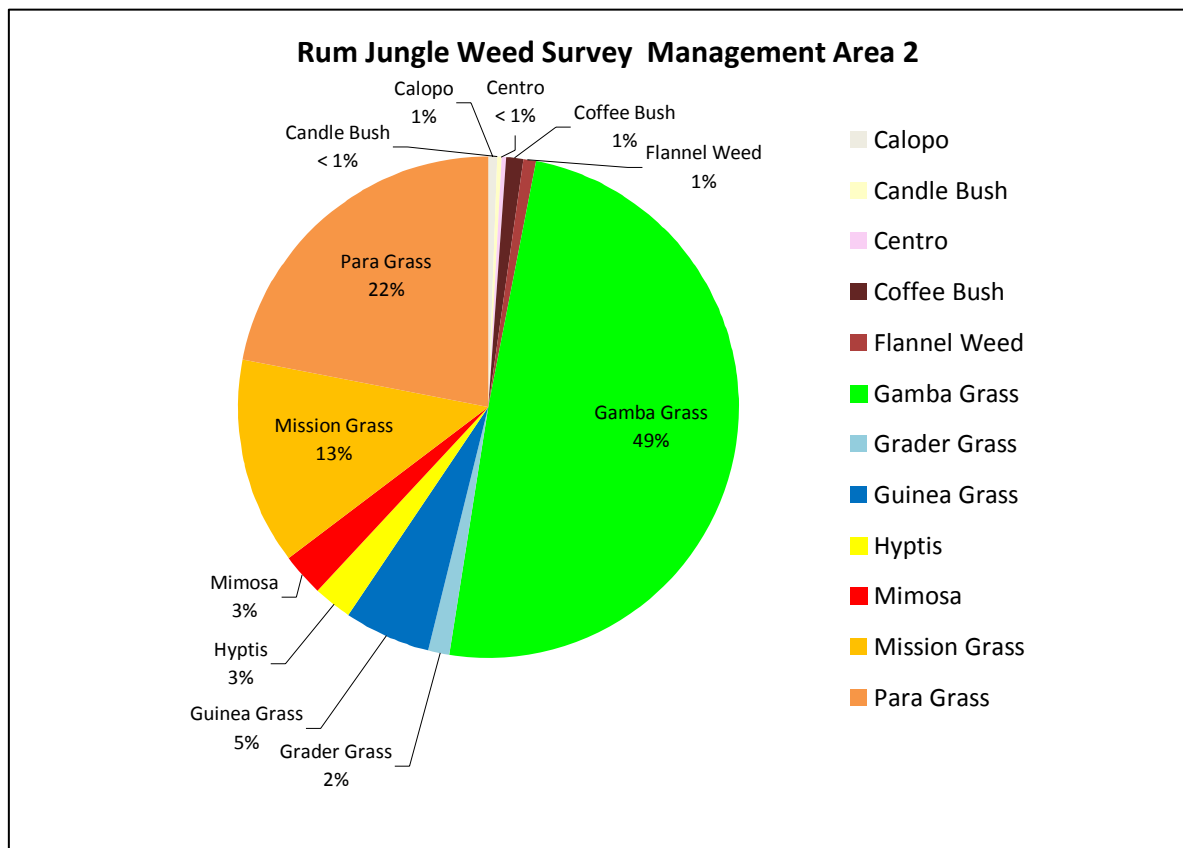
2.6.2 Management Area 2

Management Area 2 contains high-density infestations of Mimosa, Gamba, Para and Mission Grass. Fifty percent of recorded weed infestations are Gamba Grass, with 185 infestations observed and recorded. Twelve different weed species were identified within Management Area 2.

Management Objective:

Management Area 2 can only be described as containing high to extreme density weed infestations. Buffers will be established along external boundaries, roads and around infrastructure in the Year 1 to break up the country and assist in future weed management schedules.

Gamba Grass and WONS classified weed species should be targeted in the first year of the weed management program and weed species within this management area are scheduled for treatments in Year 4 of the 5 Year Weed Management Plan.



Graph 3. Comparative percentage of observed weed infestations in Management Area 2.

2.6.3 Management Area 3

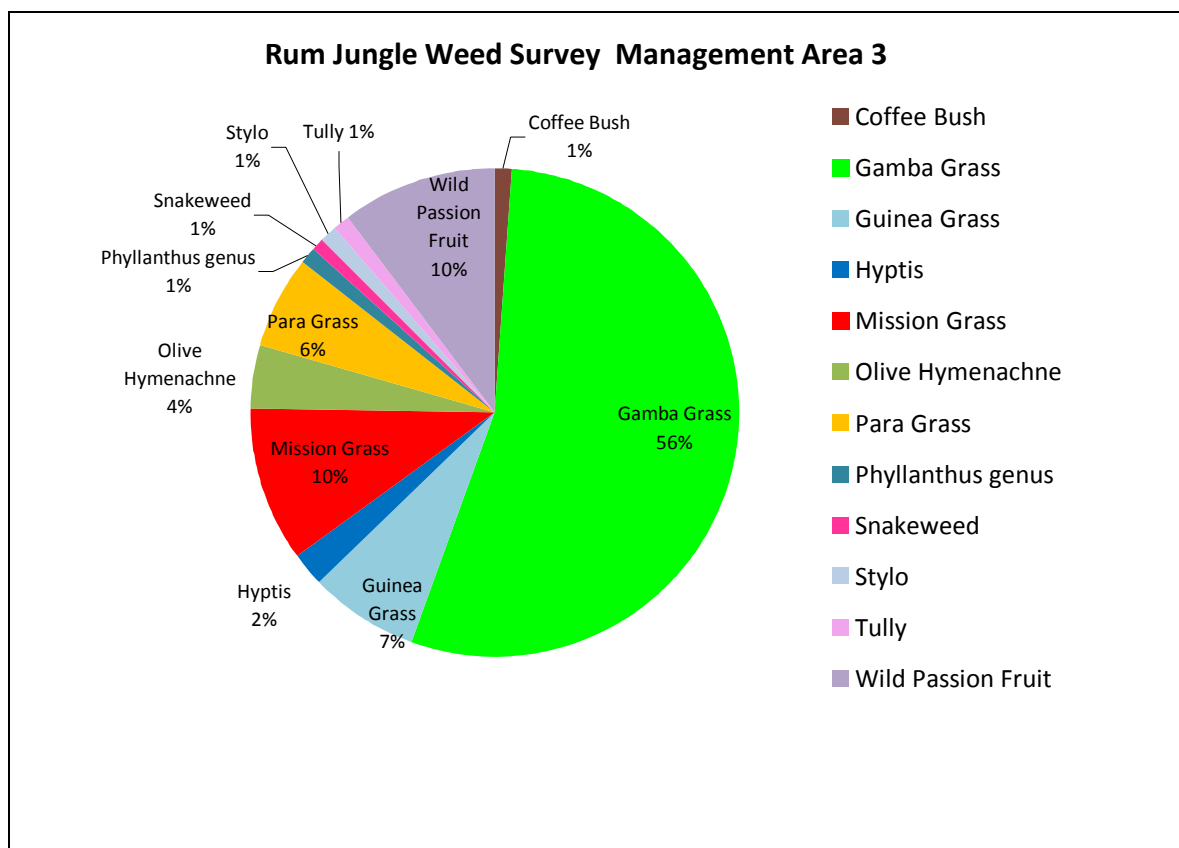
Management Area 3 contains high density infestations of Gamba Grass, Mission Grass and Wild Passion Fruit. Over fifty percent of recorded weed infestations are Gamba Grass, with 53 infestations observed and recorded. A total of 96 weed sites were recorded, comprising of twelve different weed species within Management Area 3.

A new weed species was observed within this management area and identified as belonging to the *Phyllanthus* genus. The plant was unable to be identified down to species as it was neither in flower nor seed, making species identification not possible.

Management Objective:

Management Area 3 can only be described as containing high density weed infestations. Buffers will be established along external boundaries, roads and around infrastructure in the Year 1 to break up the country and assist in future weed management schedules.

WONS classified weed species and Gamba Grass should be targeted in the first year of the weed management program. Other weed species within this management area are scheduled for treatment in Year 5 of the 5 Year Weed Management Plan.



Graph 4. Comparative percentage of observed weed infestations in Management Area 3.

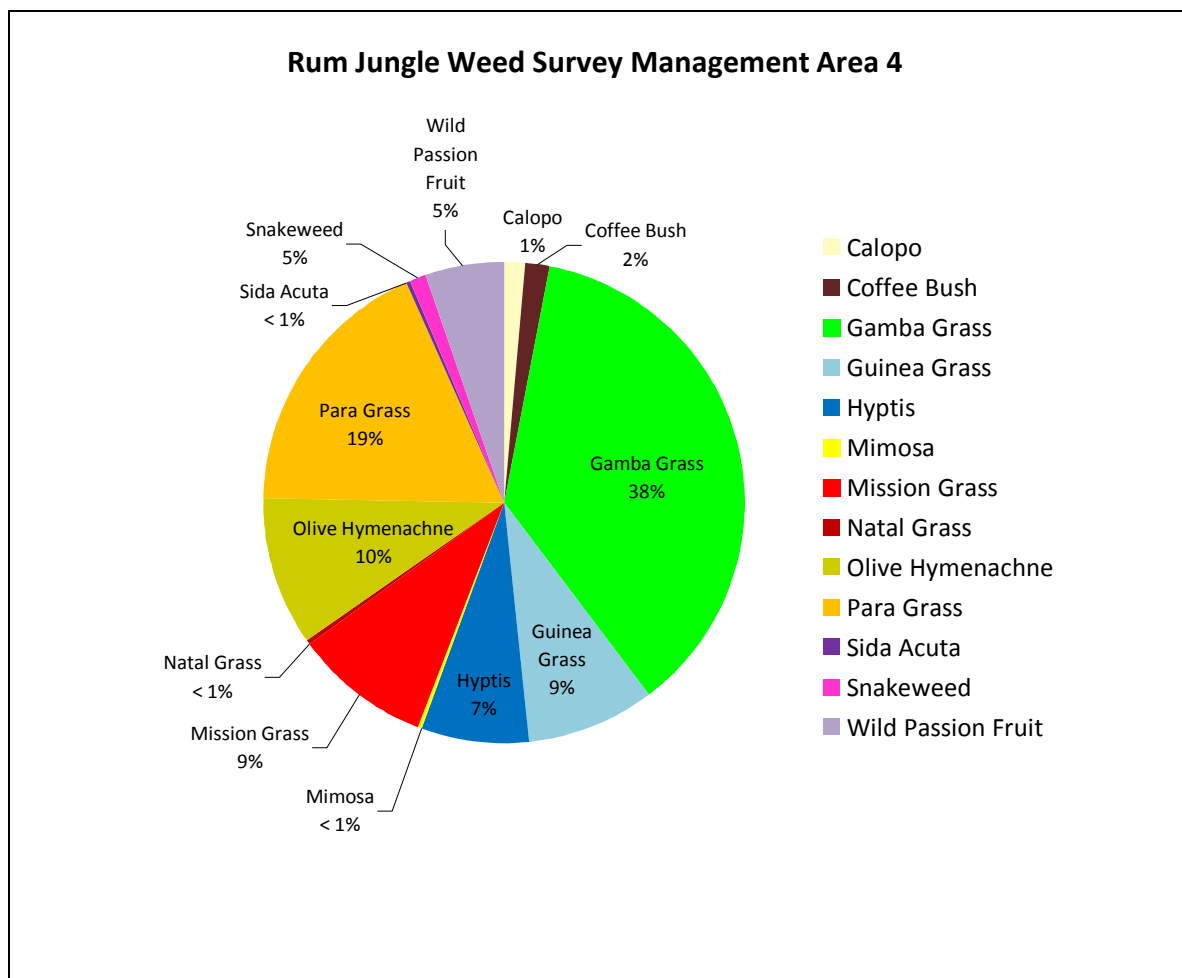
2.6.4 Management Area 4

Management Area 4 contains high density infestations of Mimosa, Gamba Grass, Para Grass, Olive Hymenachne and Mission Grass. Almost forty percent of recorded weed infestations are Gamba Grass, with 105 infestations observed and recorded. A total of 288 weed sites were recorded, comprising of thirteen different weed species within Management Area 4.

Management Objective:

Management Area 4 can only be described as containing high to extreme density weed infestations. Buffers should be established along external boundaries, roads and around infrastructure in the Year 1 to break up the country and assist in future weed management.

WONS classified weed species and Gamba Grass should be targeted in the first year of the weed management program. Other weed species within this management area are scheduled for treatment in Year 5.



Graph 5. Comparative percentage of observed weed infestations in Management Area 4.

Table 2 - Published Recommended Treatments for Weed Species Identified at Rum Jungle

WEED SPECIES	COMMON NAME	REFERENCES	PHYSICAL TREATMENT	CHEMICAL TREATMENT
<i>Calopogonium mucunoides</i>	Calopo	NRETAS Weed Management Branch (2009)	Hand pulling or grubbing and burn (NRETAS 2009).	Foliar spray (NRETAS Weed Management Branch 2009); Glyphosate 360 at 1:100 with water applied to actively growing plants (WLM).
<i>Senna alata</i>	Candle Bush	Smith (2002)	Hand pulling, slashing, cultivation (Smith 2002).	Foliar spray (Smith 2002); Glyphosate 360 at 1:100 with water applied to actively growing plants (WLM).
<i>Centrosema pubescens</i>	Centro	Smith (2002)	Hand pulling or grubbing (Smith 2002).	Foliar spray - Glyphosate 360 at 1:100 with water applied to actively growing plants (WLM).
<i>Leucaena leucocephala</i>	Coffee Bush	Smith (2002)	Hand pulling, slashing cultivation, hygiene, revegetation (Smith, 2002).	Foliar, basal bark, cut stump (Smith 2002); Banvel 200 (Dicamba) or Starane (Fluroxpyr) 1:50 with diesel as cut stump or basal bark application. Velpar on cut stumps (Storrs) Starane or Access (Pitt) Access in Diesel (Schultz).
<i>Sida cordifolia</i>	Flannel Weed	Smith (2002); Storrs (1996); Pitt Agnote 482; WLM	Hand pulling, grubbing slashing, cultivation (Smith, Agnote, Storrs, WLM).	Foliar, Biological (Smith, 2002); Amicide 500 (2,4-D) 1:200 plus Starane (Fluroxpyr) 1:200 with water, or Glyphosate (360) 1:100 with water. Spray while actively growing before flowering (Storrs); + Calligrapha pantherina bio control (Agnote) Starane (Pitt).
<i>Andropogon gayanus</i>	Gamba Grass	Smith (2002); Storrs (1996)	Grubbing, cultivation, slashing (Smith, 2002); Hand pulling OR grubbing of large plants (Storrs, 1996); Burning when controlled 'cooler' fires are achievable, during the wet season before seeding (NRETAS 2009).	Foliar spray (Smith, 2002). Glyphosate (360) 1.5:100 with water using high vol. spray equipment when plant is actively growing, not under stress ie mild wet season; spray during late dry season is ineffective . Spray until runoff. Add a wetting agent 1:1000 (Storrs).
<i>Themeda quadrivalvis</i>	Grader Grass	Smith (2002), NRETAS Weed Management Branch (2009)	Hand pulling and slashing (Smith, 2002) and burnt on site (NRETAS, 2009).	Foliar spray (Smith, 2002). Glyphosate (360) 1:100 with water when plant is actively growing (NRETAS 2009).

WEED SPECIES	COMMON NAME	REFERENCES	PHYSICAL TREATMENT	CHEMICAL TREATMENT
<i>Urochloa maxima</i>	Guinea Grass	Smith (2002).	Hand pulling and slashing.	Foliar spray, Glyphosate 360 at 1:100 with water applied to actively growing plants (WLM).
<i>Hyptis suaveolens</i>	Hyptis	Storrs (1996); Miller & Shultz (1997) Agnote 477; Smith (2002)	Hand pulling, chipping or mowing during wet season before seed sets (Storrs); Small infestations manual removal & burning plant material before seeding, slashing (Agnote); Reduced by fire (Schultz).	Amicide 500 (2,4-D) 1:100; or Amicide 500 (2,4-D) 1:200 plus Banvel 200 (Dicamba) 1:100 with water, or Glyphosate (360) 1.5:100 with water. Spray while actively growing (Storrs); foliar spray, ropewick (Smith); chemical (Agnote) Amicide or Banvel (Pitt), not Glyphosate as it kills grasses which compete with Hyptis; Banvel kills seeds also, but is very slow; Amicide at 0.5 L/ha (Schultz).
<i>Mimosa pigra</i>	Mimosa	Smith (2002), NRETAS Weed Management Branch (2009)	Hand pulling, grubbing and chaining (Smith, 2002).	Foliar spray, Fluroxypyr 1:300 with wetting agent Uptake 1:200; Basal barking, Fluroxypyr 1:60 mixed with Diesel; Cut stump, Glyphosate 1:40; Soil Application (NRETAS, 2009).
<i>Pennisetum polystachion</i>	Mission Grass	Smith (2002); Hills (1998)-Agnote 453; Storrs (1996); WLM	Grubbing, cultivation (Smith, 2002); Hand pulling OR grubbing of large plants (Storrs, 1996).	Foliar spray (Smith); herbicide (Agnote); Glyphosate (360) 1.5:100 with water plus DC Trate (surfactant) 1:100. Spray whilst actively growing until just after flowering (Storrs 1996). Roundup (WLM). Glyphosate 360 1:100 (WLM).
<i>Hymenachne amplexicaulis cv Olive</i>	Olive Hymenachne	Smith (2002)	Slashing or cultivation (Smith, 2002).	Foliar spray, Glyphosate 360 1:100 with water, apply when actively growing.
<i>Sida rhombifolia</i>	Paddy's Lucerne	Smith (2002)	Hand pulling, grubbing slashing, cultivation	Foliar, biological (Smith); Amicide 500 (2,4-D) 1:200 plus Starane (Fluroxypyr) 1:200 with water, or Glyphosate (360) 1:100 with water. Spray while actively growing before flowering (Storrs); + Calligrapha pantherina bio control (Agnote) Starane (Pitt).

WEED SPECIES	COMMON NAME	REFERENCES	PHYSICAL TREATMENT	CHEMICAL TREATMENT
<i>Brachiaria mutica</i>	Para Grass	Smith (2002)	N/A	Foliar spray (Smith, 2002), Glyphosate 360 1:100 with water, apply when actively growing (WLM).
<i>Phalaris aquatica</i>	Phalaris	Herbiguide (2010)	Slashing generally keeps it under control.	Foliar spray 800 mL/ha Glyphosate (450g/L) followed by 800 mL/ha 4 weeks later. Following fire is an optimum time to undertake control of populations.
<i>Melinis repens</i>	Red Natal Grass	Florabase (1993)	Hand pulling prior to seed set.	Foliar spray - Glyphosate at 1-2% solution + surfactant prior to flowering and seed set. Following fire is an optimum time to undertake control of populations.
<i>Stachytarpheta australis</i>	Snakeweed	Smith (2002), NRETAS Weed Management Branch (2009)	Hand pulling, grubbing, or slashing (Smith, 2002). Slash before seed set and re-establish pasture grass for competition.	Foliar spray, 2, 4 - D amide 625g/L, 1:300 (NRETAS, 2009)
<i>Sida acuta</i>	Spiny Head Sida	Smith (2002); Storrs (1996); Pitt Agnote 496; WLM	Hand pulling, grubbing slashing, cultivation (Smith, Agnote, Storrs, WLM).	Foliar, biological (Smith); Amicide 500 (2,4-D) 1:200 plus Starane (Fluroxpyr) 1:200 with water, or Glyphosate (360) 1:100 with water. Spray while actively growing before flowering (Storrs); + Calligrapha pantherina bio control (Agnote) Starane (Pitt).
<i>Brachiaria humidicola</i> cv Tully	Tully Koronivia Grass	Tropical Forages	N/A	Foliar spray, Glyphosate 360 1:100 with water, apply when actively growing (WLM).
<i>Passiflora foetida</i>	Wild Passion Fruit	Smith (2002); WLM; Storrs, 1996	Hand pulling for small areas (Storrs, 1996); Burning (WLM).	Foliar (Smith); Glyphosate (Pitt); Amicide 500 (2,4-D) with water (Storrs, 1996); Amicide 2, 4-D OR Glyphosate 360 (WLM).

3.0 IMPLEMENTATION

3.1 WEED TREATMENT SCHEDULE

A methodical approach to inspection and treatment is required to ensure a strategic coverage of the former Rum Jungle Mine Site. Each year the treatment period will generally be from November to May. The frequency of inspections and treatments will be dependent on the species managed and previous treatment. It will be the weed contractor's responsibility to determine the appropriate frequency of inspection.

The timetable will be dependent on the onset, duration and intensity of monsoonal activity. Whilst schedules need to be quite specific, flexibility is essential should inspections indicate changes are necessary, for example, when new species or infestations are identified. Appropriate adjustment throughout the duration of each yearly program will be required.

A weed treatment schedule for the existing weed species at the former Rum Jungle Mine Site has been developed as a guide to the timing and type of treatment throughout each year's implementation.

Weed infestations from the previous year's program must be scheduled for follow up inspections throughout each year's implementation to inspect for regrowth. Follow up inspections must be scheduled prior to flowering and/or seed set.

During inspection and treatment, vigilance will be important for undetected or new infestations.

Table 3 - Yearly Guide to Weed Treatment Schedule is attached at the end of this section (Page 28).

3.2 WEED CONTROL TREATMENTS

An integrated approach to weed treatment is necessary to ensure efficient control and eradication is implemented throughout the 5 Year Plan. As there are many weed species of differing biology and growth forms present at the former Rum Jungle Mine Site, a combination of physical and chemical control methods need to be applied.

3.2.1 *Physical*

Small, isolated weed infestations or individual plants are to be physically removed by hand pulling or grubbing. Hand pulling is suitable for shallow rooted herbaceous weeds, where as grubbing, the use of spades and mattocks is used for deep rooted woody weed species. All root material and plants must be removed and disposed of appropriately, such as by incineration. These methods are labour intensive but can be very effective if carried out systematically before seed set.

Seed head collection can be effective against some species, such as Mission Grass, when infestations have already produced mature viable seeds. Seed heads are collected, removed from the site and disposed of appropriately (ie incineration).

3.2.2 Chemical

Weed management at the former Rum Jungle Mine Site relies heavily on herbicide usage. These chemicals have been developed to be highly specific in application and are usually effective against a particular species or group of species.

Stubborn, well established, or large infestations will usually require chemical treatment.

There are three recommended herbicide categories for comprehensive weed eradication and control at the former Rum Jungle Mine Site as discussed further in Section 3.3.

3.2.3 Fire

Fire is useful to manage particular weed species in a number of ways. Wet season burns assist in providing access and efficient herbicide application to densely infested areas. It reduces densities of fire intolerant species, such as Hyptis, when burning is conducted prior to seed maturation. Seedlings of many weed species are also fire intolerant. Fire can be used as a follow up to chemical treatment to further weaken individuals of hardy species.

Generally, areas of Gamba Grass infestations at the former Rum Jungle Mine Site may be recommended to be burnt in the wet season. This will assist in providing access and enabling efficient herbicide application though some areas consisting of a monoculture of Gamba Grass.

Liaison with the fire management contractor at the beginning of each year's implementation is required to ensure successful integration of fire and weed management. Determination of locations, timing and intensity of burns will be essential to successful burning regimes for weed control.

3.3 HERBICIDES

3.3.1 Type

Grass and herbaceous weed species or young seedlings are to be treated with the foliar herbicide Nufarm Glyphosate 360 at a rate of 1:100. Glyphosate 360 is a non-selective, non-residual contact herbicide. The active ingredient is isopropylamine salt with ethoxylated surfactant.

Broadleaf weed species should be treated with the selective foliar herbicides Brush Off or Amicide. Brush Off is to be applied at a rate of 10g per 100 litres. The active ingredient of Brush Off is Metsulfuron methyl. Amicide needs to be applied at a rate of 1 litre per 300 litres. The active ingredient of Amicide is 2, 4-D dimethylamine salt.

Woody weed species, such as Coffee Bush, are to be basal barked with a 1:60 mixture of Access and Diesel. Access herbicide is a selective non-residual contact herbicide applied by basal bark or cut stump methods. The active ingredients are Triclopyr butoxyethyl ester 343g/L, picloram isooctyl ester 205g/L and aromatic solvent 390g/L.

3.3.2 Weeds in Drains

Weed species existing in drains should be treated with Roundup Biactive. Roundup Biactive herbicide is a formulation specifically developed for use in aquatic situations, made possible by the improved environmental characteristic of a unique surfactant system.

Roundup Biactive consists of 360g/L Glyphosate, and is a Group M herbicide. Roundup Biactive has substantially lower aquatic toxicity, can be safely applied in channels, drains, streams and rivers, and has an improved toxicological profile.

The improved environmental characteristics of Roundup Biactive means it is now registered for use in and around waterways in addition to approved uses of standard Roundup Herbicide.

Material Safety Data Sheets (MSDS) for Nufarm Glyphosate 360, Brush Off, Roundup Biactive, Amicide and Access are attached in **Appendix 1**.

3.3.3 Application

Special application techniques are to be used when conducting foliar and basal bark spraying to avoid spray drift onto non-target plant species:

- Direct spot spraying on individual plants;
- Not spraying during windy conditions; and
- Using spraying systems with adjustable nozzles to decrease potential spray drift.

Chemical usage is to be kept to a minimum to avoid undesirable environmental impacts.

3.3.4 Equipment

To implement the Weed Treatment Strategy the weed contractor will require the following equipment:

- 1 x 4WD vehicle with slip-on spray unit;
- 1 x quad bike and spray tank;
- 1 x trailer and spray tank (to fit quad) with boom spray; and
- Hand spray packs.

Vehicles and equipment are to be maintained in good working order.

3.3.5 Safety Procedures

Chemical use, storage and transport must be undertaken in accordance with the following:

- Chemicals must be stored and transported in accordance with the principles and recommendations of the *Australian Dangerous Goods Code*;
- Chemicals must be used in accordance with the *NT Work Health Act 2001* and with safe working practices; and

- Operators must be licensed to operate equipment and use herbicides by the Northern Territory Department of Health.

The MSDS for herbicides must be issued to and understood by staff prior to conducting spraying operations.

Personal protective equipment including PVC gloves, face shield, breathing apparatus and full length clothing must be used in spraying operations. Information for the correct design of safety apparel is to be gathered from the following:

- MSDS;
- Label directions; and
- NT Department of Health– Poisons and Pharmacy Branch.

3.4 DATA COLLECTION

3.4.1 *Inspection and Treatment Data*

The following weed inspection and treatment data can be collected at each visit:

- Treatment Date;
- Management Area;
- Location;
- Species
- Density; and
- Treatment Method.

Data can be entered into weed data sheets and used to analyse treatment efficiencies and determine program results.

Table 4 - A Weed Mapping Data Collection Sheet Template is attached at the end of this section (Page 31).

3.4.2 *Chemical Register*

A chemical register for herbicide application should be maintained in the formatted data sheets and the following attributes recorded:

- Management area;
- Herbicide/adjuvant type;
- Month;
- Quantity applied; and
- Rate.

The volume of diluted herbicide for each Management Area can be collated. Analysis and comparison with the amount of herbicide used in previous years programs can be conducted to determine treatment efficiency.

This information is used to maintain an ongoing chemical register for the duration of the Weed Treatment Strategy and which contains the volume of diluted herbicide (Glyphosate 360, Access & Amicide) or weight of Brush Off for each Management Area for each year's implementation.

3.5 WEED PREVENTION STRATEGY

The Rum Jungle Environmental Officer will be required to research and develop education and awareness initiatives to aid sustainable weed management at the former Rum Jungle Mine Site.

3.5.1 *Adjoining Landholder Liaison and Coordination*

To facilitate weed control beyond the Rum Jungle Mine Site boundaries, the weeds contractor is to provide technical assistance to the Rum Jungle Environmental Officer in developing effective strategies for liaison and coordination with neighboring landholders.

3.5.2 *Training / Information for Internal Ground Maintenance Staff & Contractors*

Internal ground maintenance staff and contractors should be trained in weed identification and weed prevention protocols. Information provided by the Rum Jungle Environmental Officer to ground maintenance staff should include but not be limited to the following:

- Weed threats such as vehicle movement and imported landscaping materials such as sand, gravel, road base etc;
- Existing weed infestation sites designated as 'no go areas' for maintenance activities, such as slashing;
- Good weed management practices such as washing down vehicles and equipment used in areas of different weed status; and
- Promotion of vigilance in identifying and reporting weeds.

New employee inductions, staff briefings or training sessions, and quick reference weed identification information such as a specific Guide to Weeds at Rum Jungle, and accompanying posters and pamphlets can all serve as effective tools for providing education and awareness to ground maintenance staff.

Contractors entering and working on site should be briefed by the Rum Jungle Environment Coordinator on weed prevention threats and practices relevant to Rum Jungle Mine Site, and as applicable to contractor's activities. Contractors should be made aware of the importance of vehicle hygiene, location of wash down points and any restriction of movement around and between work sites. This information can be incorporated into a site-specific Briefing Package for Contractors.

Table 3 - Yearly Guide to Weed Treatment Schedule

PRIORITY	WEED SPECIES	COMMON NAME	RECOMMENDED TREATMENTS	TIMING					
				Early Wet	Mid Wet	Late Wet	Early Dry	Mid Dry	Late Dry
High	<i>Andropogon gayanus</i>	Gamba Grass	- Hand pulling, grubbing - Glyphosate 360 1:100	Burn					
	<i>Pennisetum polystachion</i>	Mission Grass	- Hand pulling, grubbing - Glyphosate 360 1:100				Burn		
	<i>Themeda quadrivalvis</i>	Grader Grass	- Hand pulling and slashing - Glyphosate 360 1:100						
	<i>Leucaena leucocephala</i>	Coffee Bush	- Access and Diesel 1:60 - Regrowth with Brush Off						
	<i>Mimosa pigra</i>	Mimosa	- Hand pulling, grubbing or chaining - Fluroxypyr 1:300 with wetting agent Uptake 1:200 (Foliar Spray) - Fluroxypyr 1:60 mixed with Diesel (Basil Bark)						
	<i>Hymenachne amplexicaulis</i> <i>cv Olive</i>	Olive Hymenachne	- Slashing or cultivation - Glyphosate 360 1:100						
	<i>Hyptis suaveolens</i>	Hyptis	- Hand pulling and burning - Amicide 500 1:100 - Glyphosate 360 1:100		Burn				

PRIORITY	WEED SPECIES	COMMON NAME	RECOMMENDED TREATMENTS	TIMING					
				Early Wet	Mid Wet	Late Wet	Early Dry	Mid Dry	Late Dry
Low	<i>Sida acuta</i> & <i>Sida rhombifolia</i>	Spiny Head Sida & Paddy's Lucerne	- Hand pulling, grubbing - Glyphosate 360 1:100 - Amicide 500 1:200						
	<i>Stachytarpheta australis</i>	Snakeweed	- Hand pulling, grubbing - Brush Off						
	<i>Passiflora foetida</i>	Wild Passion Fruit	- Glyphosate 360 1:100 - Amicide 500 1:200						
	<i>Urochloa maxima</i>	Guinea Grass	- Hand pulling, slashing - Glyphosate 360 1:100						
	<i>Calopogonium mucunoides</i>	Calopo	- Hand pulling, grubbing - Glyphosate 360 1:100						
	<i>Senna alata</i>	Candle Bush	- Hand pulling, grubbing - Glyphosate 360 1:100						
	<i>Brachiaria mutica</i>	Para Grass	- Glyphosate 360 1:100						
	<i>Centrosema pubescens</i>	Centro	- Hand pulling, grubbing - Glyphosate 360 1:100						
	<i>Phalaris aquatica</i>	Phalaris	- Slashing - Glyphosate 360 1:100						
	<i>Brachiaria humidicola</i> cv Tully	Tully Koronivia Grass	- Glyphosate 360 1:100						

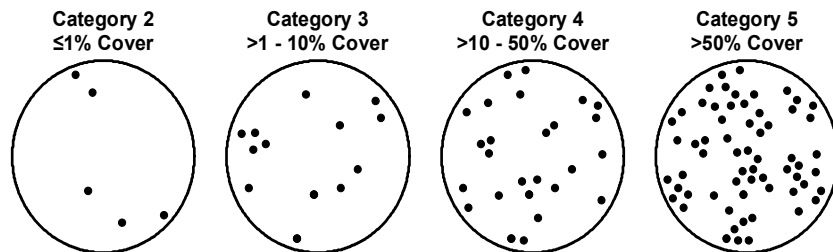
PRIORITY	WEED SPECIES	COMMON NAME	RECOMMENDED TREATMENTS	TIMING					
				Early Wet	Mid Wet	Late Wet	Early Dry	Mid Dry	Late Dry
<i>Low</i>	<i>Sida cordifolia</i>	Flannel Weed	- Hand pulling, grubbing slashing, cultivation - Amicide 500 1:200 - Glyphosate 360 1:100						
	<i>Melinis repens</i>	Red Natal Grass	- Hand pulling - Glyphosate 360 1:100						

Table 4 - Weed Mapping Data Collection Sheet Template

Name		Location	
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Date	Point ID	Management Area	Latitude	Longitude	Species	Diameter of Infestation	Density (Category 2 -5)	Treatment (Chemical and Application Type/Hand pulling etc)

Density



Diameter

5 metres in diameter;
20 metres in diameter;
50 metres in diameter; and
100 metres in diameter.

4.0 EVALUATION AND MONITORING

4.1 DATA ORGANISATION

Field data collected during the inspections and treatment is to be entered into the weed database. Ongoing treatment details are to be appended to existing weed infestations and new records for new infestations created. Importation in *dBASE IV* format into an *ArcView* Geographic Information System (GIS) project file is to be conducted.

Spatial distribution of weed infestations is to be mapped as point data and correlated to Weed Management Areas.

Weed Management Areas and survey/treatment data derived must be displayed in WGS84 Datum - Geographic projection.

A weed data table is to be presented in *Microsoft Excel* format (see Section 5.0).

A new field added to the Management Area table of attributes will display the amount of herbicide used in each area.

4.2 DATA INTERPRETATION

To determine the results of the weed management program, both quantitative and qualitative information are to be collated to assess program efficiencies and develop justifiable conclusions regarding the objectives of the program.

A number of performance indicators are to be used to assess data collected in the field. Simple analysis of these indicators will provide a descriptive measure of the weed communities at the former Rum Jungle Mine Site. Analysis is to be carried out at the Weed Management Area level.

These performance indicators include:

- Weed species diversity;
- Weed distribution and density; and
- Herbicide usage/Management Area.

Comparison of each year's results with previous year's programs is to be conducted to determine the temporal changes in weed distribution and abundance.

4.3 CONCLUSIONS / RECOMMENDATIONS

Justifiable and transparent conclusions must be developed from the results of evaluation and monitoring efforts at the completion of each year's implementation. Conclusions must be based on the quantitative and qualitative data analysis to determine Program efficiencies relating to the objectives of the year's implementation and the 5 Year Plan.

Future management recommendations, based on conclusions reached, must be made for future year's implementation. Once again these recommendations need to specifically relate to the objectives of the specific year's implementation as well as the overall 5 Year Plan.

5.0 REPORTING

For each year's implementation the following report should be prepared and submitted.

5.1 IMPLEMENTATION REPORT

An *Implementation Report - 20XX/XX* for the former Rum Jungle Mine Site, documenting the results of the implementation phase, the conclusions of the program, and recommendations for future management of the facility is to be produced at the conclusion of works. The report should also include monitoring results and assessment of the success and adequacy of the program with recommendations for adjustments if required.

6.0 REVIEW AND IMPROVEMENT

Weed management is a dynamic process with a wide range of influencing factors, including both environmental variation and anthropogenic impacts. The changes in weed infestations brought about by weed management should also change the requirements of further weed management.

The implementation of each year's weed management needs to be quite specific, but flexibility is also essential should inspections indicate changes are necessary. Appropriate adjustment throughout the duration of each yearly program will be required and will be largely up to the discretion of the weed contractor.

6.1 YEARLY REVIEW AND IMPROVEMENT

A structured review and improvement process is to be carried out on a yearly basis. At the beginning of each year's implementation the weed contractor is required to conduct elements of the Planning stage described in Section 2.0. This is not only to familiarise the contractor with the context and management of weeds at the former Rum Jungle Mine Site, but also to review the management approach detailed in this Plan. An evaluation of these components, such as desktop analysis, weeds prioritisation, etc, must be conducted and cross referenced with the objectives of the 5 Year Management Plan.

New information, for example, the identification of new infestations or of a new weed species, needs to be incorporated into the year's implementation. Indeed the objectives of the 5 Year Plan may require adaptation to accommodate this. The Plan is a flexible guideline for the 5 years, not a set of static procedures.

The main sources of new information will be the previous year's Final Report, which will include recommendations for future weed management at the former Rum Jungle Mine Site.

Changes to the methodology of any year's implementation and the implications to the 5 Year Plan must be justifiable and documented.

6.2 5 YEAR ASSESSMENT AND FUTURE PLAN DEVELOPMENT

At completion of the fifth year, a comprehensive review and analysis of the entire 5 years of implementation is to be conducted. This process will determine the effectiveness of the 5 Year Plan as a whole.

Based on these conclusions, a 5 Year Weed Management Plan for the following duration is to be developed. A similar planning process is required to accomplish this.

7.0 FIVE YEAR PLAN

The general objectives of each year's implementation plan at the former Rum Jungle Mine Site are to:

- Develop and implement Year X of the 5 Year Weed Management Plan;
- Provide quantitative and qualitative data on prioritised weed infestations;
- Analyse and interpret data for any population changes and causes, including the efficiency of treatment; and
- Make recommendations on management principles, including requirements for future weed control.

An outline of the yearly work task schedule incorporating the elements detailed in Section 3.0 is as follows:

7.1 YEAR 1 (2011/2012 Wet Season)

Review and Program Development

At the beginning of the contract the weed contractor is required to carry out elements of the Planning stage described in Section 2.0. This is not only to familiarise the contractor with the context and management of weeds at the former Rum Jungle Mine Site, but also to review the management approach detailed in this Plan.

Weed Treatment Strategy

The treatment of the external boundaries is of high priority and is to be implemented by both ground and aerial application. This will help to secure the former Rum Jungle Mine Site from any further weed infestations entering the property.

Buffers should be established along roads and tracks and around infrastructure through ground treatment applications. This will help to break up the country in preparation for future management objectives.

Treatment of Olive Hymenachne, Mimosa and Gamba Grass will be targeted in the first year through both ground and aerial treatment applications.

Data collection, evaluation and monitoring procedures associated with the treatment are to be completed and reported.

Weed Prevention Strategy

The Guide to Weeds at the former Rum Jungle Mine Site, Briefing Package for External Contractors and internal ground maintenance staff are to be developed and distributed to the relevant parties. Technical assistance to the Rum Jungle Environmental Officer regarding adjoining landholder liaison and coordination is to be conducted.

Evaluation, Monitoring and Implementation Report

The weed data organisation and interpretation process is to be completed. Together with monitoring results, justifiable and transparent conclusions are to be developed and recommendations made for future weed management at the former Rum Jungle Mine Site. These findings are to be presented as the Implementation Report.

7.2 YEAR 2 (2012/2013 Wet Season)

Review and Program Development

At the beginning of the contract the weed contractor is required to carry out elements of the Planning stage described in Section 2.0.

Weed Treatment Strategy

Follow up treatment along the external boundaries and buffers established along roads and tracks and around infrastructure through ground treatment applications in the previous year.

Follow up treatment of new and previously treated Gamba Grass, Olive Hymenachne and Mimosa sites through both ground and aerial treatment applications.

Target and treat weed infestations growing on mining waste dumps. Weeds growing in elevated areas need to be targeted in the initial stages of the weed management plan as run off from these areas can continue the spread of weeds to lower ground.

All data collection, evaluation and monitoring procedures associated with the treatment are to be completed and reported.

Weed Prevention Strategy

Review and improvement of the weed prevention component is to be conducted. Technical assistance to the Rum Jungle Environmental Officer regarding adjoining landholder liaison and coordination is to be conducted.

Evaluation, Monitoring and Implementation Report

Weed data collected during implementation is to be organised for presentation and interpretation completed. Justifiable and transparent conclusions are to be developed from the data and recommendations made for future weed management at the former Rum Jungle Mine Site. These findings are to be presented as the Implementation Report.

7.3 YEAR 3 (2013/2014 Wet Season)

Review and Program Development

At the beginning of the contract the weed contractor is required to complete elements of the Planning stage described in Section 2.0.

Weed Treatment Strategy

Follow up weed treatment areas for Year 1 and 2.

The treatment of weed sites in Management Area 1 is the focus of this year's treatment strategy. High and low priority weeds within this management area will be targeted.

All data collection, evaluation and monitoring procedures associated with the treatment are to be completed and reported.

Weed Prevention Strategy

Technical assistance to the Rum Jungle Environmental Officer regarding adjoining landholder liaison and coordination is to be conducted. Review and improvement of the weed prevention component is also to be conducted.

Evaluation, Monitoring and Implementation Report

Weed data collected during implementation is to be organised for presentation and interpretation completed. Justifiable and transparent conclusions are to be developed from the data and recommendations made for future weed management at the former Rum Jungle Mine Site. These findings are to be presented as the Implementation Report.

7.4 YEAR 4 (2014/2015 Wet Season)

Review and Program Development

At the beginning of the contract the weed contractor is required to complete elements of the Planning stage described in Section 2.0.

Weed Treatment Strategy

Follow up weed treatment areas for Year 1, 2 and 3.

The treatment of weed sites in Management Area 2 is the focus of this year's treatment strategy. High and low priority weeds within this management area will be targeted.

Data collection, evaluation and monitoring procedures associated with the treatment are to be completed and reported.

Weed Prevention Strategy

Technical assistance to the Rum Jungle Environmental Officer regarding adjoining landholder liaison and coordination is to be conducted.

Review and improvement of the weed prevention component is also to be conducted.

Evaluation, Monitoring and Implementation Report

Weed data collected during implementation is to be organised for presentation and interpretation completed. Justifiable and transparent conclusions are to be developed from the data and recommendations made for future weed management at the former Rum Jungle Mine Site. These findings are to be presented as the Implementation Report.

7.5 YEAR 5 (2015/2016 Wet Season)

Review and Program Development

At the beginning of the contract the weed contractor is required to complete elements of the Planning stage described in Section 2.0.

Weed Treatment Strategy

Follow up weed treatment areas for Year 1, 2, 3 and 4.

The treatment of weed sites in Management Area 3 and 4 are the focus of this year's treatment strategy. High and low priority weeds within this management area will be targeted.

Data collection, evaluation and monitoring procedures associated with the treatment are to be completed and reported.

Weed Prevention Strategy

Technical assistance to the Rum Jungle Environmental Officer regarding adjoining landholder liaison and coordination is to be conducted.

Review and improvement of the weed prevention component is also to be conducted.

Evaluation, Monitoring and Implementation Report

Weed data collected during implementation is to be organised for presentation and interpretation completed. Justifiable and transparent conclusions are to be developed from the data and recommendations made for future weed management at the former Rum Jungle Mine Site. These findings are to be presented as the Implementation Report.

5 Year Assessment and Future Planning

The 5 Year Assessment and Future Planning component is to be conducted.

Table 5 - 5 Year Weed Treatment Strategy Guide is attached at the end of the section (Page 38).

Table 5 - 5 Year Weed Treatment Strategy Guide

	YEAR 1 (2011/12)	YEAR 2 (2012/13)	YEAR 3 (2013/14)	YEAR 4 (2014/15)	YEAR 5 (2015/16)
External Boundaries	Initial treatment	Follow-up treatment	Follow-up treatment	Follow-up treatment	Follow-up treatment
Create Buffers Along Roads, Tracks & Infrastructure	Initial treatment	Follow-up treatment	Follow-up treatment	Follow-up treatment	Follow-up treatment
Treat Gamba Grass, Olive Hymenachne & Mimosa	Initial treatment	Follow-up treatment	Follow-up treatment	Follow-up treatment	Follow-up treatment
Mining Waste Dumps		Initial treatment	Follow-up treatment	Follow-up treatment	Follow-up treatment
Management Area 1			Initial treatment	Follow-up treatment	Follow-up treatment
Management Area 2				Initial treatment	Follow-up treatment
Management Area 3					Initial treatment
Management Area 4					Initial treatment

 = High Priority  = Medium Priority  = Low Priority

8.0 REFERENCES

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Attachments

Map 2 – Rum Jungle Mine Total Weed Sites

Table 6 – Rum Jungle Collated Weed Survey Data 2010/11

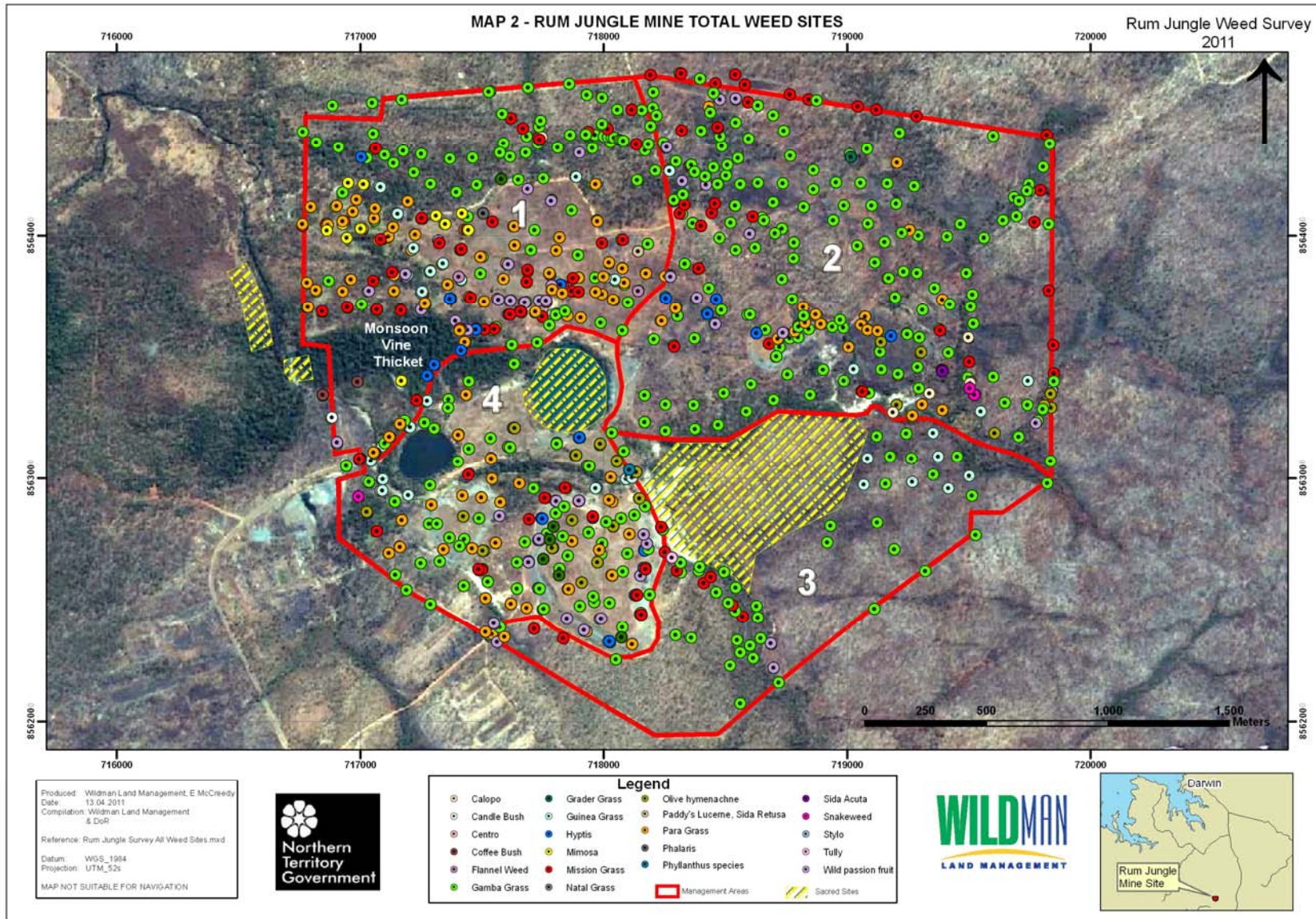


Table 6 - Rum Jungle Collated Weed Survey Data 2010/11

WP	SPECIES	DENSITY	DIAMETER	EASTING	NORTHING	MGT AREA
1	Mission Grass	5	100	716763	8564039	1
2	Para Grass	3	100	716763	8564046	1
3	Gamba Grass	5	100	716765	8564042	1
4	Gamba Grass	5	100	716765	8564426	1
5	Gamba Grass	4	100	716780	8563702	1
6	Sida	4	100	716782	8563702	1
7	Para Grass	5	100	716782	8563804	1
8	Gamba Grass	5	100	716783	8563802	1
9	Para Grass	3	100	716785	8563705	1
10	Para Grass	3	100	716796	8564116	1
11	Gamba Grass	5	100	716797	8564115	1
12	Para Grass	4	100	716818	8563775	1
13	Gamba Grass	4	100	716819	8563768	1
14	Gamba Grass	4	100	716820	8564382	1
15	Gamba Grass	5	100	716844	8563683	1
16	Mission Grass	5	100	716844	8563687	1
17	Gamba Grass	5	100	716846	8563339	1
18	Para Grass	4	50	716846	8563344	1
19	Coffee Bush	3	20	716846	8563344	1
20	Mission Grass	4	100	716859	8564043	1
21	Gamba Grass	5	100	716862	8564048	1
22	Para Grass	5	100	716866	8564043	1
23	Gamba Grass	5	100	716871	8563812	1
24	Gamba Grass	5	100	716880	8563247	1
25	Candle Bush	5	100	716883	8563250	1
26	Gamba Grass	4	100	716886	8564534	1
27	Gamba Grass	5	100	716898	8564116	1
28	Para Grass	3	100	716903	8564120	1
29	Gamba Grass	5	100	716904	8563141	1
30	Wild Passion Fruit	2	50	716904	8563147	1
31	Gamba Grass	4	100	716911	8564363	1
32	Gamba Grass	5	100	716927	8564176	1
33	Gamba Grass	4	100	716928	8563769	1
34	Para Grass	4	50	716928	8563768	1
35	Mimosa	5	100	716928	8564046	1
36	Para Grass	5	100	716928	8564057	1
37	Mission Grass	3	100	716936	8564058	1
38	Guinea Grass	4	50	716943	8563049	1
39	Gamba Grass	4	50	716943	8563051	1
40	Mission Grass	4	50	716947	8563705	1
41	Gamba Grass	5	100	716948	8563700	1
42	Gamba Grass	5	100	716948	8564215	1
43	Para Grass	3	50	716949	8564215	1
44	Mimosa	3	100	716950	8564215	1
45	Gamba Grass	5	100	716958	8563817	1
46	Mission Grass	3	100	716958	8563819	1
47	Para Grass	3	100	716962	8563819	1
48	Para Grass	5	100	716969	8564098	1
49	Gamba Grass	5	100	716970	8564095	1

50	Gamba Grass	5	100	716984	8564145	1
51	Para Grass	5	100	716985	8564146	1
52	Guinea Grass	4	100	716993	8562925	4
53	Snakeweed	4	50	716993	8562923	4
54	Mission Grass	4	100	716995	8562919	4
55	Calopo	5	100	716995	8562919	4
56	Centro	2	50	716996	8563079	1
57	Wild Passion Fruit	3	20	716996	8563074	1
58	Mission Grass	2	50	716996	8563079	1
59	Gamba Grass	5	100	717001	8563081	1
60	Hyptis	3	20	717001	8563077	1
61	Mimosa	5	100	717002	8564028	1
62	Hyptis	3	50	717004	8564322	1
63	Gamba Grass	5	100	717005	8563715	1
64	Gamba Grass	3	100	717006	8564025	1
65	Mission Grass	3	100	717009	8564021	1
66	Para Grass	5	100	717009	8564028	1
67	Mimosa	3	50	717014	8564209	1
68	Guinea Grass	5	100	717017	8564208	1
69	Mission Grass	4	50	717025	8562858	4
70	Snakeweed	3	100	717026	8562856	4
71	Gamba Grass	4	100	717026	8562856	4
72	Olive Hymenachne	3	100	717026	8562860	4
73	Gamba Grass	4	100	717026	8564317	1
74	Sida	3	50	717028	8562856	4
75	Guinea Grass	5	100	717029	8562988	4
76	Gamba Grass	5	100	717031	8563769	1
77	Olive Hymenachne	5	100	717033	8562983	4
78	Para Grass	5	100	717035	8562982	4
79	Calopo	4	100	717035	8562980	4
80	Gamba Grass	4	100	717035	8562984	4
81	Para Grass	3	20	717035	8563771	1
82	Wild Passion Fruit	3	50	717035	8563771	1
83	Guinea Grass	2	100	717043	8563071	4
84	Mission Grass	4	100	717045	8563074	4
85	Gamba Grass	4	100	717045	8563071	4
86	Coffee Bush	3	100	717046	8563071	4
87	Gamba Grass	4	100	717049	8564546	1
88	Gamba Grass	4	100	717053	8564418	1
89	Mission Grass	5	100	717053	8563812	1
90	Para Grass	4	100	717055	8563105	1
91	Para Grass	5	100	717057	8564068	1
92	Gamba Grass	5	100	717058	8563101	1
93	Gamba Grass	5	100	717059	8563809	1
94	Gamba Grass	5	100	717059	8564062	1
95	Gamba Grass	5	100	717059	8564110	1
96	Gamba Grass	4	100	717059	8564353	1
97	Coffee Bush	3	50	717059	8563105	1
98	Para Grass	5	100	717061	8564110	1
99	Coffee Bush	5	50	717063	8563104	1
100	Mission Grass	3	100	717063	8564357	1

101	Guinea Grass	3	100	717064	8562779	4
102	Calopo	3	100	717064	8562783	4
103	Gamba Grass	5	100	717064	8563690	1
104	Gamba Grass	2	100	717066	8562781	4
105	Mission Grass	2	100	717068	8562781	4
106	Mission Grass	4	100	717068	8563694	1
107	Para Grass	5	100	717075	8563980	1
108	Guinea Grass	5	50	717077	8564202	1
109	Mimosa	3	50	717079	8564201	1
110	Gamba Grass	3	50	717080	8564198	1
111	Calopo	3	100	717083	8562948	4
112	Mission Grass	4	100	717083	8563984	1
113	Guinea Grass	5	100	717083	8564199	1
114	Coffee Bush	4	50	717088	8563133	1
115	Olive Hymenachne	2	100	717089	8562945	4
116	Mission Grass	2	100	717089	8562946	4
117	Gamba Grass	4	50	717089	8563134	1
118	Para Grass	5	100	717089	8563984	1
119	Coffee Bush	4	100	717090	8562994	4
120	Gamba Grass	4	100	717091	8562948	4
121	Guinea Grass	3	100	717091	8562948	4
122	Guinea Grass	4	50	717091	8563132	1
123	Guinea Grass	4	100	717093	8562996	4
124	Gamba Grass	5	100	717100	8563144	1
125	Gamba Grass	4	100	717101	8564331	1
126	Para Grass	4	100	717113	8563992	1
127	Gamba Grass	3	100	717115	8562691	4
128	Para Grass	3	100	717116	8563995	1
129	Para Grass	3	100	717118	8562691	4
130	Para Grass	5	100	717120	8563170	1
131	Gamba Grass	5	100	717123	8563169	1
132	Coffee Bush	4	20	717123	8563170	1
133	Mission Grass	5	100	717130	8563848	1
134	Guinea Grass	5	100	717132	8564034	1
135	Para Grass	5	100	717134	8564032	1
136	Gamba Grass	5	100	717136	8564297	1
137	Gamba Grass	5	100	717138	8563839	1
138	Para Grass	5	100	717138	8563771	1
139	Mission Grass	5	100	717138	8563837	1
140	Para Grass	3	50	717138	8563841	1
141	Para Grass	3	50	717138	8563837	1
142	Gamba Grass	5	100	717139	8563768	1
143	Olive Hymenachne	4	100	717141	8562902	4
144	Guinea Grass	4	100	717143	8562904	4
145	Gamba Grass	3	100	717143	8562902	4
146	Gamba Grass	3	50	717144	8562602	4
147	Wild Passion Fruit	4	100	717147	8564089	1
148	Gamba Grass	5	100	717152	8564085	0
149	Calopo	4	50	717154	8564084	0
150	Guinea Grass	3	100	717154	8564087	0
151	Guinea Grass	4	100	717162	8562718	4

152	Para Grass	5	100	717163	8563224	1
153	Gamba Grass	3	100	717164	8562716	4
154	Para Grass	4	100	717164	8562716	4
155	Gamba Grass	5	100	717165	8563694	1
156	Gamba Grass	5	100	717165	8563217	1
157	Mission Grass	3	50	717167	8563691	1
158	Olive Hymenachne	5	100	717171	8562828	4
159	Para Grass	4	100	717171	8562827	4
160	Gamba Grass	4	100	717171	8564560	1
161	Gamba Grass	4	100	717177	8564349	1
162	Gamba Grass	4	100	717183	8563237	1
163	Wild Passion Fruit	3	100	717185	8563841	1
164	Wild Passion Fruit	3	100	717189	8563830	1
165	Guinea Grass	3	100	717189	8563837	1
166	Gamba Grass	3	50	717190	8562539	4
167	Gamba Grass	3	100	717192	8564143	1
168	Guinea Grass	3	100	717193	8563837	1
169	Gamba Grass	5	100	717194	8563833	1
170	Guinea Grass	4	100	717195	8564139	1
171	Para Grass	3	100	717196	8564139	1
172	Guinea Grass	4	100	717197	8562930	4
173	Gamba Grass	4	50	717201	8563208	4
174	Guinea Grass	4	20	717204	8563210	4
175	Para Grass	3	100	717211	8563940	1
176	Gamba Grass	3	100	717215	8563943	1
177	Guinea Grass	5	100	717218	8563947	1
178	Gamba Grass	5	100	717221	8564259	1
179	Gamba Grass	5	100	717223	8564004	1
180	Para Grass	5	100	717226	8564002	1
181	Mission Grass	2	50	717231	8563321	1
182	Gamba Grass	5	100	717233	8563324	1
183	Para Grass	5	50	717233	8563324	1
184	Gamba Grass	5	100	717233	8563321	1
185	Gamba Grass	3	100	717248	8562650	4
186	Gamba Grass	5	100	717250	8563695	1
187	Gamba Grass	4	100	717250	8564335	1
188	Gamba Grass	2	100	717251	8564067	1
189	Wild Passion Fruit	3	100	717251	8563764	1
190	Wild Passion Fruit	4	100	717251	8563694	1
191	Guinea Grass	3	100	717251	8564069	1
192	Mission Grass	3	100	717252	8564070	1
193	Guinea Grass	3	100	717255	8563768	1
194	Para Grass	5	100	717255	8564067	1
195	Gamba Grass	4	100	717259	8563756	1
196	Para Grass	5	100	717259	8563757	1
197	Mission Grass	3	100	717259	8563764	1
198	Gamba Grass	4	100	717264	8563230	4
199	Para Grass	3	50	717266	8563720	1
200	Gamba Grass	3	50	717267	8563716	1
201	Gamba Grass	5	100	717272	8563314	4
202	Para Grass	3	100	717273	8563320	4

203	Guinea Grass	3	100	717275	8563318	4
204	Hyptis	2	50	717275	8563422	1
205	Gamba Grass	4	100	717276	8563421	1
206	Wild Passion Fruit	2	50	717280	8563422	1
207	Gamba Grass	3	100	717282	8562812	4
208	Guinea Grass	4	100	717284	8563852	1
209	Para Grass	5	100	717284	8563852	1
210	Gamba Grass	3	100	717285	8563849	1
211	Gamba Grass	3	100	717286	8562970	4
212	Gamba Grass	3	20	717288	8562481	4
213	Gamba Grass	5	100	717288	8564211	1
214	Para Grass	5	100	717288	8563856	1
215	Guinea Grass	3	100	717288	8563852	1
216	Para Grass	4	100	717293	8562889	4
217	Gamba Grass	3	100	717303	8563205	4
218	Hyptis	3	20	717303	8563466	1
219	Mission Grass	3	100	717305	8563205	4
220	Para Grass	2	50	717305	8563465	1
221	Guinea Grass	3	50	717306	8563200	4
222	Para Grass	2	50	717306	8563466	1
223	Wild Passion Fruit	3	20	717308	8563464	1
224	Gamba Grass	2	100	717316	8562812	4
225	Wild Passion Fruit	3	100	717321	8563977	1
226	Gamba Grass	5	100	717322	8563973	1
227	Mission Grass	3	100	717325	8563969	1
228	Gamba Grass	3	100	717327	8562657	4
229	Para Grass	3	100	717336	8563881	1
230	Gamba Grass	3	100	717338	8563881	1
231	Guinea Grass	3	100	717339	8563885	1
232	Para Grass	4	100	717342	8562706	4
233	Gamba Grass	4	100	717345	8564046	1
234	Para Grass	5	100	717347	8564046	1
235	Mimosa	4	50	717350	8564046	1
236	Para Grass	3	100	717358	8563797	1
237	Mimosa	3	50	717361	8563290	4
238	Gamba Grass	4	100	717361	8563291	4
239	Gamba Grass	5	100	717361	8563798	1
240	Para Grass	3	100	717361	8563797	1
241	Gamba Grass	4	100	717363	8563325	4
242	Gamba Grass	2	100	717367	8562755	4
243	Hyptis	4	50	717369	8563738	1
244	Gamba Grass	4	100	717369	8564315	1
245	Para Grass	4	100	717372	8563738	1
246	Gamba Grass	4	100	717373	8563740	1
247	Wild Passion Fruit	4	100	717391	8563647	1
248	Gamba Grass	4	100	717392	8563647	1
249	Gamba Grass	5	100	717394	8564178	1
250	Gamba Grass	4	100	717401	8563067	4
251	Mission Grass	5	100	717403	8563176	4
252	Para Grass	4	100	717403	8563178	4
253	Gamba Grass	5	100	717405	8563179	4

254	Flannel Weed	3	20	717405	8563830	1
255	Gamba Grass	2	100	717408	8562720	4
256	Wild Passion Fruit	4	50	717409	8563608	1
257	Mission Grass	3	20	717409	8563614	1
258	Para Grass	5	50	717409	8563607	1
259	Gamba Grass	3	100	717411	8563940	1
260	Mimosa	3	50	717413	8563815	1
261	Guinea Grass	3	100	717413	8563815	1
262	Guinea Grass	3	100	717413	8563819	1
263	Para Grass	5	100	717413	8563940	1
264	Gamba Grass	4	20	717414	8563612	1
265	Wild Passion Fruit	3	20	717414	8563614	1
266	Hyptis	2	50	717414	8563525	1
267	Para Grass	5	100	717415	8563523	1
268	Gamba Grass	4	100	717416	8563815	1
269	Flannel Weed	3	20	717416	8563815	1
270	Mimosa	3	50	717416	8563819	1
271	Mission Grass	3	100	717416	8563944	1
272	Mission Grass	2	50	717416	8563527	1
273	Para Grass	4	100	717419	8562927	4
274	Olive Hymenachne	5	50	717423	8562841	4
275	Para Grass	3	100	717424	8562557	4
276	Gamba Grass	3	100	717426	8562557	4
277	Gamba Grass	2	100	717428	8562748	4
278	Para Grass	5	100	717429	8564023	1
279	Para Grass	5	20	717430	8563560	1
280	Gamba Grass	3	100	717432	8564023	1
281	Wild Passion Fruit	2	50	717432	8563560	1
282	Gamba Grass	5	100	717434	8563341	4
283	Snakeweed	3	100	717434	8563344	4
284	Para Grass	3	100	717434	8563344	4
285	Gamba Grass	4	100	717434	8564023	1
286	Gamba Grass	2	50	717434	8563561	1
287	Gamba Grass	4	20	717436	8563610	1
288	Para Grass	5	100	717437	8564023	1
289	Mission Grass	3	100	717439	8564023	1
290	Wild Passion Fruit	3	20	717440	8563609	1
291	Gamba Grass	3	100	717441	8564077	1
292	Mimosa	4	50	717444	8564022	1
293	Mission Grass	3	100	717445	8563015	4
294	Guinea Grass	4	100	717446	8563015	4
295	Gamba Grass	5	100	717447	8563121	4
296	Hyptis	3	100	717447	8563017	4
297	Gamba Grass	4	100	717447	8563399	4
298	Para Grass	4	100	717449	8563746	1
299	Mission Grass	3	50	717453	8563742	1
300	Gamba Grass	3	100	717454	8563743	1
301	Para Grass	3	100	717459	8562710	4
302	Gamba Grass	3	100	717461	8564320	1
303	Mission Grass	3	20	717475	8563614	1
304	Hyptis	3	20	717475	8563612	1

305	Gamba Grass	5	100	717479	8564207	1
306	Gamba Grass	2	20	717479	8563612	1
307	Gamba Grass	2	20	717479	8563616	1
308	Wild Passion Fruit	2	20	717479	8563614	1
309	Mission Grass	2	100	717487	8562626	4
310	Gamba Grass	3	100	717488	8562622	4
311	Gamba Grass	3	100	717488	8562834	4
312	Para Grass	5	100	717493	8563911	1
313	Gamba Grass	4	100	717494	8563842	1
314	Para Grass	4	50	717498	8562920	4
315	Mission Grass	3	100	717499	8562624	4
316	Gamba Grass	3	100	717502	8562626	4
317	Gamba Grass	4	100	717502	8563911	1
318	Para Grass	4	100	717504	8562701	4
319	Olive Hymenachne	3	100	717504	8562701	4
320	Phalaris	5	100	717505	8564090	1
321	Gamba Grass	5	100	717507	8563727	1
322	Guinea Grass	3	100	717508	8562701	4
323	Para Grass	5	100	717508	8563727	1
324	Gamba Grass	4	20	717508	8563611	1
325	Mission Grass	4	20	717510	8563612	1
326	Para Grass	2	100	717514	8562506	4
327	Gamba Grass	3	20	717514	8562364	4
328	Para Grass	3	20	717514	8562366	4
329	Mission Grass	3	100	717525	8562575	4
330	Gamba Grass	3	100	717525	8562574	4
331	Gamba Grass	2	100	717527	8564592	1
332	Gamba Grass	2	5	717533	8564594	1
333	Wild Passion Fruit	4	100	717534	8562346	3
334	Gamba Grass	2	5	717534	8562353	4
335	Stylo	3	20	717535	8562352	4
336	Gamba Grass	5	100	717535	8563164	4
337	Guinea Grass	4	100	717537	8563083	4
338	Gamba Grass	3	100	717537	8563080	4
339	Para Grass	3	100	717537	8563080	4
340	Para Grass	5	100	717541	8562357	4
341	Para Grass	5	100	717541	8562997	4
342	Mission Grass	3	100	717543	8564055	1
343	Gamba Grass	3	50	717544	8563609	1
344	Wild Passion Fruit	4	100	717548	8562402	4
345	Olive Hymenachne	5	100	717550	8562401	4
346	Gamba Grass	4	100	717550	8562400	4
347	Guinea Grass	4	100	717550	8562402	4
348	Mission Grass	3	30	717550	8563613	1
349	Gamba Grass	3	100	717556	8562732	4
350	Para Grass	2	100	717556	8562733	4
351	Gamba Grass	2	20	717557	8563620	1
352	Wild Passion Fruit	4	20	717562	8562325	3
353	Para Grass	4	50	717563	8563738	1
354	Wild Passion Fruit	3	20	717567	8563735	1
355	Gamba Grass	4	20	717570	8563734	1

356	Wild Passion Fruit	3	100	717571	8562843	4
357	Gamba Grass	4	20	717574	8562385	3
358	Gamba Grass	4	100	717574	8564341	1
359	Para Grass	5	100	717576	8562901	4
360	Gamba Grass	4	100	717583	8564500	1
361	Para Grass	5	100	717589	8563821	1
362	Gamba Grass	4	100	717589	8564379	1
363	Para Grass	5	50	717592	8562346	3
364	Para Grass	5	100	717600	8563885	1
365	Gamba Grass	3	100	717605	8563879	1
366	Wild Passion Fruit	3	100	717607	8563881	1
367	Wild Passion Fruit	2	20	717607	8563673	1
368	Olive Hymenachne	3	100	717608	8563128	4
369	Gamba Grass	5	100	717609	8563675	1
370	Wild Passion Fruit	2	10	717611	8563673	1
371	Mission Grass	3	100	717612	8563128	4
372	Para Grass	3	100	717613	8563126	4
373	Guinea Grass	4	100	717614	8563128	4
374	Para Grass	5	50	717614	8563731	1
375	Mission Grass	3	20	717615	8563673	1
376	Gamba Grass	3	50	717615	8564323	1
377	Gamba Grass	4	100	717616	8563126	4
378	Wild Passion Fruit	4	50	717618	8563731	1
379	Gamba Grass	4	50	717619	8562480	4
380	Para Grass	5	100	717619	8562482	4
381	Gamba Grass	4	50	717619	8563732	1
382	Para Grass	4	50	717620	8563546	1
383	Mission Grass	3	100	717620	8564481	1
384	Gamba Grass	2	50	717623	8563548	1
385	Coffee Bush	2	100	717629	8563207	4
386	Gamba Grass	3	100	717629	8564036	1
387	Hyptis	2	100	717631	8563208	4
388	Para Grass	3	50	717631	8563469	4
389	Gamba Grass	5	100	717632	8563206	4
390	Gamba Grass	4	20	717632	8563470	4
391	Para Grass	3	100	717632	8564036	1
392	Gamba Grass	3	100	717634	8563959	1
393	Para Grass	5	100	717634	8563958	1
394	Olive Hymenachne	2	100	717635	8563207	4
395	Gamba Grass	4	100	717643	8562653	4
396	Gamba Grass	3	100	717644	8562546	4
397	Gamba Grass	3	100	717650	8564229	1
398	Para Grass	5	100	717654	8562978	4
399	Wild Passion Fruit	2	10	717655	8563685	1
400	Mission Grass	3	20	717659	8563685	1
401	Gamba Grass	4	50	717661	8563687	1
402	Para Grass	3	20	717663	8563681	1
403	Mission Grass	4	50	717669	8564439	1
404	Mission Grass	3	50	717673	8563724	1
405	Gamba Grass	4	50	717677	8562737	4
406	Wild Passion Fruit	3	50	717677	8563724	1

407	Gamba Grass	3	50	717680	8564340	1
408	Gamba Grass	3	50	717682	8563725	1
409	Para Grass	3	100	717683	8562466	4
410	Gamba Grass	3	100	717683	8563807	1
411	Gamba Grass	3	50	717684	8564408	1
412	Para Grass	5	100	717684	8563806	1
413	Mission Grass	4	50	717684	8563809	1
414	Gamba Grass	3	100	717687	8563852	1
415	Gamba Grass	3	100	717687	8564190	1
416	Wild Passion Fruit	2	100	717687	8564191	1
417	Para Grass	4	100	717688	8563852	1
418	Mission Grass	3	100	717688	8563859	1
419	Gamba Grass	2	100	717690	8564608	1
420	Gamba Grass	4	100	717692	8562653	4
421	Hyptis	3	100	717692	8562657	4
422	Wild Passion Fruit	3	100	717692	8562653	4
423	Mission Grass	4	100	717693	8562654	4
424	Gamba Grass	4	100	717694	8562831	4
425	Mission Grass	2	100	717694	8562831	4
426	Gamba Grass	3	100	717700	8563939	1
427	Gamba Grass	4	100	717712	8562958	4
428	Mission Grass	2	5	717714	8562380	3
429	Gamba Grass	3	50	717715	8564021	1
430	Gamba Grass	3	10	717717	8563682	1
431	Para Grass	3	20	717720	8563685	1
432	Gamba Grass	4	50	717728	8563558	1
433	Gamba Grass	5	100	717729	8564379	1
434	Hyptis	2	100	717732	8562547	4
435	Hyptis	4	100	717732	8562745	4
436	Mission Grass	5	100	717732	8564402	1
437	Wild Passion Fruit	3	100	717734	8562749	4
438	Gamba Grass	5	100	717734	8564392	1
439	Gamba Grass	4	100	717735	8564447	1
440	Wild Passion Fruit	3	50	717735	8563731	1
441	Para Grass	3	100	717736	8562546	4
442	Gamba Grass	3	100	717736	8562546	4
443	Mission Grass	3	100	717736	8564393	1
444	Gamba Grass	3	100	717738	8562747	4
445	Para Grass	2	100	717738	8562745	4
446	Gamba Grass	5	100	717741	8564472	1
447	Gamba Grass	3	50	717742	8563731	1
448	Mission Grass	3	100	717744	8562835	4
449	Gamba Grass	4	100	717745	8562834	4
450	Calopo	4	50	717747	8564403	1
451	Hyptis	2	100	717748	8562833	4
452	Gamba Grass	5	20	717748	8563664	1
453	Hyptis	5	20	717749	8563664	1
454	Mission Grass	2	5	717749	8563664	1
455	Hyptis	3	100	717750	8562460	4
456	Gamba Grass	4	100	717752	8564234	1
457	Wild Passion Fruit	3	100	717753	8562461	4

458	Gamba Grass	3	100	717753	8562461	4
459	Mission Grass	4	100	717757	8562917	4
460	Gamba Grass	3	100	717761	8562917	4
461	Olive Hymenachne	3	100	717762	8562918	4
462	Wild Passion Fruit	2	10	717764	8563730	1
463	Mission Grass	3	10	717766	8563726	1
464	Gamba Grass	4	100	717767	8562769	4
465	Gamba Grass	2	20	717776	8563631	1
466	Mission Grass	3	100	717776	8563841	1
467	Para Grass	4	100	717776	8563845	1
468	Gamba Grass	3	100	717781	8563837	1
469	Wild Passion Fruit	3	50	717784	8564142	1
470	Gamba Grass	4	50	717786	8563777	1
471	Gamba Grass	4	100	717786	8564144	1
472	Wild Passion Fruit	3	20	717787	8563793	1
473	Mission Grass	4	50	717787	8563774	1
474	Wild Passion Fruit	3	50	717787	8563776	1
475	Olive Hymenachne	4	100	717788	8562712	4
476	Para Grass	3	100	717788	8563776	1
477	Para Grass	3	100	717790	8562710	4
478	Mission Grass	4	50	717790	8563793	1
479	Hyptis	3	100	717792	8562712	4
480	Gamba Grass	3	50	717794	8563790	1
481	Para Grass	3	100	717801	8562906	4
482	Hyptis	3	100	717803	8562904	4
483	Gamba Grass	3	20	717803	8563672	1
484	Gamba Grass	3	100	717804	8562904	4
485	Gamba Grass	3	100	717804	8562856	4
486	Wild Passion Fruit	3	100	717805	8562904	4
487	Hyptis	3	50	717805	8563672	1
488	Para Grass	3	100	717806	8563937	1
489	Gamba Grass	3	100	717807	8563141	4
490	Coffee Bush	2	100	717808	8563145	4
491	Gamba Grass	4	50	717808	8563676	1
492	Gamba Grass	3	100	717811	8564362	1
493	Gamba Grass	3	100	717816	8563992	1
494	Para Grass	3	50	717818	8563992	1
495	Gamba Grass	4	100	717819	8562627	4
496	Hyptis	3	20	717823	8563797	1
497	Wild Passion Fruit	2	10	717829	8563762	1
498	Para Grass	4	20	717829	8563762	1
499	Gamba Grass	5	100	717830	8563762	1
500	Gamba Grass	4	100	717831	8562760	4
501	Gamba Grass	3	50	717831	8563792	1
502	Mission Grass	2	50	717831	8563793	1
503	Mission Grass	2	5	717834	8562341	3
504	Gamba Grass	2	100	717838	8562881	4
505	Olive Hymenachne	3	100	717840	8562959	4
506	Gamba Grass	4	50	717841	8563688	1
507	Mission Grass	3	100	717842	8562959	4
508	Hyptis	3	100	717843	8562957	4

509	Para Grass	3	100	717843	8562961	4
510	Guinea Grass	3	100	717843	8562959	4
511	Gamba Grass	3	100	717847	8562958	4
512	Wild Passion Fruit	3	100	717847	8562961	4
513	Hyptis	3	100	717848	8562422	4
514	Gamba Grass	3	100	717849	8562421	4
515	Para Grass	3	100	717849	8562421	4
516	Wild Passion Fruit	2	100	717849	8562421	4
517	Para Grass	3	20	717851	8563669	1
518	Gamba Grass	3	100	717853	8562544	4
519	Gamba Grass	3	100	717853	8562681	4
520	Para Grass	3	100	717857	8562544	4
521	Gamba Grass	2	5	717859	8564623	1
522	Gamba Grass	4	100	717863	8564412	1
523	Gamba Grass	4	100	717867	8564103	1
524	Mission Grass	3	50	717867	8563771	1
525	Olive Hymenachne	5	100	717870	8562740	4
526	Mission Grass	4	100	717870	8562741	4
527	Para Grass	3	100	717870	8562741	4
528	Olive Hymenachne	4	50	717870	8562826	4
529	Gamba Grass	4	100	717872	8562741	4
530	Gamba Grass	3	50	717873	8563768	1
531	Gamba Grass	3	100	717873	8563822	1
532	Mission Grass	3	100	717874	8563824	1
533	Gamba Grass	5	100	717883	8563095	4
534	Mimosa	3	100	717883	8564242	1
535	Para Grass	3	100	717884	8563095	4
536	Olive Hymenachne	4	100	717886	8563095	4
537	Guinea Grass	4	100	717887	8564240	1
538	Gamba Grass	3	100	717895	8563919	1
539	Gamba Grass	3	100	717896	8562905	4
540	Para Grass	4	50	717897	8563826	1
541	Guinea Grass	3	20	717897	8563766	1
542	Mission Grass	3	20	717897	8563766	1
543	Gamba Grass	4	100	717898	8563826	1
544	Mission Grass	4	100	717899	8562904	4
545	Wild Passion Fruit	3	100	717899	8562906	4
546	Olive Hymenachne	4	100	717899	8563166	4
547	Para Grass	4	100	717899	8563166	4
548	Gamba Grass	4	50	717899	8563766	1
549	Wild Passion Fruit	4	20	717900	8564341	1
550	Hyptis	3	100	717901	8562906	4
551	Hyptis	2	100	717901	8563168	4
552	Gamba Grass	3	100	717901	8564340	1
553	Gamba Grass	3	100	717902	8563166	4
554	Gamba Grass	4	100	717903	8562473	4
555	Gamba Grass	3	100	717905	8563661	1
556	Para Grass	3	100	717905	8563661	1
557	Olive Hymenachne	5	50	717909	8562570	4
558	Gamba Grass	3	100	717920	8562371	4
559	Wild Passion Fruit	2	100	717920	8562375	4

560	Gamba Grass	4	100	717926	8564414	1
561	Hyptis	3	100	717928	8562369	4
562	Para Grass	3	100	717928	8562368	4
563	Mission Grass	3	100	717929	8562368	4
564	Gamba Grass	2	5	717931	8564578	1
565	Natal Grass	3	20	717932	8563051	4
566	Gamba Grass	4	100	717933	8564409	1
567	Mission Grass	3	100	717937	8564426	1
568	Gamba Grass	4	100	717939	8562777	4
569	Gamba Grass	5	100	717939	8562776	4
570	Gamba Grass	3	100	717941	8563048	4
571	Para Grass	4	100	717942	8563049	4
572	Gamba Grass	4	100	717943	8564407	1
573	Gamba Grass	4	50	717953	8564360	1
574	Gamba Grass	4	100	717953	8564406	1
575	Gamba Grass	3	100	717955	8562837	4
576	Mission Grass	4	100	717955	8562841	4
577	Hyptis	4	100	717956	8562839	4
578	Gamba Grass	3	100	717958	8562514	4
579	Gamba Grass	4	100	717959	8564409	1
580	Gamba Grass	3	100	717961	8562491	4
581	Gamba Grass	4	100	717962	8564411	1
582	Gamba Grass	3	100	717963	8564208	1
583	Gamba Grass	4	100	717964	8564413	1
584	Gamba Grass	3	100	717965	8563825	1
585	Mimosa	3	100	717965	8564209	1
586	Guinea Grass	3	100	717966	8562958	4
587	Para Grass	3	100	717966	8564209	1
588	Para Grass	3	20	717966	8563766	1
589	Gamba Grass	2	50	717968	8563765	1
590	Wild Passion Fruit	2	100	717970	8562961	4
591	Gamba Grass	5	100	717973	8562960	4
592	Gamba Grass	4	100	717973	8564062	1
593	Olive Hymenachne	5	100	717974	8562653	4
594	Para Grass	3	100	717975	8564058	1
595	Para Grass	5	100	717981	8562705	4
596	Gamba Grass	4	100	717983	8562420	4
597	Gamba Grass	3	100	717984	8563137	4
598	Hyptis	3	100	717985	8563141	4
599	Para Grass	4	100	717985	8563138	4
600	Olive Hymenachne	4	100	717985	8563141	4
601	Gamba Grass	3	100	717987	8563640	1
602	Gamba Grass	4	100	717989	8562688	4
603	Wild Passion Fruit	2	100	717989	8562421	4
604	Gamba Grass	2	100	717993	8563968	1
605	Gamba Grass	4	100	717994	8562732	4
606	Gamba Grass	3	100	717994	8564567	1
607	Mission Grass	3	100	717994	8563969	1
608	Para Grass	3	50	717994	8563758	1
609	Gamba Grass	2	100	717994	8564459	1
610	Gamba Grass	3	50	717995	8563757	1

611	Para Grass	3	50	717999	8563830	1
612	Gamba Grass	4	100	718001	8564407	1
613	Guinea Grass	4	100	718007	8563826	1
614	Gamba Grass	3	100	718009	8563826	1
615	Gamba Grass	4	100	718010	8562819	4
616	Mission Grass	2	100	718017	8564438	1
617	Gamba Grass	4	100	718018	8564405	1
618	Para Grass	3	100	718020	8562326	4
619	Gamba Grass	3	100	718021	8563885	1
620	Para Grass	3	100	718021	8563888	1
621	Para Grass	4	100	718022	8562910	4
622	Hyptis	3	100	718023	8562327	4
623	Olive Hymenachne	3	100	718023	8562910	4
624	Gamba Grass	4	100	718024	8562486	4
625	Gamba Grass	4	100	718025	8562323	4
626	Gamba Grass	5	100	718026	8562910	4
627	Gamba Grass	3	20	718027	8564385	1
628	Gamba Grass	4	100	718029	8563000	4
629	Mission Grass	4	100	718029	8563003	4
630	Para Grass	4	100	718029	8563003	4
631	Para Grass	4	100	718031	8562601	4
632	Gamba Grass	3	100	718032	8562904	4
633	Guinea Grass	4	100	718032	8563004	4
634	Gamba Grass	4	100	718033	8562602	4
635	Olive Hymenachne	3	100	718033	8562601	4
636	Gamba Grass	3	100	718033	8563187	3
637	Gamba Grass	4	100	718033	8564403	1
638	Olive Hymenachne	3	100	718035	8562599	4
639	Para Grass	4	100	718035	8562601	4
640	Para Grass	3	100	718035	8562902	4
641	Para Grass	2	50	718038	8563734	1
642	Olive Hymenachne	4	100	718039	8562800	4
643	Olive Hymenachne	4	100	718039	8562802	4
644	Para Grass	3	100	718040	8562803	4
645	Gamba Grass	4	100	718042	8564402	1
646	Para Grass	3	100	718043	8563819	1
647	Gamba Grass	2	50	718043	8563733	1
648	Guinea Grass	3	100	718047	8563819	1
649	Gamba Grass	3	100	718049	8563812	1
650	Gamba Grass	2	5	718051	8562252	3
651	Para Grass	4	100	718054	8563071	4
652	Olive Hymenachne	4	100	718054	8563069	4
653	Gamba Grass	4	100	718055	8563068	4
654	Gamba Grass	2	100	718056	8564518	1
655	Gamba Grass	4	100	718066	8564392	1
656	Gamba Grass	4	20	718072	8562834	4
657	Gamba Grass	4	100	718073	8564390	1
658	Gamba Grass	3	100	718074	8563982	1
659	Gamba Grass	3	100	718076	8562386	4
660	Para Grass	3	100	718076	8563863	1
661	Gamba Grass	3	50	718076	8563607	1

662	Gamba Grass	3	100	718077	8563865	1
663	Gamba Grass	3	100	718079	8562615	4
664	Mission Grass	3	100	718079	8563981	1
665	Gamba Grass	4	100	718080	8564389	1
666	Gamba Grass	4	100	718083	8563112	3
667	Para Grass	3	50	718084	8563804	1
668	Gamba Grass	3	50	718085	8563798	1
669	Guinea Grass	3	20	718092	8562996	4
670	Gamba Grass	4	100	718097	8562690	4
671	Gamba Grass	3	50	718099	8563724	1
672	Para Grass	5	100	718105	8562770	4
673	Olive Hymenachne	3	100	718112	8563005	4
674	Para Grass	4	100	718114	8563005	4
675	Gamba Grass	4	100	718115	8563002	4
676	Mission Grass	3	100	718115	8564517	1
677	Guinea Grass	4	100	718116	8563002	4
678	Para Grass	3	100	718117	8562316	4
679	Gamba Grass	4	20	718127	8562848	4
680	Hyptis	2	100	718129	8562519	4
681	Coffee Bush	3	100	718133	8562520	4
682	Gamba Grass	3	100	718133	8562517	4
683	Olive Hymenachne	4	100	718133	8563025	3
684	Mission Grass	4	100	718134	8564375	1
685	Mission Grass	3	100	718138	8562519	4
686	Gamba Grass	4	100	718138	8564226	1
687	Flannel Weed	3	50	718142	8563771	1
688	Gamba Grass	3	50	718143	8563773	1
689	Guinea Grass	3	50	718145	8562915	4
690	Olive Hymenachne	5	100	718148	8562915	4
691	Gamba Grass	2	100	718149	8562440	4
692	Wild Passion Fruit	5	100	718151	8562599	4
693	Para Grass	3	100	718152	8562444	4
694	Hyptis	2	100	718152	8562438	4
695	Mission Grass	3	100	718154	8562438	4
696	Gamba Grass	4	100	718156	8564515	1
697	Hyptis	2	100	718165	8562630	4
698	Wild Passion Fruit	2	50	718165	8562767	4
699	Gamba Grass	4	100	718166	8562704	4
700	Gamba Grass	4	100	718168	8562624	4
701	Gamba Grass	5	100	718168	8563342	2
702	Gamba Grass	5	100	718168	8563231	2
703	Mission Grass	4	100	718169	8562707	4
704	Hyptis	3	50	718169	8562701	4
705	Gamba Grass	3	50	718170	8562883	4
706	Gamba Grass	4	100	718170	8564350	1
707	Para Grass	4	100	718171	8562630	4
708	Mission Grass	3	100	718171	8562626	4
709	Gamba Grass	4	100	718172	8563844	1
710	Para Grass	3	100	718173	8563843	1
711	Wild Passion Fruit	4	20	718178	8562730	4
712	Gamba Grass	3	50	718182	8563965	1

713	Gamba Grass	3	50	718184	8562708	4
714	Gamba Grass	3	100	718184	8564375	1
715	Gamba Grass	2	5	718189	8562520	4
716	Gamba Grass	2	20	718192	8564449	1
717	Mission Grass	4	100	718193	8564659	2
718	Gamba Grass	4	100	718202	8564524	2
719	Gamba Grass	2	100	718204	8564590	2
720	Gamba Grass	5	100	718207	8563572	2
721	Gamba Grass	4	100	718212	8564266	1
722	Gamba Grass	2	100	718218	8564492	2
723	Gamba Grass	4	100	718234	8563648	2
724	Mission Grass	2	5	718237	8562798	3
725	Para Grass	3	100	718238	8563648	2
726	Gamba Grass	2	5	718242	8562789	3
727	Mission Grass	3	100	718246	8564379	2
728	Gamba Grass	3	100	718246	8564380	2
729	Gamba Grass	3	50	718251	8564365	2
730	Para Grass	4	50	718251	8563832	2
731	Mission Grass	3	20	718252	8562696	3
732	Gamba Grass	4	50	718253	8563831	2
733	Gamba Grass	5	100	718254	8563746	2
734	Gamba Grass	5	100	718254	8563195	2
735	Gamba Grass	5	100	718254	8563304	2
736	Hyptis	2	50	718255	8563741	2
737	Gamba Grass	2	100	718258	8564360	2
738	Wild Passion Fruit	2	100	718260	8564364	2
739	Gamba Grass	3	100	718268	8564268	2
740	Gamba Grass	3	100	718271	8563833	2
741	Mission Grass	4	100	718271	8564268	2
742	Guinea Grass	3	100	718271	8564265	2
743	Mission Grass	2	100	718274	8563838	2
744	Para Grass	2	50	718274	8563838	2
745	Guinea Grass	4	40	718274	8563833	2
746	Wild Passion Fruit	3	50	718274	8563829	2
747	Tully	50	3	718280	8562673	3
748	Gamba Grass	5	100	718287	8563546	2
749	Mission Grass	3	100	718287	8564141	2
750	Gamba Grass	4	100	718288	8564145	2
751	Mission Grass	4	100	718289	8563541	2
752	Gamba Grass	3	50	718296	8562353	3
753	Para Grass	3	50	718296	8563700	2
754	Gamba Grass	3	100	718297	8564304	2
755	Gamba Grass	4	100	718300	8563701	2
756	Mission Grass	3	100	718301	8562619	3
757	Gamba Grass	5	100	718302	8563669	2
758	Gamba Grass	3	100	718312	8564667	2
759	Mission Grass	4	100	718313	8564090	2
760	Gamba Grass	3	100	718316	8562611	3
761	Gamba Grass	4	50	718317	8562651	3
762	Mission Grass	4	100	718318	8564666	2
763	Mission Grass	3	100	718320	8564431	2

764	Gamba Grass	4	100	718321	8564087	2
765	Gamba Grass	5	100	718322	8564220	2
766	Wild Passion Fruit	2	100	718322	8564222	2
767	Gamba Grass	5	100	718325	8564168	2
768	Mission Grass	5	100	718331	8564125	2
769	Gamba Grass	2	50	718333	8563882	2
770	Wild Passion Fruit	4	100	718350	8564284	2
771	Mission Grass	4	100	718357	8564285	2
772	Gamba Grass	3	50	718360	8562342	3
773	Gamba Grass	3	100	718360	8564289	2
774	Gamba Grass	3	100	718366	8564049	2
775	Gamba Grass	4	100	718370	8563302	2
776	Gamba Grass	5	100	718373	8563575	2
777	Gamba Grass	5	100	718373	8564260	2
778	Gamba Grass	5	100	718374	8563202	2
779	Gamba Grass	3	100	718379	8563739	2
780	Wild Passion Fruit	3	50	718383	8563743	2
781	Gamba Grass	3	50	718389	8563862	2
782	Mission Grass	2	20	718390	8563863	2
783	Gamba Grass	4	50	718391	8562620	3
784	Gamba Grass	4	50	718395	8562634	3
785	Gamba Grass	3	100	718396	8564645	2
786	Mission Grass	3	50	718400	8564038	2
787	Gamba Grass	3	100	718400	8564430	2
788	Mission Grass	4	100	718411	8562568	3
789	Gamba Grass	4	100	718417	8564242	2
790	Mission Grass	4	100	718420	8564207	2
791	Wild Passion Fruit	3	100	718420	8564208	2
792	Gamba Grass	5	100	718423	8564217	2
793	Gamba Grass	2	100	718424	8563682	2
794	Hyptis	2	50	718426	8563676	2
795	Gamba Grass	3	50	718433	8563783	2
796	Para Grass	3	100	718433	8564529	2
797	Wild Passion Fruit	2	100	718437	8564507	2
798	Gamba Grass	3	100	718438	8564505	2
799	Mission Grass	2	50	718439	8562593	3
800	Para Grass	4	100	718439	8564508	2
801	Mission Grass	3	100	718444	8564091	2
802	Gamba Grass	3	100	718451	8564280	2
803	Gamba Grass	2	100	718452	8564585	2
804	Gamba Grass	4	100	718455	8563638	2
805	Mission Grass	4	100	718456	8564130	2
806	Mission Grass	4	100	718458	8564626	2
807	Wild Passion Fruit	4	100	718459	8563634	2
808	Hyptis	0	100	718462	8563737	2
809	Gamba Grass	3	20	718463	8562531	3
810	Mission Grass	4	100	718468	8564212	2
811	Mission Grass	2	100	718468	8564445	2
812	Gamba Grass	4	100	718469	8564210	2
813	Gamba Grass	3	100	718470	8564564	2
814	Gamba Grass	4	100	718470	8564441	2

815	Gamba Grass	5	100	718470	8563220	2
816	Gamba Grass	4	100	718475	8563990	2
817	Wild Passion Fruit	3	100	718477	8564560	2
818	Gamba Grass	2	100	718478	8564408	2
819	Gamba Grass	2	20	718482	8563691	2
820	Gamba Grass	2	50	718484	8563692	2
821	Gamba Grass	2	100	718485	8564367	2
822	Gamba Grass	5	100	718492	8563351	2
823	Gamba Grass	4	20	718494	8562613	3
824	Gamba Grass	3	50	718502	8564245	2
825	Gamba Grass	3	100	718508	8564289	2
826	Gamba Grass	4	50	718512	8562486	3
827	Gamba Grass	3	100	718520	8562229	3
828	Gamba Grass	3	100	718521	8564051	2
829	Mission Grass	4	50	718529	8562477	3
830	Mission Grass	3	100	718539	8564123	2
831	Gamba Grass	3	100	718540	8564122	2
832	Gamba Grass	4	50	718541	8562453	3
833	Mission Grass	3	100	718541	8564662	2
834	Gamba Grass	3	50	718542	8562549	3
835	Wild Passion Fruit	3	50	718542	8564562	2
836	Gamba Grass	3	100	718543	8564560	2
837	Gamba Grass	3	100	718543	8563940	2
838	Gamba Grass	4	100	718543	8564464	2
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840	Gamba Grass	4	100	718551	8564318	2
841	Gamba Grass	3	20	718561	8562073	3
842	Gamba Grass	4	100	718561	8562281	3
843	Gamba Grass	5	100	718561	8564209	2
844	Mission Grass	4	50	718570	8562429	3
845	Mission Grass	2	100	718581	8564619	2
846	Gamba Grass	5	100	718585	8563275	2
847	Gamba Grass	3	20	718591	8563672	2
848	Mission Grass	3	50	718594	8564548	2
849	Gamba Grass	3	100	718595	8564397	2
850	Wild Passion Fruit	2	100	718600	8564007	2
851	Gamba Grass	4	50	718601	8562309	3
852	Gamba Grass	2	50	718601	8563674	2
853	Gamba Grass	3	100	718602	8564008	2
854	Gamba Grass	5	100	718605	8563386	2
855	Mission Grass	4	100	718612	8564076	2
856	Gamba Grass	4	50	718614	8562259	3
857	Gamba Grass	4	100	718623	8563950	2
858	Gamba Grass	4	50	718627	8562474	3
859	Gamba Grass	2	50	718627	8563597	2
860	Hyptis	2	20	718627	8563595	2
861	Gamba Grass	4	50	718633	8562426	3
862	Gamba Grass	3	50	718633	8564535	2
863	Gamba Grass	5	100	718634	8564216	2
864	Gamba Grass	2	50	718645	8562341	3
865	Gamba Grass	5	100	718651	8564073	2

866	Gamba Grass	3	100	718659	8564062	2
867	Gamba Grass	2	20	718664	8563612	2
868	Mission Grass	3	20	718679	8563552	2
869	Wild Passion Fruit	3	20	718687	8562319	3
870	Gamba Grass	3	100	718689	8562315	3
871	Gamba Grass	3	50	718696	8564494	2
872	Gamba Grass	5	100	718697	8564136	2
873	Wild Passion Fruit	3	100	718698	8562219	3
874	Gamba Grass	3	100	718699	8562216	3
875	Gamba Grass	5	100	718699	8563322	2
876	Gamba Grass	3	50	718703	8564008	2
877	Para Grass	4	20	718707	8563499	2
878	Gamba Grass	3	100	718709	8563501	2
879	Para Grass	2	20	718716	8563574	2
880	Hyptis	3	100	718717	8563571	2
881	Gamba Grass	4	20	718719	8562158	3
882	Gamba Grass	2	20	718722	8563538	2
883	Gamba Grass	5	100	718732	8563821	2
884	Gamba Grass	4	100	718732	8564028	2
885	Wild Passion Fruit	2	20	718737	8563598	2
886	Gamba Grass	5	100	718737	8564213	2
887	Para Grass	2	20	718738	8563595	2
888	Hyptis	2	20	718740	8563598	2
889	Gamba Grass	5	50	718740	8564430	2
890	Gamba Grass	5	100	718754	8563426	2
891	Mission Grass	2	100	718764	8564580	2
892	Gamba Grass	3	20	718765	8563575	2
893	Gamba Grass	4	100	718766	8564327	2
894	Gamba Grass	5	100	718774	8563737	2
895	Gamba Grass	5	100	718779	8563906	2
896	Gamba Grass	3	100	718782	8563970	2
897	Para Grass	3	50	718786	8563603	2
898	Para Grass	2	50	718798	8563626	2
899	Gamba Grass	3	20	718799	8563578	2
900	Gamba Grass	3	20	718801	8563623	2
901	Gamba Grass	2	20	718819	8563665	2
902	Para Grass	2	50	718819	8563705	2
903	Gamba Grass	3	100	718821	8564116	2
904	Gamba Grass	2	20	718822	8563668	2
905	Hyptis	2	100	718824	8563636	2
906	Para Grass	4	20	718827	8563640	2
907	Gamba Grass	3	50	718843	8563613	2
908	Mission Grass	3	100	718843	8564559	2
909	Gamba Grass	5	100	718848	8563344	2
910	Gamba Grass	3	50	718861	8564269	2
911	Gamba Grass	5	100	718861	8564189	2
912	Para Grass	2	50	718871	8563673	2
913	Gamba Grass	4	100	718874	8564556	2
914	Gamba Grass	4	20	718877	8563668	2
915	Gamba Grass	4	20	718892	8563635	2
916	Para Grass	2	50	718892	8563633	2

917	Hyptis	3	20	718895	8563634	2
918	Gamba Grass	5	100	718901	8563446	2
919	Gamba Grass	3	100	718918	8562735	3
920	Gamba Grass	3	100	718932	8562804	3
921	Gamba Grass	3	20	718940	8563623	2
922	Gamba Grass	4	50	718943	8564062	2
923	Gamba Grass	5	100	718954	8564218	2
924	Gamba Grass	3	50	718971	8563651	2
925	Gamba Grass	3	50	718985	8563619	2
926	Gamba Grass	5	100	718986	8563400	2
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928	Para Grass	3	100	719006	8563539	2
929	Gamba Grass	4	100	719008	8563543	2
930	Gamba Grass	3	100	719011	8564333	2
931	Guinea Grass	3	100	719012	8563539	2
932	Grader Gr	3	50	719015	8564321	2
933	Guinea Grass	4	50	719026	8563447	2
934	Gamba Grass	4	100	719042	8563957	2
935	Mission Grass	3	100	719043	8564530	2
936	Gamba Grass	5	100	719054	8564216	2
937	Para Grass	5	50	719058	8563631	2
938	Gamba Grass	5	100	719059	8563358	2
939	Gamba Grass	3	20	719060	8563633	2
940	Mission Grass	3	100	719063	8563356	2
941	Guinea Grass	5	100	719068	8562973	3
942	Gamba Grass	5	100	719072	8563664	2
943	Para Grass	5	100	719075	8563664	2
944	Gamba Grass	4	50	719081	8564355	2
945	Guinea Grass	5	100	719083	8563082	3
946	Para Grass	4	100	719084	8563609	2
947	Gamba Grass	3	20	719085	8563612	2
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950	Gamba Grass	5	100	719101	8564122	2
951	Gamba Grass	3	20	719112	8562461	3
952	Gamba Grass	4	100	719114	8563889	2
953	Mission Grass	4	100	719120	8564517	2
954	Gamba Grass	5	100	719121	8563173	3
955	Gamba Grass	3	50	719123	8562817	3
956	Para Grass	5	100	719126	8563605	2
957	Gamba Grass	4	50	719128	8563604	2
958	Para Grass	5	100	719134	8563521	2
959	Gamba Grass	3	50	719135	8563520	2
960	Gamba Grass	2	50	719137	8563558	2
961	Olive Hymenachne	2	50	719138	8563560	2
962	Gamba Grass	3	100	719140	8563447	2
963	Para Grass	3	100	719141	8563446	2
964	Gamba Grass	4	100	719154	8563972	2
965	Gamba Grass	5	100	719159	8562977	3
966	Para Grass	3	100	719165	8563823	2
967	Gamba Grass	5	100	719165	8564213	2

968	Gamba Grass	3	100	719172	8563823	2
969	Gamba Grass	3	100	719177	8563583	2
970	Gamba Grass	5	100	719177	8563089	3
971	Gamba Grass	3	100	719180	8563586	2
972	Hyptis	3	20	719180	8563584	2
973	Calopo	5	100	719188	8563271	2
974	Gamba Grass	3	100	719193	8562707	3
975	Gamba Grass	4	100	719198	8563744	2
976	Gamba Grass	5	100	719201	8564129	2
977	Olive Hymenachne	5	100	719204	8563302	2
978	Para Grass	4	100	719206	8564299	2
979	Para Grass	4	100	719209	8563423	2
980	Gamba Grass	5	100	719210	8563429	2
981	Gamba Grass	3	20	719214	8564422	2
982	Gamba Grass	3	100	719225	8564010	2
983	Gamba Grass	3	100	719232	8563851	2
984	Gamba Grass	5	100	719243	8563184	3
985	Para Grass	5	50	719246	8563596	2
986	Gamba Grass	4	100	719248	8563593	2
987	Para Grass	3	100	719257	8564022	2
988	Gamba Grass	4	100	719265	8563082	3
989	Olive Hymenachne	4	100	719266	8563256	2
990	Para Grass	4	100	719268	8563257	2
991	Guinea Grass	5	100	719268	8562984	3
992	Gamba Grass	5	100	719276	8564202	2
993	Mission Grass	3	100	719285	8564491	2
994	Gamba Grass	4	100	719287	8563845	2
995	Gamba Grass	5	100	719289	8563457	2
996	Gamba Grass	3	100	719292	8563998	2
997	Para Grass	4	100	719294	8563578	2
998	Gamba Grass	5	100	719295	8563369	2
999	Gamba Grass	5	100	719297	8563579	2
1000	Para Grass	2	50	719301	8563515	2
1001	Gamba Grass	5	100	719302	8563518	2
1002	Olive Hymenachne	2	50	719304	8563518	2
1003	Para Grass	5	100	719308	8563304	2
1004	Gamba Grass	5	100	719309	8563693	2
1005	Gamba Grass	3	50	719321	8562617	3
1006	Calopo	3	100	719338	8563349	2
1007	Gamba Grass	3	50	719354	8563014	3
1008	Guinea Grass	5	100	719354	8563186	3
1009	Gamba Grass	3	100	719360	8563782	2
1010	Guinea Grass	5	100	719374	8563089	3
1011	Gamba Grass	3	100	719379	8563613	2
1012	Mission Grass	4	20	719382	8563608	2
1013	Gamba Grass	4	100	719388	8563446	2
1014	Sida	2	20	719391	8563441	2
1015	Para Grass	4	100	719391	8563735	2
1016	Mission Grass	3	50	719392	8563444	2
1017	Para Grass	4	100	719392	8563280	2
1018	Olive Hymenachne	4	100	719394	8563278	2

1019	Gamba Grass	3	100	719411	8563994	2
1020	Guinea Grass	5	100	719416	8562957	3
1021	Gamba Grass	5	100	719417	8563517	2
1022	Gamba Grass	3	100	719422	8563715	2
1023	Gamba Grass	5	100	719452	8563089	3
1024	Gamba Grass	3	100	719465	8564047	2
1025	Gamba Grass	3	100	719491	8563844	2
1026	Gamba Grass	5	100	719495	8563414	2
1027	Calopo	3	100	719498	8563578	2
1028	Wild Passion Fruit	2	100	719499	8563575	2
1029	Gamba Grass	4	100	719500	8563575	2
1030	Mission Grass	3	100	719501	8563479	2
1031	Guinea Grass	5	100	719501	8563009	3
1032	Gamba Grass	3	100	719502	8563480	2
1033	Snakeweed	3	100	719504	8563370	2
1034	Para Grass	3	100	719505	8563391	2
1035	Calopo	3	100	719506	8563391	2
1036	Wild Passion Fruit	4	100	719507	8563393	2
1037	Gamba Grass	3	100	719508	8563707	2
1038	Gamba Grass	3	100	719509	8563396	2
1039	Gamba Grass	3	100	719513	8562928	3
1040	Gamba Grass	4	100	719514	8563756	2
1041	Gamba Grass	4	100	719519	8563636	2
1042	Gamba Grass	5	100	719521	8563344	2
1043	Snakeweed	4	50	719523	8563343	2
1044	Calopo	4	100	719526	8563340	2
1045	Wild Passion Fruit	3	50	719528	8563344	2
1046	Gamba Grass	3	100	719528	8562766	3
1047	Guinea Grass	5	100	719550	8563275	2
1048	Gamba Grass	4	100	719562	8563990	2
1049	Gamba Grass	3	20	719600	8564409	2
1050	Gamba Grass	4	100	719601	8563417	2
1051	Olive Hymenachne	3	100	719606	8563186	2
1052	Gamba Grass	4	100	719640	8564062	2
1053	Gamba Grass	5	100	719648	8563311	2
1054	Gamba Grass	3	100	719686	8564157	2
1055	Gamba Grass	4	100	719696	8564078	2
1056	Gamba Grass	3	100	719705	8563171	2
1057	Gamba Grass	3	100	719706	8564142	2
1058	Gamba Grass	3	100	719740	8564183	2
1059	Gamba Grass	5	100	719741	8563302	2
1060	Guinea Grass	5	100	719743	8563400	2
1061	Gamba Grass	3	100	719746	8564210	2
1062	Gamba Grass	3	100	719749	8564182	2
1063	Mission Grass	2	100	719769	8564054	2
1064	Wild Passion Fruit	3	100	719776	8563227	2
1065	Gamba Grass	4	100	719782	8563237	2
1066	Mission Grass	2	100	719795	8564184	2
1067	Gamba Grass	4	100	719803	8563285	2
1068	Gamba Grass	3	100	719805	8564282	2
1069	Olive Hymenachne	3	100	719809	8563299	2

1070	Mission Grass	3	100	719821	8564412	2
1071	Gamba Grass	3	50	719822	8562978	3
1072	Gamba Grass	2	100	719829	8564047	2
1073	Mission Grass	2	100	719829	8563773	2
1074	Gamba Grass	2	100	719833	8564377	2
1075	Wild Passion Fruit	5	100	719835	8563349	2
1076	Gamba Grass	3	20	719836	8563069	3
1077	Olive Hymenachne	3	100	719836	8563348	2
1078	Olive Hymenachne	3	100	719838	8563290	2
1079	Wild Passion Fruit	3	100	719842	8563361	2
1080	Olive Hymenachne	3	50	719844	8563363	2
1081	Mission Grass	3	100	719848	8563546	2
1082	Mission Grass	2	100	719849	8563430	2
1083	Gamba Grass	4	100	719849	8563399	2
1084	Paddy's Lucerne	4	50	718142	8563935	1
1085	Grader Grass	3	50	717579	8564231	1
1086	Mimosa	4	20	717418	8564090	1
1087	Mimosa	3	20	717312	8564080	1
1088	Mimosa	4	20	716863	8564020	1
1089	Mimosa	4	50	716944	8563988	1
1090	Mimosa	3	20	717169	8563400	1
1091	Coffee Bush	4	100	716989	8563397	1
1092	Grader Grass	4	100	717816	8562600	2
1093	Grader Grass	3	20	717752	8562666	2
1094	Grader Grass	4	50	717779	8562747	2
1095	Grader Grass	4	50	717793	8562800	2
1096	Phyllanthus species	4	100	718106	8563034	3
1097	Grader Grass	4	100	718073	8562344	2

Appendix 1
Herbicide Material Safety Data Sheets

Appendix 2
Technical Weed Information