Laterite Conservation Park (LCP)
Draft Weed Control Plan

Date: February 2006
Version: 2006.1
Review Date: December 2006

1. Background

Separate weed control plans have been developed for Laterite Conservation Park (LCP), Mitchell River National Park (MRNP), Camp Creek Conservation Park (CCCP) and Lawley River National Park (LRNP). All four parks take a large off reserve area into consideration to prevent the introduction of weeds onto conservation estate.
Laterite Conservation Park has only recently been added to the conservation estate and is presently largely weed free. It is anticipated that there will be increased numbers of visitors to the adjacent off reserve area, along with the possible establishment of communities, potential mining exploration and other activities. This will lead to increased traffic on the track along the northern boundary of the conservation park and hence to an increased risk of weed invasion and establishment.
Given the lack of a complete survey of Laterite Conservation Park and the vicinity to visitor access, weed survey and control actions on this park will be equally prioritised.

Size: 12 191 ha

Vegetation

- Eucalyptus forest and woodlands
- Eucalyptus woodland with tussock grass understorey
- Mixes species low woodland

Land Systems

- Foster
- Barton
- Napier
- Buldiva

Past Use

- Traditional land use
- Mining and exploration

2. Strategic Priorities for Action

Objective	Action	Time frame	Responsibility	Priority H=High M=Moderate L=Low
Build on experience	Evaluate weed control actions to date	Feb 06	RNC Officer NC Officer Senior Ranger	H
Weed control plan for LCP	Finalise weed control plan with maps and rolling works program	Apr 06	RNC Officer NC Officer Senior Ranger	H
Good record keeping and data accessibility	Cooperate in development of standardised record keeping and database. Training in use of database and access of data.	ongoing	RNC Officer RLNCO NC Officers Senior Ranger All Park staff	H
A certified and well prepared work team	Identify gaps in training, materials and equipment. Support and train staff in control methods, record keeping and monitoring and evaluation.	ongoing	Senior Ranger RLNCO RNC Officer NC Officers	H
Develop and implement works programs	Develop and implement works programs to control weeds in LCP and adjacent off reserve area.	ongoing	Senior Ranger	H
Eradicate new, recent and low density incursions	Identify and implement achievable eradication projects for Hyptis suaveolens, Acanthospermum hispidum, Passiflora foetida, Sida acuta and Sida cordifolia	ongoing	Senior Ranger All Park staff RNC Officer NC Officers	H
Prevent entry and further spread of weeds in LCP	Control weeds in adjacent off reserves areas. Remove weeds from all visitor access areas to prevent weed spread into LCP. Assist in efforts to remove cattle from areas adjacent to conservation park to prevent spread of weeds by cattle.	ongoing	Senior Ranger All Park staff RNC Officer NC Officers	H
Education and Awareness for Park visitors	Establish a notice board dedicated to enhance weed awareness among visitors, focusing on how they can help. Include tour operators to enhance education and awareness.	ongoing	Senior Ranger All Park staff	M

Objective	Action	Time frame	Responsibility	Priority H=High M=Moderate L=Low
Cooperate with all stakeholders in weed control.	Work in cooperation with TOs, mining companies and their contractors and tour operators.	ongoing	Senior Ranger All Park staff	M
Expand areas surveyed for weeds.	Survey LCP and all visitor areas on off reserve area including track on northern boundary, creek lines in vicinity of Kandiwal community and King Edward River in vicinity of camp grounds.	ongoing	RNC Officer NC Officers Senior Ranger All Park staff	H
Monitoring and evaluation of weed status, control activities and effectiveness	Revisit and monitor control sites and high risk invasion sites. Increase knowledge on weed status and effectiveness of control methodologies. Annual review of weed control plan.	ongoing	RNC Officer RLNCO NC Officers Senior Ranger All Park staff	H
Facilitate weed identification on Park.	Develop park specific field guide for weed identification.		RNC Officer Senior Ranger All Park staff	M
Confirm current status of old flora base records.	Utilise Flora Base resource to determine collection locations		Park Rangers NC Officer	L

3. Rolling Works Program Guidelines

Month	Action	Location	Priority H=High M=Moderate L=Low
March	Weed control	All known weed infestations	H
March-June	Weed survey	Ongoing expansion of surveyed areas	H
December	Weed control	All known weed infestations	H

4. Weed Profile

Weeds recorded/observed on site by CALM staff		
LATIN NAME	**COMMON NAME**	**OCCURRANCE**
Acanthospermum hispidum	Goat's head or Starburr	Localised
Hibiscus sabdariffa	Rosella	Localised – single plants
Hyptis suaveolens	Mint Weed	Localised – camps, riparian
Passiflora foetida	Stinking Passion Vine	Localised – art site
Sida acuta	Spiny Headed Sida	Localised – single plants
Sida cordifolia	Flannel Weed	Small area
Tridax procumbens	Tridax Daisy	(Flora base records)
Triumfetta Sp. C	Triumfetta	Localised - camps

Potential weeds (not limited to these species.)	
LATIN NAME	**COMMON NAME**
Acacia farnesiana	Mimosa Bush
Althernanthera pungens	Khaki Burr
Calotropis procera	Rubber bush
Cenchrus biflorus	Gallon's Curse
Cenchrus echinatus	Mossman river Grass
Chloris inflata	Purple Top Chloris
Echinochloa colona	Awnless Barnyard grass
Euphorbia hirta	Asthma Plant
Gomphrena celosiodes	
Pennisetum pedicellatum	
Themeda quadrivalvis	Grader Grass
Tribulus terrestris	Caltrop

5. Past and Current Control Actions

Species	Location	Past & Current control techniques	Notes (including response to disturbance, dispersal and infestation issues.
Acanthospermum hispidum	King Edward River campground 1	Burnt areas of dead plants and seeds fallen on ground in April 04. Sprayed with Amine 500 (2,4-D) at a rate of 50mm per 6 litres of water with wetting agent in December 04. Plants hand pulled and burnt in March 05.	
Hibiscus sabdariffa	King Edward River campground 1	Plants hand pulled and burnt in April 04. Plants hand pulled and burnt in December 04. Plants hand pulled and burnt in March 05.	
	King Edward River campground 2	Plants hand pulled and burnt in March 05.	
	Mitchell Falls campground	Plants hand pulled and burnt in April 04. Plants hand pulled and burnt in December 04.	
	Old EKT camp area	Plants hand pulled and burnt in April 04.	
Hyptis suaveolens	King Edward River campground 1	Plants hand pulled and burnt in April 04. Sprayed with Amine 500 (2,4-D) at a rate of 50mm per 6 litres of water with wetting agent in December 04. Plants hand pulled and burnt in March 05.	
	Mitchell Falls campground	Plants hand pulled and burnt in April 04. Sprayed with Amine 500 (2,4-D) at a rate of 50mm per 6 litres of water with wetting agent in December 04.	
	Area in and around Kandiwal	Plants hand pulled and burnt in March 04	
	Creek crossing and creek fringe areas north of Kandiwal	Sprayed with Amine 500 (2,4-D) at a rate of 50mm per 6 litres of water with wetting agent in December 04. Plants hand pulled and burnt in March 05.	Inspected creek down stream of the crossing and found that the Hyptis had spread further than previously thought, on both sides of the creek as far as KWA's camp area (approx. 400-500mtrs)

Species	Location	Past & Current control techniques	**Notes** (including response to disturbance, dispersal and infestation issues.
	Southern road access into Kandiwal	Plants hand pulled and burnt in March 05.	Hyptis found on both sides of access track starting from the open area at the top of the hill, down to the creek.
	Mitchell Plateau track on and below jump-up west of Lawley lookout	Sprayed with 2,4-D at a rate of 60mm per 8 litres of water with wetting agent in December 04. Plants hand pulled and burnt in March 05.	
	Track to Mitchell Falls campground between airstrip and jump-up	Plants hand pulled and burnt in April 04. Sprayed with Amine 500 (2,4-D) at a rate of 50mm per 6 litres of water with wetting agent in December 04. Plants hand pulled and burnt in March 05.	Area effected is approx. 100mtrs each side of the track – Primarily on the north side. Some plants are very large – flowering and seeding.
	Old EKT camp area	Plants hand pulled and burnt in March 05.	Fairly dense infestation but appears to be contained to the carpark area at the end of the track, also around where the old toilet used to be and some down through the accommodation area.
Hyptus capitata	Mitchell Falls campground	Plants hand pulled and burnt in April 04.	No plants evident in December
Passiflora foetida	Mitchell Falls art site		Noted in January 2006
Sida acuta	King Edward River campground 1	Plants hand pulled and burnt in April 04. Plants hand pulled and burnt in December 04. Plants hand pulled and burnt in March 05.	Bio control is available – The Calligrapha beetle is bred at Frank Wise Research Institute in Knx.
	King Edward River campground 2	Plants hand pulled and burnt in March 05.	
Sida cordifolia	King Edward River campground 2	Plants hand pulled and burnt in March 05.	
Tridax procumbens	Mitchell Plateau camp	none	

Species	Location	Past & Current control techniques	Notes (including response to disturbance, dispersal and infestation issues.
Triumfetta Sp. C	King Edward River campground 1	Sprayed with Amine 500 (2,4-D) at a rate of 50mm per 6 litres of water with wetting agent in December 04. Plants hand pulled and burnt in March 05.	Herbicide application in December 04 has not been effective for this plant.
	King Edward River campground 2	Plants hand pulled and burnt in March 05.	

6. Species by Species Priorities for Action

Species	Impact	Objective	Actions	Priority H=High M=Moderate L=Low
Acanthospermum hispidum	Burr, invader of disturbed grounds.	Eradicate	Spray with 2,4-D, hand pull and burn	H
Hibiscus sabdariffa	Unknown. Doesn't appear to be high impact weed.	Eradicate / monitor	Opportunistic removal, hand pull	L
Hyptis suaveolens	Aggressive pan-tropical weed out-competing native species	Eradicate / minimise impact	Employ a *regular* 2,4-D spray program on actively growing plants. Allow for the provision of time and money to permit wet season access. Avoid slashing or burning. Investigate revegetation with native ground covers/grasses to inhibit re-establishment. Quarantine infested areas.	H
Passiflora foetida	Out-competes native species, suffocates young tree saplings	Eradicate / minimise impact	Hand pulling. Use of volunteers? Investigate other control methods.	H
Sida acuta	Out-competes native species and potential to form monocultures.	Eradicate / minimise impact	Spray with 2,4-D, hand pull and burn	H
Sida cordifolia		Eradicate	Spray with 2,4-D, hand pull and burn	H
Tridax procumbens	Unknown. Doesn't appear to be high impact weed.	Monitor		L
Triumfetta Sp. C	Native nuisance species. Hindering Hyptis and Sida control.	Control localised in conjunction with Hyptis and Sida.		L

7. Species Characteristics

Species recorded	Type	Life Cycle	Flowering / Fruiting (not necessarily local conditions)	Dispersal
Acanthospermum hispidum	Shrub/herb	annual	May-June	Adheres, water
Hibiscus sabdariffa	Shrub/herb	annual	May- June	Bird and animal faeces
Hyptis suaveolens	Shrub/herb	annual	March-August or when moist	Adheres, water
Passiflora foetida	Vine	perennial	February-August	Bird and animal faeces
Sida acuta	Small shrub/herb	annual or perennial	April-Sept	Adheres
Sida cordifolia	Small shrub/herb	annual or perennial	April-Sept	Adheres
Tridax procumbens	Herb	perennial	February-June	
Triumfetta Sp. C	Srub	annual	April-June	Adheres, water

Species with potential to occur	Type	Life Cycle	Flowering / Fruiting (not necessarily local conditions)	Dispersal
Acacia farnesiana	Small tree/bush	perennial	May to Nov	Water, cattle
Althernanthera pungens	Herb	annual or perennial	December-May	Adheres, water
Calotropis procera	Shrub/small tree	perennial	April-August	Wind, water
Cenchrus biflorus	Grass	annual	November-May	Adheres, water
Cenchrus echinatus	Grass	annual or perennial	November-May	Adheres, water
Chloris inflata	Grass	annual	April (when moist)	Wind, water
Echinochloa colona	Grass	perennial	November-May	Wind, water
Euphorbia hirta	Herb	annual or perennial	April-October, January	Wind, water
Gomphrena celosiodes	Herb	annual or perennial	March, April, November	Wind, water
Pennisetum pedicellatum	Grass	annual	May-July	Wind, adheres, water
Themeda quadrivalvis	Grass	annual or perennial	April	Transported, machinery
Tribulus terrestris	Herb	annual or biannual	February-August	Adheres, water

Smith, N.M (2002) *Weeds of the Wet/Dry Tropics of Australia,* Environment Centre NT Inc, Darwin.
Kenneally, K.F., Coules, D., Wiling, T (1996) *Broome and Beyond,* CALM, Western Australia.
Hearne, D.A. (1975) *Trees for Darwin and Northern Australia,* Australian Government Publishing Service, Canberra/

8. Control Methods

This list is not to be considered exhaustive, nor is the chemical status to be considered static. **Ongoing research is required to update and maintain this list.**

ALWAYS REFER TO THE PROCUCT LABEL AND MATERIAL SAFETY DATA SHEET (MSDS) BEFORE PURCHASING AND USING HERBICIDES.

MSDS and Product labels contain information essential information on chemical behaviour in the environment and guide in the environmentally and personally safe application of herbicide products. NOTE: some chemicals will not be appropriate, under any circumstances, for application on CALM managed lands.

Species	Source	Recommended Control	Plant Status Recommended spraying conditions	On/off* label
Acacia farnesiana	Dow Agro Sciences	Access: Diesel 1:60	Basal Bark on stems up to 5cm. Cut Stump for stems larger than this	On (Acacia spp.)
	Dow Agro Sciences	Starane: Water 3L/100L	Basal Bark on stems up to 5cm diameter.	On
Acanthospermum hispidum		1% 2,4-D + surfactant.		
Althernanthera pungens	Summit Agro	2,4-D625: water 1.1-2.2L/ha	Spray as seedlings	Off in WA
Calotropis procera	DAWA 2002	Access:Diesel. 1:60	Cut Stump or Basal Bark on larger trees	On?
	DAWA 2002	Tordon: water 1:50	Seedlings and small trees actively growing.	On?
	DAWA 2002	Grazon: water 1:200	Foliar spray to seedlings and small trees	On?
Cenchrus biflorus		1% Glyphosphate + surfactant + ph buffer	Be aware that this is *Non Selective*	On
Cenchrus echinatus		1% Glyphosphate + surfactant + ph buffer	Be aware that this is *Non Selective*	On
Chloris inflata		1% Glyphosphate + surfactant + ph buffer	Be aware that this is *Non Selective*	On
Echinochloa colona		1% Glyphosphate + surfactant + ph buffer	Be aware that this is *Non Selective*	On
Euphorbia hirta	East Kimb. NCO	1% 2,4-D + surfactant.		
Gomphrena celosiodes	East Kimb. NCO	1% 2,4-D + surfactant.		
Hibiscus sabdariffa		Grub single plants		

Species	Source	Recommended Control	Plant Status Recommended spraying conditions	On/off* label
Hyptis suaveolens	QLD Dept Primary Industries 1977	2% 2,4-D		Off (QLD only?
	East Kimb. NCO	0.2% 2,4-D + surfactant.		
		Grub single plants		
Passiflora foetida	East Kimb. NCO	1% 2,4-D + surfactant.		
		Pull roots where possible		
Pennisetum polystachion		1% Glyphosphate + surfactant + ph buffer	Be aware that this is *Non Selective*	On
Sida acuta	Dow Agro Science DAWA 2002	Starane:Water 1000mL/100L	Seedlings, juveniles, flowering	On
Sida cordifolia	Dow Agro Science DAWA 2002	Starane:Water 1000mL/100L	Seedlings, juveniles, flowering	On
Themeda quadrivalvis		1% Glyphosphate + surfactant + ph buffer	Be aware that this is *Non Selective*	On
Tribulus terrestris	Dow Agro Sciences	Starane:Water 500mL/100L + 'Uptake' Spraying Oil.	Seedlings and up to 30cm diameter.	Off (QLD, NSW only)
	Nufarm	Roundup 360:water 90mL/15L	Be aware that this is *Non Selective*	On
	Summit Agro	2,4-D 625, 1.1L/ha	Foliar application	

*Anybody wishing to use chemicals which have not been registered for specific weed use is required to apply for the appropriate permit through the respective chemical company.

9. Environmental Impact Assessment

Weed survey and control operations must be mindful of potentially detrimental environmental impacts which occur as a result of these actions.
The following issues must be taken into consideration during the planning process. Impacts must be defined as manageable and therefore acceptable, or non acceptable. The management of the former must be determined and planning put in place prior to the outset of any field operations.

POTENTIAL IMPACT	POTENTIAL CAUSE	SUGGESTED MANAGEMENT
Erosion	Removal of weed cover exposes soil and un-consolidates soil.	Undertake weed control in manageable areas. Avoid large scale weed remove immediately prior to the wet season when winds and rain will exacerbate erosion. Where possible use selective herbicide.
Damage to non target species	Inappropriate herbicide selection. Nature of herbicide (residual, non selective, volatile, soil and aquatic half life, mobility etc) not understood.	Read herbicide label and MSDS carefully. Understand the terminology and the implications. Eg, do not apply highly mobile chemicals in the wet season. Understand soil type environmental which will effect the herbicide reaction. Also be aware of 'at risk' fauna species (terrestrial & aquatic).
Pollution of water courses	Inappropriate herbicide selection or herbicide applied at an inappropriate time.	Read herbicide label and MSDS carefully. Understand the terminology and the implications. Eg, do not apply highly mobile chemicals in the wet season. Do not apply water toxic chemicals near water. Be aware of wind direction, rain forecasts, chemical drift and volatility.
Spread of weed	Inadequate clean down efforts and/or facilities after weed control work.	Awareness. Know of all weeds in control area, even those which are not target weeds. Wear gaiters to limit burrs attaching to socks. Check vehicle for seeds before moving into and out of control area. Burn weed waste on site where realistic. Cover weed waste completely before transporting.
Visual amenity non favourable	Dead and dying vegetation, flagging tap, chemical dye…	Provide visitor interpretation. Explain, what, why and anticipated outcome – and how they can help.
Disturbance to habitat	Vehicle activity, chemical dispersal, general human activity.	Try to be aware of the sensitivity of area which is being entered. If it is known significant flora or fauna habitat, walk into site and as much as possible 'tread-softly'. Determine if your impact will be greater than that of the weed.
Encouraging weed recruitment and destruction of native habitat.	Fire as a weed control tool. In some instances, fire at an inappropriate intensity will promote weed recruitment and germination.	Apply fire as a control tool (in the case of woody weeds this typically requires intense heat generation) only where long term damage to native flora and fauna will be negligible. Understand the level of fire intensity required to create desired outcome and the on ground conditions which will achieve this.
Encouraging weed recruitment (2)	Hand removal of weeds/grubbing turning soil over and creating seed bed. Slashing or canopy reduction.	Recognize the possible outcome and factor follow up into works programme until recruitment has ceased. Such an option has limited merit at the end of the dry season, where access during the wet season may prevent follow up.

10. Monitoring and Evaluation

Monitor for:

- Weed prevalence and distribution
- Outcomes/level of success of control measures
- Rate of weed establishment and recruitment
- Weed invasion at weed free sites.

Regular monitoring will be integrated into the works programme to determine the effectiveness of chemical and manual weed control. This may be achieved with monitoring areas using digital photographs and a monitoring checklist at strategic sites.

Annual survey program will be carried out in late wet/early dry season when weeds are identifiably by fruits or flowers and when weeds have had the opportunity to germinate and new infestations can be identified early in the establishment phase.

Record keeping

To facilitate 'useful' outcomes, general *survey* work should record (at minimum) the following information:

- Date
- Location and GPS reading and extent of survey
- Species name
- Extent of infestation (approximate number of plants or area in ha)
- Density
- Status of plants (eg. healthy, sick, dormant, flowering, fruiting, juvenile, mature etc)
- General habitat (eg. riparian, woodland, outcrop etc) and condition (dry, wet)
- Photo record with site information board (site No and date)

Control work (eg, spraying, grubbing, slashing, burning), in addition to the above, should also record (at minimum) the following information:

- Control conditions (humid, dry, windy, soil status etc…)
- Time of day
- Where relevant: Chemical dilution, application method
- Where relevant: Slashing height, burning conditions, grubbing technology.

11. Resource Requirements for weed related projects.

Requirement	Frequency	Estimated cost per event or financial year	No. staff involved
Chemcert Training	Once	(depends if training undertaken in Perth or NW)	All field staff not currently with update qualifications
Mapping/GPS/database training	Annual	(depends if training undertaken in Perth or NW)	All field staff
Hand spray units (chapin and Hardi) + replacement parts.	Initial outlay (each subsequent year)	$1000 ($250)	~ 6
Vehicle mounted spray units	Annual	$400	~ 6
Chemicals	Annual	$1500	~ 6
PPE + first aid	Annual	$400	~ 6
Purpose built chemical storage shed	Once	$7000	~ 6
Volunteer co-ordination and set up	Annual	$1500	~ 3
Weed interpretation and education	Annual	$1000	~ 2
Equipment (GPS, Cameras etc)	Annual	$1000	3
Vehicle and quad bike maintenance and fuel	Annual	$	~ 6
Dedicated staff hours	Monthly	XXX hours @ $XXX/hr = $XXX	~ 5
Data base set-up	Once	Regional Cost	n/a
Wet season mobilization/helicopters	Annual	$2500	~ 6
Cattle surveys and co-ordination of muster	Annual	$2500	~ 3
Aerial photography for mapping (?)	Once every 5 years?	$	~ 2

'staff' is inclusive of trainee rangers.

Total cost year 1 (2005/2006 Financial Year): $

Costs annually thereafter: $

Signed off by

- Regional Manger .....

Date .....

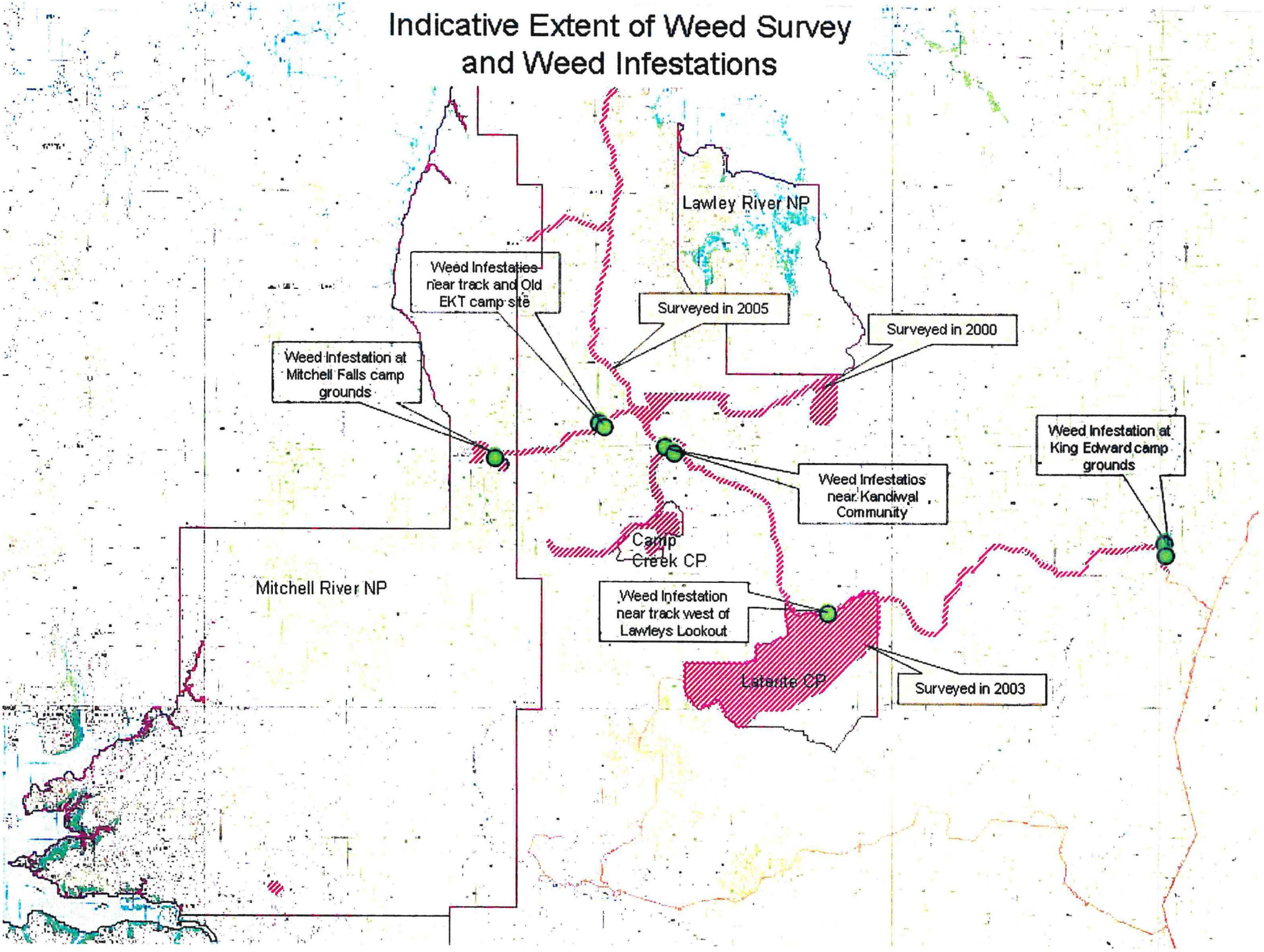
- Regional Leader Nature Conservation .....

Date .....

- District Manager .....

Date .....

Indicative Extent of Weed Survey and Weed Infestations



Issue	Action	Park/Reserve	Location	Date	Season	Zone	Easting	Northing	Lat	Long
weeds	control	MRNP	King Edw. Camp I	28-Apr-04						
weeds	control	MRNP	King Edw. Camp I	28-Apr-04						
weeds	control	MRNP	King Edw. Camp I	28-Apr-04						
weeds	control	MRNP	King Edw. Camp I	28-Apr-04						
weeds	control	MRNP	King Edw. Camp I	25-Dec-04						
weeds	control	MRNP	King Edw. Camp I	25-Dec-04						
weeds	control	MRNP	King Edw. Camp I	25-Dec-04						
weeds	control	MRNP	King Edw. Camp I	25-Dec-04						
weeds	control	MRNP	King Edw. Camp I	25-Dec-04						
weeds	review	MRNP	King Edw. Camp I	20-Mar-05						
weeds	review	MRNP	King Edw. Camp I	20-Mar-05						
weeds	review	MRNP	King Edw. Camp I	20-Mar-05						
weeds	control	MRNP	King Edw. Camp I	20-Mar-05						
weeds	control	MRNP	King Edw. Camp I	20-Mar-05						
weeds	control	MRNP	King Edw. Camp I	20-Mar-05						
weeds	control	MRNP	King Edw. Camp I	20-Mar-05						
weeds	control	MRNP	King Edw. Camp I	20-Mar-05						
weeds	control	MRNP	King Edw. Camp II	21-Mar-05						
weeds	control	MRNP	King Edw. Camp II	21-Mar-05						
weeds	control	MRNP	King Edw. Camp II	21-Mar-05						
weeds	control	MRNP	King Edw. Camp II	21-Mar-05						
weeds	control	MRNP	Mitchell Falls Camp	17-Apr-04						
weeds	control	MRNP	Mitchell Falls Camp	17-Apr-04						
weeds	control	MRNP	Mitchell Falls Camp	17-Apr-04						
weeds	control	MRNP	Mitchell Falls Camp	21-Dec-04						
weeds	review	MRNP	Mitchell Falls Camp	21-Dec-04						
weeds	control	MRNP	Mitchell Falls Camp	21-Dec-04						
weeds	observation	MRNP	along track	01-May-04					-14.93209	125.9563
weeds	control	MRNP	along track	25-Dec-04					-14.93209	125.9563
weeds	control	MRNP	along track	20-Mar-05					-14.93209	125.9563
weeds	control	MRNP	along track	20-Apr-04					-14.79979	125.7898
weeds	control	MRNP	along track	28-Dec-04					-14.79979	125.7898
weeds	control	MRNP	along track	10-Mar-05					-14.79979	125.7898
weeds	observation	MRNP	along track	27-Mar-05					-14.79979	125.7898
weeds	control	MRNP	Old EKT Camp	29-Mar-05					-14.80262	125.7935
weeds	control	MRNP	Old EKT Camp	29-Mar-05					-14.80262	125.7935

weeds	control	MRNP	Old EKT Camp	01-Apr-05					-14.80262	125.7935
weeds	control	MRNP	Kandiwal Area	28-Dec-04					-14.81554	125.8377
weeds	control	MRNP	Kandiwal Area	25-Mar-05					-14.81554	125.8377
weeds	control	MRNP	Kandiwal Area	28-Mar-05					-14.81554	125.8377
weeds	control	MRNP	Kandiwal Area	24-Mar-05					-14.82055	125.8443
weeds	control	MRNP	Kandiwal Area	25-Mar-05						
weeds	survey	MRNP	Lawley Lookout	25-Jan-06	Wet Season					
weeds	observation	MRNP	Mitchell Falls Art Site	24-Jan-06	Wet Season					
weeds	control	MRNP	Mitchell Falls Camp	24-Jan-06	Wet Season					
weeds	control	MRNP	Mitchell Falls Camp	24-Jan-06	Wet Season					
weeds	control	MRNP	Mitchell Falls Camp	24-Jan-06	Wet Season					
weeds	control	MRNP	Kandiwal Area (road c	25-Jan-06	Wet Season					
weeds	control	MRNP	Old EKT Camp	25-Jan-06	Wet Season					
weeds	control	MRNP	along track		Wet Seaso	51	807125	8358573	-14.81554	125.8377
weeds	observation	MRNP	Little Mertens Hill (Wa	26-Jan-06	Wet Season					
weeds	control	MRNP	King Edw. Camp I	28-Jan-06	Wet Season					
weeds	control	MRNP	King Edw. Camp I		Wet Season					
weeds	control	MRNP	King Edw. Camp I		Wet Season					
weeds	control	MRNP	King Edw. Camp I		Wet Season					
weeds	control	MRNP	King Edw. Camp II		Wet Season					
weeds	control	MRNP	along track		Wet Seaso	51	815376	8346662	-14.93209	125.9563
ferals	observation	MRNP	LCP around lagoon		Wet Season					
weeds	control	MRNP	along track	25-Jan-06	Wet Seaso	51	800171	8361788	-14.79979	125.7898

Species	Control method	Chemical	Mix Rate	Comments	Name	Title	Record Type
Hyptis suaveolens	pull and burn			had mostly seeded			
Acanthospermum hispidum	burn			had all seeded			
Hibiscus sabdaniffa	pull and burn			only a few plants			
Sida acuta	pull and burn						
Hyptis suaveolens	spray	24D	Amine 500 50ml/6l with wetting agent				
Acanthospermum hispidum	spray	24D	Amine 500 50ml/6l with wetting agent	starting to seed			
Triumfetta Sp. C	spray	24D	Amine 500 50ml/6l with wetting agent				
Hibiscus sabdaniffa	pull and burn			only a few plants			
Sida acuta	pull and burn			only a few plants			
Hyptis suaveolens				good results of spray in Dec			
Acanthospermum hispidum				good results of spray in Dec			
Triumfetta Sp. C				increasing since spray in Dec			
Hyptis suaveolens	pull and burn						
Acanthospermum hispidum	pull and burn						
Triumfetta Sp. C	pull and burn						
Hibiscus sabdaniffa	pull and burn						
Sida acuta	pull and burn						
Hibiscus sabdaniffa	pull and burn			only a few plants			
Triumfetta Sp. C	pull and burn			only a few plants			
Sida acuta	pull and burn			only a few plants			
sida cordifolia	pull and burn			about 60 plants			
Hyptis suaveolens	pull and burn						
Hyptis capitata	pull and burn			only a few plants			
Hibiscus sabdaniffa	pull and burn			only a few plants			
Hyptis suaveolens	spray	24D	60ml/8l with wetting agent				
Hyptis capitata				no plants evident			
Hibiscus sabdaniffa	pull and burn						
Hyptis suaveolens				aprox. 100m each side of track			
Hyptis suaveolens	spray	24D	60ml/8l with wetting agent				
Hyptis suaveolens	pull and burn						
Hyptis suaveolens	pull and burn			aprox. 100m each side of track			
Hyptis suaveolens	spray	24D	Amine 500 50ml/6l with wetting agent				
Hyptis suaveolens	pull and burn						
Hyptis suaveolens	pull and burn			found another 20 small plants			
Hyptis suaveolens	pull and burn						
Hibiscus sabdaniffa	pull and burn						

Hyptis suaveolens	pull and burn					
Hyptis suaveolens	spray	24D	Amine 500 50ml/6l with wetting agent	Creek crossing and creek fringe north of Kandiwal		
Hyptis suaveolens	pull and burn			Creek crossing and creek fringe north of Kandiwal		
Hyptis suaveolens	pull and burn			Creek crossing and creek fringe north of Kandiwal		
Hyptis suaveolens	pull and burn			southern road access to Kandiwal		
Hyptis suaveolens	pull and burn			Kandiwal community		
No weeds				No weeds evident	Lindsay Bake	NP Ranger
Passiflora foetida				Passionfruit vines in	Lindsay Bake	NP Ranger
Hyptis suaveolens	grub				Lindsay Bake	NP Ranger
Hibiscus sabdaniffa	grub				Lindsay Bake	NP Ranger
Cemchrus biflorus	grub				Lindsay Bake	NP Ranger
Hyptis suaveolens	grub			50 metres either side	Lindsay Bake	NP Ranger
Hyptis suaveolens	grub				Lindsay Bake	NP Ranger
Hyptis suaveolens	grub			Very small amount o	Lindsay Bake	NP Ranger
Bidens?				Unsure. Ian to take s	Lindsay Bake	NP Ranger
Hyptis suaveolens	spray	24D	40ml/20l	Approx 3 acres of we	Lindsay Bake	NP Ranger
Sida acuta	spray	24D	40ml/20l	Approx 3 acres of we	Lindsay Bake	NP Ranger
Triumfetta Sp. C	spray	24D	40ml/20l	Approx 3 acres of we	Lindsay Bake	NP Ranger
Acanthospermum hispidum	spray	24D	40ml/20l	Approx 3 acres of we	Lindsay Bake	NP Ranger
Hyptis suaveolens	spray	24D	40ml/20l	sm area at end of tra	Lindsay Bake	NP Ranger
Hyptis suaveolens	grub			150 meters both sid	Lindsay Bake	NP Ranger
cattle					Lindsay Bake	NP Ranger
Hyptis suaveolens	grub			Needs check in marc	Lindsay Bake	NP Ranger