ACT Government
Territory and Municipal Services

Parks and Conservation Service

WORKS PLAN NUMBER
Majura and Ainslie Nature Reserve Rabbit Control

Date:	Jan – Mar 2012
Area Manager:	**PARKS & RESERVES - NORTH**
Work Area:	Mt Majura and Mt Ainslie Nature Reserves
Author:	Luke McElhinney
Supervising/Field officer:	Luke McElhinney
Contact:	6207 2113

Plan Completed ☑ Internal Approval ☐

INTERNAL APPROVAL: Approved:

_____ 12 / 1 / 12 Manager, North District
Comment:

_____ / / Manager, Natural Resource Protection
Comment:

FINAL SIGN OFF

_____ 13 / 1 / 12 Contractor

_____ 13 / 1 / 12 PCL Supervising Officer

Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☒All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☒ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☒ All works involving volunteers (eg CVA Green Corp) except Park Care) ☒ **All works where supervising Manager requests a Works Plan to be completed**

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Follow Up Rabbit Control 2010	Mt Majura and Mt Ainslie Nature Reserves	North	Designated Land or Hills, Ridges and Buffer	To control the significant rabbit population within land known as Mt Majura and Mt Ainslie Nature Reserves. The control program will prevent the rabbit population from overgrazing large areas of high conservation land and help decrease the risk of erosion.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
Total – 1179 Ha	The Mt Ainslie/ Majura is considered a remnant woodland and open forest. It originally supported forests of Red Stringybarks and Scribbly Gum with some Brittle Gum, Red Box, Snow Gums and Casuarinas on the higher areas, with Yellow Box, Blakelys Red Gum and some Apple Box on the lower slopes. Mt Majura was extensively cleared in the past, compared to Mt Ainslie, and has since had many plantings undertaken. The remnant Yellow Box/ Red Gum woodland community is extensive and considered one of the best examples of its type in the ACT.	Land is predominantly undulating however there are some steeper sections with a slope of 30 degrees	Various	Nature Reserve	Out of Scope

Section 3. Approvals and Clearances

District/CPOS	Research and Planning	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
North District Manager approval required	Not required – last years program was approved	Not required		Not required	Not required – last years program was approved	Approval required

Environment Protection and Biodiversity Conservation Act	PCL considers that there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off
Aluminium Phosphide fumigation and Pindone	$20,000	Feral Management – Chris Robinson	Completed	Vertebrate Pests Coordinator
Total	**$ 20, 000.00**	**Funding Source: Programs Coordination, Natural Resource Protection**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken within close proximity to trees.
Verge Landscaping	No verge landscaping

Section 6. Scope of works

Field supervisor: Murray Ast

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Program sequence **1. Site preparation and Monitoring** **2. Pindone Poisoning** **3. Phostoxin Fumigation** **4. Follow up Phostoxin** **5. Warren ripping if suitable**				
Site Preparation and Monitoring Site preparation and monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following tasks. • The location of all warrens and surface harbour sites (active/inactive) will be mapped and marked using various coloured marking tape • Three spotlight counts will be undertaken prior to works to estimate the density of the rabbits present. • Three spotlight counts will also be undertaken post control to assess the effectiveness of the the program	North District Staff		Field supervisor and Ranger in Charge	

Pindone Poisoning Rabbit numbers will initially be controlled with Pindone poisoning. This will be followed up by warren fumigation. This will be achieved by undertaking the following tasks. ▪ although Signage will be placed at all pedestrian and vehicular access points to the control area at least 3 days before Pindone baiting will occur. Each sign will include the date baits have been laid, which toxin has been used, and for which pest animal. The sign will remain up for a minimum of 4 weeks after baiting. ▪ All stock will be removed from the baited area prior to the baiting program commencing. ▪ A '*pulse baiting technique*' will be used where 2 to 3 free feeds of non-poisoned carrot baits will be laid in bait stations at intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits laid 3 to 5 days apart. The free feeding of non-poisoned baits will allow for an estimation of amount of poisoned bait required and assessment of any non-target uptake. It also allows rabbits to become accustomed to eating the bait and for toxic bait to be eaten rapidly when applied. ▪ The placement of bait is critical. Bait stations will be laid through feeding areas where rabbit activity is highest and preferably where the pasture is short, dry or absent. ▪ Baits will be laid in the late afternoon or evenings as rabbits are most active between dusk and dawn. ▪ All uneaten baits and rabbit carcasses that can be located will be collected by 10:00am the following morning. ▪ All carcasses of poisoned rabbits will be collected for a minimum of 14 days after the last poison feed. They will be buried at a minimum depth of 500 mm in a disposal pit.	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries (attached)	Field Supervisor	• A careful on-site risk assessment will be undertaken before a baiting program is commenced. To reduce the risks of pindone exposure to humans and non-target animals and to maximise effect on rabbit populations, bait will NOT be laid in the following instances: – in the vicinity of bandicoot and native rodent refuge areas; – when rain is expected in the next 24 hours; – where streams, waterways or rivers may become contaminated. The bait stations will be deployed under cages that only permit access of rabbit sized animals to reduce the risk of domestic animals, macropods or livestock accessing poisoned bait.

Aluminium Phosphide Fumigation Diffusion Fumigation of rabbit warrens will be used for warren dwelling rabbits. This will be conducted as a follow up to Pindone baiting. Further follow up fumigation will be used for reopened warrens. This will be achieved by undertaking the following tasks: ▪ Fumigate when weather is hot to ensure most rabbits are underground and the survival of rabbits above ground is low. ▪ Rabbits can be driven underground by use of suitable dogs before fumigation or by making loud noises chasing the rabbits into the warrens. ▪ Dig back the opening of the burrow so there is a 30 cm lip between the surface and the burrow. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Place two aluminium phosphine tablets at least 60 cm into the burrow. Wrap the tablets in damp newspaper or paper towel to start the release of gas. ▪ The hole should be filled, digging back the sides of the entrance and tamping down the soil. The ground should end up relatively flat to discourage opening up from the outside. ▪ Always work toward the windward side of the warren. ▪ It is essential that all entrances to the warren are sealed. Check under nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. ▪ Check for re-openings around one week after fumigating and treat again as necessary.	Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries (attached)	Field Supervisor	Fumigation will be used as a follow up to Pindone baiting. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation.

Warren Ripping Warrens that are accessible and not in rocky ground may be destroyed through ripping as they are providing harbour for the rabbits. This will only as directed contract supervisor. This will be achieved by undertaking the following tasks. • The warrens will be cleared of logs etc. Care will be taken not to endanger any native wildlife that may be using the harbour. • The rabbits in the area will be driven underground before ripping takes place. This will be achieved by using dogs to work the area, chasing the rabbits into the warrens. • All warrens with open entrances will be ripped even if they are not currently active. • Warrens will be ripped to a depth of at least 700 to 900 mm and at least 2 to 3 metres beyond the edge of the warren to destroy burrows that have entrances on the edge of the warren and lead outwards. The deeper the ripping the greater is the destruction of the warren system. • In most areas cross-ripping will be necessary. This will be achieved by ripping one way; then cross rip at right angles to the first rip. If warrens are on a slope, the second rip should be undertaken across slope. • Smooth/back blade the ripped warren to compact the soil surface and make it less attractive for rabbits to dig back in. • Ripped areas will be sown with suitable native seed to hasten re-vegetation and prevent soil erosion.	Contractor	Works will abide by the Standard Operation Procedures *RAB006 Rabbit Warren Destruction by Ripping* produced by NSW Department of Primary industries (attached)	Field supervisor	All operations will cease when: ▪ Soils are saturated ▪ When machinery is causing rutting ▪ All areas will be checked for suitable dryness before operation continues. No ripping will be undertaken in significantly rocky areas. Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. All ripping will be undertaken in a sensitive manner so as to cause as least disturbance to the environment as possible. Ripping will only occur directly over the warren site.

Section 7. Rehabilitation of Site

Task	Responsibility
The following tasks will be undertaken to rehabilitate the site following the completing of a successful control program. ▪ All ripped sites will be revegetated with a local native grass mix. ▪ These sites will be monitored for 6 months and if the revegetation works is unsuccessful, follow-up programs will be implemented.	North District Staff Contractor

▪ Ripped sites will be monitored for any declared vironmental weed species that may colonise minate in disturbed ground. ▪ Any significant weed infestations that are found will be treated as part of the District weed management program ▪ All flagging tape will be removed at the end of the program. ▪ All signs will be removed a month after the last baits were laid.	

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
January 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	January 2012	March 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
Signs- at every entry point	Houses backing affected area	Mt Majura/ Ainslie Park Care	N/A	N/A

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
Signs advising of work to be placed on at all pedestrian access points Work crew instructed that public may enter the site at any time.	Appropriate PPE to be worn at all times. Standard Operating Procedures must be adhered to at all times. First Aid Kit Operator to contact works supervisor at the start and finish of shift.	Contact by operators MUST be made at beginning and end of each shift. Mobile phone reception is good.	Varies Access / Emergency Access

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	❑ Reception quality - Good ❑ Operator Contact No. Chris Robinson – ❑ Contractor Contact No. Chris Robinson – ❑ PCL Supervising Officer Contact No. Luke McElhinney or any other ranger on duty or 6207 2113. ❑ Radio Channels
Emergency Evacuation Point	❑ Various exit points, see map attached. ❑ Grid Coordinates/UBD Reference See overall map for gate references

	❑ Mobile Phone Reception -
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ P&CS Supervising Officer Contact No.. Luke McElhinney or any other ranger on duty or 6207 2113.

Section 12. Attachments

Works Plan Risk Assessment

Date of Review January 2012

Name of Organisation PCS –NORTH DISTRICT

Compiled by Stuart Jeffress

Function Activity Rabbit Control – Mt Majura and Mt Ainslie Nature Reserves

Reviewed by Field Supervisor

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
	Chemical spill	Chemical spilled during application or travel between sites	Chemical spill on operator; contamination of soil; water and vegetation	IV	III	M	Operators wear PPE. Poisoned bait to be transported in a sealed/locked container during transit. Spill kit must be available at all times.	A

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				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Vehicle is involved in an accident, tips on side or overturns	Accident with another vehicle, uneven ground; hidden rabbit warrens or wombat burrows; unstable creek bank	Operator injured; vehicle damaged; chemical spill and contamination	IV	V	H	Operator must exercise caution whilst driving on public roads. When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. Field staff must site all operator Standard Operating Procedures documents prior to commencement of work. (SOP's include: *RAB006 Rabbit Warren Destruction by Ripping, RAB005 Diffusion fumigation of rabbit warrens and RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries). Operator to carry all relevant vehicle/machinery licenses at all times while on work site. Operator must undertake an on-ground inspection, on foot, prior to commencing works and identify where it is safe to drive. Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

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				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
3	Non life threatening injury to Operator	Walking on uneven terrain, steep slopes, operating plant, machinery, chainsaw, hand tool usage, vehicle accident	Operator injured	III	V	H	Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A
4	Life threatening injury to Operator	Operating plant, machinery, chainsaw, vehicle accident, inhalation of aluminium phosphide fumes	Operator injured or sustains injury that results in death	III	V	H	Operators to wear all appropriate PPE and observe all relevant Standard Operating Procedures. Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Operators require adequate training and experience in the operation of plant, machinery and equipment. Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

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				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
5	Operator missing/not found on site during work hours or when known to be on site after hours	Injury to operator, vehicle breakdown, operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	II	V	M	Operator to carry mobile phone or portable radio. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A
6	Water body contaminated by poison	Bait stations placed too close to water bodies.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	II	III	L	Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor and enforce the safe working distance specified in Contract. Field supervisor to enforce constraints stated within the works plan for the use of pindone poisoning.	A
7	Impact on target animals	Poison kills parent of dependant young	Dependant young die from starvation	II	III	L	Contract Manager to post pone program if rabbits are known to be breeding.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURR CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
8	Stock affected by poisoning program	Stock grazing under agistment; wandering stock enter work area due to ineffective fencing.	Animals become sick or die	III	IV	M	Field Supervisor to check work area prior to works commencing regarding presence of livestock. Field Supervisor and contractor to keep a lookout for wandering stock. All bait to be laid under a bait station that prevents stock from eating the bait. Field Supervisor and contractor to familiarise themselves with label and MSDS in regard to withholding periods and symptoms in stock that may be affected.	A
9	Native animals affected by poisoning program	Native animal eats poisoned bait or is in warren that is fumigated	Animals become sick or die	III	IV	M	Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. All bait to be laid under a bait station that prevents native animals from eating the bait. Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. Prior to fumigating a warren, the contractor is to look for tracks of native animals.	A

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				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
10	Domestic animals affected by poisoning program	Dog/cat eats poisoned bait	Death or sickness of domestic animal	III	IV	M	Adequate warning signage notifying users of the risks to domestic animals are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. Place signs on all bait stations outlining that poison has been laid.	A
11	Member of the public eats poisoning bait.	Adult/child eats poisoned bait	Sickness or death of person	IV	IV	H	Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately bordering the work area notifying them of the upcoming program and associated risks. Place signs on all bait stations outlining that poison has been laid. Ensure bait stations are not placed within 100m of houses.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Damage to heritage sites	Digging while fumigating warrens, driving over ground not frequented by vehicles.	Damage to heritage sites	III	III	M	Contract Manager to search available data to identify potential sites. Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out	A
3	Members of the public or other agencies present in the immediate area of pest control operations	Contractor unaware of the level of public use, of recreational events or works in the area by other agencies	Injury or death; damage to plant, vehicles and equipment	II	IV	M	Field Supervisor check on level of public use and works by other agencies. Where necessary liaise with event organizers and agency representatives. Field Supervisor to inform Contractor in this regard. Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. Contractor always to be on the look out for casual visitors whilst they working on public land.	A
4	Wrong pest animal species targeted	Operator does not have required pest animal identification skills.	Non-target species killed. Control of targetted species ineffectvie	II	IV	M	Field supervisor and Contractor must be familiar with contract specification. Contractor must employ operators with the required pest animal identification skills. Field Supervisor must monitor works to ensure correct species being targeted. Poison baiting must be carried out as per SOP.	A

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15	Work undertaken on non targeted or incorrect site	Poor instruction provided to contractor and map not provided	Control of targetted species ineffectvie. Non target species affected.	III	III	M	Field Supervisor to provide the Contractor with a map of the areas to be treated.	A
16	Expenditure on project exceeds financial allocation	Contract Manager doesn't adequately monitor expenditure.	Budget over run and other projects comprimised from a budgetry, time management and contractor availability perspective.	IV	IV	H	Field Supervisor must accurately monitor and track contractor's hours of operation. Contractor must accurately report hours of operation and report to Field Supervisor as requested.	A

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				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
17	Fire started during pest control operations	Fire started by Operators, contractor vehicle, machinery, equipment, fuel spill	Fire on the PCL estate and adjoining land resulting in property/assett loss.	II	VI	H	Contractor must cease work under TOBAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. Field Supervisor to advise Contractor of fire weather conditions. Field Supervisor must ensure Contractor complies with fire weather condition instructions. Contractor must comply with Fire weather condition instructions.. Contractor must carry fire fighting equipment on vehicle. Field Supervisor must be familiar with procedures to follow in the event of a fire.	A .....*(initial)*

Signed by:

Contractor

Date 13/1/12

Supervising PC&L Officer

Date 13/1/12

Section 13. Operational map attached

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: JAN 2012 ESTIMATED FINISH OF OPERATION: MARCH 2012

DATE	COMMENTS

Territory and Municipal Services
ACT GOVERNMENT

LAND MANAGEMENT AND PLANNING DIVISION

Parks and Conservation Service

WORKS PLAN NUMBER
REDHILL, SCRIVINER,MUGGA MUGGA, ISAACS and WANNIASSA Nature Reserves
For Rabbit Control (follow up) 2012

Date:	January - February 2012
Area Manager:	**PARKS & RESERVES – SOUTH**
Work Area:	Red Hill, Scriviner Hill, Mugga Mugga, Isaacs & Wanniassa Nature Reserves
Author:	Joe Clifton
Supervising/Field officer:	Joe Clifton
Contact:	6207 2087 OR

Plan Completed Internal Approval X

INTERNAL APPROVAL: Approved:

K B Gould 19 / 1 / 12 ~~Manager~~, South District
RIC
Comment:

_____ / / Manager, Programs Coordination
Comment:

FINAL SIGN OFF

_____ / / Contractor

Joe E Clifton 18 / 1 / 12 PCL Supervising Officer

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Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☐ All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☐ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☐ All works involving volunteers (eg CVA Green Corp) except Park Care) ☒ **All works where supervising Manager requests a Works Plan to be completed**

Parks and Conservation Service WORKS PLAN

WORKS PLAN NUMBER:

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Follow up Rabbit Control 2012	Red Hill, Scriviner Hill, Mugga Mugga, Isaacs & Wanniassa	South	Nature Reserve	Follow up Rabbit control in Canberra Nature Parks. Rabbit population control aims to reduce overgrazing, protect existing and new regenerating native vegetation and reduce risks of erosion resulting from high rabbit densities in the area.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
ha.	Remnant and regenerative Yellow box – Red Gum Grassy Woodland communities	Flat to steep	Various	Nature Reserve	Out of Scope

Section 3. Approvals and Clearances

District/CPOS	Research and Planning	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
South District Manager approval required	Not required	Not required	Not required	Not required	Not required	Not required

Environment Protection and Biodiversity Conservation Act	PCL considers that there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off

Phosphine gassing	$60 per hour per person	Contractor	Completed	Vertebrate Pests Coordinator
Total	**$ 10,000**	**Funding Source: Vertebrate Pest Program**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken
Verge Landscaping	No verge landscaping

Section 6. Scope of works

Field supervisor: Joe Clifton

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Site Preparation and Monitoring Site preparation and monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following. ▪ Contractor will locate and map each rabbit warren using a GPS. ▪ The contractor will search for all rabbit warrens and signs of rabbit activity on foot or an all terrain vehicle where possible (terrain may hinder access and process of gassing in some areas). ▪ Two to three rabbit spotlight counts will be undertaken before and one month after the control program to estimate rabbit population densities. This will be done in the few days either side of a	Contractor PACS Rangers	Mapping and marking Pre and post operation rabbit spotlight counts	Field supervisor and ranger in charge	Monitoring may be limited by environmental constraints such as wet weather or total fire ban. No work will be undertaken during such weather in order to avoid damage to the reserve.

new moon. ▪ Treated warrens will be monitored after completion of works for vegetation regeneration.				Where warrens are treated under the control program via fumigation or ripping, weeds will be controlled and open ground will be revegetated using appropriate native seed mix to reduce effects of erosion. Maps of sites of significance will proved.
Warren Ripping **There will be NO mechanical ripping of warrens in this program.** Large well established rabbit warrens which have been treated with Aluminium Phosphide gas will be ripped as a follow up procedure. This ensures that all rabbit harbour is destroyed, which reduces the chance of re-colonisation from any remaining rabbits within the treated area. Warrens will be ripped a minimum of 72 hours after fumigation has taken place, ensuring all gas has dissipated prior to ripping. This will be achieved by undertaking the following tasks. ▪ The warrens will be cleared of harbour, such as logs, rocks etc. Care will be taken not to endanger any native wildlife that may be using the harbour. ▪ All warrens with open entrances will be ripped even if they are not currently active. ▪ A backhoe or excavator with a narrow bucket or single tyne will rip through the warren to a depth of 700 to 900mm where soil depth permits. ▪ An area 3m beyond the outer most opening of the warren will be ripped to ensure the entire warren is	Contractor	Works will abide by the Standard Operating Procedures *RAB006 Rabbit Warren Destruction by Ripping* produced by NSW Department of Primary Industries Contractor to provide satisfactory Safe Work Method Statements prior to commencement of work.	Field Supervisor	All areas will be assessed prior to commencement of work. All operations will cease when: - Soils are saturated - Machinery is causing rutting - A total fire ban is declared - The field supervisor requires it for any reason. For example and emergency. No ripping will be undertaken in significantly rocky areas. No ripping will take place inside the drip line of trees.

destroyed. ▪ The warren must be ripped in two directions. Rip one way and then at right angles to the first rip. The second rip must follow the direction of the contour if on a slope. Then use a smooth/back blade to compact the soil.				Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. If ripping on a slope the last rip lines must follow the contour lines to minimise erosion. Excavators must carry a chemical spill kit.
Aluminium Phosphine Fumigation Fumigation involves the following. ▪ Prior to fumigation warren sites may require clearing of tall vegetation. This is to be carried out using a brush cutter or other relevant tools and/or machinery. ▪ Prior to fumigation rabbits are to be driven underground by suitably trained dogs or by active disturbance by the contractor. ▪ Burrow openings are to be dug back until a 30 cm lip between the surface and the burrow is present. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Two aluminium phosphine tablets will be placed at least 60 cm into each entrance to the warren (there may be multiple entrances to a warren). Tablets are to be wrapped in damp newspaper or paper towel to initiate gas production. ▪ Burrow openings will be back filled after	▪ Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries	Field supervisor	Warrens will not be fumigated if the warren appears to contain or house animal species other than rabbits. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation. Use of machinery requires the contractor to supply a fire extinguisher or water pack in case of fire sparked by the machinery. A spill kit must also be supplied. Fuel must be stored safely and securely. Fuel must not be stored on site over

placing additional scrunched newspaper in each entrance to the warren. Back filing is executed by digging back the sides of the entrance and tamping down the soil firmly leaving behind a relatively flat surface. This ensures the prevention of burrow re-opening. Additional materials such as rocks or sticks/logs from the immediate area may be utilised to aid in back filling the warren entrance(s). ▪ For maximum effect it is essential that all entrances to the warren are sealed. Contractors will check nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. Warrens will be checked for re-opening around one week after fumigation and may be re-treated if necessary.	▪ Field Supervisor			night. It is strongly recommended that all appropriate Personal Protective Equipment be worn at all times. Gloves and P3 grade full face mask. Rocks and sticks or logs must not be moved if they appear to provide a source of habitat for native species. If dogs are utilised during works they must be under the operators full control at all times.
Pindone Poisoning **Pindone Poisoning will not be carried out during this contract.** Areas not suitable for fumigation and/or ripping will be controlled with Pindone Poison. Pindone poisoning involves the following ▪ Signs will be erected at all vehicular and pedestrian access points surrounding the control area. Signs indicate the time period when baits will be laid, the active ingredient/toxin, the pest targe species and an information telephone number. Signs will remain	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary Industries	Field Supervisor	A risk assessment will be undertaken prior to commencement of baiting. Bait will Not be laid in the following instances. - In the vicinity of small mammal and native rodent habitat. - When rain is expected in the next 24 hours.

erected for a minimum of 4 weeks after baiting. ▪ Livestock will be removed from the reserve/treatment area prior to commencement of the baiting program. ▪ A *'pulse baiting technique'* will be used where 2 to 3 free feeds of non-poisoned carrot baits will be laid in bait stations in intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits, laid 3 to 5 days apart. Free feeding enables the contractor to establish an appropriate quantity of poisoned bait required for effective control. Free feeding also enables the detection of any non-target baiting and allows rabbits to become accustomed to consuming bait. ▪ Placement of bait is critical. Bait stations which restrict non-target exposure, are to be laid in feeding areas where rabbit activity is highest and where other food sources are scarce in order to ensure bait uptake/consumption by the target species. ▪ Baits will be laid late afternoon or evenings when rabbits are most active and feeding. ▪ Any uneaten baits and rabbit carcasses that can be located will be collected early the following morning. Carcasses will b collected for a minimum of 12 days after the final bait round. These will be buried at a minimum depth of 500mm in a disposal pit.		Contractor to provide satisfactory Safe Work Method Statements prior to commencement of work.		- Where streams, waterways or rivers may become contaminated. - Where there is a risk of domestic animal, macropod or livestock access to bait.

Section 7. Rehabilitation of Site

Task	Responsibility
The below tasks will be undertaken following the rabbit control program. ▪ Significantly disturbed (ripped) warren sites will be revegetated using a local native grass mix or sterile Rye Corn and will be monitored for a period of six months to ensure successful ground cover establishment. ▪ Fumigated warren sites will be monitored for any germination of environmentally significant pest plants for a minimum period of 12 months after fumigation or for six months after the first significant rainfall event if this occurs after the 12 month monitoring period.	South District Staff,

▪ Warning signs and markers indicating warren location will be removed.	

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
January 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	January 2012	February 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
na	na	na	na	na

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
Contractors and work crew are instructed that public may enter the site at any time.	Appropriate PPE to be worn at all times. Safe Work Method Statements and Safety Operation Plans must be adhered to at all times. First Aid Kit. Emergency evacuation plan is outlined within this document. Contractors to contact works supervisor at the start and finish of shift on Duty Ranger Phone 0409 787 080.	Contact by operators MUST be made at beginning and end of each shift by calling duty ranger phone on 0409 787 080. Mobile phone reception is good in all areas.	Emergency evacuation/access plan given in this document.

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	❑ Reception quality - Good ❑ Operator Contact – Chris Robinson 0417 045 658

	❑ Contractor Contact – As above ❑ PACS Supervising Officer Contact – Joe Clifton 6207 2087 or Duty ranger ❑ Radio Channels – N/A
Emergency Evacuation Point	❑ **Red Hill;** Rusden St Garran UBD A14, Mugga Way Red Hill UBD C11. **Scrivener Hill;** Callemonda Rise O'Malley UBD Q2 **Mugga Mugga;** Callemonda Rise & Akame Cct O'Malley UBD Q2. **Isaacs Ridge;** Buntine Cr Isaacs UBD A10, Long Gully Rd Isaacs UBDB15. **Wanniassa Hill;** Long Gully Rd Isaacs UBDB15, Richter Cl Fadden UBD B4. ❑ Mobile Phone Reception - Good
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ Provide any contact details that could be helpful (eg. Chris Robinson P&CS Supervising Officer phone: Joe Clifton 6207 2087 or Duty ranger

Section 12. Attachments

Works Plan Risk Assessment

Date of Review January 2012

Name of Organisation P&CS –SOUTH DISTRICT

Compiled by Joe Clifton

Reviewed by Nina Bruns

Function Activity Follow Up Rabbit Control

RISK REFERENC	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT	CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS	ACCEPTABILITY

				LIKELIHOOD	CONSEQUENCE	RISK LEVEL	A – ADEQUATE I - INADEQUATE	A – ACCEPTABLE U - UNACCEPTABLE
1	Spill of poisoned bait	Spilled during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	IV	III	M	Operators wear PPE. Poisoned bait to be transported in a sealed/locked container during transit. Spill kit must be available at all times.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Vehicle or quad bike is involved in an accident, tips on side or overturns	Accident with another vehicle, uneven ground, steep slopes, hidden rabbit warrens or rocks.	Operator injured; vehicle damaged; chemical spill and contamination	IV	V	H	Operator must exercise caution whilst driving on public roads. When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. Field staff must site all operator Safe Work Method Statements/Job Safety Analysis documents prior to commencement of work. Operator to carry all relevant vehicle/machinery licenses at all times while on work site. Operator must undertake an on-ground inspection, on foot, prior to commencing works and identify where it is safe to drive. Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
3	Injury to Operator	Inhalation of aluminium phosphide fumes, walking on uneven terrain, steep slopes, operating machinery (brush cutter), hand tool usage, snake bite.	Operator injured	III	V	H	Operators to wear all appropriate PPE and observe all relevant Safe Work Method Statements. Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment. Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. Field Supervisor and operators must be familiar with emergency procedures in the event of an accident.	A
4	Operator missing/not found on site during work hours or when known to be on site after hours	Injury to operator, vehicle breakdown, operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	II	V	M	Operator to carry mobile phone or portable radio. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
5	Water body contaminated by poison **Not Applicable in this program**	Bait stations placed too close to water bodies/drainage lines.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	II	III	L	Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for pindone poisoning.	A
6	Impact on target animals **Not Applicable in this program**	Poison kills parent of dependant young	Dependant young die from starvation	II	III	L	Contract Manager to post pone program if rabbits are known to be breeding.	A
7	Stock affected by poisoning program **Not Applicable in this program**	Wandering stock enter work area due to ineffective fencing.	Animals become sick or die	III	IV	M	Field Supervisor to check work area prior to works commencing regarding presence of livestock. Field Supervisor and contractor to keep a lookout for wandering stock. All bait to be laid under a bait station that prevents stock from eating the bait. Field Supervisor and contractor to familiarise themselves with label and MSDS in regard to withholding periods and symptoms in stock that may be affected.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
8	Native animals affected by poisoning program **Not Applicable in this program**	Native animal eats poisoned bait or is in warren that is fumigated	Animals become sick or die	III	IV	M	Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. All bait to be laid under a bait station that prevents native animals from eating the bait. Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. Prior to fumigating a warren, the contractor is to look for tracks of native animals.	A
9	Domestic animals affected by poisoning program **Not Applicable in this program**	Dog/cat eats poisoned bait	Death or sickness of domestic animal	III	IV	M	Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. Signs are to be placed on all bait stations outlining that poison has been laid.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
10	Member of the public eats poisoning bait. **Not Applicable in this program**	Adult/child eats poisoned bait	Sickness or death of person	IV	IV	H	Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and associated risks. Signs must be placed on all bait stations outlining that poison has been laid. Ensure bait stations are not placed within 100m of houses.	A
11	Damage to heritage sites	Digging while fumigating warrens, driving over ground not frequented by vehicles.	Damage to heritage sites	III	III	M	Contract Manager to search available data to identify potential sites. Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out on maps provided.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
12	Members of the public or other agencies present in the immediate area of pest control operations	Contractor unaware of the level of public use, of recreational events or works in the area by other agencies	Injury or death; damage to plant, vehicles and equipment	II	IV	M	Field Supervisor check on level of public use and works by other agencies. Where necessary liaise with event organizers and agency representatives. Field Supervisor to inform Contractor in this regard. Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. Contractor always to be on the lookout for casual visitors whilst they working on public land.	A
13	Wrong pest animal species targeted	Operator does not have required pest animal identification skills. Non-target animal enters the bait station.	Non-target species killed. Control of targetted species ineffectvie	II	IV	M	Field supervisor and Contractor must be familiar with contract specification. Contractor must employ operators with the required pest animal identification skills. Field Supervisor must monitor works to ensure correct species being targeted. Poison baiting must be carried out as per SOP.	A
14	Work undertaken on non targeted or incorrect site	Poor instruction provided to contractor and map not provided	Control of targetted species ineffectvie. Non target species affected.	III	III	M	Field Supervisor to provide the Contractor with a map of the areas to be treated.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
15	Expenditure on project exceeds financial allocation	Contract Manager doesn't adequately monitor expenditure.	Budget over run and other projects comprimised from a budgetry, time management and contractor availability perspective.	IV	IV	H	Field Supervisor must accurately monitor and track contractor's hours of operation. Contractor must accurately report hours of operation and report to Field Supervisor as requested.	A
16	Fire started during pest control operations	Fire started by Operators, contractor vehicle, machinery, equipment, fuel spill	Fire on the PCL estate and adjoining land resulting in property/assett loss.	II	VI	H	Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. Field Supervisor to advise Contractor of fire weather conditions. Field Supervisor must ensure Contractor complies with fire weather condition instructions. Contractor must comply with Fire weather condition instructions. Contractor must carry firefighting equipment on vehicle. Field Supervisor must be familiar with procedures to follow in the event of a fire.	A .....*(initial)*

Signed by:

Contractor

Date ____/____/____

Supervising P&CS Officer

Date ___/____/____

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: JAN 2012 ESTIMATED FINISH OF OPERATION: FEBRUARY 2012

DATE	COMMENTS

Territory and Municipal Services
ACT GOVERNMENT

LAND MANAGEMENT AND PLANNING DIVISION

Parks and Conservation Service

WORKS PLAN NUMBER
JERRABOMBERRA GRASSLANDS, CALLUM BRAE and McQUOIDS HILL Nature Reserves
For Rabbit Control (follow up) 2012

Date:	April 2012
Area Manager:	**PARKS & RESERVES – SOUTH**
Work Area:	Jerrabomberra Grasslands, Callum Brae and McQuiods Hill Nature Reserves
Author:	Joe Clifton
Supervising/Field officer:	Joe Clifton
Contact:	6207 2087 OR

Plan Completed Internal Approval X

INTERNAL APPROVAL: Approved:

_____ / / Manager, South District
Comment:

_____ / / Manager, Programs Coordination
Comment:

FINAL SIGN OFF

_____ / / Contractor

_____ / / PCL Supervising Officer

Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☐ All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☐ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☐ All works involving volunteers (eg CVA Green Corp) except Park Care) ☒ **All works where supervising Manager requests a Works Plan to be completed**

Parks and Conservation Service WORKS PLAN

WORKS PLAN NUMBER:

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Follow up Rabbit Control 2012	Jerrabomberra Grasslands, Callum Brae and McQuiods	South	Nature Reserve	Follow up Rabbit control in Canberra Nature Parks. Rabbit population control aims to reduce overgrazing, protect existing and new regenerating native vegetation and reduce risks of erosion resulting from high rabbit densities in the area.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
ha.	Remnant and regenerative Yellow box – Red Gum Grassy Woodland communities, grasslands including Natural Temperate Grasslands.	Flat to steep	Various	Nature Reserve	Out of Scope

Section 3. Approvals and Clearances

District/CPOS	Research and Planning	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
South District Manager approval required	Not required	Not required	Not required	Not required	Not required	Not required

Environment Protection and Biodiversity Conservation Act	PCL considers that there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off

Phosphine gassing	$60 per hour per person	Contractor	Completed	Vertebrate Pests Coordinator
Total	**$ 10,000**	**Funding Source: Vertebrate Pest Program**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken
Verge Landscaping	No verge landscaping

Section 6. Scope of works

Field supervisor: Joe Clifton

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Site Preparation and Monitoring Site preparation and monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following.				
▪ Contractor will locate and map each rabbit warren using a GPS. ▪ The contractor will search for all rabbit warrens and signs of rabbit activity on foot or an all terrain vehicle where possible (terrain may hinder access and process of gassing in some areas). ▪ Two to three rabbit spotlight counts will be undertaken before and one month after the control program to estimate rabbit population densities. This will be done in the few days either side of a	Contractor PACS Rangers	Mapping and marking Pre and post operation rabbit spotlight counts	Field supervisor and ranger in charge	Monitoring may be limited by environmental constraints such as wet weather or total fire ban. No work will be undertaken during such weather in order to avoid damage to the reserve.

new moon. ▪ Treated warrens will be monitored after completion of works for vegetation regeneration.				Where warrens are treated under the control program via fumigation or ripping, weeds will be controlled and open ground will be revegetated using appropriate native seed mix to reduce effects of erosion. Maps of sites of significance will proved.
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opening of the warren will be ripped to ensure the entire warren is destroyed. ▪ The warren must be ripped in two directions. Rip one way and then at right angles to the first rip. The second rip must follow the direction of the contour if on a slope. Then use a smooth/back blade to compact the soil.				Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. If ripping on a slope the last rip lines must follow the contour lines to minimise erosion. Excavators must carry a chemical spill kit.
Aluminium Phosphine Fumigation Fumigation involves the following. ▪ Prior to fumigation warren sites may require clearing of tall vegetation. This is to be carried out using a brush cutter or other relevant tools and/or machinery. ▪ Prior to fumigation rabbits are to be driven underground by suitably trained dogs or by active disturbance by the contractor. ▪ Burrow openings are to be dug back until a 30 cm lip between the surface and the burrow is present. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Two aluminium phosphine tablets will be placed at least 60 cm into each entrance to the warren (there may be multiple entrances to a warren). Tablets are to be wrapped in damp newspaper or paper towel to initiate gas production. ▪ Burrow openings will be back filled after	▪ Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries	Field supervisor	Warrens will not be fumigated if the warren appears to contain or house animal species other than rabbits. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation. Use of machinery requires the contractor to supply a fire extinguisher or water pack in case of fire sparked by the machinery. A spill kit must also be supplied. Fuel must be stored safely and securely. Fuel must not be stored on site over

placing additional scrunched newspaper in each entrance to the warren. Back filing is executed by digging back the sides of the entrance and tamping down the soil firmly leaving behind a relatively flat surface. This ensures the prevention of burrow re-opening. Additional materials such as rocks or sticks/logs from the immediate area may be utilised to aid in back filling the warren entrance(s). ▪ For maximum effect it is essential that all entrances to the warren are sealed. Contractors will check nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. Warrens will be checked for re-opening around one week after fumigation and may be re-treated if necessary.	▪ Field Supervisor			night. It is strongly recommended that all appropriate Personal Protective Equipment be worn at all times. Gloves and P3 grade full face mask. Rocks and sticks or logs must not be moved if they appear to provide a source of habitat for native species. If dogs are utilised during works they must be under the operators full control at all times.
Pindone Poisoning **Pindone Poisoning will not be carried out during this contract.** Areas not suitable for fumigation and/or ripping will be controlled with Pindone Poison. Pindone poisoning involves the following ▪ Signs will be erected at all vehicular and pedestrian access points surrounding the control area. Signs indicate the time period when baits will be laid, the active ingredient/toxin, the pest targe species and an information telephone number. Signs will remain	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary Industries	Field Supervisor	A risk assessment will be undertaken prior to commencement of baiting. Bait will Not be laid in the following instances. - In the vicinity of small mammal and native rodent habitat. - When rain is expected in the next 24 hours.

erected for a minimum of 4 weeks after baiting. ▪ Livestock will be removed from the reserve/treatment area prior to commencement of the baiting program. ▪ A *'pulse baiting technique'* will be used where 2 to 3 free feeds of non-poisoned carrot baits will be laid in bait stations in intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits, laid 3 to 5 days apart. Free feeding enables the contractor to establish an appropriate quantity of poisoned bait required for effective control. Free feeding also enables the detection of any non-target baiting and allows rabbits to become accustomed to consuming bait. ▪ Placement of bait is critical. Bait stations which restrict non-target exposure, are to be laid in feeding areas where rabbit activity is highest and where other food sources are scarce in order to ensure bait uptake/consumption by the target species. ▪ Baits will be laid late afternoon or evenings when rabbits are most active and feeding. ▪ Any uneaten baits and rabbit carcasses that can be located will be collected early the following morning. Carcasses will b collected for a minimum of 12 days after the final bait round. These will be buried at a minimum depth of 500mm in a disposal pit.		Contractor to provide satisfactory Safe Work Method Statements prior to commencement of work.		- Where streams, waterways or rivers may become contaminated. - Where there is a risk of domestic animal, macropod or livestock access to bait.

Section 7. Rehabilitation of Site

Task	Responsibility
The below tasks will be undertaken following the rabbit control program. ▪ Significantly disturbed (ripped) warren sites will be revegetated using a local native grass mix or sterile Rye Corn and will be monitored for a period of six months to ensure successful ground cover establishment. ▪ Fumigated warren sites will be monitored for any germination of environmentally significant pest plants for a minimum period of 12 months after fumigation or for six months after the first significant rainfall event if this occurs after the 12 month monitoring period.	South District Staff,

▪ Warning signs and markers indicating warren location will be removed.	

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
January 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	January 2012	February 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
na	na	na	na	na

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
Contractors and work crew are instructed that public may enter the site at any time.	Appropriate PPE to be worn at all times. Safe Work Method Statements and Safety Operation Plans must be adhered to at all times. First Aid Kit. Emergency evacuation plan is outlined within this document. Contractors to contact works supervisor at the start and finish of shift on Duty Ranger Phone	Contact by operators MUST be made at beginning and end of each shift by calling duty ranger phone on Mobile phone reception is good in all areas.	Emergency evacuation/access plan given in this document.

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	☐ Reception quality - Good ☐ Operator Contact – Chris Robinson

	❑ Contractor Contact – As above ❑ PACS Supervising Officer Contact – Joe Clifton 6207 2087 or Duty ranger ❑ Radio Channels – N/A
Emergency Evacuation Point	❑ **Red Hill;** Rusden St Garran UBD A14, Mugga Way Red Hill UBD C11. **Scrivener Hill;** Callemonda Rise O'Malley UBD Q2 **Mugga Mugga;** Callemonda Rise & Akame Cct O'Malley UBD Q2. **Isaacs Ridge;** Buntine Cr Isaacs UBD A10, Long Gully Rd Isaacs UBDB15. **Wanniassa Hill;** Long Gully Rd Isaacs UBDB15, Richter Cl Fadden UBD B4. ❑ Mobile Phone Reception - Good
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ Provide any contact details that could be helpful (eg. Chris Robinson 6207 2087 or Duty ranger 0409 787 080 P&CS Supervising Officer phone: Joe Clifton

Section 12. Attachments

Works Plan Risk Assessment

Date of Review January 2012

Name of Organisation P&CS –SOUTH DISTRICT

Compiled by Joe Clifton

Reviewed by Nina Bruns

Function Activity Follow Up Rabbit Control

RISK REFERENC	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT	CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS	ACCEPTABILITY

				LIKELIHOOD	CONSEQUENCE	RISK LEVEL	A – ADEQUATE I - INADEQUATE	A – ACCEPTABLE U - UNACCEPTABLE
1	Spill of poisoned bait	Spilled during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	IV	III	M	Operators wear PPE. Poisoned bait to be transported in a sealed/locked container during transit. Spill kit must be available at all times.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Vehicle or quad bike is involved in an accident, tips on side or overturns	Accident with another vehicle, uneven ground, steep slopes, hidden rabbit warrens or rocks.	Operator injured; vehicle damaged; chemical spill and contamination	IV	V	H	Operator must exercise caution whilst driving on public roads. When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. Field staff must site all operator Safe Work Method Statements/Job Safety Analysis documents prior to commencement of work. Operator to carry all relevant vehicle/machinery licenses at all times while on work site. Operator must undertake an on-ground inspection, on foot, prior to commencing works and identify where it is safe to drive. Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
3	Injury to Operator	Inhalation of aluminium phosphide fumes, walking on uneven terrain, steep slopes, operating machinery (brush cutter), hand tool usage, snake bite.	Operator injured	III	V	H	Operators to wear all appropriate PPE and observe all relevant Safe Work Method Statements. Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment. Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. Field Supervisor and operators must be familiar with emergency procedures in the event of an accident.	A
4	Operator missing/not found on site during work hours or when known to be on site after hours	Injury to operator, vehicle breakdown, operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	II	V	M	Operator to carry mobile phone or portable radio. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
5	Water body contaminated by poison **Not Applicable in this program**	Bait stations placed too close to water bodies/drainage lines.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	II	III	L	Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for pindone poisoning.	A
6	Impact on target animals **Not Applicable in this program**	Poison kills parent of dependant young	Dependant young die from starvation	II	III	L	Contract Manager to post pone program if rabbits are known to be breeding.	A
7	Stock affected by poisoning program **Not Applicable in this program**	Wandering stock enter work area due to ineffective fencing.	Animals become sick or die	III	IV	M	Field Supervisor to check work area prior to works commencing regarding presence of livestock. Field Supervisor and contractor to keep a lookout for wandering stock. All bait to be laid under a bait station that prevents stock from eating the bait. Field Supervisor and contractor to familiarise themselves with label and MSDS in regard to withholding periods and symptoms in stock that may be affected.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
8	Native animals affected by poisoning program **Not Applicable in this program**	Native animal eats poisoned bait or is in warren that is fumigated	Animals become sick or die	III	IV	M	Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. All bait to be laid under a bait station that prevents native animals from eating the bait. Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. Prior to fumigating a warren, the contractor is to look for tracks of native animals.	A
9	Domestic animals affected by poisoning program **Not Applicable in this program**	Dog/cat eats poisoned bait	Death or sickness of domestic animal	III	IV	M	Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. Signs are to be placed on all bait stations outlining that poison has been laid.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
10	Member of the public eats poisoning bait. **Not Applicable in this program**	Adult/child eats poisoned bait	Sickness or death of person	IV	IV	H	Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and associated risks. Signs must be placed on all bait stations outlining that poison has been laid. Ensure bait stations are not placed within 100m of houses.	A
11	Damage to heritage sites	Digging while fumigating warrens, driving over ground not frequented by vehicles.	Damage to heritage sites	III	III	M	Contract Manager to search available data to identify potential sites. Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out on maps provided.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
12	Members of the public or other agencies present in the immediate area of pest control operations	Contractor unaware of the level of public use, of recreational events or works in the area by other agencies	Injury or death; damage to plant, vehicles and equipment	II	IV	M	Field Supervisor check on level of public use and works by other agencies. Where necessary liaise with event organizers and agency representatives. Field Supervisor to inform Contractor in this regard. Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. Contractor always to be on the lookout for casual visitors whilst they working on public land.	A
13	Wrong pest animal species targeted	Operator does not have required pest animal identification skills. Non-target animal enters the bait station.	Non-target species killed. Control of targetted species ineffectvie	II	IV	M	Field supervisor and Contractor must be familiar with contract specification. Contractor must employ operators with the required pest animal identification skills. Field Supervisor must monitor works to ensure correct species being targeted. Poison baiting must be carried out as per SOP.	A
14	Work undertaken on non targeted or incorrect site	Poor instruction provided to contractor and map not provided	Control of targetted species ineffectvie. Non target species affected.	III	III	M	Field Supervisor to provide the Contractor with a map of the areas to be treated.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
15	Expenditure on project exceeds financial allocation	Contract Manager doesn't adequately monitor expenditure. .	Budget over run and other projects comprimised from a budgetry, time management and contractor availability perspective.	IV	IV	H	Field Supervisor must accurately monitor and track contractor's hours of operation. Contractor must accurately report hours of operation and report to Field Supervisor as requested.	A
16	Fire started during pest control operations	Fire started by Operators, contractor vehicle, machinery, equipment, fuel spill	Fire on the PCL estate and adjoining land resulting in property/assett loss.	II	VI	H	Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. Field Supervisor to advise Contractor of fire weather conditions. Field Supervisor must ensure Contractor complies with fire weather condition instructions. Contractor must comply with Fire weather condition instructions. Contractor must carry firefighting equipment on vehicle. Field Supervisor must be familiar with procedures to follow in the event of a fire.	A ……*(initial)*

Signed by:

_____ Date ____/____/____

Contractor

_____ Date ___/____/____

Supervising P&CS Officer

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: JAN 2012 ESTIMATED FINISH OF OPERATION: FEBRUARY 2012

DATE	COMMENTS

ACT Government
Territory and Municipal Services

Parks and Conservation Service

WORKS PLAN NUMBER
Majura and Ainslie Nature Reserve Rabbit Control

Date:	Feb – Mar 2012
Area Manager:	**PARKS & RESERVES - NORTH**
Work Area:	Mt Majura and Mt Ainslie Nature Reserves
Author:	Luke McElhinney
Supervising/Field officer:	Luke McElhinney
Contact:	6207 2113

Plan Completed ☑ Internal Approval ☐

INTERNAL APPROVAL: Approved:

_____ 6 / 2 / 12 Manager, North District
Comment:

_____ / / Manager, Natural Resource Protection
Comment:

FINAL SIGN OFF

M Gregory 6 / 2 / 12 Contractor

_____ 6 / 2 / 12 PCL Supervising Officer

Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☒All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☒ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☒ All works involving volunteers (eg CVA Green Corp) except Park Care) ☒ **All works where supervising Manager requests a Works Plan to be completed**

Parks and Conservation Service WORKS PLAN

WORKS PLAN NUMBER:

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Follow Up Rabbit Control 2010	Mt Majura and Mt Ainslie Nature Reserves	North	Designated Land or Hills, Ridges and Buffer	To control the significant rabbit population within land known as Mt Majura and Mt Ainslie Nature Reserves. The control program will prevent the rabbit population from overgrazing large areas of high conservation land and help decrease the risk of erosion.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
Total – 1179 Ha	The Mt Ainslie/ Majura is considered a remnant woodland and open forest. It originally supported forests of Red Stringybarks and Scribbly Gum with some Brittle Gum, Red Box, Snow Gums and Casuarinas on the higher areas, with Yellow Box, Blakelys Red Gum and some Apple Box on the lower slopes. Mt Majura was extensively cleared in the past, compared to Mt Ainslie, and has since had many plantings undertaken. The remnant Yellow Box/ Red Gum woodland community is extensive and considered one of the best examples of its type in the ACT.	Land is predominantly undulating however there are some steeper sections with a slope of 30 degrees	Various	Nature Reserve	Out of Scope

Section 3. Approvals and Clearances

District/CPOS	Research and Planning	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
North District Manager approval required	Not required – last years program was approved	Not required		Not required	Not required – last years program was approved	Approval required if warren ripping to be conducted

Environment Protection and Biodiversity Conservation Act	PCL considers that there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off
Aluminium Phosphide fumigation and Pindone	$20,000	Tennant Rural – Matt Gregory	Completed	Vertebrate Pests Coordinator
Total	**$ 20, 000.00**	**Funding Source: Programs Coordination, Natural Resource Protection**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken within close proximity to trees.
Verge Landscaping	No verge landscaping

Section 6. Scope of works

Field supervisor: Murray Ast

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Program sequence **1. Site preparation and Monitoring** **2. Pindone Poisoning** **3. Phostoxin Fumigation** **4. Follow up Phostoxin** **5. Warren ripping if suitable**				
Site Preparation and Monitoring Site preparation and monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following tasks. • The location of all warrens and surface harbour sites (active/inactive) will be mapped and marked using various coloured marking tape • Three spotlight counts will be undertaken prior to works to estimate the density of the rabbits present. • Three spotlight counts will also be undertaken post control to assess the effectiveness of the the program	North District Staff		Field supervisor and Ranger in Charge	

Pindone Poisoning Rabbit numbers will initially be controlled with Pindone poisoning. This will be followed up by warren fumigation. This will be achieved by undertaking the following tasks. ▪ although Signage will be placed at all pedestrian and vehicular access points to the control area at least 3 days before Pindone baiting will occur. Each sign will include the date baits have been laid, which toxin has been used, and for which pest animal. The sign will remain up for a minimum of 4 weeks after baiting. ▪ All stock will be removed from the baited area prior to the baiting program commencing. ▪ A '*pulse baiting technique*' will be used where 2 to 3 free feeds of non-poisoned carrot baits will be laid in bait stations at intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits laid 3 to 5 days apart. The free feeding of non-poisoned baits will allow for an estimation of amount of poisoned bait required and assessment of any non-target uptake. It also allows rabbits to become accustomed to eating the bait and for toxic bait to be eaten rapidly when applied. ▪ The placement of bait is critical. Bait stations will be laid through feeding areas where rabbit activity is highest and preferably where the pasture is short, dry or absent. ▪ Baits will be laid in the late afternoon or evenings as rabbits are most active between dusk and dawn. ▪ All uneaten baits and rabbit carcasses that can be located will be collected by 10:00am the following morning. ▪ All carcasses of poisoned rabbits will be collected for a minimum of 14 days after the last poison feed. They will be buried at a minimum depth of 500 mm in a disposal pit.	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries (attached)	Field Supervisor	• A careful on-site risk assessment will be undertaken before a baiting program is commenced. To reduce the risks of pindone exposure to humans and non-target animals and to maximise effect on rabbit populations, bait will NOT be laid in the following instances: – in the vicinity of bandicoot and native rodent refuge areas; – when rain is expected in the next 24 hours; – where streams, waterways or rivers may become contaminated. The bait stations will be deployed under cages that only permit access of rabbit sized animals to reduce the risk of domestic animals, macropods or livestock accessing poisoned bait.

Aluminium Phosphide Fumigation Diffusion Fumigation of rabbit warrens will be used for warren dwelling rabbits. This will be conducted as a follow up to Pindone baiting. Further follow up fumigation will be used for reopened warrens. This will be achieved by undertaking the following tasks: ▪ Fumigate when weather is hot to ensure most rabbits are underground and the survival of rabbits above ground is low. ▪ Rabbits can be driven underground by use of suitable dogs before fumigation or by making loud noises chasing the rabbits into the warrens. ▪ Dig back the opening of the burrow so there is a 30 cm lip between the surface and the burrow. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Place two aluminium phosphine tablets at least 60 cm into the burrow. Wrap the tablets in damp newspaper or paper towel to start the release of gas. ▪ The hole should be filled, digging back the sides of the entrance and tamping down the soil. The ground should end up relatively flat to discourage opening up from the outside. ▪ Always work toward the windward side of the warren. ▪ It is essential that all entrances to the warren are sealed. Check under nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. ▪ Check for re-openings around one week after fumigating and treat again as necessary.	Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries (attached)	Field Supervisor	Fumigation will be used as a follow up to Pindone baiting. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation.

Warren Ripping Warrens that are accessible and not in rocky ground may be destroyed through ripping as they are providing harbour for the rabbits. This will only as directed contract supervisor. This will be achieved by undertaking the following tasks. • The warrens will be cleared of logs etc. Care will be taken not to endanger any native wildlife that may be using the harbour. • The rabbits in the area will be driven underground before ripping takes place. This will be achieved by using dogs to work the area, chasing the rabbits into the warrens. • All warrens with open entrances will be ripped even if they are not currently active. • Warrens will be ripped to a depth of at least 700 to 900 mm and at least 2 to 3 metres beyond the edge of the warren to destroy burrows that have entrances on the edge of the warren and lead outwards. The deeper the ripping the greater is the destruction of the warren system. • In most areas cross-ripping will be necessary. This will be achieved by ripping one way; then cross rip at right angles to the first rip. If warrens are on a slope, the second rip should be undertaken across slope. • Smooth/back blade the ripped warren to compact the soil surface and make it less attractive for rabbits to dig back in. • Ripped areas will be sown with suitable native seed to hasten re-vegetation and prevent soil erosion.	Contractor	Works will abide by the Standard Operation Procedures *RAB006 Rabbit Warren Destruction by Ripping* produced by NSW Department of Primary industries (attached)	Field supervisor	All operations will cease when: ▪ Soils are saturated ▪ When machinery is causing rutting ▪ All areas will be checked for suitable dryness before operation continues. No ripping will be undertaken in significantly rocky areas. Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. All ripping will be undertaken in a sensitive manner so as to cause as least disturbance to the environment as possible. Ripping will only occur directly over the warren site.

Section 7. Rehabilitation of Site

Task	Responsibility
The following tasks will be undertaken to rehabilitate the site following the completing of a successful control program. ▪ All ripped sites will be revegetated with a local native grass mix. ▪ These sites will be monitored for 6 months and if the revegetation works is unsuccessful, follow-up programs will be implemented.	North District Staff Contractor

▪ Ripped sites will be monitored for any declared ironmental weed species that may colonise c inate in disturbed ground. ▪ Any significant weed infestations that are found will be treated as part of the District weed management program ▪ All flagging tape will be removed at the end of the program. ▪ All signs will be removed a month after the last baits were laid.	

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
February 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	February 2012	March 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
Signs- at every entry point	Houses backing affected area	Mt Majura/ Ainslie Park Care	N/A	N/A

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
Signs advising of work to be placed on at all pedestrian access points Work crew instructed that public may enter the site at any time.	Appropriate PPE to be worn at all times. Standard Operating Procedures must be adhered to at all times. First Aid Kit Operator to contact works supervisor at the start and finish of shift.	Contact by operators MUST be made at beginning and end of each shift. Mobile phone reception is good.	Varies Access / Emergency Access

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	❑ Reception quality - Good ❑ Operator Contact No. Matt Gregory – ❑ Contractor Contact No. Matt Gregory – ❑ PCL Supervising Officer Contact No. Luke McElhinney or any other ranger on duty or 6207 2113. ❑ Radio Channels
Emergency Evacuation Point	❑ Various exit points, see map attached. ❑ Grid Coordinates/UBD Reference See overall map for gate references

	❑ Mobile Phone Reception - g
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ P&CS Supervising Officer Contact No.. Luke McElhinney or any other ranger on duty or 6207 2113.

Section 12. Attachments

Works Plan Risk Assessment

Date of Review January 2012

Name of Organisation PCS –NORTH DISTRICT

Compiled by Stuart Jeffress

Function Activity Rabbit Control – Mt Majura and Mt Ainslie Nature Reserves

Reviewed by Field Supervisor

	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
	Chemical spill	Chemical spilled during application or travel between sites	Chemical spill on operator; contamination of soil; water and vegetation	IV	III	M	Operators wear PPE. Poisoned bait to be transported in a sealed/locked container during transit. Spill kit must be available at all times.	A

RISK EVENT	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
	Vehicle is involved in an accident, tips on side or overturns	Accident with another vehicle, uneven ground; hidden rabbit warrens or wombat burrows; unstable creek bank	Operator injured; vehicle damaged; chemical spill and contamination	IV	V	H	Operator must exercise caution whilst driving on public roads. When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. Field staff must site all operator Standard Operating Procedures documents prior to commencement of work. (SOP's include: *RAB006 Rabbit Warren Destruction by Ripping, RAB005 Diffusion fumigation of rabbit warrens and RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries). Operator to carry all relevant vehicle/machinery licenses at all times while on work site. Operator must undertake an on-ground inspection, on foot, prior to commencing works and identify where it is safe to drive. Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
	Non life threatening injury to Operator	Walking on uneven terrain, steep slopes, operating plant, machinery, chainsaw, hand tool usage, vehicle accident	Operator injured	III	V	H	Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A
	Life threatening injury to Operator	Operating plant, machinery, chainsaw, vehicle accident, inhalation of aluminium phosphide fumes	Operator injured or sustains injury that results in death	III	V	H	Operators to wear all appropriate PPE and observe all relevant Standard Operating Procedures. Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Operators require adequate training and experience in the operation of plant, machinery and equipment. Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
			LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
Operator missing/not found on site during work hours or when known to be on site after hours	Injury to operator, vehicle breakdown, operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	II	V	M	Operator to carry mobile phone or portable radio. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A
Water body contaminated by poison	Bait stations placed too close to water bodies.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	II	III	L	Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor and enforce the safe working distance specified in Contract. Field supervisor to enforce constraints stated within the works plan for the use of pindone poisoning.	A
Impact on target animals	Poison kills parent of dependant young	Dependant young die from starvation	II	III	L	Contract Manager to post pone program if rabbits are known to be breeding.	A

	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
	Stock affected by poisoning program	Stock grazing under agistment; wandering stock enter work area due to ineffective fencing.	Animals become sick or die	III	IV	M	Field Supervisor to check work area prior to works commencing regarding presence of livestock. Field Supervisor and contractor to keep a lookout for wandering stock. All bait to be laid under a bait station that prevents stock from eating the bait. Field Supervisor and contractor to familiarise themselves with label and MSDS in regard to withholding periods and symptoms in stock that may be affected.	A
	Native animals affected by poisoning program	Native animal eats poisoned bait or is in warren that is fumigated	Animals become sick or die	III	IV	M	Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. All bait to be laid under a bait station that prevents native animals from eating the bait. Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. Prior to fumigating a warren, the contractor is to look for tracks of native animals.	A

	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
)	Domestic animals affected by poisoning program	Dog/cat eats poisoned bait	Death or sickness of domestic animal	III	IV	M	Adequate warning signage notifying users of the risks to domestic animals are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. Place signs on all bait stations outlining that poison has been laid.	A
l	Member of the public eats poisoning bait.	Adult/child eats poisoned bait	Sickness or death of person	IV	IV	H	Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately bordering the work area notifying them of the upcoming program and associated risks. Place signs on all bait stations outlining that poison has been laid. Ensure bait stations are not placed within 100m of houses.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Damage to heritage sites	Digging while fumigating warrens, driving over ground not frequented by vehicles.	Damage to heritage sites	III	III	M	Contract Manager to search available data to identify potential sites. Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out	A
3	Members of the public or other agencies present in the immediate area of pest control operations	Contractor unaware of the level of public use, of recreational events or works in the area by other agencies	Injury or death; damage to plant, vehicles and equipment	II	IV	M	Field Supervisor check on level of public use and works by other agencies. Where necessary liaise with event organizers and agency representatives. Field Supervisor to inform Contractor in this regard. Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. Contractor always to be on the look out for casual visitors whilst they working on public land.	A
4	Wrong pest animal species targeted	Operator does not have required pest animal identification skills.	Non-target species killed. Control of targetted species ineffectvie	II	IV	M	Field supervisor and Contractor must be familiar with contract specification. Contractor must employ operators with the required pest animal identification skills. Field Supervisor must monitor works to ensure correct species being targeted. Poison baiting must be carried out as per SOP.	A

	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
5	Work undertaken on non targeted or incorrect site	Poor instruction provided to contractor and map not provided	Control of targetted species ineffectvie. Non target species affected.	III	III	M	Field Supervisor to provide the Contractor with a map of the areas to be treated.	A
6	Expenditure on project exceeds financial allocation	Contract Manager doesn't adequately monitor expenditure.	Budget over run and other projects comprimised from a budgetry, time management and contractor availability perspective.	IV	IV	H	Field Supervisor must accurately monitor and track contractor's hours of operation. Contractor must accurately report hours of operation and report to Field Supervisor as requested.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
7	Fire started during pest control operations	Fire started by Operators, contractor vehicle, machinery, equipment, fuel spill	Fire on the PCL estate and adjoining land resulting in property/assett loss.	II	VI	H	Contractor must cease work under TOBAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. Field Supervisor to advise Contractor of fire weather conditions. Field Supervisor must ensure Contractor complies with fire weather condition instructions. Contractor must comply with Fire weather condition instructions.. Contractor must carry fire fighting equipment on vehicle. Field Supervisor must be familiar with procedures to follow in the event of a fire.	A .....*(initial)*

Signed by:

_____ Date ____/____/____

Contractor

_____ Date ___/____/____

Supervising PC&L Officer

Section 13. Operational map attached

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: FEB 2012 ESTIMATED FINISH OF OPERATION: MARCH 2012

DATE	COMMENTS

Territory and Municipal Services
ACT GOVERNMENT

LAND MANAGEMENT AND PLANNING DIVISION

Parks and Conservation Service

WORKS PLAN NUMBER
Pinnacle Nature Reserve Rabbit Control

Date:	Apr-Jun – 2012
Area Manager:	**PARKS & RESERVES - NORTH**
Work Area:	Pinnacle Nature Reserves
Author:	Craig Wainwright
Supervising/Field officer:	Luke McElhinney
Contact:	6207 2113

Plan Completed ☑ Internal Approval ☐

INTERNAL APPROVAL: Approved: Peter Cal for 30/3/12

_____ / / Manager, North District

Comment:

_____ / / Manager, Natural Resource and Protection

Comment:

FINAL SIGN OFF

_____ / / Contractor

_____ 2/4/3 / 12 P&CS Supervising Officer

Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☒ All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☒ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☐ All works involving volunteers (eg CVA Green Corp) except Park Care ☒ **All works where supervising Manager requests a Works Plan to be completed**

Parks, Conservation and Lands WORKS PLAN

WORKS PLAN NUMBER:

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Rabbit Control 2012	Pinnacle Nature Reserve, North Kama and Bottom Pinnacle	North	Designated Land or Hills, Ridges and Buffer	Reduce rabbit impacts in Pinnacle Nature Reserve and within land known as Bottom Pinnacle and North Kama. Rabbit population control aims to prevent the rabbit population from overgrazing large areas of high conservation land, protect new revegetation plantings and help decrease the risk of erosion resulting from high rabbit densities in the area.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
Total – 246 Ha North Kama – 66 Ha Pinnacle Nature Reserve 125ha Bottom Pinnacle – 55ha	Pinnacle Nature Reserve contains a small area of remnant stringybark forest at the western end with the remainder of the Reserve being native and introduced pasture under tree and shrub plantations. North Kama and Bottom Pinnacle contains of light to moderate timber covering with an understorey of predominantly native grasses.	Land is predominantly undulating however there are some steeper sections..	Various	Nature Reserve and Agistment.	Out of Scope

Section 3. Approvals and Clearances

District/CPOS	Research and Planning	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
North District Manager approval required	Greg Baines to be consulted if ripping is employed	Not required	Not required	Not required	No Heritage site at the Pinnacle	If ripping occurs DBYD will be consulted

Environment Protection and Biodiversity Conservation Act	PCL considers that there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off
Aluminium Phosphide Gas Fumigation	$15 000	Contractor	Completed	Vertebrate Pests Coordinator
Total	**$ 15 000**	**Funding Source: Programs Coordination, Natural Resource Protection**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken within close proximity to trees, large boulders or pipes/underground cables.
Verge Landscaping	No verge landscaping

Section 6. Scope of works **Field supervisor:** Luke McElhinney

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Program sequence **1. Site preparation and Monitoring** **2. Phostoxin Fumigation** **3. Ripping** **4. Pindone Poisoning** **5. Follow up Phostoxin**				
Site Preparation and Monitoring Site preparation and monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following tasks. • The location of all warrens and surface harbour sites (active/inactive) will be mapped and marked using various coloured marking tape. A map will be given to the contractor prior to commencement of works. • Two spotlight counts will be undertaken prior to works in order to estimate current rabbit population size and density.	North District Staff	n/a	Field supervisor and Ranger in Charge	n/a

Warren Ripping Any significant warrens that are accessible and not in rocky ground will be destroyed through ripping as they are providing harbour for the rabbits. This will be achieved by undertaking the following tasks. • The warrens will be cleared of logs etc. Care will be taken not to endanger any native wildlife that may be using the harbour. • The rabbits in the area will be driven underground before ripping takes place. This will be achieved by using dogs to work the area, chasing the rabbits into the warrens. • All warrens with open entrances will be ripped even if they are not currently active. • Warrens will be ripped to a depth of at least 700 to 900 mm and at least 2 to 3 metres beyond the edge of the warren to destroy burrows that have entrances on the edge of the warren and lead outwards. The deeper the ripping the greater is the destruction of the warren system. • In most areas cross-ripping will be necessary. This will be achieved by ripping one way; then cross rip at right angles to the first rip. If warrens are on a slope, the second rip should be undertaken across slope. • Smooth/back blade the ripped warren to compact the soil surface and make it less attractive for rabbits to dig back in. Ripped areas will be sown with suitable native seed to hasten re-vegetation and prevent soil erosion.	North District Staff	Works will abide by the Standard Operation Procedures *RAB006 Rabbit Warren Destruction by Ripping* produced by NSW Department of Primary industries	Field supervisor	All operations will cease when: ▪ Soils are saturated ▪ When machinery is causing rutting ▪ All areas will be checked for suitable dryness before operation continues. No ripping will be undertaken in significantly rocky areas. Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. All ripping will be undertaken in a sensitive manner so as to cause as least disturbance to the environment as possible. No ripping at Pink Tailed Worm Lizard habitat. Ripping will only occur directly over the warren site.

Aluminium Phosphide Fumigation Fumigation will be carried out extensively on Pinnacle Nature Reserve. Fumigation involves the following. Fumigation to be executed during high temperature days to ensure rabbits are in their warrens at the time of fumigation.	Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced	Field supervisor	Fumigation will be used where ripping cannot be undertaken. Warrens will not be fumigated if the warren appears to contain or

▪ Prior to fumigation warren sites may require clearing of tall vegetation. This is to be carried out using a brush cutter or other relevant tools and/or machinery. ▪ Prior to fumigation rabbits are to be driven underground by suitably trained dogs or by active disturbance by the contractor. ▪ Burrow openings are to be dug back until a 30 cm lip between the surface and the burrow is present. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Two aluminium phosphine tablets will be placed at least 60 cm into each entrance to the warren (there may be multiple entrances to a warren). Tablets are to be wrapped in damp newspaper or paper towel to initiate gas production if soil inside the warren is dry. ▪ Burrow openings will be back filled after placing additional scrunched newspaper in each entrance to the warren. Back filing is executed by digging back the sides of the entrance and tamping down the soil firmly leaving behind a relatively flat surface. This ensures the prevention of burrow re-opening. Additional materials such as rocks or sticks/logs from the immediate area may be utilised to aid in back filling the warren entrance(s). ▪ For maximum effect it is essential that all entrances to the warren be sealed. Contractors will check nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. Warrens will be checked for re-opening around one week after fumigation and may be re-treated if necessary.		by NSW Department of Primary industries		house animal species other than rabbits. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation. Use of machinery requires the contractor to supply a fire extinguisher or water pack in case of fire sparked by the machinery. A spill kit must also be supplied. Fuel must be stored safely and securely. Fuel must not be stored on site over night. It is strongly recommended that all appropriate Personal Protective Equipment be worn at all times. Gloves and P3 grade full face mask.

				Rocks and sticks or logs must not be moved if they appear to provide a source of habitat for native species.
Pindone Poisoning Pindone poisoning will not be conducted for the current rabbit control program. Pindone poisoning involves the following ▪ Signs will be erected at all vehicular and pedestrian access points surrounding the control area of Mt. Painter Nature Reserve. Signs indicate the time period when baits will be laid, the active ingredient/toxin, the target pest species and an information telephone number. Signs will remain erected for a minimum of 4 weeks after baiting. ▪ Any stock will be removed from the control site of Mt. Painter Nature Reserve prior to commencement of the baiting program. ▪ A '*pulse baiting technique*' will be used where 3 free feeds of non-poisoned carrot baits are laid under bait stations using a two day interval cycle. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits laid 3 to 5 days apart. Free feeding allows for the estimation of the quantity of poisoned bait required. This enables the detection of any non-target baiting and allows rabbits to become accustomed to consuming bait. ▪ Placement of bait is critical. Bait stations which restrict non-target exposure, are to be laid in feeding areas where rabbit activity is highest and where other food sources are scarce in order to ensure bait uptake. ▪ Each bait station will be fixed to the ground in at least	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries	Field Supervisor	A risk assessment will be undertaken prior to commencement of baiting. Bait will NOT be laid in the following instances: – In the vicinity of small native mammal and rodent habitat. – When rain is expected in the next 24 hours. – Where streams, waterways or rivers may become contaminated. – Where there is a risk of domestic animal, macropod or livestock access to bait. Bait stations must be fixed to the ground to avoid dislodging by kangaroo activity.

two places and labelled with a poison sign. The sign must be fixed to the bait station with at least two fixture points to avoid sign movement in windy conditions, which may scare rabbits away from the bait. ▪ Baits will be laid late afternoon or evenings when rabbits are most active and feeding. ▪ Any uneaten baits and rabbit carcasses that can be located will be collected early the following morning. Carcasses will be collected for a minimum of 12 days after the final baiting round. Carcasses and uneaten bait will be buried at a minimum depth of 500 mm in a disposal pit.				

Section 7. Rehabilitation of Site

Task	Responsibility
The below tasks will be undertaken following the rabbit control program. ▪ Significantly disturbed warren sites will be revegetated using a local native grass mix and will be monitored for a period of six months to ensure successful ground cover establishment. ▪ Fumigated warren sites will be monitored for any germination of environmentally significant pest plants for a minimum period of 12 months after fumigation or for six months after the first significant rainfall event if this occurs after the 12 month monitoring period. ▪ Warning signs and markers indicating warren location will be removed.	North District Staff, Contractor

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
April 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	April 2012	June 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
Signs at all entry points	Houses backing affected area	Friends of the Pinnacle	N/A	N/A

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
Warning/advisory signs will be erected at all vehicular and pedestrian access points. Contractors will be informed that public may enter the site at any time.	Appropriate PPE to be worn at all times. Standard Operating Proceedures must be adhered to at all times. First Aid Kit. Emergency evacuation plan is outlined within this document. Contractors to contact works supervisor at the start and finish of shift.	Contact by operators MUST be made at beginning and end of each shift. Mobile phone reception is good.	Emergency evacuation/access plan given in this document.

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	❑ Reception quality - Good ❑ Operator Contact - ❑ Contractor Contact – **Chris Robinson** ❑ PCL Supervising Officer Contact – **Luke McElhinney 6207 2113 or** ❑ Radio Channels – N/A
Emergency Evacuation Point	❑ Gate along Springvale Drive Weetangera or Dungowan Street Hawker as marked on map provided. ❑ Grid Coordinates/UBD Reference – UBD 2012 16th edition, page 47 - G7 and B4 ❑ Mobile Phone Reception - Good
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ Provide any contact details that could be helpful (eg. Your phone number, details for PCL Supervising Officer)

Section 12. Attachments

Works Plan Risk Assessment

		Date of Review	April 2012
Name of Organisation	P&CS –NORTH DISTRICT	Compiled by	Stuart Jeffress
Function Activity	Rabbit Control – Mt Painter Nature Reserves	Reviewed by	Luke McElhinney (Field Supervisor)

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U – UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
1	Spill of poisoned bait	Spilled during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	IV	III	M	Operators wear PPE. Poisoned bait to be transported in a sealed/locked container during transit. Spill kit must be available at all times.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Vehicle or quad bike is involved in an accident, tips on side or overturns	Accident with another vehicle, uneven ground; hidden rabbit warrens or wombat burrows; unstable creek bank	Operator injured; vehicle damaged; chemical spill and contamination	IV	V	H	Operator must exercise caution whilst driving on public roads. When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. Field staff must site all operator Standard Operating Procedures documents prior to commencement of work. Operator to carry all relevant vehicle/machinery licenses at all times while on work site. Operator must undertake an on-ground inspection, on foot, prior to commencing works and identify where it is safe to drive. Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
3	Injury to Operator	Inhalation of aluminium phosphide fumes, walking on uneven terrain, steep slopes, operating machinery (brush cutter), hand tool usage, snake bite.	Operator injured	III	V	H	Operators to wear all appropriate PPE and observe all relevant Standard Operating Procedures. Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment. Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. Field Supervisor and operators must be familiar with emergency procedures in the event of an accident.	A
4	Operator missing/not found on site during work hours or when known to be on site after hours	Injury to operator, vehicle breakdown, operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	II	V	M	Operator to carry mobile phone or portable radio. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
5	Water body contaminated by poison	Bait stations placed too close to water bodies/drainage lines.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	II	III	L	Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for the use of pindone poisoning.	A
6	Impact on target animals	Poison kills parent of dependant young	Dependant young die from starvation	II	III	L	Contract Manager to post pone program if rabbits are known to be breeding.	A
7	Stock affected by poisoning program	Wandering stock enter work area due to ineffective fencing.	Animals become sick or die	III	IV	M	Field Supervisor to check work area prior to works commencing regarding presence of livestock. Field Supervisor and contractor to keep a lookout for wandering stock. All bait to be laid under a bait station that prevents stock from eating the bait. Field Supervisor and contractor to familiarise themselves with label and MSDS in regard to withholding periods and symptoms in stock that may be affected.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
8	Native animals affected by poisoning program	Native animal eats poisoned bait or is in warren that is fumigated	Animals become sick or die	III	IV	M	Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. All bait to be laid under a bait station that prevents native animals from eating the bait. Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. Prior to fumigating a warren, the contractor is to look for tracks of native animals.	A
9	Domestic animals affected by poisoning program	Dog/cat eats poisoned bait	Death or sickness of domestic animal	III	IV	M	Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. Place signs on all bait stations outlining that poison has been laid.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
10	Member of the public eats poisoning bait.	Adult/child eats poisoned bait	Sickness or death of person	IV	IV	H	Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and associated risks. Place signs on all bait stations outlining that poison has been laid. Ensure bait stations are not placed within 100m of houses.	A
11	Damage to heritage sites	Digging while fumigating warrens, driving over ground not frequented by vehicles.	Damage to heritage sites	III	III	M	Contract Manager to search available data to identify potential sites. Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
12	Members of the public or other agencies present in the immediate area of pest control operations	Contractor unaware of the level of public use, of recreational events or works in the area by other agencies	Injury or death; damage to plant, vehicles and equipment	II	IV	M	Field Supervisor check on level of public use and works by other agencies. Where necessary liaise with event organizers and agency representatives. Field Supervisor to inform Contractor in this regard. Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. Contractor always to be on the look out for casual visitors whilst they working on public land.	A
13	Wrong pest animal species targeted	Operator does not have required pest animal identification skills. Non-target animal enters the bait station.	Non-target species killed. Control of targetted species ineffectvie	II	IV	M	Field supervisor and Contractor must be familiar with contract specification. Contractor must employ operators with the required pest animal identification skills. Field Supervisor must monitor works to ensure correct species being targeted. Poison baiting must be carried out as per SOP.	A
14	Work undertaken on non targeted or incorrect site	Poor instruction provided to contractor and map not provided	Control of targetted species ineffectvie. Non target species affected.	III	III	M	Field Supervisor to provide the Contractor with a map of the areas to be treated.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
15	Expenditure on project exceeds financial allocation	Contract Manager doesn't adequately monitor expenditure. .	Budget over run and other projects comprimised from a budgetry, time management and contractor availability perspective.	IV	IV	H	Field Supervisor must accurately monitor and track contractor's hours of operation. Contractor must accurately report hours of operation and report to Field Supervisor as requested.	A
16	Fire started during pest control operations	Fire started by Operators, contractor vehicle, machinery, equipment, fuel spill	Fire on the PCL estate and adjoining land resulting in property/assett loss.	II	VI	H	Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. Field Supervisor to advise Contractor of fire weather conditions. Field Supervisor must ensure Contractor complies with fire weather condition instructions. Contractor must comply with Fire weather condition instructions. Contractor must carry fire fighting equipment on vehicle. Field Supervisor must be familiar with procedures to follow in the event of a fire.	A .....*(initial)*

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
17								A

Signed by:

_____ Date ____/____/____

Contractor

_____ Date ___/____/____

Section 13. Operational map attached

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: APR 2012 ESTIMATED FINISH OF OPERATION: JUN 2012

DATE	COMMENTS

ACT Government
Territory and Municipal Services

Parks and Conservation Service

WORKS PLAN NUMBER
CNP North District Nature Reserves Rabbit Control

Date: September – October 2012

Area Manager: **Canberra Nature Parks – North District**

Work Area: Nature Reserves: Mt Painter, the Pinnacle, Mt Majura and Mt Ainslie.

Author: Craig Wainwright

Supervising/Field officers: Craig Wainwright, Luke McElhinney,

Contact: 6207 2113

Plan Completed ☑ Internal Approval ☑

INTERNAL APPROVAL: Approved: 22/9/12 for.

_____ / / Manager, North District
Comment:

_____ / / Manager, Natural Resource Protection
Comment:

FINAL SIGN OFF

_____ / / Contractor

21/9/12 PCS Supervising Officer

Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☒All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☒ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☒ All works involving volunteers (eg CVA Green Corp) except Park Care) ☒ **All works where supervising Manager requests a Works Plan to be completed**

Parks and Conservation Service

WORKS PLAN

WORKS PLAN NUMBER:

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Follow Up Rabbit Control 2012	Nature Reserves: Mt Painter, The Pinnacle, Mt Majura and Mt Ainslie	North	Designated Land or Hills, Ridges and Buffer	To control the significant rabbit population within land known as Canberra Nature Parks Nature Reserves and Innabanya rural property. The control program will prevent the rabbit population from overgrazing large areas of high conservation land and help decrease the risk of erosion.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
1179 ha.	The Mt Ainslie/Mt Majura Nature Reserves are considered remnant woodland and open forest. It originally supported forests of Red Stringybarks and Scribbly Gum with some Brittle Gum, Red Box, Snow Gums and Casuarinas on the higher areas, with Yellow Box, Blakelys Red Gum and some Apple Box on the lower slopes, including Innabanya rural property. Mt Majura was extensively cleared in the past, compared to Mt Ainslie, and has since had many plantings undertaken. Remnant Yellow Box/ Red Gum Grassy Woodland community is extensive through the Majura Valley.	Land is predominantly undulating however there are some steeper sections with a slope of 30 degrees	Various	Mt Majura and Mt Ainslie are Nature Reserve and Innabanya is leased Territory land.	Out of Scope

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
Total – 246 ha	The Pinnacle Nature Reserve contains a small area of remnant Stringybark forest at the western end with the remainder of the Reserve	Land is predominantly undulating	Various	Nature Reserve and Agistment.	

North Kama 66 ha Pinnacle Nature Reserve 125ha Bottom Pinnacle 55ha	being native and introduced pasture under tree and shrub plantations. North Kama and Bottom Pinnacle contains of light to moderate timber covering with an understorey of predominantly native grasses.	however there are some steeper sections.			

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
71 ha approx.	Mt Painter Nature Reserve predominantly consists of steep rocky grassland and small remnant patches of open woodland.	Predominantly steep 20-30 degree with slight slopes on southern boundary	Various	Nature Reserve	

Section 3. Approvals and Clearances

District/PCS	Conservation Planning and Research	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
North District Manager approval required	Not required – past programs were approved	Not required	Not required	Not required	Not required – past programs were approved	N/A – follow up program using past information

Environment Protection and Biodiversity Conservation Act	PCS considers there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off
Aluminium Phosphide fumigation		Feral Management – Chris Robinson	Panel Contract	Vertebrate Pests Coordinator
Total		**Funding Source: Programs Coordination, Natural Resource Protection; Gungaderra Offset funding; Woodlands Restoration Project.**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken within close proximity to trees.
Verge Landscaping	No verge landscaping

Section 6. Scope of works Field supervisor: Craig Wainwright

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Program sequence 1. Mapping of rabbit warrens 2. Pre-program spotlight monitoring 3. Site preparation 4. Pindone Poisoning 5. Aluminium Phosphide (Phostoxin) Fumigation 6. Follow up Phostoxin 7. Warren ripping of suitable sites if resources are available 8. Post-program spotlight monitoring				
1. Mapping of rabbit warrens Mapping will be undertaken prior to the commencement of the control program. This will be achieved by completing the following task. • The location of all warrens and surface harbour sites (active/inactive) will be mapped using GPS waypoints and marked using orange marking tape	North District Staff and Parkcare groups	GPS waypoints required for accuracy of PCS records and distribution to contractor	Field supervisors and Senior Ranger	None
2. Pre-program spotlight monitoring Monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following task. • Two or three spotlight counts will be undertaken prior to works to estimate the density of the rabbits present • Data entered into VOP spotlight spreadsheet G:\23 PARKS RESERVES AND PUBLIC PLACES\ENVIRONMENT\Canberra North District\Veterbrate Pests\Rabbits\Spotlighting •	North District Staff	Refer to spotlight risk assessment, procedures and control measures	Field supervisors and Senior Ranger	None
3. Site Preparation Warrens sites that are difficult for the contractor to treat should be assessed and where possible thinning of shrubs or relocation of	North District	Assessments need to consider habitat and environmental impact	Field supervisors, Senior Ranger and CPR	Environmental approval from CPR when thinning bird habitat areas

large debris should be undertaken	Staff			

4. Pindone Poisoning Pindone poisoning will not be conducted for this round of rabbit control unless directed by the contract supervisor This will be achieved by undertaking the following tasks. ▪ although Signage will be placed at all pedestrian and vehicular access points to the control area at least 3 days before Pindone baiting will occur. Each sign will include the date baits have been laid, which toxin has been used, and for which pest animal. The sign will remain up for a minimum of 4 weeks after baiting. ▪ All stock will be removed from the baited area prior to the baiting program commencing. ▪ A '*pulse baiting technique*' will be used where 2 to 3 free feeds of non-poisoned carrot baits will be laid in bait stations at intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits laid 3 to 5 days apart. The free feeding of non-poisoned baits will allow for an estimation of amount of poisoned bait required and assessment of any non-target uptake. It also allows rabbits to become accustomed to eating the bait and for toxic bait to be eaten rapidly when applied. ▪ The placement of bait is critical. Bait stations will be laid through feeding areas where rabbit activity is highest and preferably where the pasture is short, dry or absent. ▪ Baits will be laid in the late afternoon or evenings as rabbits are most active between dusk and dawn. ▪ All uneaten baits and rabbit carcasses that can be located will be collected by 10:00am the following morning. ▪ All carcasses of poisoned rabbits will be collected for a minimum of 14 days after the last poison feed. They will be buried at a minimum depth of 500 mm in a disposal pit.	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries (attached)	Field Supervisor	• A careful on-site risk assessment will be undertaken before a baiting program is commenced. To reduce the risks of pindone exposure to humans and non-target animals and to maximise effect on rabbit populations, bait will NOT be laid in the following instances: - in the vicinity of bandicoot and native rodent refuge areas; - when rain is expected in the next 24 hours; - where streams, waterways or rivers may become contaminated. The bait stations will be deployed under cages that only permit access of rabbit sized animals to reduce the risk of domestic animals, macropods or livestock accessing poisoned bait.

5. Aluminium Phosphide (Phostoxin) Fumigation Diffusion Fumigation of rabbit warrens will be used for warren dwelling rabbits. This will be conducted as a follow up to Pindone baiting. Further follow up fumigation will be used for reopened warrens. This will be achieved by undertaking the following tasks: ▪ Fumigate when weather is hot to ensure most rabbits are underground and the survival of rabbits above ground is low. ▪ Rabbits can be driven underground by use of suitable dogs before fumigation or by making loud noises chasing the rabbits into the warrens. ▪ Dig back the opening of the burrow so there is a 30 cm lip between the surface and the burrow. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Place two aluminium phosphine tablets at least 60 cm into the burrow. Wrap the tablets in damp newspaper or paper towel to start the release of gas. ▪ The hole should be filled, digging back the sides of the entrance and tamping down the soil. The ground should end up relatively flat to discourage opening up from the outside. ▪ Always work toward the windward side of the warren. ▪ It is essential that all entrances to the warren are sealed. Check under nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. ▪ Check for re-openings around one week after fumigating and treat again as necessary.	Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries (attached)	Field Supervisor	Fumigation will be used as a follow up to Pindone baiting. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation.

6. Follow-up Fumigation Check for re-openings around one week after fumigating and treat again as necessary. (not all fumigation will receive follow fumigation. PCS will advise contractor which areas will require follow-up)	Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries (attached)	Field Supervisor	Fumigation will be used as a follow up to Pindone baiting. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation.
7. Warren Ripping Warrens that are accessible and not in rocky ground may be destroyed through ripping as they are providing harbour for the rabbits. This will only as directed contract supervisor. This will be achieved by undertaking the following tasks. • The warrens will be cleared of logs etc. Care will be taken not to endanger any native wildlife that may be using the harbour. • The rabbits in the area will be driven underground before ripping takes place. This will be achieved by using dogs to work the area, chasing the rabbits into the warrens. • All warrens with open entrances will be ripped even if they are not currently active. • Warrens will be ripped to a depth of at least 700 to 900 mm and at least 2 to 3 metres beyond the edge of the warren to destroy burrows that have entrances on the edge of the warren and lead outwards. The deeper the ripping the greater is the destruction of the warren system. • In most areas cross-ripping will be necessary. This will be achieved by ripping one way; then cross rip at right angles to the first rip. If warrens are on a slope, the second rip should be undertaken across slope. • Smooth/back blade the ripped warren to compact	North District Staff	Works will abide by the Standard Operation Procedures *RAB006 Rabbit Warren Destruction by Ripping* produced by NSW Department of Primary industries (attached)	Field supervisor	All operations will cease when: ▪ Soils are saturated ▪ When machinery is causing rutting ▪ All areas will be checked for suitable dryness before operation continues. No ripping will be undertaken in significantly rocky areas. Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. All ripping will be undertaken in a sensitive manner so as to cause as least disturbance to the environment as possible. Ripping will only occur directly over the warren site.

the soil surface and make it less attractive for rabbits to dig back in. • Ripped areas will be sown with suitable native seed to hasten re-vegetation and prevent soil erosion.				
8. Post-program spotlight monitoring Monitoring will be undertaken within 1 month after the control program. This will be achieved by completing the following task. • Two or three spotlight counts will be undertaken prior to works to estimate the density of the rabbits present • Data entered into VOP spotlight spreadsheet G:\23 PARKS RESERVES AND PUBLIC PLACES\ENVIRONMENT\Canberra North District\Veterbrate Pests\Rabbits\Spotlighting •	North District Staff	Refer to spotlight risk assessment, procedures and control measures	Field supervisors and Senior Ranger	None

Section 7. Rehabilitation of Site

Task	Responsibility
The following tasks will be undertaken to rehabilitate the site following the completing of a successful control program: ▪ All ripped sites will be revegetated with a local native grass mix. ▪ These sites will be monitored for 6 months and if the revegetation works is unsuccessful, follow-up programs will be implemented. ▪ Ripped sites will be monitored for any declared or environmental weed species that may colonise or germinate in disturbed ground. ▪ Any significant weed infestations that are found will be treated as part of the District weed management program ▪ All flagging tape will be removed at the end of the program. ▪ All signs will be removed a month after the last baits were laid.	North District Staff

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
September-October 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	10 September 2012	Estimate: 30 October 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
N/A	N/A	ParkCare groups	N/A	Media release in March

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
See attached Risk Assessment	*See attached Risk Assessment*	*See attached Risk Assessment*	See Section 11

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	❑ Reception quality - Good ❑ Operator Contact No. Chris Robinson – ❑ Contractor Contact No. Chris Robinson – ❑ PCL Supervising Officer Contact No. Craig Wainwright, Luke McElhinney or duty ranger on or 6207 2113 ❑ Radio Channels – n/a
Emergency Evacuation Point	❑ Various exit points, see map attached. ❑ Grid Coordinates/UBD Reference See maps provided for gate references ❑ Mobile Phone Reception - good.
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ P&CS Supervising Officer Contact No.. Craig Wainwright, Luke McElhinney or duty ranger on or 6207 2113

Section 12. Attachments

PARKS AND CONSERVATION SERVICE – CNP North

RISK ASSESSMENT FORM

Section Parks and Conservation Service

Sub-Section Canberra Nature Parks – North District

Program: **Rabbit Control**

Prepared by: Craig Wainwright and Luke McElhinney

Signature: _____ **Date:** _____

Reviewed by: _____

Signature: _____ **Date:** _____

Mechanism	Risk Factors	Risk Impacts	Risk level without Treatment			Treatment Controls	Risk level with Treatment			Person Responsible
			L	C	RR		L	C	RR	
1	Spill of poisoned baits during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	3	3	M	• Operators wear PPE • Poisoned bait to be transported in a sealed, locked and labeled container during transit • Spill kit must be available at all times • Operators to observe all relevant Standard Operating Procedures. *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries	3	1	L	Contractor
2	Vehicle or quad bike is involved in an accident through collision with another vehicle, uneven ground; logs and rocks: hidden rabbit warrens or wombat burrows; unstable creek bank	Operator injured; vehicle damaged; chemical spill and contamination	3	4	H	• Operator must exercise caution whilst driving on public roads • When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle • Considers the environmental conditions and travels at an appropriate speed • Operator to have participated in appropriate training and to carry all relevant vehicle and machinery licenses at all times while on the work site • Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken • Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact • Field Supervisor must be familiar with procedures to follow in the event of an accident. • Spill kit must be available at all times	2	3	M	Contractor Field Supervisor

						• Operator to observe all relevant Standard Operating Procedures. *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries • Emergency evacuation points established and marked on the contractor's map				
3	Injury to Operator from inhalation of aluminium phosphide fumes	Operator poisoned	3	5	E	• Operators to wear all appropriate PPE and observe all relevant Standard Operating Procedures. *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries • Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio • Field Supervisor and operators must be familiar with emergency procedures in the event of an accident • Contractor must notify the Field Supervisor in a timely manner of any injury sustained • Contractors are not to work alone	2	3	M	Contractor
4	Injury to Operator from: walking on uneven terrain, steep slopes, operating machinery, hand tool usage	Operator injured	3	3	M	• Operators to wear all appropriate PPE • Operators should familiarise themselves with the project site and identify potential hazards • Contractor to provide first aid kit in vehicle • Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment • Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio • Field Supervisor and operators must be familiar with emergency procedures in the event of an accident	3	2	M	Contractor Field Supervisor

						• Contractor must notify the Field Supervisor in a timely manner of any injury sustained				
5	Snake bite.	Operator injured	3	4	H	• Contractor to provide first aid kit in vehicles. • Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio • Field Supervisor and operators must be familiar with emergency procedures in the event of an accident	3	3	M	Contractor Field Supervisor
6	Whereabouts of operator unknown during and after normal work hours due to injury to operator, vehicle breakdown or operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status	3	5	E	• Contractors to carry mobile phone or portable radio • Contractors to phone in when arriving on site and phone in when leaving the site • Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident • For injuries refer to mechanism 3, 4, and 5	3	3	M	Contractor Field Supervisor
7	Water body contaminated by poison from bait stations placed too close to water bodies/drainage lines	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes	2	3	M	• Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for the use of pindone poisoning	1	2	L	Contract Manager Field Supervisor
8	Stock affected by poisoning program by entering work area due to ineffective fencing	Animals become sick or die	3	3	M	• Field Supervisor to check work area prior to works commencing regarding presence of livestock • Field Supervisor and contractor to keep a lookout for wandering stock • All bait to be laid under a bait station to prevent stock from eating the bait • Field Supervisor and contractor to be familiar with Pindone LD50 for stock animals • Contractor to monitor levels of consumption at each bait station	2	3	M	Field Supervisor

9	Native animals affected by poisoning program by eating poisoned bait or is in warren that is fumigated	Animals become sick or die	3	3	M	• Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait; monitor with motion cameras • All bait to be laid under a bait station that prevents native animals from eating the bait • Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. • Prior to fumigating a warren, the contractor is to look for signs, tracks or traces of native animals	2	3	M	Contract Manager Contractor
10	Domestic animals affected by poisoning program by eating poisoned baits or poisoned carcasses	Death or sickness of domestic animal	3	3	M	• Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area • Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals • Place signs on all bait stations issuing a warning that poison may have been laid • Rabbit carcasses to be collected daily as per statement of requirements	2	3	M	Contractor
11	Member of the public eats poisoning bait	Sickness or death of person	3	4	H	• Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area • Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and associated risks • Place signs on all bait stations issuing a warning that poison may have been laid • Ensure bait stations are not placed within 30m of houses with emergency contact (ph132281) displayed • 1018 poison not to be used in urban areas	2	3	M	Contract Manager Contractor
12	Damage to heritage sites by digging while fumigating warrens and/or driving over ground not frequented by vehicles	Damage to heritage sites	3	3	M	• Contract Manager to search available data to identify potential sites • Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out • Contractor to stop works and notify Field	2	3	M	Contract Manager Field Supervisor

						Supervisor if new site or suspected site if found				
13	Contractor being unaware of members of the public or other agencies present in the immediate area of pest control operations	Injury, damage to plant, vehicles and equipment	3	3	M	• Field Supervisor check on organized events and works by other agencies. Where necessary, liaise with event organizers and agency representatives. Field Supervisor to inform Contractor of usage • Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe • Contractor always to be on the look out for casual visitors whilst they working on public land • Contractor to stop work and call Field Supervisor if public ignore warnings or interfere with works	2	3	M	Field Supervisor Contractor
14	Work undertaken on non targeted or incorrect site	Control of targetted species ineffectvie. Non target species affected	2	3	M	• Contractor is fully briefed by Field Supervisor and provided with a map of the areas to be treated • Field Supervisor performs regular site visits.	1	2	L	Contractor Field Supervisor
15	Expenditure on project exceeds financial allocation by Contract Manager not adequately monitoring expenditure	Budget over run and other projects compromised from a budgetry, time management and contractor availability perspective	4	4	H	• Field Supervisor must accurately monitor and track contractor's hours of operation • Contractor must accurately report hours of operation and report to Field Supervisor as requested	3	2	M	Field Supervisor Contractor
16	Fire started during pest control operations by contractor, vehicles, machinery, equipment, fuel spill	Fire on the P&CS estate and adjoining land resulting in property/assett loss	2	4	H	• Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30 • Contractor to have a fire suppression knapsack available • Field Supervisor to advise Contractor of fire weather conditions and monitor the Contractors adherence to the instructions • Contactor must report any fire incidences to the Field Supervisor • Field Supervisor must be familiar with procedures to follow in the event of a fire	2	3	M	Contractor Field Supervisor

17										
18	Disturbance to soil in areas where artillery have been known to be used and discharged result in unexpected discovery of ammunitions of unexploded ordinance (UXO)	Injury to Contractor or equipment	3	4	H	• Contractor is fully briefed by Field Supervisor and provided with a map of the areas to be treated • Metal detection is performed by Field Supervisor before works commence. • No hitting soils with tools. Scrapping of soil down to 15cm is allowed • If an object is detected while scrapping, work is to stop and will continue after clearance by the Field Supervisor	3	2	M	Field Supervisor Contractor

	Consequence				
	Insignificant	Minor	Moderate	Major	Catastrophic
People	Injuries or ailments not requiring medical treatment.	Minor injury or First Aid Treatment Case.	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
Reputation & Image	Internal Review	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office, or inquest, etc.	Intense public, political and media scrutiny. E.g.: front page headlines, TV, etc.	Assembly inquiry or Commission of inquiry or adverse national media.
Environmental	Limited effect to something of low significance	Transient, minor effects	Moderate, short-term environmental harm	Significant, medium-term environmental harm	Long term environmental harm
Cultural & Heritage	Low-level repairable damage to commonplace structures	Mostly repairable damage	Permanent damage to items of cultural significance	Significant damage to structures or items of cultural significance	Irreparable damage to highly valued items of cultural significance
Business Process & Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.
Financial	1% of Budget or <$5K	2.5% of Budget or <$50K	> 5% of Budget or <$500K	> 10% of Budget or <$5M	>25% of Budget or >$5M

Likelihood			Frequency	Matrix	Consequence 1	2	3	4	5
	Almost Certain	*Is expected to occur in most circumstances*	*>1 in 10*	*5*	Medium	High	High		
	Likely	*Will probably occur*	*1 in 10 - 100*	*4*	Medium	Medium	High	High	
	Possible	*Might occur at some time in the future*	*1 in 100 – 1,000*	*3*	Low	Medium	Medium	High	
	Unlikely	*Could occur but doubtful*	*1 in 1,000 – 10,000*	*2*	Low	Medium	Medium	High	High
	Rare	*May occur but only in exceptional circumstances*	*1 in 10,000 – 100,000*	*1*	Low	Low	Medium	Medium	High

L = Likelihood
C= Consequence
RR= Risk Rating

Priority	Suggested Timing of Treatment	Authority for continued tolerance of risk
	Short term – normally within one month	Chief Executive
	Detailed action plan required	
High	Medium term – normally within three months	Senior Executive
	Needs senior management attention	
Medium	Normally within 1 year	Managers
	Specify management responsibility	
Low	Ongoing control as part of a management system	All staff
	Manage by routine procedures	

Risk Mitigation / Risk Control Effectiveness

Control Effectiveness	Guide
	Nothing more to be done except review and monitor the existing controls. Controls are well designed for the risk, are largely preventative and address the root causes and Management believes that they are effective and reliable at all times. Reactive controls only support preventative controls.
(2) Room for improvement	Most controls are designed correctly and are in place and effective however there are some controls that are either not correctly designed or are not very effective. There may be an over-reliance on reactive controls. Some more work to be done to improve operating effectiveness or Management has doubts about operational effectiveness and reliability.
	Significant control gaps or no credible control. Either controls do not treat root causes or they do not operate at all effectively. Controls, if they exist are just reactive. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness.

Section 13. Operational map attached

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START TIME: SEPTEMBER 10 2012 ESTIMATED FINISH: 30 OCTOBER 2012

DATE	COMMENTS

LAND MANAGEMENT AND PLANNING DIVISION

Parks and Conservation Service

WORKS PLAN NUMBER
URAMBI HILLS AND TUGGERANONG HILL
For New Area Rabbit Control 2013

Date:	January 2013
Area Manager:	**PARKS & RESERVES – SOUTH**
Work Area:	Urambi Hills and Tuggeranong Hill Nature Reserve
Author:	Alex Wotzko
Supervising/Field officer:	Alex Wotzko
Contact:	6207 2087 OR

Plan Completed Internal Approval

INTERNAL APPROVAL: Approved:

24/1/13 Manager, South District

Comment:

FINAL SIGN OFF

29/1/13 Contractor

25/1/13 PCL Supervising Officer

Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☐ All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☐ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☐ All works involving volunteers (eg CVA Green Corp) except Park Care) ☒ **All works where supervising Manager requests a Works Plan to be completed**

Parks and Conservation Service

WORKS PLAN

WORKS PLAN NUMBER:

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Rabbit Control in new areas 2013	Tuggeranong Hill NR Urambi Hills NR	South	Nature Reserve	New area Rabbit control in Canberra Nature Parks. Rabbit population control aims to reduce overgrazing, protect existing and new regenerating native vegetation and reduce risks of erosion resulting from high rabbit densities in the area.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
ha.	Remnant and regenerative Yellow box – Red Gum Grassy Woodland communities	Flat to steep	Various	Nature Reserve	Out of Scope

Section 3. Approvals and Clearances

District/CPOS	Research and Planning	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
South District Manager approval required	Not required	Not required	Not required	Not required	Not required	Not required

Environment Protection and Biodiversity Conservation Act	PCL considers that there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off
Phosphine gassing Tuggeranong Hill	$6000	Contractor	Completed	Vertebrate Pests Coordinator
Phosphine gassing Urambi Hills	$6000			
Total	**$ 12,000**	**Funding Source: Vertebrate Pest Program**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken
Verge Landscaping	No verge landscaping

Section 6. Scope of works

Field supervisor: Joe Clifton

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Site Preparation and Monitoring Site preparation and monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following.				
▪ Contractor will locate and map each rabbit warren using a GPS. ▪ The contractor will search for all rabbit warrens and signs of rabbit activity on foot or an all terrain vehicle where possible (terrain may hinder access and process of gassing in some areas). ▪ Two to three rabbit spotlight counts will be undertaken before and one month after the control program to estimate rabbit population densities.	Contractor PACS Rangers	Mapping and marking Pre and post operation rabbit spotlight counts	Field supervisor and ranger in charge	Monitoring may be limited by environmental constraints such as wet weather or total fire ban. No work will be undertaken during such weather in order to avoid damage to the reserve.

This will be done in the few days either side of a new moon. ▪ Treated warrens will be monitored after completion of works for vegetation regeneration.				Where warrens are treated under the control program via fumigation or ripping, weeds will be controlled and open ground will be revegetated using appropriate native seed mix to reduce effects of erosion. Maps of sites of significance will proved.
Warren Ripping **There will be NO mechanical ripping of warrens in this program.** Large well established rabbit warrens which have been treated with Aluminium Phosphide gas will be ripped as a follow up procedure. This ensures that all rabbit harbour is destroyed, which reduces the chance of re-colonisation from any remaining rabbits within the treated area. Warrens will be ripped a minimum of 72 hours after fumigation has taken place, ensuring all gas has dissipated prior to ripping. This will be achieved by undertaking the following tasks. ▪ The warrens will be cleared of harbour, such as logs, rocks etc. Care will be taken not to endanger any native wildlife that may be using the harbour. ▪ All warrens with open entrances will be ripped even if they are not currently active. ▪ A backhoe or excavator with a narrow bucket or single tyne will rip through the warren to a depth of 700 to 900mm where soil depth permits. ▪ An area 3m beyond the outer most	Contractor	Works will abide by the Standard Operating Procedures *RAB006 Rabbit Warren Destruction by Ripping* produced by NSW Department of Primary Industries Contractor to provide satisfactory Safe Work Method Statements prior to commencement of work.	Field Supervisor	All areas will be assessed prior to commencement of work. All operations will cease when: - Soils are saturated - Machinery is causing rutting - A total fire ban is declared - The field supervisor requires it for any reason. For example and emergency. No ripping will be undertaken in significantly rocky areas. No ripping will take place inside the drip line of trees.

opening of the warren will be ripped to ensure the entire warren is destroyed. ▪ The warren must be ripped in two directions. Rip one way and then at right angles to the first rip. The second rip must follow the direction of the contour if on a slope. Then use a smooth/back blade to compact the soil.				Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. If ripping on a slope the last rip lines must follow the contour lines to minimise erosion. Excavators must carry a chemical spill kit.

Aluminium Phosphine Fumigation Fumigation involves the following. ▪ Prior to fumigation warren sites may require clearing of tall grass vegetation. This is to be carried out using a brush cutter or other relevant tools and/or machinery. ▪ Prior to fumigation rabbits are to be driven underground by suitably trained dogs or by active disturbance by the contractor. ▪ Burrow openings are to be dug back until a 30 cm lip between the surface and the burrow is present. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Two aluminium phosphine tablets will be placed at least 60 cm into each entrance to the warren (there may be multiple entrances to a warren). Tablets are to be wrapped in damp newspaper or paper towel to initiate gas production. ▪ Burrow openings will be back filled after	▪ Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries	Field supervisor	Warrens will not be fumigated if the warren appears to contain or house animal species other than rabbits. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation. Use of machinery requires the contractor to supply a fire extinguisher or water pack in case of fire sparked by the machinery. A spill kit must also be supplied. Fuel must be stored safely and securely. Fuel must not be stored on site over night.

placing additional scrunched newspaper in each entrance to the warren. Back filing is executed by digging back the sides of the entrance and tamping down the soil firmly leaving behind a relatively flat surface. This ensures the prevention of burrow re-opening. Additional materials such as rocks or sticks/logs from the immediate area may be utilised to aid in back filling the warren entrance(s). ▪ For maximum effect it is essential that all entrances to the warren are sealed. Contractors will check nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. Warrens will be checked for re-opening around one week after fumigation and may be re-treated if necessary.	▪ Field Supervisor			It is strongly recommended that all appropriate Personal Protective Equipment be worn at all times. Gloves and P3 grade full face mask. Rocks and sticks or logs must not be moved if they appear to provide a source of habitat for native species. If dogs are utilised during works they must be under the operators full control at all times.
Pindone Poisoning **Pindone Poisoning will not be carried out during this contract.** Areas not suitable for fumigation and/or ripping will be controlled with Pindone Poison. Pindone poisoning involves the following ▪ Signs will be erected at all vehicular and pedestrian access points surrounding the control area. Signs indicate the time period when baits will be laid, the active ingredient/toxin, the pest targe species and an information telephone number. Signs will remain erected for a minimum of 4 weeks after baiting. ▪ Livestock will be removed from the	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary Industries Contractor to	Field Supervisor	A risk assessment will be undertaken prior to commencement of baiting. Bait will Not be laid in the following instances. - In the vicinity of small mammal and native rodent habitat. - When rain is expected in the next 24 hours. - Where streams, waterways or rivers may

reserve/treatment area prior to commencement of the baiting program. ▪ A '*pulse baiting technique*' will be used where 2 to 3 free feeds of non-poisoned carrot baits will be laid in bait stations in intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits, laid 3 to 5 days apart. Free feeding enables the contractor to establish an appropriate quantity of poisoned bait required for effective control. Free feeding also enables the detection of any non-target baiting and allows rabbits to become accustomed to consuming bait. ▪ Placement of bait is critical. Bait stations which restrict non-target exposure, are to be laid in feeding areas where rabbit activity is highest and where other food sources are scarce in order to ensure bait uptake/consumption by the target species. ▪ Baits will be laid late afternoon or evenings when rabbits are most active and feeding. ▪ Any uneaten baits and rabbit carcasses that can be located will be collected early the following morning. Carcasses will b collected for a minimum of 12 days after the final bait round. These will be buried at a minimum depth of 500mm in a disposal pit.		provide satisfactory Safe Work Method Statements prior to commencement of work.		become contaminated. - Where there is a risk of domestic animal, macropod or livestock access to bait.

Section 7. Rehabilitation of Site

Task	Responsibility
The below tasks will be undertaken following the rabbit control program. ▪ Significantly disturbed (ripped) warren sites will be revegetated using a local native grass mix or sterile Rye Corn and will be monitored for a period of six months to ensure successful ground cover establishment. ▪ Fumigated warren sites will be monitored for any germination of environmentally significant pest plants for a minimum period of 12 months after fumigation or for six months after the first significant rainfall event if this occurs after the 12 month monitoring period. ▪ Warning signs and markers indicating warren location will be removed.	South District Staff,

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
January 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	January 2012	February 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
Signage erected at entrance points to reserves.	na	na	na	Notification in the Canberra Times

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
Contractors and work crew are instructed that public may enter the site at any time.	Appropriate PPE to be worn at all times. Safe Work Method Statements and Safety Operation Plans must be adhered to at all times. First Aid Kit. Emergency evacuation plan is outlined within this document. Contractors to contact works supervisor at the start and finish of shift on Duty Ranger Phone	Contact by operators MUST be made at beginning and end of each shift by calling duty ranger phone on Mobile phone reception is good in all areas.	Emergency evacuation/access plan given in this document.

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	❑ Reception quality - Good ❑ Operator Contact – Jack ❑ Contractor Contact – As above ❑ PACS Supervising Officer Contact – Alex Wotzko 6207 2087 or Duty ranger ❑ Radio Channels – N/A

Emergency Evacuation Point	❑ **Urambi Hills;** Learmonth Drive Kambah UBD 87 L8 & **Tuggeranong Hill** Tharwa Drive UBD 98 &99, Monaro hwy UBD 99. ❑ Phone Reception - Good
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ Provide any contact details that could be helpful (eg. Chris Robinson , P&CS Supervising Officer phone: Joe Clifton 6207 2087 or Duty ranger

Section 12. Attachments

Works Plan Risk Assessment

Date of Review January 2013

Name of Organisation P&CS –SOUTH DISTRICT

Compiled by Alex Wotzko

Reviewed by Kristy Gould

Function Activity New area Rabbit Control

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
1	Spill of poisoned bait **Not Applicable in this program**	Spilled during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	IV	III	M	Operators wear PPE. Poisoned bait to be transported in a sealed/locked container during transit. Spill kit must be available at all times.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Vehicle or quad bike is involved in an accident, tips on side or overturns	Accident with another vehicle, uneven ground, steep slopes, hidden rabbit warrens or rocks.	Operator injured; vehicle damaged; chemical spill and contamination	IV	V	H	Operator must exercise caution whilst driving on public roads. When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. Field staff must site all operator Safe Work Method Statements/Job Safety Analysis documents prior to commencement of work. Operator to carry all relevant vehicle/machinery licenses at all times while on work site. Operator must undertake an on-ground inspection, on foot, prior to commencing works and identify where it is safe to drive. Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
	Injury to Operator	Inhalation of aluminium phosphide fumes, walking on uneven terrain, steep slopes, operating machinery (brush cutter), hand tool usage, snake bite.	Operator injured	III	V	H	Operators to wear all appropriate PPE and observe all relevant Safe Work Method Statements. Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment. Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. Field Supervisor and operators must be familiar with emergency procedures in the event of an accident.	A
4	Operator missing/not found on site during work hours or when known to be on site after hours	Injury to operator, vehicle breakdown, operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	II	V	M	Operator to carry mobile phone or portable radio. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
5	Water body contaminated by poison **Not Applicable in this program**	Bait stations placed too close to water bodies/drainage lines.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	II	III	L	Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for pindone poisoning.	A
6	Impact on target animals **Not Applicable in this program**	Poison kills parent of dependant young	Dependant young die from starvation	II	III	L	Contract Manager to post pone program if rabbits are known to be breeding.	A
7	Stock affected by poisoning program **Not Applicable in this program**	Wandering stock enter work area due to ineffective fencing.	Animals become sick or die	III	IV	M	Field Supervisor to check work area prior to works commencing regarding presence of livestock. Field Supervisor and contractor to keep a lookout for wandering stock. All bait to be laid under a bait station that prevents stock from eating the bait. Field Supervisor and contractor to familiarise themselves with label and MSDS in regard to withholding periods and symptoms in stock that may be affected.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
8	Native animals affected by poisoning program **Not Applicable in this program**	Native animal eats poisoned bait or is in warren that is fumigated	Animals become sick or die	III	IV	M	Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. All bait to be laid under a bait station that prevents native animals from eating the bait. Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. Prior to fumigating a warren, the contractor is to look for tracks of native animals.	A
9	Domestic animals affected by poisoning program **Not Applicable in this program**	Dog/cat eats poisoned bait	Death or sickness of domestic animal	III	IV	M	Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. Signs are to be placed on all bait stations outlining that poison has been laid.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
10	Member of the public eats poisoning bait. **Not Applicable in this program**	Adult/child eats poisoned bait	Sickness or death of person	IV	IV	H	Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and associated risks. Signs must be placed on all bait stations outlining that poison has been laid. Ensure bait stations are not placed within 100m of houses.	A
11	Damage to heritage sites	Digging while fumigating warrens, driving over ground not frequented by vehicles.	Damage to heritage sites	III	III	M	Contract Manager to search available data to identify potential sites. Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out on maps provided.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
12	Members of the public or other agencies present in the immediate area of pest control operations	Contractor unaware of the level of public use, of recreational events or works in the area by other agencies	Injury or death; damage to plant, vehicles and equipment	II	IV	M	Field Supervisor check on level of public use and works by other agencies. Where necessary liaise with event organizers and agency representatives. Field Supervisor to inform Contractor in this regard. Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. Contractor always to be on the lookout for casual visitors whilst they working on public land.	A
13	Wrong pest animal species targeted	Operator does not have required pest animal identification skills. Non-target animal enters the bait station.	Non-target species killed. Control of targetted species ineffectvie	II	IV	M	Field supervisor and Contractor must be familiar with contract specification. Contractor must employ operators with the required pest animal identification skills. Field Supervisor must monitor works to ensure correct species being targeted. Poison baiting must be carried out as per SOP.	A
14	Work undertaken on non targeted or incorrect site	Poor instruction provided to contractor and map not provided	Control of targetted species ineffectvie. Non target species affected.	III	III	M	Field Supervisor to provide the Contractor with a map of the areas to be treated. Field supervisor to check up on contractors frequently.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
15	Expenditure on project exceeds financial allocation	Contract Manager doesn't adequately monitor expenditure.	Budget over run and other projects comprimised from a budgetry, time management and contractor availability perspective.	IV	IV	H	Field Supervisor must accurately monitor and track contractor's hours of operation. Contractor must accurately report hours of operation and report to Field Supervisor as requested.	A
16	Fire started during pest control operations	Fire started by Operators, contractor vehicle, machinery, equipment, fuel spill	Fire on the PCL estate and adjoining land resulting in property/assett loss.	II	VI	H	Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. Field Supervisor to advise Contractor of fire weather conditions. Field Supervisor must ensure Contractor complies with fire weather condition instructions. Contractor must comply with Fire weather condition instructions. Contractor must carry firefighting equipment on vehicle. Field Supervisor must be familiar with procedures to follow in the event of a fire.	A .....*(initial)*

Signed by:

_____ Date ____/____/____

Contractor

_____ Date ___/____/____

Supervising P&CS Officer

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: JAN 2012 ESTIMATED FINISH OF OPERATION: FEBRUARY 2012

DATE	COMMENTS

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: JAN 2013 ESTIMATED FINISH OF OPERATION: FEBRUARY 2013

DATE	COMMENTS
21/1/13	
24/1/13	Met up with contractors on Tuggeranong Hill. They may finish today

Territory and Municipal Services
ACT GOVERNMENT

LAND MANAGEMENT AND PLANNING DIVISION

Parks and Conservation Service

WORKS PLAN NUMBER
URAMBI HILLS AND TUGGERANONG HILL
For New Area Rabbit Control 2013

Date:	April 2013
Area Manager:	**PARKS & RESERVES – SOUTH**
Work Area:	Urambi Hills and Tuggeranong Hill Nature Reserve
Author:	Alex Wotzko
Supervising/Field officer:	Alex Wotzko
Contact:	6207 2087 OR
Plan Completed	Internal Approval

INTERNAL APPROVAL: Approved:

[signature] 29/4/13 Manager, South District

Comment:

FINAL SIGN OFF

[signature] 10/4/13 Contractor

[signature] 10/4/13 PCL Supervising Officer

Works Plans are required if one or more of the following triggers exist;

Trigger	Activities
Chemical use	☐ All weed control works except those covered by a Weed Project Brief and Contract ☐ All Bushfire Operations Plan works involving chemical control of regrowth ☒ All vertebrate pest control works
Construction	☐ New fences, log barriers and/ or bollards ☐ New dams ☐ New walking trails or section of trail ☐ New infrastructure including car-parks, sheds, toilets etc particularly where these do not trigger a DA or PA
Road works	☐ New roads or tracks ☐ All road maintenance works (including: grading, cleaning of mitre drains and table drains; cleaning out of culverts)
Vegetation management	☐ All Bushfire Operations Plan works involving physical fuel reduction and fuel reduction grazing ☐ All works involving problem / dangerous trees ☐ Slashing / mowing of areas that have not been slashed / mowed by PCL previously ☐ Grazing of areas that have not been grazed by PCL previously ☐ All roadside grazing ☐ All new landscaping works ☐ All forestry operations (including ground preparation and debris removal), silvicultural or harvesting works
Legislative	☒ All works that have the potential to impact on declared threatened species or associations ☐ All works requiring Nature Conservation Act licenses ☐ All works requiring Dial before you Dig approval, ☐ All works requiring Environmental Authorisations, ☐ All works requiring Waterways Work Licenses ☐ All works requiring Environmental Management Plans ☐ All works requiring National Capital Authority Works Approval ☐ All work on heritage sites (eg hut maintenance, work on Aboriginal art sites etc)
Aerial Operations	☐ All work involving aerial operations (including aerial spraying, baiting or culling
Others	☐ All new erosion control works ☐ All works in addition to those listed above that involve extensive soil disturbance ☐ All consultancy works ☐ All works involving the culling or movement of native animals (except the urban wildlife program) ☐ All works involving volunteers (eg CVA Green Corp) except Park Care) ☒ **All works where supervising Manager requests a Works Plan to be completed**

Parks and Conservation Service WORKS PLAN

WORKS PLAN NUMBER:

Section 1. Outline

Management Program	Reserve / Area	District	Territory Plan Classification	Objectives
Rabbit Control in new areas 2013	Tuggeranong Hill NR Urambi Hills NR	South	Nature Reserve	New area Rabbit control in Canberra Nature Parks. Rabbit population control aims to reduce overgrazing, protect existing and new regenerating native vegetation and reduce risks of erosion resulting from high rabbit densities in the area.

Section 2. Area Description

Hectares affected	Vegetation	Slope	Aspect	Land use	Sites of significance
ha.	Remnant and regenerative Yellow box – Red Gum Grassy Woodland communities	Flat to steep	Various	Nature Reserve	Out of Scope

Section 3. Approvals and Clearances

District/CPOS	Research and Planning	Fire Mgt	EPA	NCA	Heritage	Dial before you dig
South District Manager approval required	Not required	Not required	Not required	Not required	Not required	Not required

Environment Protection and Biodiversity Conservation Act	PCL considers that there will be no significant impact on any species or community listed under the EPBC and no referral to the DEWR is required.

Section 4. Funding and Procurement

Item	Cost	Work Allocation	Procurement	Invoice sign off
Phosphine gassing Tuggeranong Hill	$6000	Contractor	Completed	Vertebrate Pests Coordinator
Phosphine gassing Urambi Hills	$6000			
Total	**$ 12,000**	**Funding Source: Vertebrate Pest Program**		

Section 5. Site Establishment Plan

Work sheds	No work sheds will be erected.
Material Storage Areas	No material will be stored on site. All equipment, tools, fuels, chemicals and other material will be removed off-site outside work hours. No bulk supplies of fuel or chemicals will be on site.
Method of Demolition	No demolition is being undertaken
Waste Management Procedures	Spill kits will be available on site for chemical or fuel spills.
Vehicle Access	Vehicles will access the work area from various access points to be identified during site inspections
Tree Protection	No ripping will be undertaken
Verge Landscaping	No verge landscaping

Section 6. Scope of works

Field supervisor:

Task	Responsibility	Specification	District Input	Environmental / heritage constraints
Site Preparation and Monitoring Site preparation and monitoring will be undertaken prior to the commencement of the control program. This will be achieved by completing the following.				
▪ Contractor will locate and map each rabbit warren using a GPS. ▪ The contractor will search for all rabbit warrens and signs of rabbit activity on foot or an all terrain vehicle where possible (terrain may hinder access and process of gassing in some areas). ▪ Two to three rabbit spotlight counts will be	Contractor PACS Rangers	Mapping and marking Pre and post	Field supervisor and ranger in charge	Monitoring may be limited by environmental constraints such as wet weather or total fire ban. No work will be undertaken during such weather in order

undertaken before and one month after the control program to estimate rabbit population densities. This will be done in the few days either side of a new moon. ▪ Treated warrens will be monitored after completion of works for vegetation regeneration.		operation rabbit spotlight counts		to avoid damage to the reserve. Where warrens are treated under the control program via fumigation or ripping, weeds will be controlled and open ground will be revegetated using appropriate native seed mix to reduce effects of erosion. Maps of sites of significance will proved.
Warren Ripping **There will be NO mechanical ripping of warrens in this program.** Large well established rabbit warrens which have been treated with Aluminium Phosphide gas will be ripped as a follow up procedure. This ensures that all rabbit harbour is destroyed, which reduces the chance of re-colonisation from any remaining rabbits within the treated area. Warrens will be ripped a minimum of 72 hours after fumigation has taken place, ensuring all gas has dissipated prior to ripping. This will be achieved by undertaking the following tasks. ▪ The warrens will be cleared of harbour, such as logs, rocks etc. Care will be taken not to endanger any native wildlife that may be using the harbour. ▪ All warrens with open entrances will be ripped even if they are not currently active. ▪ A backhoe or excavator with a narrow	Contractor	Works will abide by the Standard Operating Procedures *RAB006 Rabbit Warren Destruction by Ripping* produced by NSW Department of Primary Industries Contractor to provide satisfactory Safe Work Method Statements prior to commencement of work.	Field Supervisor	All areas will be assessed prior to commencement of work. All operations will cease when: - Soils are saturated - Machinery is causing rutting - A total fire ban is declared - The field supervisor requires it for any reason. For example and emergency. No ripping will be undertaken in significantly rocky areas.

bucket or single tyne will rip through the warren to a depth of 700 to 900mm where soil depth permits. ▪ An area 3m beyond the outer most opening of the warren will be ripped to ensure the entire warren is destroyed. ▪ The warren must be ripped in two directions. Rip one way and then at right angles to the first rip. The second rip must follow the direction of the contour if on a slope. Then use a smooth/back blade to compact the soil.				No ripping will take place inside the drip line of trees. Ripping will be undertaken in a manner that avoids bringing large amounts of rock to the surface. If ripping on a slope the last rip lines must follow the contour lines to minimise erosion. Excavators must carry a chemical spill kit.
Aluminium Phosphine Fumigation Fumigation involves the following. ▪ Prior to fumigation warren sites may require clearing of tall grass vegetation. This is to be carried out using a brush cutter or other relevant tools and/or machinery. ▪ Prior to fumigation rabbits are to be driven underground by suitably trained dogs or by active disturbance by the contractor. ▪ Burrow openings are to be dug back until a 30 cm lip between the surface and the burrow is present. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil. ▪ Two aluminium phosphine tablets will be placed at least 60 cm into each entrance to the warren (there may be multiple entrances to a warren). Tablets are to be	▪ Contractor	Works will abide by the Standard Operation Procedures *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries	Field supervisor	Warrens will not be fumigated if the warren appears to contain or house animal species other than rabbits. All personal and environmental safety guidelines are to be adhered to, as per SOP for use of diffusion fumigation. Use of machinery requires the contractor to supply a fire extinguisher or water pack in case of fire sparked by the machinery. A spill kit must also be supplied. Fuel must be

wrapped in damp newspaper or paper towel to initiate gas production. ▪ Burrow openings will be back filled after placing additional scrunched newspaper in each entrance to the warren. Back filing is executed by digging back the sides of the entrance and tamping down the soil firmly leaving behind a relatively flat surface. This ensures the prevention of burrow re-opening. Additional materials such as rocks or sticks/logs from the immediate area may be utilised to aid in back filling the warren entrance(s). ▪ For maximum effect it is essential that all entrances to the warren are sealed. Contractors will check nearby scrub and fallen timber for any missed burrows. ▪ Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low. Warrens will be checked for re-opening around one week after fumigation and may be re-treated if necessary.	▪ Field Supervisor			stored safely and securely. Fuel must not be stored on site over night. It is strongly recommended that all appropriate Personal Protective Equipment be worn at all times. Gloves and P3 grade full face mask. Rocks and sticks or logs must not be moved if they appear to provide a source of habitat for native species. If dogs are utilised during works they must be under the operators full control at all times.

Pindone Poisoning **Pindone Poisoning will not be carried out during this contract.** Areas not suitable for fumigation and/or ripping will be controlled with Pindone Poison. Pindone poisoning involves the following ▪ Signs will be erected at all vehicular and pedestrian access points surrounding the control area. Signs	Contractor	Works will abide by the Standard Operation Procedures *RAB004 Ground baiting of rabbits with Pindone*	Field Supervisor	A risk assessment will be undertaken prior to commencement of baiting. Bait will Not be laid in the following instances. - In the vicinity of small mammal and native

indicate the time period when baits will be laid, the active ingredient/toxin, the pest targe species and an information telephone number. Signs will remain erected for a minimum of 4 weeks after baiting. ▪ Livestock will be removed from the reserve/treatment area prior to commencement of the baiting program. ▪ A *'pulse baiting technique'* will be used where 2 to 3 free feeds of non-poisoned carrot baits will be laid in bait stations in intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits, laid 3 to 5 days apart. Free feeding enables the contractor to establish an appropriate quantity of poisoned bait required for effective control. Free feeding also enables the detection of any non-target baiting and allows rabbits to become accustomed to consuming bait. ▪ Placement of bait is critical. Bait stations which restrict non-target exposure, are to be laid in feeding areas where rabbit activity is highest and where other food sources are scarce in order to ensure bait uptake/consumption by the target species. ▪ Baits will be laid late afternoon or evenings when rabbits are most active and feeding. ▪ Any uneaten baits and rabbit carcasses that can be located will be collected early the following morning. Carcasses will b collected for a minimum of 12 days after the final bait round. These will be buried at a minimum depth of 500mm in a disposal pit.		produced by NSW Department of Primary Industries Contractor to provide satisfactory Safe Work Method Statements prior to commencement of work.		rodent habitat. - When rain is expected in the next 24 hours. - Where streams, waterways or rivers may become contaminated. - Where there is a risk of domestic animal, macropod or livestock access to bait.

Section 7. Rehabilitation of Site

Task	Responsibility
The below tasks will be undertaken following the rabbit control program. ▪ Significantly disturbed (ripped) warren sites will be revegetated using a local native grass mix or sterile Rye Corn and will be monitored for a period of six months to ensure successful ground cover establishment.	South District Staff,

▪ Fumigated warren sites will be monitored for any germination of environmentally significant pest plants for a minimum period of 12 months after fumigation or for six months after the first significant rainfall event if this occurs after the 12 month monitoring period. ▪ Warning signs and markers indicating warren location will be removed.	

Section 8. Timeline

Onsite inspection	Quotes close	Selection of contractor	Works commence on site	Works completed
January 2012	Pre Qualified Contractor List	Pre Qualified Contractor List	January 2012	February 2012

Section 9. Consultation

Community Engagement	Letter box drop	Park Care Group Other community groups	Individual residents	Media
Signage erected at entrance points to reserves.	na	na	na	Notification in the Canberra Times

Section 10. Risk Management

Public safety	Work crew safety	Communications	Access/ Emergency Access
Contractors and work crew are instructed that public may enter the site at any time.	Appropriate PPE to be worn at all times. Safe Work Method Statements and Safety Operation Plans must be adhered to at all times. First Aid Kit. Emergency evacuation plan is outlined within this document. Contractors to contact works supervisor at the start and finish of shift on Duty Ranger Phone	Contact by operators MUST be made at beginning and end of each shift by calling duty ranger phone on Mobile phone reception is good in all areas.	Emergency evacuation/access plan given in this document.

Section 11. Emergency Evacuation Plan

Mobile Phone Contact	❑ Reception quality - Good ❑ Operator Contact – Jack 0427 278 927 ❑ Contractor Contact – As above ❑ PACS Supervising Officer Contact – Alex Wotzko 6207 2087 or Duty ranger ❑ Radio Channels – N/A
Emergency Evacuation Point	❑ **Urambi Hills;** Learmonth Drive Kambah UBD 87 L8 & **Tuggeranong Hill** Tharwa Drive UBD 98 &99, Monaro hwy UBD 99. ❑ Phone Reception - Good
Ambulance Procedures	❑ Call 000 ❑ Ask for the ACT Ambulance Service ❑ Tell the operator the nearest suburb and location details of Emergency Evacuation Point ❑ Tell the operator the nature of the injury ❑ Provide any contact details that could be helpful (eg. Chris Robinson , P&CS Supervising Officer phone: Joe Clifton 6207 2087 or Duty ranger

Section 12. Attachments

Works Plan Risk Assessment

Date of Review January 2013

Name of Organisation P&CS –SOUTH DISTRICT

Compiled by Alex Wotzko

Reviewed by Kristy Gould

Function Activity New area Rabbit Control

RISK REFERENC	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT	CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS	ACCEPTABILITY

				LIKELIHOOD	CONSEQUENCE	RISK LEVEL	A – ADEQUATE I - INADEQUATE	A – ACCEPTABLE U - UNACCEPTABLE
1	Spill of poisoned bait **Not Applicable in this program**	Spilled during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	IV	III	M	Operators wear PPE. Poisoned bait to be transported in a sealed/locked container during transit. Spill kit must be available at all times.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
2	Vehicle or quad bike is involved in an accident, tips on side or overturns	Accident with another vehicle, uneven ground, steep slopes, hidden rabbit warrens or rocks.	Operator injured; vehicle damaged; chemical spill and contamination	IV	V	H	Operator must exercise caution whilst driving on public roads. When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. Field staff must site all operator Safe Work Method Statements/Job Safety Analysis documents prior to commencement of work. Operator to carry all relevant vehicle/machinery licenses at all times while on work site. Operator must undertake an on-ground inspection, on foot, prior to commencing works and identify where it is safe to drive. Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
3	Injury to Operator	Inhalation of aluminium phosphide fumes, walking on uneven terrain, steep slopes, operating machinery (brush cutter), hand tool usage, snake bite.	Operator injured	III	V	H	Operators to wear all appropriate PPE and observe all relevant Safe Work Method Statements. Operators should familiarise themselves with the project site and identify potential hazards. Contractor to provide first aid kit in vehicle. Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment. Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. Field Supervisor and operators must be familiar with emergency procedures in the event of an accident.	A
4	Operator missing/not found on site during work hours or when known to be on site after hours	Injury to operator, vehicle breakdown, operator has left the site	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	II	V	M	Operator to carry mobile phone or portable radio. Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
5	Water body contaminated by poison **Not Applicable in this program**	Bait stations placed too close to water bodies/drainage lines.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	II	III	L	Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for pindone poisoning.	A
6	Impact on target animals **Not Applicable in this program**	Poison kills parent of dependant young	Dependant young die from starvation	II	III	L	Contract Manager to post pone program if rabbits are known to be breeding.	A
7	Stock affected by poisoning program **Not Applicable in this program**	Wandering stock enter work area due to ineffective fencing.	Animals become sick or die	III	IV	M	Field Supervisor to check work area prior to works commencing regarding presence of livestock. Field Supervisor and contractor to keep a lookout for wandering stock. All bait to be laid under a bait station that prevents stock from eating the bait. Field Supervisor and contractor to familiarise themselves with label and MSDS in regard to withholding periods and symptoms in stock that may be affected.	A

RISK REFERENCE	RISK – WHAT CAN HAPPEN?	SOURCE – HOW CAN THIS HAPPEN?	IMPACT FROM THE EVENT HAPPENING	RISK LEVEL WITHOUT TREATMENT			CURRENT CONTROL STRATEGIES AND THEIR EFFECTIVENESS A – ADEQUATE I - INADEQUATE	ACCEPTABILITY A – ACCEPTABLE U - UNACCEPTABLE
				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
8	Native animals affected by poisoning program **Not Applicable in this program**	Native animal eats poisoned bait or is in warren that is fumigated	Animals become sick or die	III	IV	M	Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. All bait to be laid under a bait station that prevents native animals from eating the bait. Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. Prior to fumigating a warren, the contractor is to look for tracks of native animals.	A
9	Domestic animals affected by poisoning program **Not Applicable in this program**	Dog/cat eats poisoned bait	Death or sickness of domestic animal	III	IV	M	Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. Signs are to be placed on all bait stations outlining that poison has been laid.	A

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				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
10	Member of the public eats poisoning bait. **Not Applicable in this program**	Adult/child eats poisoned bait	Sickness or death of person	IV	IV	H	Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and associated risks. Signs must be placed on all bait stations outlining that poison has been laid. Ensure bait stations are not placed within 100m of houses.	A
11	Damage to heritage sites	Digging while fumigating warrens, driving over ground not frequented by vehicles.	Damage to heritage sites	III	III	M	Contract Manager to search available data to identify potential sites. Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out on maps provided.	A

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				LIKELIHOOD	CONSEQUENCE	RISK LEVEL		
12	Members of the public or other agencies present in the immediate area of pest control operations	Contractor unaware of the level of public use, of recreational events or works in the area by other agencies	Injury or death; damage to plant, vehicles and equipment	II	IV	M	Field Supervisor check on level of public use and works by other agencies. Where necessary liaise with event organizers and agency representatives. Field Supervisor to inform Contractor in this regard. Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. Contractor always to be on the lookout for casual visitors whilst they working on public land.	A
13	Wrong pest animal species targeted	Operator does not have required pest animal identification skills. Non-target animal enters the bait station.	Non-target species killed. Control of targetted species ineffectvie	II	IV	M	Field supervisor and Contractor must be familiar with contract specification. Contractor must employ operators with the required pest animal identification skills. Field Supervisor must monitor works to ensure correct species being targeted. Poison baiting must be carried out as per SOP.	A
14	Work undertaken on non targeted or incorrect site	Poor instruction provided to contractor and map not provided	Control of targetted species ineffectvie. Non target species affected.	III	III	M	Field Supervisor to provide the Contractor with a map of the areas to be treated. Field supervisor to check up on contractors frequently.	A

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16	Fire started during pest control operations	Fire started by Operators, contractor vehicle, machinery, equipment, fuel spill	Fire on the PCL estate and adjoining land resulting in property/assett loss.	II	VI	H	Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. Field Supervisor to advise Contractor of fire weather conditions. Field Supervisor must ensure Contractor complies with fire weather condition instructions. Contractor must comply with Fire weather condition instructions. Contractor must carry firefighting equipment on vehicle. Field Supervisor must be familiar with procedures to follow in the event of a fire.	A .....*(initial)*

Signed by:

_____ Date ____/____/____

Contractor

_____ Date ___/____/____

Supervising P&CS Officer

Section 14. OPERATIONAL RECORD SHEET

ESTIMATED START OF OPERATION: ~~JAN 2012~~ ESTIMATED FINISH OF OPERATION: ~~FEBRUARY 2012~~

DATE	COMMENTS

PARKS AND CONSERVATION SERVICE – CNP South

RISK ASSESSMENT

To be read in conjunction with site specific Works Plan

Program: **Rabbit Control – Pindone and 1080 – Jerrabomberra Wetlands nature reserve**

Prepared by: Michael Maconachie

Signature: M Maconachie **Date:** **2nd April 2013**

~~Reviewed by~~ Contractor: HUNTER LAND MANAGEMENT

Signature: [signature] **Date:** 12/4/13

Mech anism	Risk Factors	Risk Impacts	Risk level without Treatment			Treatment Controls	Risk level with Treatment			Person Responsible
			L	C	RR		L	C	RR	
1	Spill of poisoned baits during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	3	3	M	• Operators wear PPE. • Poisoned bait to be transported in a sealed/locked container during transit. • Spill kit must be available at all times. • Operators to observe all relevant Standard Operating Procedures. *RAB004 Ground baiting of rabbits with Pindone* and *RAB 002 ground baiting of rabbits with 1080* produced by NSW Department of Primary industries	3	1	L	Contractor
2	Vehicle or quad bike is involved in an accident through collision with another vehicle, uneven ground; logs and rocks: hidden rabbit warrens or wombat burrows; unstable creek bank.	Operator injured; vehicle damaged; chemical spill and contamination	3	4	H	• Operator must exercise caution whilst driving on public roads. • When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. • Considers the environmental conditions and travels at an appropriate speed • Operator to have participated in appropriate training and to carry all relevant vehicle and machinery licenses at all times while on the work site. • Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. • Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. • Field Supervisor must be familiar with procedures to follow in the event of an accident. • Spill kit must be available at all times. • Operator to observe all relevant Standard Operating Procedures. *RAB004 Ground baiting of*	2	3	M	Contractor Field Supervisor

						rabbits with Pindone and *RAB 002 ground baiting of rabbits with 1080* produced by NSW Department of Primary industries				
3	Injury to Operator from inhalation of aluminium phosphide fumes, pidnone and/or 1080	Operator poisoned	3	5	E	• Operators to wear all appropriate PPE and observe all relevant Standard Operating Procedures. *RAB005 Diffusion fumigation of rabbit warrens, RAB004 Ground baiting of rabbits with Pindone* and *RAB 002 ground baiting of rabbits with 1080* produced by NSW Department of Primary industries.	2	3	M	Contractor
4	Injury to Operator from: walking on uneven terrain, steep slopes, operating machinery, hand tool usage	Operator injured	3	3	M	• Operators to wear all appropriate PPE • Operators should familiarise themselves with the project site and identify potential hazards. • Contractor to provide first aid kit in vehicle. • Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment. • Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. • Field Supervisor and operators must be familiar with emergency procedures in the event of an accident. Contractor must notify the Field Supervisor in a timely manner of any injury sustained	3	2	M	Contractor Field Supervisor
5	Snake bite.	Operator injured	3	4	H	• Contractor to provide first aid kit in vehicles. • Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. • Field Supervisor and operators must be familiar with emergency procedures in the event of an accident.	3	3	M	Contractor Field Supervisor
6	Whereabouts of operator unknown during and after	Operator injured or lost, failure to	3	5	E	• Operator to carry mobile phone or portable radio.	3	3	M	Contractor

	normal work hours due to injury to operator, vehicle breakdown or operator has left the site.	communicate with field staff results in a search to obtain their welfare status.				• Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event of an accident. • For injuries refer to mechanism 3, 4, and 5. • If finishing after 4pm or have an emergency please contact the agency rep on 0429300504.				Field Supervisor
7	Water body contaminated by poison from bait stations placed too close to water bodies/drainage lines.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	2	3	M	• Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for the use of pindone and 1080 poisoning.	1	2	L	Contract Manager Field Supervisor
8	Poison kills parent of dependent young	Dependant young die from starvation	3	3	M	• Contract Manager to post pone program if rabbits are known to be breeding.	2	2	M	Contract Manager
9	Stock affected by poisoning program by entering work area due to ineffective fencing.	Animals become sick or die	3	3	M	• Field Supervisor to check work area prior to works commencing regarding presence of livestock. • Field Supervisor and contractor to keep a lookout for wandering stock. • All bait to be laid under a bait station that prevents stock from eating the bait. • Grazier aware of the program	2	3	M	Field Supervisor Contractor
10	Native animals affected by poisoning program by eating poisoned bait (eg. Macropods, possums) or is in warren that is fumigated or secondary poisoning occurs through feeding on rabbit carcass (eg. Raptors)	Animals become sick or die	5	4	E	• Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. • All bait to be laid under a bait station that excludes as many native animals from eating the bait as possible. • Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. • Sensor cameras to be deployed to monitor bait stations and decoy apple bait (possums) for non-target animal activity • Bait stations where possible to be placed in the	3	4	H	Contract Manager PCS Supervisor Contractor

						open, for the 1080 bait area, to reduce risk of possums taking the bait. • Remove bait station if frequented by a native animal or maintain as free feed station to prevent native animal search for another feed station • Rabbit carcasses to be searched for and collected for appropriate disposal to reduce risk of secondary poisoning of raptors (pindone carcasses being the main concern) • If known raptor nesting occurring within vicinity of JWNR then discuss possibility of delaying program until young have fledged. Discussions to be had between District, CPR and Jerry Olsen (Univ of Canberra raptor expert) • Prior to fumigating a warren, the contractor is to look for signs, tracks or traces of native animals.				
11	Domestic animals affected by poisoning program by eating poisoned baits or poisoned carcasses	Death or sickness of domestic animal	3	3	M	• Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area. • Public notice to go in the Canberra Times • Place signs on all bait stations issuing a warning that poison may have been laid. • Rabbit carcasses to be collected by contractor and PCS to reduce secondary poisoning of domestic animals – note JW is a no dogs area and is sign posted at entrance points.	2	3	M	PCS Supervisor
12	Member of the public eats poisoning bait.	Sickness or death of person	3	4	H	• Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. • Place signs on all bait stations issuing a warning that poison may have been laid. • Ensure bait stations are not placed within 30m of houses.	2	3	M	Contract Manager PCS supervisor Contractor
13	Damage to heritage sites by digging while fumigating warrens and/or driving over ground not frequented by vehicles.	Damage to heritage sites	3	3	M	• Contract Manager to search available data to identify potential sites. • Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out.	2	3	M	Contract Manager Field Supervisor

14	Contractor being unaware of members of the public or other agencies present in the immediate area of pest control operations	Injury, damage to plant, vehicles and equipment	3	3	M	• Field Supervisor check on organized events and works by other agencies. Where necessary, liaise with event organizers and agency representatives. Field Supervisor to inform Contractor of usage. • Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. • Contractor always to be on the look out for casual visitors whilst they working on public land.	2	3	M	Field Supervisor Contractor
15	Work undertaken on non targeted or incorrect site	Control of targetted species ineffectvie. Non target species affected.	2	3	M	• Contractor is fully briefed by Field Supervisor and provided with a map of the areas to be treated. • Field Supervisor performs regular site visits.	1	2	L	Contractor Field Supervisor
16	Expenditure on project exceeds financial allocation by Contract Manager not adequately monitoring expenditure.	Budget over run and other projects compromised from a budgetry, time management and contractor availability perspective.	4	4	H	• Field Supervisor must accurately monitor and track contractor's hours of operation. • Contractor must accurately report hours of operation and report to Field Supervisor as requested.	3	2	M	Field Supervisor Contractor
17	Fire started during pest control operations by contractor, vehicles, machinery, equipment, fuel spill	Fire on the P&CS estate and adjoining land resulting in property/assett loss.	2	5	H	• Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. • Field Supervisor to advise Contractor of fire weather conditions and monitor the Contractors adherence to the instructions. • Contactor must report any fire incidences to the Field Supervisor • Field Supervisor must be familiar with procedures to follow in the event of a fire.	2	3	M	Contractor Field Supervisor

Consequence					
	Insignificant	Minor	Moderate	Major	Catastrophic
People	Injuries or ailments not requiring medical treatment.	Minor injury or First Aid Treatment Case.	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
Reputation & Image	Internal Review	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office, or inquest, etc.	Intense public, political and media scrutiny. E.g.: front page headlines, TV, etc.	Assembly inquiry or Commission of inquiry or adverse national media.
Environmental	Limited effect to something of low significance	Transient, minor effects	Moderate, short-term environmental harm	Significant, medium-term environmental harm	Long term environmental harm
Cultural & Heritage	Low-level repairable damage to commonplace structures	Mostly repairable damage	Permanent damage to items of cultural significance	Significant damage to structures or items of cultural significance	Irreparable damage to highly valued items of cultural significance
Business Process & Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.
Financial	1% of Budget or <$5K	2.5% of Budget or <$50K	> 5% of Budget or <$500K	> 10% of Budget or <$5M	>25% of Budget or >$5M

				Consequence					
					Insignificant	Minor	Moderate	Major	Catastrophic
			Frequency	Matrix	1	2	3	4	5
Likelihood	Almost Certain	*Is expected to occur in most circumstances*	*>1 in 10*	5	Medium	High	High		
	Likely	*Will probably occur*	*1 in 10 - 100*	4	Medium	Medium	High	High	
	Possible	*Might occur at some time in the future*	*1 in 100 – 1,000*	3	Low	Medium	Medium	High	
	Unlikely	*Could occur but doubtful*	*1 in 1,000 – 10,000*	2	Low	Medium	Medium	High	High
	Rare	*May occur but only in exceptional circumstances*	*1 in 10,000 – 100,000*	1	Low	Low	Medium	Medium	High

L = Likelihood
C= Consequence
RR= Risk Rating

Priority	Suggested Timing of Treatment	Authority for continued tolerance of risk
	Short term – normally within one month	Chief Executive
	Detailed action plan required	
High	Medium term – normally within three months	Senior Executive
	Needs senior management attention	
Medium	Normally within 1 year	Managers
	Specify management responsibility	
Low	Ongoing control as part of a management system	All staff
	Manage by routine procedures	

Risk Mitigation / Risk Control Effectiveness

Control Effectiveness	Guide
(1) Adequate	Nothing more to be done except review and monitor the existing controls. Controls are well designed for the risk, are largely preventative and address the root causes and Management believes that they are effective and reliable at all times. Reactive controls only support preventative controls.
(2) Room for Improvement	Most controls are designed correctly and are in place and effective however there are some controls that are either not correctly designed or are not very effective. There may be an over-reliance on reactive controls. Some more work to be done to improve operating effectiveness or Management has doubts about operational effectiveness and reliability.
	Significant control gaps or no credible control. Either controls do not treat root causes or they do not operate at all effectively. Controls, if they exist are just reactive. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness.

PARKS AND CONSERVATION SERVICE – CNP South

RISK ASSESSMENT

Section PCS

Sub-Section CNP Sth

Program: **Rabbit Control**

Prepared by: Alex Wotzko

Signature: _____ **Date:** _____

Reviewed by: Kristy Gould

Signature: KSGould **Date:** 10/4/13

Nigel Ford NFd 10/4/13

Mech anism	Risk Factors	Risk Impacts	Risk level without Treatment			Treatment Controls	Risk level with Treatment			Person Responsible
			L	C	RR		L	C	RR	
1	Spill of poisoned baits during application or travel between baiting sites	Chemical spill on operator; contamination of soil; water and vegetation	3	3	M	• Operators wear PPE. • Poisoned bait to be transported in a sealed/locked container during transit. • Spill kit must be available at all times. • Operators to observe all relevant Standard Operating Procedures. *RAB004 Ground baiting of rabbits with Pindone* produced by NSW Department of Primary industries	3	1	L	Contractor
2	Vehicle or quad bike is involved in an accident through collision with another vehicle, uneven ground; logs and rocks: hidden rabbit warrens or wombat burrows; unstable creek bank.	Operator injured; vehicle damaged; chemical spill and contamination	3	4	H	• Operator must exercise caution whilst driving on public roads. • When using a quad bike the operator must at all times wear all appropriate PPE and exercise due caution by continuously watching for obstacles and potential hazards in the path and surrounds of the vehicle. • Considers the environmental conditions and travels at an appropriate speed • Operator to have participated in appropriate training and to carry all relevant vehicle and machinery licenses at all times while on the work site. • Operator to immediately notify field supervisor of any unforeseen hazards discovered while works are being undertaken. • Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. • Field Supervisor must be familiar with procedures to follow in the event of an accident. • Spill kit must be available at all times. • Operator to observe all relevant Standard Operating Procedures. *RAB004 Ground baiting of rabbits with Pindone* produced by NSW	2	3	M	Contractor Field Supervisor

						Department of Primary industries				
3	Injury to Operator from inhalation of aluminium phosphide fumes,	Operator poisoned	3	5	E	• Operators to wear all appropriate PPE and observe all relevant Standard Operating Procedures. *RAB005 Diffusion fumigation of rabbit warrens* produced by NSW Department of Primary industries.	2	3	M	Contractor
4	Injury to Operator from: walking on uneven terrain, steep slopes, operating machinery, hand tool usage	Operator injured	3	3	M	• Operators to wear all appropriate PPE • Operators should familiarise themselves with the project site and identify potential hazards. • Contractor to provide first aid kit in vehicle. • Operators require adequate training and experience in the application of fumigants and poisons and operation of machinery and equipment. • Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. • Field Supervisor and operators must be familiar with emergency procedures in the event of an accident. Contractor must notify the Field Supervisor in a timely manner of any injury sustained	3	2	M	Contractor Field Supervisor
5	Snake bite.	Operator injured	3	4	H	• Contractor to provide first aid kit in vehicles. • Field Supervisor must be aware of where contractor is working and arrange a regular site visit and or maintain contact by mobile phone or radio. • Field Supervisor and operators must be familiar with emergency procedures in the event of an accident.	3	3	M	Contractor Field Supervisor
6	Whereabouts of operator unknown during and after normal work hours due to injury to operator, vehicle breakdown or operator has left the site.	Operator injured or lost, failure to communicate with field staff results in a search to obtain their welfare status.	3	5	E	• Operator to carry mobile phone or portable radio. • Field Supervisor must be aware of where contractor is working and arrange a regular schedule of contact. Field Supervisor must be familiar with procedures to follow in the event	3	3	M	Contractor Field Supervisor

						of an accident . • For injuries refer to mechanism 3, 4, and 5. • If finishing after 4pm or have an emergency please contact the agency rep on 0429300504.				
7	Water body contaminated by poison from bait stations placed too close to water bodies/drainage lines.	Injury or death of aquatic fauna and flora. Contamination of drinking water for domestic and stock purposes.	2	3	M	• Contract Manager/Field Supervisor to identify all water body exclusion zones to Contractor in the form of a map. Field supervisor to enforce constraints stated within the works plan for the use of pindone poisoning.	1	2	L	Contract Manager Field Supervisor
8	Poison kills parent of dependent young	Dependant young die from starvation	3	3	M	• Contract Manager to post pone program if rabbits are known to be breeding.	2	2	M	Contract Manager
9	Stock affected by poisoning program by entering work area due to ineffective fencing.	Animals become sick or die	3	3	M	• Field Supervisor to check work area prior to works commencing regarding presence of livestock. • Field Supervisor and contractor to keep a lookout for wandering stock. • All bait to be laid under a bait station that prevents stock from eating the bait.	2	3	M	Field Supervisor
10	Native animals affected by poisoning program by eating poisoned bait or is in warren that is fumigated	Animals become sick or die	3	3	M	• Undertake pre-feeding with non-poisoned bait to allow an assessment of what animals are eating the bait. • All bait to be laid under a bait station that prevents native animals from eating the bait. • Baits will not be laid in the vicinity of macropod, bandicoot and native rodent refuge areas. • Prior to fumigating a warren, the contractor is to look for signs, tracks or traces of native animals.	2	3	M	Contract Manager Contractor
11	Domestic animals affected by poisoning program by eating poisoned baits or poisoned carcasses	Death or sickness of domestic animal	3	3	M	• Adequate warning signage notifying users of the risks to domestic animals are to be placed at all pedestrian access points to the work area. • Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and risks to domestic animals. • Place signs on all bait stations issuing a warning	2	3	M	Contractor

						that poison may have been laid. • Rabbit carcasses to be check as per statement of requirements				
12	Member of the public eats poisoning bait.	Sickness or death of person	3	4	H	• Adequate warning signage notifying users of the risks are to be place at all pedestrian access points to the work area. • Deliver a letter to all households immediately boarding the work area notifying them of the upcoming program and associated risks. • Place signs on all bait stations issuing a warning that poison may have been laid. • Ensure bait stations are not placed within 30m of houses.	2	3	M	Contract Manager Contractor
13	Damage to heritage sites by digging while fumigating warrens and/or driving over ground not frequented by vehicles.	Damage to heritage sites	3	3	M	• Contract Manager to search available data to identify potential sites. • Field Supervisor to identify heritage exclusion zones to Contractor and if necessary mark them out.	2	3	M	Contract Manager Field Supervisor
14	Contractor being unaware of members of the public or other agencies present in the immediate area of pest control operations	Injury, damage to plant, vehicles and equipment	3	3	M	• Field Supervisor check on organized events and works by other agencies. Where necessary, liaise with event organizers and agency representatives. Field Supervisor to inform Contractor of usage. • Where required Contractor to put out additional signage or implement other measures specified by Field Supervisor to ensure work area is safe. • Contractor always to be on the look out for casual visitors whilst they working on public land.	2	3	M	Field Supervisor Contractor
15	Work undertaken on non targeted or incorrect site	Control of targetted species ineffectvie. Non target species affected.	2	3	M	• Contractor is fully briefed by Field Supervisor and provided with a map of the areas to be treated. • Field Supervisor performs regular site visits.	1	2	L	Contractor Field Supervisor
16	Expenditure on project exceeds financial allocation by Contract Manager not adequately monitoring expenditure.	Budget over run and other projects compromised from a budgetry, time management and contractor availability perspective.	4	4	H	• Field Supervisor must accurately monitor and track contractor's hours of operation. • Contractor must accurately report hours of operation and report to Field Supervisor as requested.	3	2	M	Field Supervisor Contractor

17	Fire started during pest control operations by contractor, vehicles, machinery, equipment, fuel spill	Fire on the P&CS estate and adjoining land resulting in property/assett loss.	2	5	H	• Contractor must cease work under TOTAL FIRE BAN conditions or when Fire Fuel Danger Index (FFDI) exceeds 30. • Field Supervisor to advise Contractor of fire weather conditions and monitor the Contractors adherence to the instructions. • Contactor must report any fire incidences to the Field Supervisor • Field Supervisor must be familiar with procedures to follow in the event of a fire.	2	3	M	Contractor Field Supervisor
18	Out of Scope									

Consequence					
	Insignificant	Minor	Moderate	Major	Catastrophic
People	Injuries or ailments not requiring medical treatment.	Minor injury or First Aid Treatment Case.	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Death or multiple life threatening injuries.
Reputation & Image	Internal Review	Scrutiny required by internal committees or internal audit to prevent escalation.	Scrutiny required by external committees or ACT Auditor General's Office, or inquest, etc.	Intense public, political and media scrutiny. E.g.: front page headlines, TV, etc.	Assembly inquiry or Commission of inquiry or adverse national media.
Environmental	Limited effect to something of low significance	Transient, minor effects	Moderate, short-term environmental harm	Significant, medium-term environmental harm	Long term environmental harm
Cultural & Heritage	Low-level repairable damage to commonplace structures	Mostly repairable damage	Permanent damage to items of cultural significance	Significant damage to structures or items of cultural significance	Irreparable damage to highly valued items of cultural significance
Business Process & Systems	Minor errors in systems or processes requiring corrective action, or minor delay without impact on overall schedule.	Policy procedural rule occasionally not met or services do not fully meet needs.	One or more key accountability requirements not met. Inconvenient but not client welfare threatening.	Strategies not consistent with Government's agenda. Trends show service is degraded.	Critical system failure, bad policy advice or ongoing non-compliance. Business severely affected.
Financial	1% of Budget or <$5K	2.5% of Budget or <$50K	> 5% of Budget or <$500K	> 10% of Budget or <$5M	>25% of Budget or >$5M

			Frequency	Matrix	Consequence 1	2	3	4	5
Likelihood	Almost Certain	*Is expected to occur in most circumstances*	*>1 in 10*	*5*	Medium	High	High		
	Likely	*Will probably occur*	*1 in 10 - 100*	*4*	Medium	Medium	High	High	
	Possible	*Might occur at some time in the future*	*1 in 100 – 1,000*	*3*	Low	Medium	Medium	High	
	Unlikely	*Could occur but doubtful*	*1 in 1,000 – 10,000*	*2*	Low	Medium	Medium	High	High
	Rare	*May occur but only in exceptional circumstances*	*1 in 10,000 – 100,000*	*1*	Low	Low	Medium	Medium	High

L = Likelihood
C= Consequence
RR= Risk Rating

Priority	Suggested Timing of Treatment	Authority for continued tolerance of risk
	Short term – normally within one month	Chief Executive
	Detailed action plan required	
High	Medium term – normally within three months	Senior Executive
	Needs senior management attention	
Medium	Normally within 1 year	Managers
	Specify management responsibility	
Low	Ongoing control as part of a management system	All staff
	Manage by routine procedures	

Risk Mitigation / Risk Control Effectiveness

Control Effectiveness	Guide
	Nothing more to be done except review and monitor the existing controls. Controls are well designed for the risk, are largely preventative and address the root causes and Management believes that they are effective and reliable at all times. Reactive controls only support preventative controls.
(2) Room for Improvement	Most controls are designed correctly and are in place and effective however there are some controls that are either not correctly designed or are not very effective. There may be an over-reliance on reactive controls. Some more work to be done to improve operating effectiveness or Management has doubts about operational effectiveness and reliability.
	Significant control gaps or no credible control. Either controls do not treat root causes or they do not operate at all effectively. Controls, if they exist are just reactive. Management has no confidence that any degree of control is being achieved due to poor control design and/or very limited operational effectiveness.

Canberra Nature Park - South District
District Works Plan for control of Rabbits on Mount Taylor

AREA OF WORKS
Description - The fumigation of 3-4 Rabbit warrens on Mount Taylor (Canberra Nature Park). A map is attached.

DESCRIPTION OF WORKS
Rabbits in this area will be controlled by diffusion fumigation with phosphine gas (Pestex tablets).
Reason:
Rabbits are classified as a pest animal by the *Pest Plants and Animals Act 2005*. Field observations by ACTPCS staff show that there is a thriving rabbit population in this nature reserve.
Relevant legislation / strategies / plans:
Nature Conservation Act 1980, Pest Plants and Animals Act 2005, ACT PCS Vertebrate Pest Management Operations Plan 2010-11 and Canberra Nature Park Management Plan, ACT OH&S Act

BUDGET
NA –in-house works

TIMING
Middle of June 2012 – July 2012.

RESPONSIBILITIES
Planning and Supervision: South District Ranger Lee Pointon.
On ground works: Lee Pointon and Alex Wotzko.

CONSULTATION
NA – No public or external interest is anticipated

APPROVALS / LICENSES
Approval for in-house work. Staff involved are certified in Chemcert and fumigation

PROCUREMENT
Not required as value of works under $25,000.
Works to be carried out internally / in-house.

SCOPE OF WORKS
Rabbits in this area will be controlled by diffusion fumigation with phosphine gas (Pestex tablets). Pestex tablets are to be inserted into existing warrens once entrances have been identified. Newspaper and soil will then be added to the warren entrances to ensure fumigation space is enclosed. Follow up treatment may be required – site to be checked 1 week after initial work has been completed. Retreatment as required.

CONTRACTORS
NA

DISTRICT TASKING AND TIME LINES

Task and allocation	June	July	
Lee Pointon to prepare and update Works Plan and supervise its implementation	→	→	
Lee Pointon and Alex Wotzko to carry out works as specified in this plan.	→	→	

COST

NA

OH&S

PPE: FULL FACE MASK,
ELBOW LENGTH PVC GLOVES AND
OVERALLS

SIGNAGE: TEMPORARY SIGNAGE TO BE ERECTED WHILE WORKING TO ENSURE PUBLIC EXCLUSION FROM AREA.

Communication: There is good mobile phone coverage.
Contact Athlon Depot: 6207 2087.

Access: Isaacs Ridge: off Long Gully Road UBD Map 79 B16.
Narrabundah Hill: Off Eucumbene Drive UBD Map 66 P13 near reservoir.

Medical assistance: Ambulance is required ring 000 or 112. St5aff to be familiar with associated first aid procedure for the fumigation tablets (attached).

Ambulance Access: See Access above

RISK MANAGEMENT

General; Contractors must observe the controls set out in *General site controls for contractors working on the Parks, Conservation and Lands estate.*

Task and Site specific risks

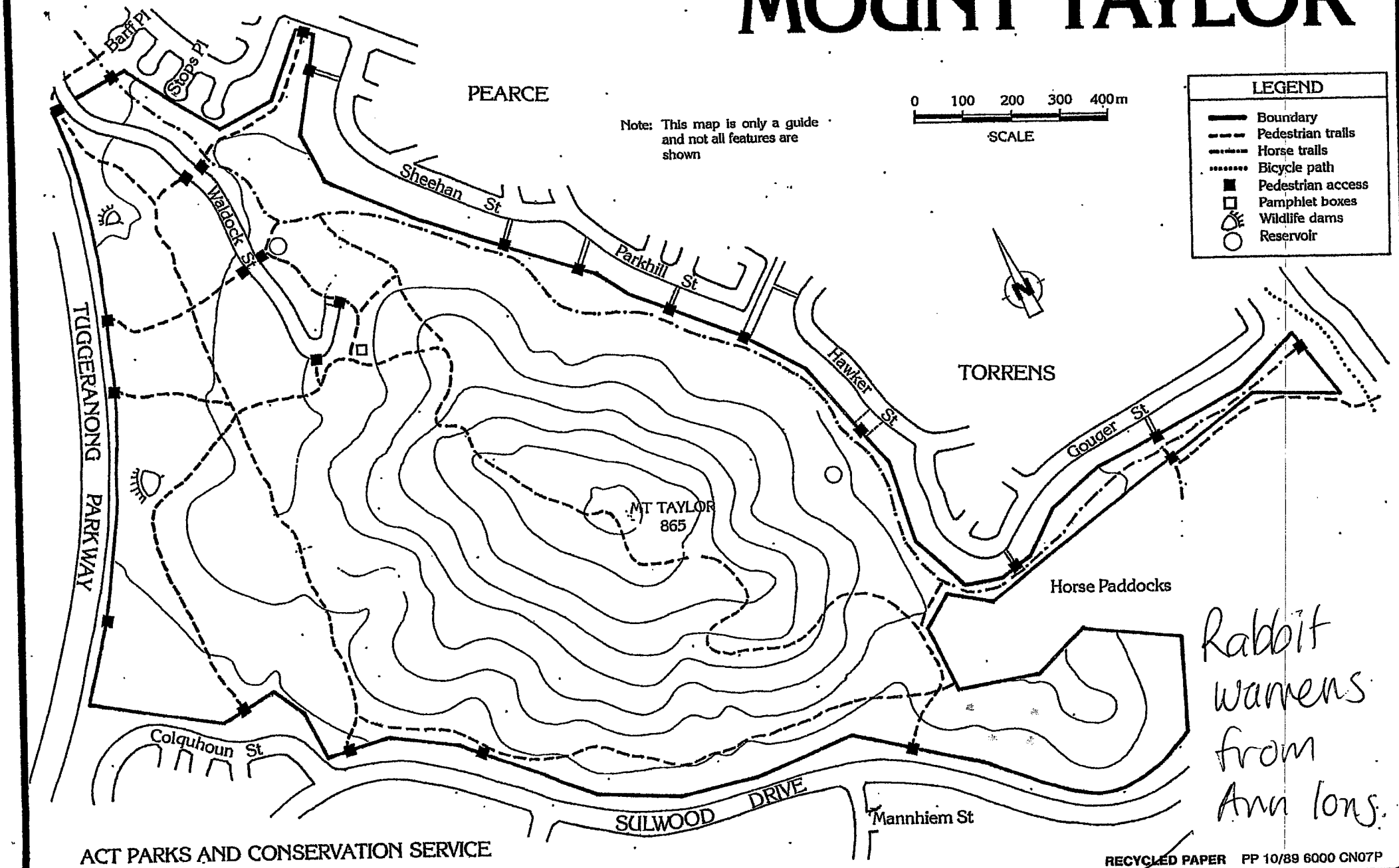
Risk	Mitigation
Wet and windy weather	No work will be undertaken in wet weather and sufficient time must be given for the site to dry out after rain before recommencing works. Works will not be conducted in mild to strong winds. All fumigation works must be carried out in non-existent to very light winds.
Public safety	The area has regular bike riders, walkers and work utilities vehicles on the reserve. Signs will be placed on the track approaches to inform people of the works. No TTMP will be required.
Site disturbance	There may be a need to clear away some vegetation in these works. There are no records of any threatened species or heritage sites in the area of works. Soil disturbance will be minimal – Existing warren holes to be filled and smoothed over with loose fill obtained on-site.
Staff safety	Only fumigation trained staff to be involved with the works. Full PPE is to be worn at all times.

Plan produced and updated by: Lee Pointon, June 5th, 2012.

ATTACHMENTS

Work map
Pestex tablets manual

MOUNT TAYLOR



Rabbit warrens from Ann Jons.

See Kristy for more info

Canberra South District

District Works Plan for rabbit control in Jerrabomberra Wetlands Nature Reserves.

AREA OF WORKS

Description: This work follows up on the rabbit control program of 2010 and 2011 at Jerrabomberra Wetlands and will concentrate on the areas within the reserve where rabbits were found last year (see attached map). A new transect will be undertaken this year and depending on results baiting may be done in this area.

DESCRIPTION OF WORKS

Rabbits in these areas will be controlled by poisoning with Pindone
Reason: Rabbits are classified as a pest animal by the *Pest Plants and Animals Act 2005.* Transect counts and field observations by ACTPCS staff show that there is a thriving rabbit population in this nature reserve.
Relevant legislation / strategies / plans: *Nature Conservation Act 1980, Pest Plants and Animals Act 2005*,CNP PoM 1999; JWL PoM 2010; ACT PCS Vertebrate Pest Management Operations Plan 2010-11.

BUDGET

From NRM Vertebrate Pest program for JWL
Coding: Invoices for JWL to be sent to Nic Webb.

TIMING

Feb to April 2012

RESPONSIBILITIES

Planning and Supervision: South District with assistance from the Vertebrate Pests Coordinator
On ground works: Primarily contractors with some assistance from Jerrabomberra Wetlands ranger especially with carcass removal.

CONSULTATION

Vertebrate Pests Coordinator
Executive Manager for the Wetlands and Woodlands Trust
JWL IBM

APPROVALS / LICENSES

Covered by existing Environmental Authorisation from the EPA
Conservation, Planning and Research (CPR) were consulted about last year's program and that feedback will be incorporated into the current program

PROCUREMENT

Current panel contracts for Rabbit Control Services including subsequent quotations for poisoning with Pindone in bait stations

SCOPE OF WORKS

1. Undertake preliminary rabbit counts along established transects in all reserves
2. Undertake spotlight assessment of rabbit distribution in JWL
3. Undertake Pindone poisoning in bait stations in Jerrabomberra Wetlands concentrating on those areas where baiting was done last year (see attached map). This poisoning must be in accordance with the provisions of the NSW DPI SOP *RAB004 Ground Baiting of Rabbits with Pindone* (attached) and the contractor's Service Agreement with ACTPCS (link provided below). **Particular attention must be paid to the collection of carcasses to avoid non-target poisoning of birds of prey**
4. District staff to undertake diffusion fumigation with phosphine gas of any burrows at Jerrabomberra Wetlands which show signs of activity after the poisoning program. Fumigation must be in accordance with the provisions of the NSW DPI SOP *RAB005 Diffusion Fumigation of*

Rabbit Warrens (attached). Note – no fumigation to be undertaken on the City Services block due to the potential to disturb asbestos.

5. Undertake follow up rabbit counts along established transects in all reserves

CONTRACTORS

MN Gregory and S Gregory, now known as Tennent Rural (Mathew Gregory , is to undertake poisoning with Pindone in bait stations at JWL. The Service Agreement is at:
G:\22 ENVIRONMENTAL MANAGEMENT\CONTRACTING OUT\Contractors\Program Coordination\Natural Resource Management\Vertebrate Pests\Rabbit\Service aggrements\C09119 Gregory.doc

Re-quoting in regard to the above is at the following link:
G:\22 ENVIRONMENTAL MANAGEMENT\CONTRACTING OUT\Contractors\Program Coordination\Natural Resource Management\Vertebrate Pests\Rabbit\Rabbit Panel 2009-10\Rabbit Control Services - requotes.msg

DISTRICT TASKING AND TIME LINES

Task and allocation	Feb	March	April
MM to contact contractor and ACTEW	X		
MM and Bob Burdick to undertake pre -spotlight transects	X		
Contractor to undertake baiting	X	X	
MM to assist with removal of carcasses		X	
MM to organise and supervise the follow up spotlight counts along established transects with 2 nights of counting in similar weather and moon conditions, preferably consecutively (see attached maps)		X	X
PG/MM to liaise with JWL IBM	X		

COST

Pindone poisoning at JWL costs $180.00 per bait station (includes 2 free feeds and 3 poisoned feeds). It is estimated that 80 stations will be required at a cost of $14,400.00. Extra feeds are costed at $8 per cage. Diffusion fumigation cost is $60.00 per hour per person. On the basis of 2 men undertaking 15 eight hour days for the 4 reserves where this method will be employed the cost will be $14,400.00
This allows a $5,600 contingency for additional fumigation and bait stations

OH&S

PPE: Contractor is responsible for appropriate PPE. ACTPCS Staff should wear gloves if they are picking up rabbit carcasses
Communication: There is good mobile phone coverage at Jerrabomberra Wetlands.
Access: **JWL** Dairy Road on the eastern side and Newcastle Street on the western side

Medical assistance: if Ambulance is required ring 000 or 112.
Ambulance Access: See Access above

RISK MANAGEMENT

General; Contractors must observe the controls set out in *General site controls for contractors working on the Parks, Conservation and Lands estate* (attached)
Task and Site specific risks

Risk	Mitigation
Wet weather	Works must not be undertaken during rain. After heavy rain work should

	only be undertaken if access is possible by ATV or on foot. Pindone poisoning should be delayed if wet weather is forecast. If there is more than 5 days between poison feeds the poisoning schedule must be re-started from the beginning
High FDI	Works must cease once the FFDI is greater than 30
Introduction of weeds by machinery	All contractor machinery must be washed down prior to entering nature reserves
Oil / fuel spill	All contractor machinery to carry spill kits. No refuelling on site
Wandering stock	All gates to be kept closed at JWL.
Few rabbits seen on spotlight counts	Many rabbits will be hidden by the tall dense grass resulting from the wet weather. The spotlight counts will proceed but the low numbers that may be recorded will not be used as a justification for stopping control efforts
Rabbits do not take free feeds	This is possible because there is so much alternative feed as a result of the wet weather. An extra free feed of carrots should be put out. If the rabbits are still not taking the carrots then Pindone poisoning should not be attempted
Secondary Pindone poisoning of non-target species	As bait stations are being used the main risk is to wildlife feeding on rabbit carcasses, particularly birds of prey such as the Whistling Kite. The area 30 metres around each station will be searched for carcasses daily either by the contractor or ACTPCS staff until 2 weeks after the last poison feed. Carcasses found by ACTPCS staff will be double bagged and disposed of in the Glendale pit. There is a chance that some carcasses will not be found because they are hidden by the long grass. However this will also be true for scavengers locating food by sight. One or two fresh roo carcasses from the urban wildlife program will be placed at JWL (away from walking/cycle tracks) to attract scavenging birds of prey away from rabbit carcasses.
Public health	For both Pindone poisoning and diffusion fumigation work signs will be placed at the entrances to the reserves. For Pindone poisoning each cage will have a sign. The signs are at the following links: Pindone (entrance):G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Poisons, permits & dangerous goods\Pindone\Signs\PindoneSign.doc Pindone (cage): G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Poisons, permits & dangerous goods\Pindone\Signs\PindoneCageSignA4.doc
Disturbance of asbestos fragments by Pindone baiting adjacent to JWL	The City Services block adjacent to the JWL, which is included in the program, has scattered fragments of asbestos sheeting. We are using the same contractor as last year and Mathew Gregory knows what to look for and what PPE must be worn. There is not expected to be any disturbance

Plan produced and updated by: Michael Maconachie 22nd February 2012

Works Plan approved by District Manager

K Gould Date 23/2/12

Kristy Gould

Works Plan read and agreed to by Contractor

M Gregory Date 28/2/12 X

Matthew Gregory

ATTACHMENTS

.1 Maps showing existing warrens, transects, location of threatened plant and fauna species and heritage sites are attached. Additional copies can be got from the following links:

JWL Rabbit Transects and Warren Location: P:\GIS\Project_Maps\Parks_and_Reserves\Athllon\Maps\JWL Rabbits 2011.jpg

JWL Transect Detail: P:\GIS\Project_Maps\Parks_and_Reserves\Athllon\Maps\JWL - rabbit transect detail.jpg

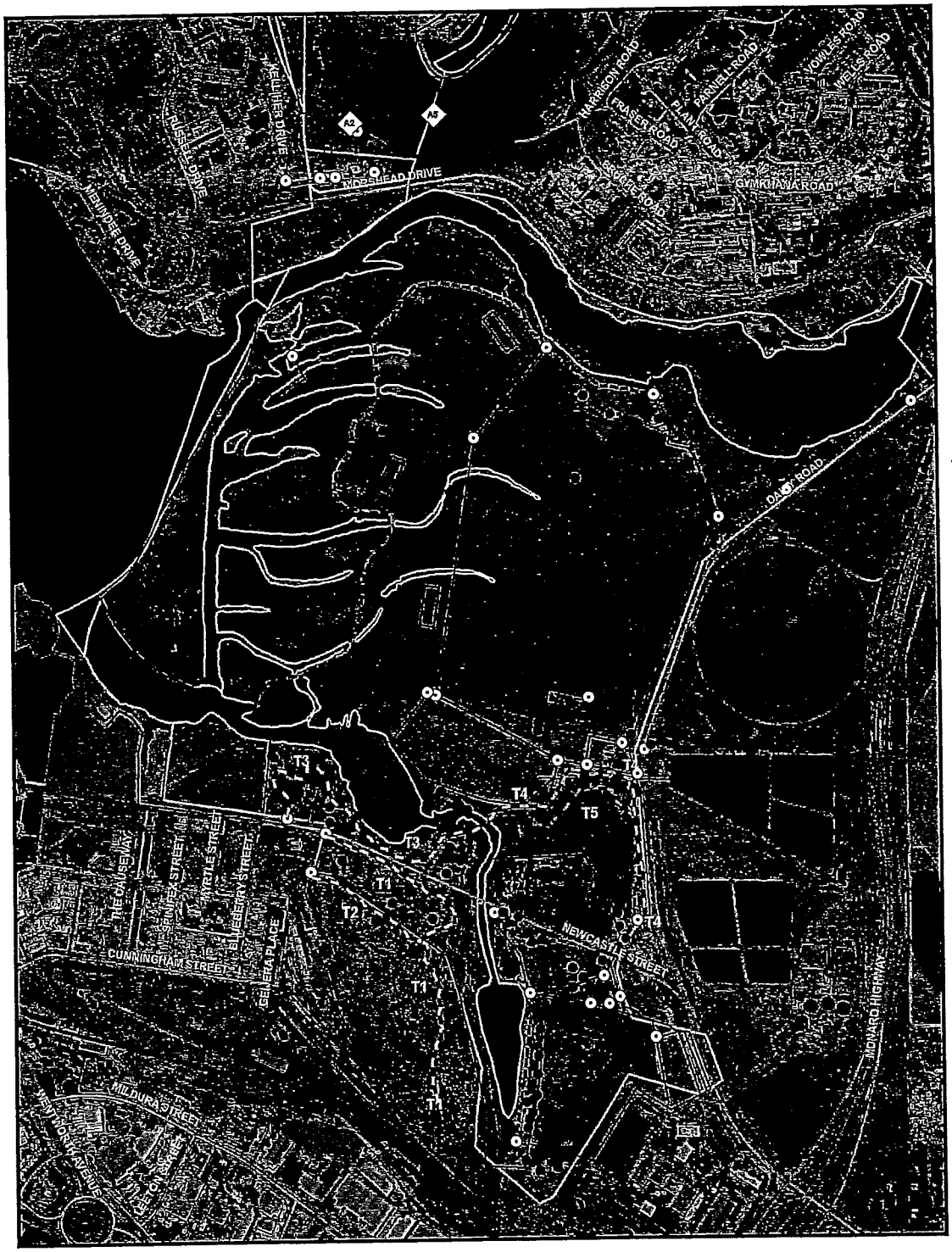
2. NSW DPI SOP *RAB005 Diffusion Fumigation of Rabbit*
   NSW DPI SOP *RAB004 Ground Baiting of Rabbits with Pindone*

3 *General site controls for contractors working on the Parks, Conservation and Lands estate*

G:\22 ENVIRONMENTAL MANAGEMENT\COMPLIANCE\Works Approvals & Licencing\Canberra South District\Works Approvals\General site controls for contractors.pdf

4. Authorised Pindone poison mixers

Attachment 1 Maps



Jerra Wetlands Rabbit Transects & Warren location

Legend
- Rabbit Warrens
- cnp_gates
- cnp_fences
- cnp_tracks&trails
- reserve

0 110 220 Meters — 1 centimeter equals 118 meters

N

Contact Details
Parks, Conservation and Lands
PO Box 158 Canberra ACT 2601
Telephone 13 22 81

Disclaimer, Parks, Conservation and Lands does not warrant that the data is free from errors.
Data Copyright © Australian Capital Territory, Canberra 2007


T3
T4
T5
T4
T3
T1
T2
T4
T1
T1
DAIRY ROAD
BLUEBERRY STREET
YARRAM PLACE
GELVERA PLACE
NEWCASTLE STREET
MILDURA STREET
Jerra Wetlands
Transects Detail
Legend
Rabbit Warrens
cnp_gates
cnp_fences
cnp_tracks&trails
reserve
0 50 100 Meters
1 centimeter equals 55 meters
N
Contact Details
Parks, Conservation and Lands
PO Box 158 Canberra ACT 2601
Telephone 13 22 81
Disclaimer, Parks, Conservation and Lands does not warrant that the data is free from errors

STANDARD OPERATING PROCEDURE

RAB005 diffusion fumigation of rabbit warrens

Prepared by Trudy Sharp & Glen Saunders, NSW Department of Primary Industries

Background

Fumigation of rabbit warrens is used to minimise the impact of the introduced European rabbit (*Oryctolagus cuniculus*) on agricultural production and the environment. Other rabbit control methods include poisoning, warren and harbour destruction, shooting, trapping, exclusion fencing and biological control with rabbit haemorrhagic disease (RHD) and myxomatosis.

Fumigation involves the introduction of toxic fumes into a warren where it is inhaled by rabbits leading to their death. There are two types of fumigation: pressure fumigation, in which the fumigant gases or vapours are generated outside the warren and forced into the warren under pressure, usually from a pump and; diffusion fumigation, where tablets are placed in active burrows and the gas generated is allowed to diffuse through the warren. Pressure fumigation is not currently used routinely and is therefore not addressed in these standard operating procedures (SOPs).

Diffusion fumigation is most commonly carried out using phosphine gas. Warrens are treated with aluminium phosphide tablets which liberate phosphine gas on exposure to atmospheric or soil moisture. Phosphine is a systemic poison which depresses the central nervous system and respiratory function. It is highly toxic to humans; therefore operators performing warren fumigation must take adequate precautions to safeguard against accidental exposure.

This SOP is a guide only; it does not replace or override the legislation that applies in the relevant State or Territory jurisdiction. The SOP should only be used subject to the applicable legal requirements (including OH&S) operating in the relevant jurisdiction.

Application

- Fumigation should only be used in a strategic manner as part of a co-ordinated program designed to achieve sustained effective control. Reducing and maintaining low rabbit numbers by a combination of control methods over time is more effective than repeated (seasonal) use of a single method.
- Fumigation is labour intensive and costly. It is best used as a follow-up technique to warren ripping and poisoning i.e. when rabbit density is low but may also be effective in the following situations:

  - where ripping cannot be done due to inaccessible location (e.g. near rocky outcrops, along fences or riverbanks, around trees) or when there is a risk of soil erosion or damage to conservation areas;
  - as an alternative to poisons in situations where 1080 and pindone cannot be used e.g. when the risk of non-target poisoning is unacceptably high, distance restrictions cannot be adhered to etc.; and
  - when treating small areas or isolated rabbit populations.
- Fumigation can only be used for warren dwelling rabbits. It is not effective against surface dwelling rabbits.
- Fumigation can be carried out at any time of year but it has the greatest long-term effect if done shortly before the commencement of the rabbit breeding season.
- Fumigation with aluminium phosphide is most effective in non-porous soils through which the gas will not diffuse e.g. compacted heavy or wet soils rather than dry sand or cracked clay.
- As phosphine gas is released from the tablets when wet, do not fumigate in weather conditions where the tablets cannot be protected from wetting prior to placement in the warren. Avoid fumigating in small sheltered gullies where the operator may be exposed to the toxic fumes. It is best to fumigate on windy days so that fumes are dispersed rather than building up in the air around the warren.
- Trained dogs can be used to drive rabbits underground prior to warren fumigation. However, it is unacceptable, and in some jurisdictions illegal, to set a dog onto a rabbit with the intention of catching or killing.
- Aluminium phosphide is listed as a Schedule 7 substance, a restricted chemical product which requires special precautions in manufacture, handling, storage and use, along with individual regulations regarding labelling or availability. In some States, fumigants can only be obtained by persons with appropriate training in their use (e.g. in Victoria an Agricultural Chemical Users Permit is required) or used by competent operators working in accordance with the relevant State and Territory legislation (see Appendix).
- Fumigants must be used according to instructions on approved labels and guidelines issued by relevant State authorities for vertebrate pest control.
- Phosphine is currently the preferred toxin for diffusion fumigation until more humane methods are developed. Chloropicrin (trichloronitromethane) is considered to be highly inhumane and its use is not recommended. It causes intense irritation of the respiratory tract and profuse watering of the eyes for a considerable period before death. Exhaust from idling internal combustion engines is also not acceptable as adequate CO concentrations cannot be achieved (particularly with modern car engines) and exhaust contaminants such as hydrocarbons, ozone, nitrogen dioxide and nitric oxides cause severe irritation before death. Also, the exhaust gases produced may be unacceptably hot.

Box 8.2: Humane pest animal control - difficulties in fumigation of rabbit warrens

Animal Welfare Considerations

Impact on target animals

- The toxicity of phosphine is due to inhibition of cytochrome oxidase – an enzyme essential for the use of oxygen for energy production. Inhalation of the gas causes a reduction in the activity of the central nervous system and breathing activity. The precise nature and extent of suffering of rabbits after inhalation of phosphine is unknown. Symptoms of phosphine toxicity in humans often include nausea, abdominal pain, headache and convulsions followed by coma. It is not known whether other mammals experience similar symptoms.
- Time to death can be highly variable depending on the concentration of gas in the burrow. For example, at concentrations of 400 ppm phosphine can kill rabbits in 30 minutes whereas at 25 ppm death will take 4 hours. The time taken to reach high concentrations throughout the warren largely depends on the amount of moisture in the soil and air, or on the tablets. In low humidity, complete release of phosphine gas from the tablets may take hours or even days. Higher humidity will cause a rapid rate of diffusion and therefore result in higher concentrations of gas so that the rabbit will be exposed to a lethal dose in a shorter time and will have less chance to dig out of the burrow.
- Failure to reach lethal levels of phosphine in some parts of the warren because of inadequate diffusion will result in ineffective killing but will not necessarily cause long-term suffering. Studies in other species (i.e. cats, guinea pigs and brown rats) have produced no evidence to suggest that exposure to sub-lethal levels of phosphine gas causes sub-acute or chronic poisoning. Therefore, rabbits that escape from fumigated warrens or those that are exposed to sub-lethal concentrations in deeper parts of the warren may only experience transient illness, not permanent debilitation.
- Fumigation is considered to be less humane than poisoning with 1080. Therefore, it is desirable to fumigate only after a poisoning program when the density of rabbits is low. This minimises the number of rabbits that need to be killed by a less humane technique.

Impact on non-target animals

- Fumigation of rabbit warrens is one of the most target-specific means of rabbit destruction and will have little impact on non-target species if used correctly.
- Fumigation must only be used in active, occupied warrens. If a warren appears to be empty or possibly occupied by a non-target species (e.g. wombats, dingoes, lizards, snakes), fumigation must not be performed.
- There appears to be no significant risk of secondary poisoning if carcasses of gassed animals are consumed by non-target predatory or scavenger species.
- If using dogs to work an area prior to warren fumigation, the following should be observed:
  - Dog handlers must be experienced and the dogs well trained i.e. they must be easily controlled by a whistle or call, obey the handlers' commands and will not chase or attack non-target animals including livestock. Dogs that are deliberately bred or trained to attack without provocation must not be used. Suitable breeds would include terriers, labradors and others that are keen to chase but unlikely to catch a rabbit.

- Handlers must not encourage dogs to attack and kill rabbits. Rabbits trapped in hollow logs etc. (where they are visible but the dogs can't access them), should be shot (refer to RAB009 *Ground shooting of rabbits*).
- Rabbits inadvertently caught by dogs should be killed by a shot to the brain or by neck (cervical) dislocation. Rabbits should never be left to die a slow death after being maimed.
- To ensure that dogs are not exposed to phosphine gas or allowed access to treated warrens, handlers must ensure that dogs are well restrained during and after fumigation.
- For more details refer to GEN002 *The care and management of dogs used in the control of pest animals.*

Health and Safety Considerations

- Operators must strictly follow the directions on the approved label when using and storing aluminium phosphide tablets. They must not be used for any other purpose than the destruction of rabbits in active warrens.
- Fumigation must always be carried out by two trained persons and must not be carried out in wet conditions when it is likely that the tablets will become wet before insertion in the burrows.
- Phosphine is highly toxic to humans and can kill if the tablets are swallowed or the liberated gas is inhaled. Avoid contacting the skin with aluminium phosphide or breathing phosphine gas.
- If poisoning occurs go straight to a hospital or doctor WITHOUT DELAY and contact the Poisons Information Centre (Ph 131 126).
- Symptoms of overexposure to phosphine gas include headache, dizziness, nausea, and difficulty breathing. Severe exposure may damage liver, kidneys, lungs, and nervous and circulatory systems, and may cause death. If a person is exposed to phosphine gas, get them to fresh air immediately. If they are experiencing breathing difficulties give oxygen. If they have ceased breathing, apply artificial respiration using a one-way mask, air-viva or oxy-viva. Do not give direct mouth-to-mouth resuscitation if aluminium phosphide tablets have been swallowed.
- Appropriate personal protective equipment should be worn when using fumigant. This includes:
  - overalls;
  - eye protection (e.g. chemical goggles or safety glasses);
  - elbow length PVC or rubber gloves; and
  - full-face respirator with combined dust and gas cartridge (canister) or breathing apparatus with air supply.
- If aluminium phosphide gets on skin, immediately wash area with soap and water.
- After use and before eating drinking or smoking, wash hands, arms and face with soap and water.
- After use, wash contaminated clothing and gloves.
- For further information refer to the Material Safety Data Sheet (MSDS), available from the supplier.

RAB005-4 - humane pest animal control - diffusion fumigation of rabbit warrens

Equipment Required

Fumigation tablets

Fumigants must be stored in the closed original container in a cool, dry, well ventilated, locked area out of the reach of children and unauthorised persons and away from buildings inhabited by humans, pets or livestock. Keep away from water and liquids which may cause immediate release of phosphine gas.

- Fumigation tablets contain 560 to 570 g/kg of aluminium phosphide which produces 330 g/kg phosphine gas. Each 3 gram tablet releases 1 gram of phosphine gas when exposed to moisture in the air or soil. The evolution of gas can be increased by adding extra water when the tablets are placed in the burrow.
- Phosphine gas is slightly heavier than air, colourless, and smells slightly of garlic.
- Phosphine generating fumigation tablets are produced under several brand names (e.g. Gastion®, Pester® etc.) and are available from rural merchandise suppliers.

Other Equipment:

- Personal protective equipment
- Towel, soap, dish or bucket
- First Aid kit
- Warning signs
- Newspaper or paper towel
- Water for moistening paper
- A long handled device (at least 1 metre long) for placing fumigant down the warren
- Shovel or mattock for digging back and sealing burrows

Procedures

Assessment of site and estimation of rabbit numbers

- To maximise effect on rabbit populations, a careful on-site risk assessment to confirm the need for fumigation and assess the suitability of the area should be undertaken before fumigation is commenced.
- Fumigation must only be applied to active, occupied rabbit warrens to be effective and safe. Evidence of active warrens may include fresh rabbit droppings, tracks, mounds, or diggings.
- If it is suspected that native wildlife are using the warren, their presence can be determined by using sand pads – a 1 m² area of raked earth or sand outside of the warren entrance – to detect and identify footprints.
- The density of rabbits on the site should be estimated using spotlight counts and warren monitoring. The location and numbers of rabbits on neighbouring properties should also be approximated.
- Contact your vertebrate pest control local authority for more information and advice on site assessment and monitoring of rabbit numbers.

B0005.5 - humane pest animal control - diffusion fumigation of rabbit warrens

Fumigation procedure

Always read the product label for specific directions on use.

Do not carry fumigants inside an enclosed vehicle, especially after the seals on the containers have been broken.

- Fumigate when the weather is hot to ensure most rabbits are underground and the survival of rabbits above ground is low. Rabbits can be driven underground before fumigation by making loud noises or using dogs to work the area, chasing the rabbits into the warrens.
- Dig back the opening of the burrow so there is a 30 cm lip between the surface and the burrow. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil.
- Place two aluminium phosphide tablets at least 60 cm into the burrow. Wrap the tablets in damp newspaper or paper towel to start the release of gas. To facilitate the easy placement of the tablet into the hole, a length of wire or piece of polythene pipe containing a push-rod can be used.
- The hole should then be filled, digging back the sides of the entrance and tamping down the soil. The ground should end up relatively flat to discourage opening up from the outside.
- The entire procedure, with two tablets and backfilling, should be repeated for each hole. Always work toward the windward side of the warren.
- It is essential that all entrances to the warren are sealed. Check under nearby scrub and fallen timber for any missed burrows.
- Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low.
- Check for re-openings around one week after fumigating and treat again as necessary.

Assessing effectiveness

- The effectiveness of a fumigation operation should be monitored by recording the number of burrow entrances treated and then recording the number of re-opened entrances that need re-treated at subsequent visits. A follow-up visit and re-treatment should not be performed until at least 48 hours after the previous treatment. Repeat the procedure until no new burrows are found.

Procedural Notes

More detailed information on diffusion fumigation using phosphine can be found on approved labels, from various State guidelines (e.g. vertebrate pest control manuals, Landcare Notes, Farmnotes etc.) and relevant Commonwealth, State and Territory legislation.

RAMSAR fact sheet - humane pest animal control - diffusion fumigation of rabbit warrens

Appendix

Relevant Commonwealth, State and Territory Legislation for the Use of Fumigants

- **Commonwealth**
  Environment Protection and Biodiversity Conservation Act 1999
  Information available from the Department of Environment and Heritage website: https://www.deh.gov.au/epbc
- **Australian Capital Territory**
  Environment Protection Act 1997
- **New South Wales**
  Pesticides Act 1999
- **Northern Territory**
  Poison and Dangerous Drugs Act 1999
  Territory Parks and Wildlife Conservation Act 1998
- **Queensland**
  Health (Drugs and Poisons) Regulations 1996
- **South Australia**
  Controlled Substances Act 1984
  Controlled Substances (Poison) Regulations 1996
- **Tasmania**
  Poisons Act 1971
  Agricultural and Veterinary Chemicals (Control of Use) Act 1995
- **Victoria**
  Agricultural and Veterinary Chemical (Control of Use) Act 1992
- **Western Australia**
  Poisons Act 1964
  Poisons Regulations 1965

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NSW DEPARTMENT OF PRIMARY INDUSTRIES

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STANDARD OPERATING PROCEDURE

RAB004 ground baiting of rabbits with Pindone

Prepared by Trudy Sharp & Glen Saunders, NSW Department of Primary Industries

Background

Poisoning with pindone is used to minimise the impact of the introduced European rabbit (*Oryctolagus cuniculus*) on agricultural production and the environment. Other rabbit control methods include poisoning with 1080, warren destruction, warren fumigation, surface harbour removal, shooting, trapping, exclusion fencing and biological control with rabbit haemorrhagic disease virus (RHDV) and myxomatosis.

Poisoning with pindone is used to reduce rabbit populations in areas where it is impractical or unsuitable to use 1080 e.g. urban/residential and semi-rural areas.

Pindone is a first-generation anticoagulant that acts by blocking the synthesis of vitamin K-dependant clotting factors, which causes fatal haemorrhages in susceptible animals. Poisoning with pindone can occur with a large single dose, but it is more effective when given as a series of smaller doses over a period of 4 to 12 days.

Rabbits are amongst the most susceptible species to the effects of pindone; however other animals especially birds, cats, native rodents and macropods may be vulnerable to poisoning. Good baiting technique helps to minimise the risk to non-target species and maximise the effect on targeted rabbit populations.

This standard operating procedure (SOP) is a guide only; it does not replace or override the legislation that applies in the relevant State or Territory jurisdiction. The SOP should only be used subject to the applicable legal requirements (including OH&S) operating in the relevant jurisdiction.

Application

- Baiting with pindone should only be used in a strategic manner as part of a co-ordinated program designed to achieve sustained effective control.
- Pindone is mostly used for rabbit control where 1080 (sodium monofluoroacetate) cannot be used because of the risk of poisoning to humans or domestic animals e.g. urban/residential and semi-rural areas.
- Before commencing a baiting program, an assessment of likely non-target exposure should be performed, preferably by authorised personnel with knowledge of local native fauna. If there is a significant risk of poisoning non-target animals, bait should not be laid or measures must be taken to reduce the risk. Such measures could include:

  - use of bait stations or enclosures to restrict access to non-target animals;
  - fencing to exclude larger species such as macropods; and
  - avoidance of baiting near areas of native vegetation that is likely to harbor smaller non-target animals such as bandicoots.
- Although poisoning programs can be carried out year-round, baiting is most effective when alternative food for rabbits is scarce e.g. at the end of summer or early autumn. Baiting is less effective during the breeding season when rabbit movements are limited.
- Baiting of rabbits with pindone must be carried out in accordance with relevant State, Territory and Commonwealth legislation (*see Appendix*). The pindone user may need to make a referral under the EPBC Act.
- Pindone must be used according to instructions on approved labels and guidelines issued by relevant State authorities for vertebrate pest control.
- There are two types of registered pindone products; ready-to-use baits and concentrates used to prepare baits:
  - Ready-to-use oat or carrot baits are available 'over-the-counter' from retail merchants or from licensed contractors and government pest control agencies.
  - Liquid (sodium salt) or powder (free acid) pindone concentrates are restricted chemical products available only to authorised people who have appropriate training in their use. Pindone acid has low water solubility while the sodium salt is soluble in water.

Animal Welfare Considerations

Impact on target animals

- Pindone interferes with the routine synthesis of vitamin K-dependent blood clotting factors in the liver. Without these factors, the normal daily damage to blood vessels can no longer be repaired. Poisoned animals usually die from multiple causes associated with anaemia or hypovolemic shock. A large single dose (18 mg/kg for rabbits) or repeated smaller doses (0.52 mg/kg/day over 7 days) are generally needed to induce death.
- After ingestion of anticoagulants, there is usually a lag period of 3–5 days before the onset of clinical signs. This delayed onset reflects the time required to deplete existing stores of vitamin K and blood clotting factors. Initial signs of poisoning are depression/lethargy and anorexia followed by manifestations of haemorrhage including anaemia, laboured breathing, pale mucous membranes and weakness. Bleeding may be visible around the nose, mouth, eyes and anus and animals may pass bloody faeces. Swollen tender joints are common as a result of bleeding into the confined joint space.
- Discomfort and pain from haemorrhages in internal organs, muscles and joints typically lasts for several days before death. The time to death is around 10 to 14 days after the initial dose.
- To minimise the animal welfare implications of leaving dependant young to die a slow death from starvation it is preferable not to undertake baiting programs when rabbits are known to be breeding. This is also the time when young rabbits do not travel far from their burrows and bucks vigorously defend their territorial boundaries, making it less likely that all rabbits will

B1000642 • Australian pest animal control • ground baiting of rabbits with fipdone

have access to bait. In many areas of Australia there is a peak in breeding from late winter to early summer when pastures have greened up after rain.

Impact on non-target animals

- Poisoning of non-target species can occur either directly by eating the carrot, oat or pellet baits intended for rabbits (primary poisoning) or through the tissues from a dead or dying poisoned animal (secondary poisoning).
- Although information on the toxicity and non-target impacts of pindone is limited, it is thought to be moderately toxic to a range of species. Whilst rabbits are extremely susceptible, sheep, possums and horses are comparatively resistant. Cattle, goats, chickens, cats and dogs are less susceptible than rabbits, but still may be at risk if exposed to large doses or smaller doses on successive days. A number of native species are likely to be as sensitive as rabbits to the effects of pindone. Macropods, bandicoots and a range of granivorous birds are susceptible to primary poisoning. Secondary poisoning can occur in species which feed on poisoned rabbits and carcasses e.g. dasyurids and raptors.
- Rabbits dying from pindone poisoning can become lethargic and less aware of their surroundings. This can predispose these animals to predation which can in turn place predators at greater risk from secondary poisoning.
- Non-target species that accidentally receive a high enough dose of pindone will exhibit the same clinical signs as target rabbits i.e. physical weakness and lethargy, coughing and respiratory distress, pallor, anorexia, and ventral haematomas as well as internal haemorrhages.
- Because pindone is slow acting, if accidental poisoning of stock or companion animals occurs, vitamin K_1 (phytomenadione) can be administered by a veterinarian as an effective antidote. It is usual to treat an affected animal with vitamin K_1 for at least one week after an initial loading dose. If bleeding is severe, whole blood or plasma can be given to replace clotting factors and red blood cells.
- To minimise the potential for toxic baits to be lethal to non-target animals, the following baiting strategies are recommended:

  Pre-feeding with non-poisoned bait – allows an assessment of what animals are eating the bait.

  Bait type – use of surface coated rather than vacuum impregnated oat baits will reduce exposure of granivorous birds to the toxin. Most of these birds will only eat the kernel and discard the poisoned husk.

  Colouring of baits – baits that are dyed a green colour are unattractive or less obvious to birds.

  Use of bait stations – bait can be placed under mesh canopies where it is accessible to rabbits but restricts access by non-target species such as kangaroos and wallabies.

  Placement of baits – the laying of poisoned bait in a wide swathe (i.e. broadcast or scattered) instead of a concentrated trail, may decrease the consumption of poisoned bait by non-target species and thus their risk of poisoning. However, uneaten broadcast bait is difficult to cover or collect and destroy after a baiting program. Laying the bait as a concentrated trail in a narrow pre-cut furrow allows subsequent identification of the trail of pre-feed and poisoned bait, attraction of rabbits to the trail and ease of covering

Rabbit & hare - humane pest animal control - ground baiting of rabbits with Pindone

up any uneaten poison bait after the program. The bait should always be placed in the prime feeding areas of rabbits.

Timing of baiting – rabbits mostly feed at night, therefore bait laid in the evening will be mostly consumed overnight before diurnal non-target species such as birds will have access. However, nocturnal mammals will be at risk when bait is laid in the evening.

Collection of uneaten bait and rabbit carcasses – any uneaten bait and poisoned rabbit carcasses are collected and either destroyed by incineration or buried.

Health and Safety Considerations

- Operators using pindone must strictly follow the directions on the approved label when preparing for use, using, storing or disposing of the pesticide.
- Pindone is toxic to humans and should be handled with care. Exposure can occur from ingestion, inhalation of generated dust or skin contact/absorption. Toxic effects are produced after exposure to a high dose or repeated low doses over several days.
- Appropriate personal protective equipment including overalls, rubber boots, face mask or safety glasses, and elbow length PVC or rubber gloves must be worn when handling pindone and poisoned bait.
- If pindone gets on skin, immediately wash area with soap and water.
- After use and before eating drinking or smoking, wash hands, arms and face with soap and water.
- After use, wash contaminated clothing, boots and gloves.
- If poisoning occurs, go straight to a hospital or doctor or contact the Poisons Information Centre (Ph 131 126).
- Vitamin K_1 is an effective antidote and is readily available from hospitals and veterinary practices.
- For further information refer to the Material Safety Data Sheet (MSDS), available from the supplier.

PM0004 - human pest animal control - ground baiting of rabbits with Pindone

Equipment Required

Poisoned baits

- In most States, poisoned bait is prepared by the application of pindone concentrate to oats, chopped carrots or manufactured pellets in simple mixing equipment. This creates a surface coating of the poison. Other material such as coloured dyes, sugar and starch may also be added. In Western Australia, pindone is vacuum impregnated into oats, forcing the poison into the kernel.
- The final concentration of pindone will be either 0.25 g/kg (or 0.025% w/w) or 0.5 g/kg (or 0.05% w/w) depending on bait type.
- Carrot baits are readily accepted by rabbits but must be freshly prepared and tend to dry out quickly in hotter climates. In comparison, oats and pellets are less susceptible to drying, and are more readily available, cheaper and easier to store and distribute.

- There are five registered ready-to-use oat or carrot baits available 'over-the-counter' from retail merchants or from licensed contractors and government pest control agencies:
  - Rabbait® Pindone Oat Bait (Animal Control Technologies)
  - Oat Bait for Rabbits (Aldi)
  - Bunnybait Oat Bait for Rabbits (Aldi)
  - Pindone Carrots Rabbit Bait (DNRE, VIC)
  - Pindone Impregnated Oats (APB, WA)
- There are four registered pindone concentrates. These are restricted chemical products available only to authorised people who have appropriate training in their use:
  - Pin-25 Rabbit Bait Rodenticide (Rentokil)
  - Pindone-25 Rabbit Bait Rodenticide (Aldi)
  - Rabbait® Aqueous Pindone Concentrate (Animal Control Technologies)
  - Pindone 25 Liquid Concentrate (Aldi)

  Preparation of poisoned rabbit baits from pindone powder or liquid concentrate must only be performed by authorised officers or persons under their direct supervision. Specific instructions on bait preparation can be found on the approved labels and in various State guidelines e.g. vertebrate pesticide control manuals, Landcare Notes, Farmnotes etc.

Other Equipment:

- Hoe, disc or mattock for digging shallow furrow or specially designed baitlayer
- Carrot cutter (if required)
- Bait mixer e.g. cement mixer or mixing drum (if required)
- Leakproof containers for storing poison bait
- Personal protective equipment
- Towel, soap, dish or bucket
- First Aid kit
- Warning signs
- Marking tape

Procedures

Always read the product label for specific directions on use.

Assessment of site and estimation of rabbit numbers

- A careful on-site risk assessment should be undertaken before a baiting program is commenced. To reduce the risks of pindone exposure to humans and non-target animals and to maximise effect on rabbit populations, bait should NOT be laid in the following instances:
  - in the vicinity of macropod, bandicoot and native rodent refuge areas;
  - when rain is expected in the next 24 hours;
  - in urban areas on residential blocks less than 1000m^2 in size;

  - in areas that are accessible to livestock or domestic animals;
  - where streams, waterways or rivers may become contaminated;
  - where foodstuff or feed intended for human or animal consumption may become contaminated; or
  - where children may have access.
- Warrens, rabbit harbour and scratching and feeding areas should be located to ensure accurate placement of bait.
- The density of rabbits on the site should be estimated using spotlight counts and/or warren monitoring. The location and numbers of rabbits on neighbouring properties should also be approximated.
- Contact your local authority for more information and advice on site assessment and monitoring of rabbit numbers.

Notification and warning signs

- In most States formal notification of neighbours is not required (exception is NSW), but it is recommended that all adjoining neighbours be notified by telephone, personal contact or in writing of the commencement of a baiting program. In NSW, formal notification MUST be given at least 72 hours prior to laying baits.
- All stock should be removed from the baited area during a baiting program. Dogs should be muzzled or restrained and cats confined to prevent them from eating poisoned rabbit carcasses.
- Warning signs must be erected at all entry points to the property, entrances to the actual poisoning site and at property boundaries fronting a public thoroughfare. Each sign should include the date laid, which toxin has been used, and for which pest animal. They must remain up for a minimum of 4 weeks after baiting.
- More detailed information on notification and warning signs can be found in the relevant product labels, permits and State guidelines e.g. Vertebrate Pest Control manuals, Landcare notes, Farmnotes etc.

Laying of bait

- Most States use a *'pulse baiting technique'* where 2 to 3 free feeds of non-poisoned baits are laid at intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits laid 3 to 5 days apart. Although not essential, free feeding of non-poisoned baits allows estimation of amount of poisoned bait required and assessment of any non-target uptake. It also allows rabbits to become accustomed to eating the bait and for toxic bait to be eaten rapidly when applied.
- Western Australia uses a *'one-shot baiting technique'* where a trail of pindone impregnated oats, proportionally mixed with untreated oats, is laid at a specified rate. Bait is topped up as required using the minimum amount of bait possible. Separate free feeding is not offered.
- The placement of bait is critical. Trails of bait must be laid through feeding areas where rabbit activity is highest and preferably where the pasture is short or absent. It is recommended that two trails are laid. One at a minimum of 30 metres from where rabbits are living, and another 40 metres out from the first trail. Bait is distributed using either of the following methods:

Managing Australia's pest animals and weeds • Ground baiting of rabbits with fresh baits

- *Furrow baiting* – bait is placed in a furrow 10 cm wide and 2 cm deep that has been cut into the soil using a hoe, mattock, disc or specially designed baitlayer.
- *Broadcast or scatter baiting* – bait is scattered in a swathe around 5 metres wide, often using a vehicle-mounted or towed spreader. This method is used in areas where it is impossible to run a trail e.g. rocky terrain, near fallen timber, in crops, where erosion may be a problem. A strip of spring steel can be attached to the bait laying vehicle so that a scratch mark is left in the soil enabling the scatter bait trail to be found later.

- Baits should be laid in the evening as rabbits are active between dusk and dawn.
- Monitoring of numbers and amount of free-feed taken will help to estimate the quantity of poisoned bait required. Sufficient bait is required to allow all rabbits in an area to consume approximately 15–30 g of bait from each application. Adjust quantities so that no more than 20% of the bait remains on the following morning. As a general guide the following amounts are recommended for *'pulse baiting'*:

Density of rabbits	Low	Medium	High
Kg oat bait per km trail	3	6	9
Kg carrot bait per km trail	10	20	30

- The recommend rate of lay for *one-shot* baiting is: 17 kg/km for furrow trails and 20 kg/km for broadcast or scatter trails.
- Rabbit numbers will start to progressively decline about 10 days after the first application of poison bait.

Collection of uneaten baits and rabbit carcasses

- All bait that is uneaten 4 days after bait consumption ceases should be collected and destroyed either by incineration or burying at a depth of 500mm. Alternatively, trails of poisoned oat or pellet bait can be covered with sufficient soil to prevent non-targets from gaining access.
- Carcasses of poisoned rabbits should be collected for a minimum of 12 days after the last poison feed. They should be destroyed by incineration or buried at a minimum depth of 500 mm in a disposal pit.

Procedural Notes

- Bait containing pindone is likely to lose potency after laying in wet conditions, with bait prepared from the water soluble form (sodium salt) expected to do so more rapidly. It is therefore recommended to avoid laying bait if rain is predicted overnight.
- More detailed information on pindone use can be found on approved labels, from various State guidelines (e.g. vertebrate pest control manuals, Landcare Notes, Farmnotes etc.) and relevant Commonwealth, State and Territory legislation.

IM0004X - humane pest animal control - ground baiting of rabbits with Pindone

Attachment 4 Authorised Pindone mixing officers

ACT Parks and Conservation Service Authorised Control Officer training

Name	Current depot	NSW Vertebrate Pest Management Course	1080 training	Chemcert IV
Nicola Webb	Stromlo	✓	✓	✓
Sam Price	Stromlo	✓	✓	✓
Mick Clarke	Stromlo	✓	✓	✓
Murray Aston	TNR	✓	✓	✓
~~Brian Welch~~	"	✓	✓	✓
Nadia Kuzmanoski	Mitchell	✓	✓	✓
Grant Woodbridge	Mitchell	✓	✓	✓
Jason Meredith	Cotter	✓	✓	✓
Alex Wotzko	TNR	✓	✓	
Jenny Connolly	Stromlo	✓		✓
Nick Liosatos	Athllon	✓		✓
Dennis Gray	Athllon	✓		✓
Colin Schofield	Cotter	✓	✓	
John McRae	TNR	✓	✓	
Ollie Orgill	Namadgi	✓	✓	
Lara Woollcombe	Athllon	✓		✓
Mark Rudden	Namadgi	✓	Lapsed*	
Keith Smith	Namadgi	✓	Lapsed*	
Graham Blakesell	TNR	✓		
Stuart Jaffress	Mitchell	✓		
Dean Darcy	Googong	✓		
Mick Lecoeguen	Namadgi	✓		
Mitch Jankuloski	Googong?	✓		
David Dobrowzchzyk	TNR	✓		
Joel Patterson	Mitchell		✓	✓
Michael Rawnsley	Namadgi			✓
Lee Pointon	Namadgi			✓
Bob Burdick	Athllon			✓

* did not to wish to re-sit for 1080 course when lapsed
TO LER Athllon

High priority as only lack one course and could be used if rangers not available

C:\Documents and Settings\Stephen Hughes\Local Settings\Temporary Internet Files\ACOtraining [2].doc

1.1.2

n) Carcasses of pindone poisoned rabbits must be collected each day for a minimum of twelve (12) days after the last poison feed. This should entail a thorough search of all areas within 100 metres of each point where poison was laid. Carcasses must be buried at a minimum depth of 500 mm in a disposal pit. Since this work searching for carcasses may at times be conducted by Territory personnel it is not included in the 'per bait station' rate. Where the Supplier is required to undertake this work it will be paid at the hourly rate for on ground works quoted by the Supplier in the Pricing Schedule. If the Supplier does not have access to a disposal pit the carcasses must be delivered to the Territory Contract Officer for disposal in a Parks and Conservation Service pit.

1.2.2

r) Carcasses of 1080 poisoned rabbits must be collected each day until the day following the collection of all uneaten poisoned bait (this will usually require carcass pick up for two days following laying of poisoned bait). **Note** that this requirement is different from the carcass collection specification in the above mentioned SOP. This should entail a thorough search of all areas within 100 metres of each point where poison was laid. Carcasses must be buried at a minimum depth of 500 mm in a disposal pit. Since this work searching for carcasses may at times be conducted by Territory personnel it is not included in the 'per bait station' rate. Where the Supplier is required to undertake this work it will be paid at the hourly rate for on ground work quoted by the Supplier in the Pricing Schedule. If the Supplier does not have access to a disposal pit the carcasses must be delivered to the Territory Contract Officer for disposal in a Parks and Conservation Service pit.

12th March - second free feed.

Canberra South District – 2012-13

District Works Plan for rabbit control in Jerrabomberra Wetlands Nature Reserves.

AREA OF WORKS

Description: This work follows up on the rabbit control program of 2010, 2011 and 2012 at Jerrabomberra Wetlands and will concentrate on the areas within the reserve where rabbits were found in previous years (see attached map). A new transect will be undertaken this year and depending on results baiting may be done in this area.

DESCRIPTION OF WORKS

Rabbits in these areas will be controlled by poisoning with Pindone and 1080

Reason: Rabbits are classified as a pest animal by the *Pest Plants and Animals Act 2005.* Transect counts and field observations by ACTPCS staff show that there is a thriving rabbit population in this nature reserve.

Relevant legislation / strategies / plans: *Nature Conservation Act 1980, Pest Plants and Animals Act 2005*,CNP PoM 1999; JWL PoM 2010; ACT PCS Vertebrate Pest Management Operations Plan 2010-11.

BUDGET

From NRM Vertebrate Pest program for JWL

Coding: Invoices for JWL to be sent to Chris Condon.

TIMING

April to May2013

RESPONSIBILITIES

Planning and Supervision: South District with assistance from the Vertebrate Pests Coordinator

On ground works: Primarily contractors with some assistance from Jerrabomberra Wetlands ranger especially with carcass removal, monitoring of non-target use of bait stations and the decision to close bait stations that are being visited frequently by non-target species.

CONSULTATION

Vertebrate Pests Coordinator
District Manager
JWL IBM

APPROVALS / LICENSES

Covered by existing Environmental Authorisation from the EPA
Conservation, Planning and Research (CPR) were consulted about last year's program and that feedback will be incorporated into the current program. CPR were also consulted in the postponement of this years program from February to April.

Communication Strategy

Public notice to be put in the Canberra Times.
Canberra Ornithologists Group to be notified of works.
Note to be put on the CanberraBirds chatline notifying commencement of works.
Jerry Olsen (University of Canberra) to be notified of commencement of works.
Any response required to correspondence on the program to be co-ordinated through the District Manager.

PROCUREMENT

Current panel contracts for Rabbit Control Services including subsequent quotations for poisoning with Pindone and 1080 in bait stations. Quote attached.

SCOPE OF WORKS

1. Undertake spotlight assessment of rabbit distribution in JWL
2. Undertake Pindone and 1080 poisoning in bait stations in Jerrabomberra Wetlands concentrating on those areas where baiting was done in previous years (see attached map). This poisoning must be in accordance with the provisions of the NSW DPI SOP *RAB004 Ground Baiting of Rabbits with Pindone andRAB002 Ground Baiting of rabbits with 1080*(attached) and the contractor's Service Agreement with ACTPCS (link provided below). **Particular attention must be paid to the collection of carcasses to avoid non-target poisoning of birds of prey**
3. District staff to undertake diffusion fumigation with phosphine gas of any burrows at Jerrabomberra Wetlands which show signs of activity after the poisoning program. A couple of warrens in the cattle grazing area will be fumigated by the contractor or Parks staff. Fumigation must be in accordance with the provisions of the NSW DPI SOP *RAB005 Diffusion Fumigation of Rabbit Warrens* (attached). Note – no fumigation to be undertaken on the City Services block due to the potential to disturb asbestos.
4. Undertake follow up rabbit counts along established transects in all reserves

CONTRACTORS

Hunter Land Management Pty Ltd will be undertaking the work.
258, Cessnock Rd, Gillieston heights NSW 2321
Contact is Daniel Lewer

DISTRICT TASKING AND TIME LINES

Task and allocation	Jan	April	May

MM to contact contractor, Jerry Olsen, COG, Board of Management, CPR, Vertebrate Pest Officer	X	X	
MM to co-ordinate pre -spotlight transects	X		
Contractor to undertake baiting		X	
MM to assist contractor with removal of carcasses		X	
MM to organise and supervise the follow up spotlight counts along established transects with 2 nights of counting in similar weather and moon conditions, preferably consecutively (see attached maps)		X	X
MM to liaise with JWL IBM	X		

Cost

Pindone poisoning at JWL costs $195.65 per PINDONE bait station (includes 2 free feeds and 3 poisoned feeds) and $131.65 per 1080 bait station (includes 2 free feeds and 1 poison feed). It is estimated that 60 stations will be required.
Contractor hourly labour rate is

OH&S

PPE: Contractor is responsible for appropriate PPE. ACTPCS Staff should wear gloves if they are picking up rabbit carcasses
Communication: There is good mobile phone coverage at Jerrabomberra Wetlands.
Access: JWL Dairy Road on the eastern side and Newcastle Street on the western side

Medical assistance: if Ambulance is required ring 000 or 112.
Ambulance Access: See Access above

Risk Management

General; Contractors must observe the controls set out in *General site controls for contractors working on the Parks, Conservation and Lands estate* (attached)
Task and Site specific risks

Risk	Mitigation
Wet weather	Works must not be undertaken during rain. After heavy rain work should only be undertaken if access is possible by ATV or on foot. Pindone poisoning should be delayed if wet weather is forecast. If there is more than 5 days between poison feeds the poisoning schedule must be re-started from the beginning
High FDI	Works must cease once the FFDI is greater than 30
Introduction of weeds by machinery	All contractor machinery must be washed down prior to entering nature reserves
Oil / fuel spill	All contractor machinery to carry spill kits. No refuelling on site
Wandering stock	All gates to be kept closed at JWL. Grazier to be notified of program.
Few rabbits seen on spotlight counts	Many rabbits will be hidden by the tall dense grass resulting from the wet weather. The spotlight counts will proceed but the low numbers that may be recorded will not be used as a justification for stopping control efforts
Rabbits do not take free feeds	This is possible weather conditions are favourable to grass growth. An extra free feed of carrots should be put out. If the rabbits are still not taking the carrots then Pindone poisoning should not be attempted
Secondary poisoning of possums with 1080	There is a risk that bt possums will take the 1080 carrot bait. Bt possums will die if they take the bait. To reduce this risk bait station will be put out in the open and not within the trees around the birdhides. Sensor cameras will also be place on bait stations to monitor their use. If a particular bait station

	is being frequented by a possum this station will not be poison baited but will continue to receive free feed to keep possums from searching out other feed stations. ACT Parks staff will maintain apple feed stations within vicinity of the bird hides and install sensor cameras. 1080 has low risk as secondary poisoning to raptors. But to reduce risk of poison carcasses being taken, contractors and ACT Parks staff will search and collect for carcasses the morning after the bait has been laid. Collection will commence at first light.
Secondary poisoning of non-target species, notably Little Eagles, with Pindone	As bait stations are being used the main risk is to wildlife feeding on rabbit carcasses, The area 30 metres around each station will be searched for carcasses daily either by the contractor or ACTPCS staff until 2 weeks after the last poison feed. Carcasses found by ACTPCS staff will be double bagged and disposed of in the Glendale pit. There is a chance that some carcasses will not be found because they are hidden by the long grass. However this will also be true for scavengers locating food by sight. One or two fresh roo carcasses from the urban wildlife program, if available, will be placed at JWL (away from walking/cycle tracks) to attract scavenging birds of prey away from rabbit carcasses . Sensor cameras will be deployed on bait stations to monitor for possible use by animals other than rabbits. (see also discussion point on the first page of this document)
Public health	For both Pindone and 1080 poisoning and diffusion fumigation work signs will be placed at the entrances to the reserves. For Pindone and 1080 poisoning each cage will have a sign.
Disturbance of asbestos fragments by Pindone baiting adjacent to JWL	The City Services block adjacent to the JWL, which is included in the program, has scattered fragments of asbestos sheeting. The contractor will be briefed before commencing. The work does not require any ground disturbance.

Plan produced and updated by: Michael Maconachie 9th January 2013, reviewed 22nd March 2013 and 8th April 2013.

Works Plan approved by District Manager

---------- Date 16/4/13

Stuart Jeffress

Works Plan read and agreed to by Contractor

---------- Date 10/4/13

Hunter Land Management

ATTACHMENTS

.1 Maps showing existing warrens, transects, location of threatened plant and fauna species and heritage sites are attached. Additional copies can be got from the following links:

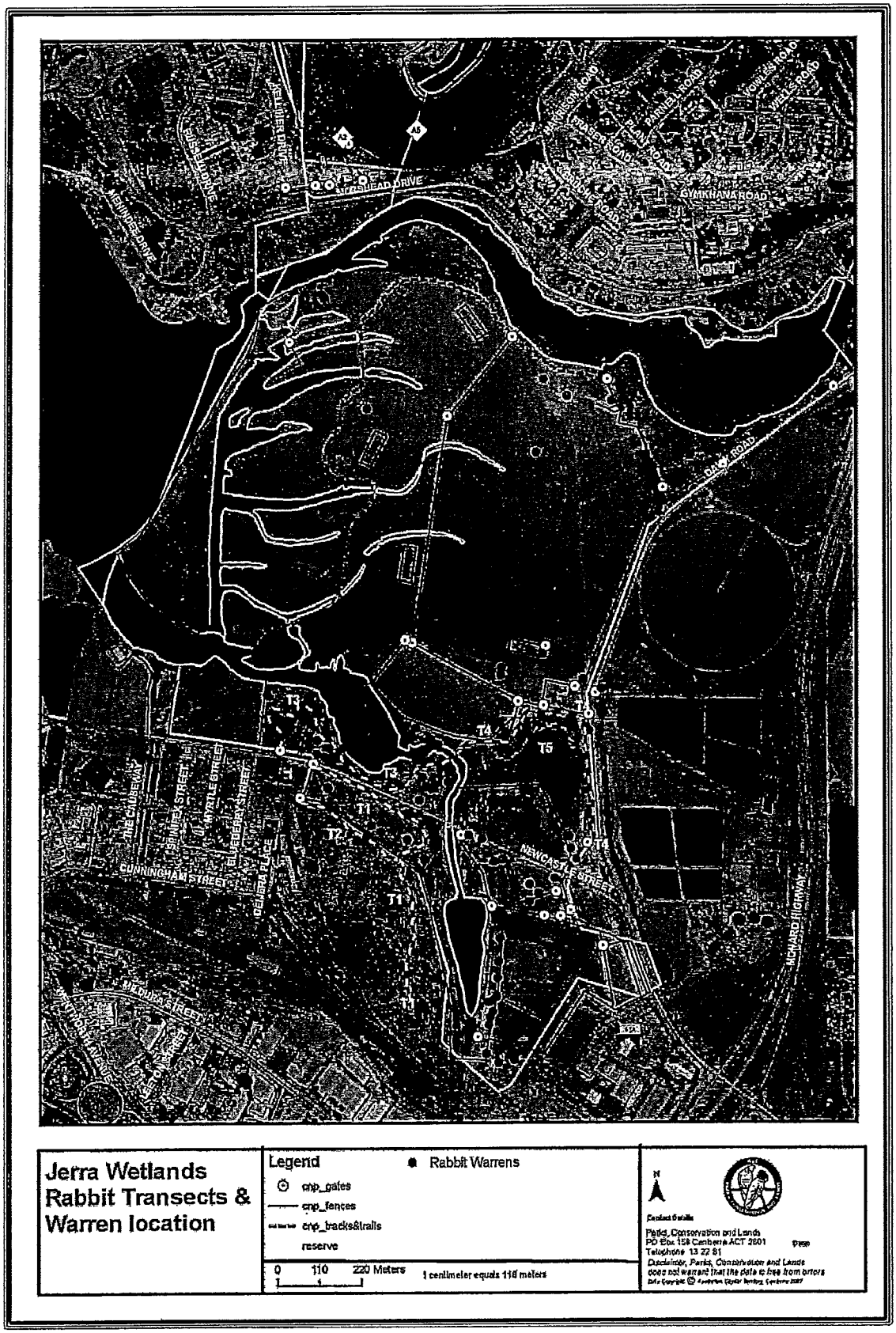
2. NSW DPI SOP *RAB005 Diffusion Fumigation of Rabbit*

NSW DPI SOP *RAB004 Ground Baiting of Rabbits with Pindone*
NSW DPI SOP RAB002 Ground Baiting of Rabbits with 1080

3 *General site controls for contractors working on the Parks, Conservation and Lands estate*

4. Authorised Pindone poison mixers

Attachment 1 Maps




T1
T2
T3
T4
T5
BILLEBERRY STREET
YARRAN PLACE
GEUMEA PLACE
NEWCASTLE STREET
DAIRY ROAD
ARLOWRA STREET
Jerra Wetlands
Transects Detail
Legend
Rabbit Warrens
cnp_gates
cnp_fences
cnp_tracks&trails
reserve
0 50 100 Meters
1 centimeter equals 55 meters
N
Parks, Conservation and Lands
PO Box 158 Canberra ACT 2601
Telephone 13 22 81
Disclaimer, Parks, Conservation and Lands does not warrant that the data is free from errors

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Attachment 2 NSW DPI SOPS

STANDARD OPERATING PROCEDURE

RAB005 diffusion fumigation of rabbit warrens

Prepared by Trudy Sharp & Glen Saunders, NSW Department of Primary Industries

Background

Fumigation of rabbit warrens is used to minimise the impact of the introduced European rabbit (*Oryctolagus cuniculus*) on agricultural production and the environment. Other rabbit control methods include poisoning, warren and harbour destruction, shooting, trapping, exclusion fencing and biological control with rabbit haemorrhagic disease (RHD) and myxomatosis.

Fumigation involves the introduction of toxic fumes into a warren where it is inhaled by rabbits leading to their death. There are two types of fumigation: pressure fumigation, in which the fumigant gases or vapours are generated outside the warren and forced into the warren under pressure, usually from a pump and; diffusion fumigation, where tablets are placed in active burrows and the gas generated is allowed to diffuse through the warren. Pressure fumigation is not currently used routinely and is therefore not addressed in these standard operating procedures (SOPs).

Diffusion fumigation is most commonly carried out using phosphine gas. Warrens are treated with aluminium phosphide tablets which liberate phosphine gas on exposure to atmospheric or soil moisture. Phosphine is a systemic poison which depresses the central nervous system and respiratory function. It is highly toxic to humans; therefore operators performing warren fumigation must take adequate precautions to safeguard against accidental exposure.

This SOP is a guide only; it does not replace or override the legislation that applies in the relevant State or Territory jurisdiction. The SOP should only be used subject to the applicable legal requirements (including OH&S) operating in the relevant jurisdiction.

Application

- Fumigation should only be used in a strategic manner as part of a co-ordinated program designed to achieve sustained effective control. Reducing and maintaining low rabbit numbers by a combination of control methods over time is more effective than repeated (seasonal) use of a single method.
- Fumigation is labour intensive and costly. It is best used as a follow-up technique to warren ripping and poisoning i.e. when rabbit density is low but may also be effective in the following situations:

  - where ripping cannot be done due to inaccessible location (e.g. near rocky outcrops, along fences or riverbanks, around trees) or when there is a risk of soil erosion or damage to conservation areas;
  - as an alternative to poisons in situations where 1080 and pindone cannot be used e.g. when the risk of non-target poisoning is unacceptably high, distance restrictions cannot be adhered to etc.; and
  - when treating small areas or isolated rabbit populations.
- Fumigation can only be used for warren dwelling rabbits. It is not effective against surface dwelling rabbits.
- Fumigation can be carried out at any time of year but it has the greatest long-term effect if done shortly before the commencement of the rabbit breeding season.
- Fumigation with aluminum phosphide is most effective in non-porous soils through which the gas will not diffuse e.g. compacted heavy or wet soils rather than dry sand or cracked clay.
- As phosphine gas is released from the tablets when wet, do not fumigate in weather conditions where the tablets cannot be protected from wetting prior to placement in the warren. Avoid fumigating in small sheltered gullies where the operator may be exposed to the toxic fumes. It is best to fumigate on windy days so that fumes are dispersed rather than building up in the air around the warren.
- Trained dogs can be used to drive rabbits underground prior to warren fumigation. However, it is unacceptable, and in some jurisdictions illegal, to set a dog onto a rabbit with the intention of catching or killing.
- Aluminium phosphide is listed as a Schedule 7 substance, a restricted chemical product which requires special precautions in manufacture, handling, storage and use, along with individual regulations regarding labelling or availability. In some States, fumigants can only be obtained by persons with appropriate training in their use (e.g. in Victoria an Agricultural Chemical User's Permit is required) or used by competent operators working in accordance with the relevant State and Territory legislation (see Appendix).
- Fumigants must be used according to instructions on approved labels and guidelines issued by relevant State authorities for vertebrate pest control.
- Phosphine is currently the preferred toxin for diffusion fumigation until more humane methods are developed. Chloropicrin (trichloronitromethane) is considered to be highly inhumane and its use is not recommended. It causes intense irritation of the respiratory tract and profuse watering of the eyes for a considerable period before death. Exhaust from idling internal combustion engines is also not acceptable as adequate CO concentrations cannot be achieved (particularly with modern car engines) and exhaust contaminants such as hydrocarbons, ozone, nitrogen dioxide and nitric oxides cause severe irritation before death. Also, the exhaust gases produced may be unacceptably hot.

RUBRIC 2 - Humane pest animal control - diffusion fumigation of rabbit warrens

Animal Welfare Considerations

Impact on target animals

- The toxicity of phosphine is due to inhibition of cytochrome oxidase – an enzyme essential for the use of oxygen for energy production. Inhalation of the gas causes a reduction in the activity of the central nervous system and breathing activity. The precise nature and extent of suffering of rabbits after inhalation of phosphine is unknown. Symptoms of phosphine toxicity in humans often include nausea, abdominal pain, headache and convulsions followed by coma. It is not known whether other mammals experience similar symptoms.
- Time to death can be highly variable depending on the concentration of gas in the burrow. For example, at concentrations of 400 ppm phosphine can kill rabbits in 30 minutes whereas at 25 ppm death will take 4 hours. The time taken to reach high concentrations throughout the warren largely depends on the amount of moisture in the soil and air, or on the tablets. In low humidity, complete release of phosphine gas from the tablets may take hours or even days. Higher humidity will cause a rapid rate of diffusion and therefore result in higher concentrations of gas so that the rabbit will be exposed to a lethal dose in a shorter time and will have less chance to dig out of the burrow.
- Failure to reach lethal levels of phosphine in some parts of the warren because of inadequate diffusion will result in ineffective killing but will not necessarily cause long-term suffering. Studies in other species (i.e. cats, guinea pigs and brown rats) have produced no evidence to suggest that exposure to sub-lethal levels of phosphine gas causes sub-acute or chronic poisoning. Therefore, rabbits that escape from fumigated warrens or those that are exposed to sub-lethal concentrations in deeper parts of the warren may only experience transient illness, not permanent debilitation.
- Fumigation is considered to be less humane than poisoning with 1080. Therefore, it is desirable to fumigate only after a poisoning program when the density of rabbits is low. This minimises the number of rabbits that need to be killed by a less humane technique.

Impact on non-target animals

- Fumigation of rabbit warrens is one of the most target-specific means of rabbit destruction and will have little impact on non-target species if used correctly.
- Fumigation must only be used in active, occupied warrens. If a warren appears to be empty or possibly occupied by a non-target species (e.g. wombats, dingoes, lizards, snakes), fumigation must not be performed.
- There appears to be no significant risk of secondary poisoning if carcasses of gassed animals are consumed by non-target predatory or scavenger species.
- If using dogs to work an area prior to warren fumigation, the following should be observed:
  - Dog handlers must be experienced and the dogs well trained i.e. they must be easily controlled by a whistle or call, obey the handlers' commands and will not chase or attack non-target animals including livestock. Dogs that are deliberately bred or trained to attack without provocation must not be used. Suitable breeds would include terriers, labradors and others that are keen to chase but unlikely to catch a rabbit.

RA0005-4 • humane pest animal control • diffusion fumigation of rabbit warrens

- Handlers must not encourage dogs to attack and kill rabbits. Rabbits trapped in hollow logs etc. (where they are visible but the dogs can't access them), should be shot (refer to RAB009 *Ground shooting of rabbits*).
- Rabbits inadvertently caught by dogs should be killed by a shot to the brain or by neck (cervical) dislocation. Rabbits should never be left to die a slow death after being maimed.
- To ensure that dogs are not exposed to phosphine gas or allowed access to treated warrens, handlers must ensure that dogs are well restrained during and after fumigation.
- For more details refer to GEN002 *The care and management of dogs used in the control of pest animals.*

Health and Safety Considerations

- Operators must strictly follow the directions on the approved label when using and storing aluminium phosphide tablets. They must not be used for any other purpose than the destruction of rabbits in active warrens.
- Fumigation must always be carried out by two trained persons and must not be carried out in wet conditions when it is likely that the tablets will become wet before insertion in the burrows.
- Phosphine is highly toxic to humans and can kill if the tablets are swallowed or the liberated gas is inhaled. Avoid contacting the skin with aluminium phosphide or breathing phosphine gas.
- If poisoning occurs go straight to a hospital or doctor WITHOUT DELAY and contact the Poisons Information Centre (Ph 131 126).
- Symptoms of overexposure to phosphine gas include headache, dizziness, nausea, and difficulty breathing. Severe exposure may damage liver, kidneys, lungs, and nervous and circulatory systems, and may cause death. If a person is exposed to phosphine gas, get them to fresh air immediately. If they are experiencing breathing difficulties give oxygen. If they have ceased breathing, apply artificial respiration using a one-way mask, air-viva or oxy-viva. Do not give direct mouth-to-mouth resuscitation if aluminium phosphide tablets have been swallowed.
- Appropriate personal protective equipment should be worn when using fumigant. This includes:
  - overalls;
  - eye protection (e.g. chemical goggles or safety glasses);
  - elbow length PVC or rubber gloves; and
  - full-face respirator with combined dust and gas cartridge (canister) or breathing apparatus with air supply.
- If aluminium phosphide gets on skin, immediately wash area with soap and water.
- After use and before eating drinking or smoking, wash hands, arms and face with soap and water.
- After use, wash contaminated clothing and gloves.
- For further information refer to the Material Safety Data Sheet (MSDS), available from the supplier.

RAB004-4 - Humane pest animal control - dilution fumigation of rabbit warrens

Equipment Required

Fumigation tablets

Fumigants must be stored in the closed original container in a cool, dry, well ventilated, locked area out of the reach of children and unauthorised persons and away from buildings inhabited by humans, pets or livestock. Keep away from water and liquids which may cause immediate release of phosphine gas.

- Fumigation tablets contain 560 to 570 g/kg of aluminium phosphide which produces 330 g/kg phosphine gas. Each 3 gram tablet releases 1 gram of phosphine gas when exposed to moisture in the air or soil. The evolution of gas can be increased by adding extra water when the tablets are placed in the burrow.
- Phosphine gas is slightly heavier than air, colourless, and smells slightly of garlic.
- Phosphine generating fumigation tablets are produced under several brand names (e.g. Gastion®, Pester® etc.) and are available from rural merchandise suppliers.

Other Equipment:

- Personal protective equipment
- Towel, soap, dish or bucket
- First Aid kit
- Warning signs
- Newspaper or paper towel
- Water for moistening paper
- A long handled device (at least 1 metre long) for placing fumigant down the warren
- Shovel or mattock for digging back and sealing burrows

Procedures

Assessment of site and estimation of rabbit numbers

- To maximise effect on rabbit populations, a careful on-site risk assessment to confirm the need for fumigation and assess the suitability of the area should be undertaken before fumigation is commenced.
- Fumigation must only be applied to active, occupied rabbit warrens to be effective and safe. Evidence of active warrens may include fresh rabbit droppings, tracks, mounds, or diggings.
- If it is suspected that native wildlife are using the warren, their presence can be determined by using sand pads – a 1 m² area of raked earth or sand outside of the warren entrance – to detect and identify footprints.
- The density of rabbits on the site should be estimated using spotlight counts and warren monitoring. The location and numbers of rabbits on neighbouring properties should also be approximated.
- Contact your vertebrate pest control local authority for more information and advice on site assessment and monitoring of rabbit numbers.

RA0005-5 • Humane pest animal control • Aluminium fumigation of rabbit warrens

Fumigation procedure

Always read the product label for specific directions on use.

Do not carry fumigants inside an enclosed vehicle, especially after the seals on the containers have been broken.

- Fumigate when the weather is hot to ensure most rabbits are underground and the survival of rabbits above ground is low. Rabbits can be driven underground before fumigation by making loud noises or using dogs to work the area, chasing the rabbits into the warrens.
- Dig back the opening of the burrow so there is a 30 cm lip between the surface and the burrow. This exposes any branching tunnels and provides a solid shelf against which to back-fill soil.
- Place two aluminium phosphide tablets at least 60 cm into the burrow. Wrap the tablets in damp newspaper or paper towel to start the release of gas. To facilitate the easy placement of the tablet into the hole, a length of wire or piece of polythene pipe containing a push-rod can be used.
- The hole should then be filled, digging back the sides of the entrance and tamping down the soil. The ground should end up relatively flat to discourage opening up from the outside.
- The entire procedure, with two tablets and backfilling, should be repeated for each hole. Always work toward the windward side of the warren.
- It is essential that all entrances to the warren are sealed. Check under nearby scrub and fallen timber for any missed burrows.
- Complete decomposition of the tablets may take up to 72 hours if the humidity in the warren is low.
- Check for re-openings around one week after fumigating and treat again as necessary.

Assessing effectiveness

- The effectiveness of a fumigation operation should be monitored by recording the number of burrow entrances treated and then recording the number of re-opened entrances that need re-treated at subsequent visits. A follow-up visit and re-treatment should not be performed until at least 48 hours after the previous treatment. Repeat the procedure until no new burrows are found.

Procedural Notes

More detailed information on diffusion fumigation using phosphine can be found on approved labels, from various State guidelines (e.g. vertebrate pest control manuals, Landcare Notes, Farmnotes etc.) and relevant Commonwealth, State and Territory legislation.

BMP006 – Rabbit warren ripping and control – diffusion fumigation of rabbit warrens

Appendix

Relevant Commonwealth, State and Territory Legislation for the Use of Fumigants

- **Commonwealth**
  Environment Protection and Biodiversity Conservation Act 1999
  Information available from the Department of Environment and Heritage website: http://www.deh.gov.au/epbc
- **Australian Capital Territory**
  Environment Protection Act 1997
- **New South Wales**
  Pesticides Act 1999
- **Northern Territory**
  Poison and Dangerous Drugs Act 1999
  Territory Parks and Wildlife Conservation Act 1998
- **Queensland**
  Health (Drugs and Poisons) Regulations 1996
- **South Australia**
  Controlled Substances Act 1984
  Controlled Substances (Poison) Regulations 1996
- **Tasmania**
  Poisons Act 1971
  Agricultural and Veterinary Chemicals (Control of Use) Act 1995
- **Victoria**
  Agricultural and Veterinary Chemical (Control of Use) Act 1992
- **Western Australia**
  Poisons Act 1964
  Poisons Regulations 1965

RA0005-9 • humane pest animal control • diffusion fumigation of rabbit warrens

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NSW DEPARTMENT OF PRIMARY INDUSTRIES

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STANDARD OPERATING PROCEDURE

RAB004 ground baiting of rabbits with Pindone

Prepared by Trudy Sharp & Glen Saunders, NSW Department of Primary Industries

Background

Poisoning with pindone is used to minimise the impact of the introduced European rabbit (*Oryctolagus cuniculus*) on agricultural production and the environment. Other rabbit control methods include poisoning with 1080, warren destruction, warren fumigation, surface harbour removal, shooting, trapping, exclusion fencing and biological control with rabbit haemorrhagic disease virus (RHDV) and myxomatosis.

Poisoning with pindone is used to reduce rabbit populations in areas where it is impractical or unsuitable to use 1080 e.g. urban/residential and semi-rural areas.

Pindone is a first-generation anticoagulant that acts by blocking the synthesis of vitamin K-dependant clotting factors, which causes fatal haemorrhages in susceptible animals. Poisoning with pindone can occur with a large single dose, but it is more effective when given as a series of smaller doses over a period of 4 to 12 days.

Rabbits are amongst the most susceptible species to the effects of pindone; however other animals especially birds, cats, native rodents and macropods may be vulnerable to poisoning. Good baiting technique helps to minimise the risk to non-target species and maximise the effect on targeted rabbit populations.

This standard operating procedure (SOP) is a guide only; it does not replace or override the legislation that applies in the relevant State or Territory jurisdiction. The SOP should only be used subject to the applicable legal requirements (including OH&S) operating in the relevant jurisdiction.

Application

- Baiting with pindone should only be used in a strategic manner as part of a co-ordinated program designed to achieve sustained effective control.
- Pindone is mostly used for rabbit control where 1080 (sodium monofluoroacetate) cannot be used because of the risk of poisoning to humans or domestic animals e.g. urban/residential and semi-rural areas.
- Before commencing a baiting program, an assessment of likely non-target exposure should be performed, preferably by authorised personnel with knowledge of local native fauna. If there is a significant risk of poisoning non-target animals, bait should not be laid or measures must be taken to reduce the risk. Such measures could include:

  - use of bait stations or enclosures to restrict access to non-target animals;
  - fencing to exclude larger species such as macropods; and
  - avoidance of baiting near areas of native vegetation that is likely to harbor smaller non-target animals such as bandicoots.
- Although poisoning programs can be carried out year-round, baiting is most effective when alternative food for rabbits is scarce e.g. at the end of summer or early autumn. Baiting is less effective during the breeding season when rabbit movements are limited.
- Baiting of rabbits with pindone must be carried out in accordance with relevant State, Territory and Commonwealth legislation (*see Appendix*). The pindone user may need to make a referral under the EPBC Act.
- Pindone must be used according to instructions on approved labels and guidelines issued by relevant State authorities for vertebrate pest control.
- There are two types of registered pindone products; ready-to-use baits and concentrates used to prepare baits:
  - Ready-to-use oat or carrot baits are available 'over-the-counter' from retail merchants or from licensed contractors and government pest control agencies.
  - Liquid (sodium salt) or powder (free acid) pindone concentrates are restricted chemical products available only to authorised people who have appropriate training in their use. Pindone acid has low water solubility while the sodium salt is soluble in water.

Animal Welfare Considerations

Impact on target animals

- Pindone interferes with the routine synthesis of vitamin K-dependent blood clotting factors in the liver. Without these factors, the normal daily damage to blood vessels can no longer be repaired. Poisoned animals usually die from multiple causes associated with anaemia or hypovolemic shock. A large single dose (18 mg/kg for rabbits) or repeated smaller doses (0.52 mg/kg/day over 7 days) are generally needed to induce death.
- After ingestion of anticoagulants, there is usually a lag period of 3–5 days before the onset of clinical signs. This delayed onset reflects the time required to deplete existing stores of vitamin K and blood clotting factors. Initial signs of poisoning are depression/lethargy and anorexia followed by manifestations of haemorrhage including anaemia, laboured breathing, pale mucous membranes and weakness. Bleeding may be visible around the nose, mouth, eyes and anus and animals may pass bloody faeces. Swollen tender joints are common as a result of bleeding into the confined joint space.
- Discomfort and pain from haemorrhages in internal organs, muscles and joints typically lasts for several days before death. The time to death is around 10 to 14 days after the initial dose.
- To minimise the animal welfare implications of leaving dependant young to die a slow death from starvation it is preferable not to undertake baiting programs when rabbits are known to be breeding. This is also the time when young rabbits do not travel far from their burrows and bucks vigorously defend their territorial boundaries, making it less likely that all rabbits will

RAB0042 - humane pest animal control - ground baiting of rabbits with Pindone

have access to bait. In many areas of Australia there is a peak in breeding from late winter to early summer when pastures have greened up after rain.

Impact on non-target animals

- Poisoning of non-target species can occur either directly by eating the carrot, oat or pellet baits intended for rabbits (primary poisoning) or through the tissues from a dead or dying poisoned animal (secondary poisoning).
- Although information on the toxicity and non-target impacts of pindone is limited, it is thought to be moderately toxic to a range of species. Whilst rabbits are extremely susceptible, sheep, possums and horses are comparatively resistant. Cattle, goats, chickens, cats and dogs are less susceptible than rabbits, but still may be at risk if exposed to large doses or smaller doses on successive days. A number of native species are likely to be as sensitive as rabbits to the effects of pindone. Macropods, bandicoots and a range of granivorous birds are susceptible to primary poisoning. Secondary poisoning can occur in species which feed on poisoned rabbits and carcasses e.g. dasyurids and raptors.
- Rabbits dying from pindone poisoning can become lethargic and less aware of their surroundings. This can predispose these animals to predation which can in turn place predators at greater risk from secondary poisoning.
- Non-target species that accidentally receive a high enough dose of pindone will exhibit the same clinical signs as target rabbits i.e. physical weakness and lethargy, coughing and respiratory distress, pallor, anorexia, and ventral haematomas as well as internal haemorrhages.
- Because pindone is slow acting, if accidental poisoning of stock or companion animals occurs, vitamin K_1 (phytomenadione) can be administered by a veterinarian as an effective antidote. It is usual to treat an affected animal with vitamin K_1 for at least one week after an initial loading dose. If bleeding is severe, whole blood or plasma can be given to replace clotting factors and red blood cells.
- To minimise the potential for toxic baits to be lethal to non-target animals, the following baiting strategies are recommended:

  Pre-feeding with non-poisoned bait – allows an assessment of what animals are eating the bait.

  Bait type – use of surface coated rather than vacuum impregnated oat baits will reduce exposure of granivorous birds to the toxin. Most of these birds will only eat the kernel and discard the poisoned husk.

  Colouring of baits – baits that are dyed a green colour are unattractive or less obvious to birds.

  Use of bait stations – bait can be placed under mesh canopies where it is accessible to rabbits but restricts access by non-target species such as kangaroos and wallabies.

  Placement of baits – the laying of poisoned bait in a wide swathe (i.e. broadcast or scattered) instead of a concentrated trail, may decrease the consumption of poisoned bait by non-target species and thus their risk of poisoning. However, uneaten broadcast bait is difficult to cover or collect and destroy after a baiting program. Laying the bait as a concentrated trail in a narrow pre-cut furrow allows subsequent identification of the trail of pre-feed and poisoned bait, attraction of rabbits to the trail and ease of covering

RR10043 • humane pestanimal control • ground baiting of rabbits with fipdone

up any uneaten poison bait after the program. The bait should always be placed in the prime feeding areas of rabbits.

Timing of baiting – rabbits mostly feed at night, therefore bait laid in the evening will be mostly consumed overnight before diurnal non-target species such as birds will have access. However, nocturnal mammals will be at risk when bait is laid in the evening.

Collection of uneaten bait and rabbit carcasses – any uneaten bait and poisoned rabbit carcasses are collected and either destroyed by incineration or buried.

Health and Safety Considerations

- Operators using pindone must strictly follow the directions on the approved label when preparing for use, using, storing or disposing of the pesticide.
- Pindone is toxic to humans and should be handled with care. Exposure can occur from ingestion, inhalation of generated dust or skin contact/absorption. Toxic effects are produced after exposure to a high dose or repeated low doses over several days.
- Appropriate personal protective equipment including overalls, rubber boots, face mask or safety glasses, and elbow length PVC or rubber gloves must be worn when handling pindone and poisoned bait.
- If pindone gets on skin, immediately wash area with soap and water.
- After use and before eating drinking or smoking, wash hands, arms and face with soap and water.
- After use, wash contaminated clothing, boots and gloves.
- If poisoning occurs, go straight to a hospital or doctor or contact the Poisons Information Centre (Ph 131 126).
- Vitamin K_1 is an effective antidote and is readily available from hospitals and veterinary practices.
- For further information refer to the Material Safety Data Sheet (MSDS), available from the supplier.

Equipment Required

Poisoned baits

- In most States, poisoned bait is prepared by the application of pindone concentrate to oats, chopped carrots or manufactured pellets in simple mixing equipment. This creates a surface coating of the poison. Other material such as coloured dyes, sugar and starch may also be added. In Western Australia, pindone is vacuum impregnated into oats, forcing the poison into the kernel.
- The final concentration of pindone will be either 0.25 g/kg (or 0.025% w/w) or 0.5 g/kg (or 0.05% w/w) depending on bait type.
- Carrot baits are readily accepted by rabbits but must be freshly prepared and tend to dry out quickly in hotter climates. In comparison, oats and pellets are less susceptible to drying, and are more readily available, cheaper and easier to store and distribute.

PA3004-4 - Humane pest animal control - ground baiting of rabbits with fipronil

- There are five registered ready-to-use oat or carrot baits available 'over-the-counter' from retail merchants or from licensed contractors and government pest control agencies:
  - Rabbait® Pindone Oat Bait (Animal Control Technologies)
  - Oat Bait for Rabbits (Aldi)
  - Bunnybait Oat Bait for Rabbits (Aldi)
  - Pindone Carrots Rabbit Bait (DNRE, VIC)
  - Pindone Impregnated Oats (APB, WA)
- There are four registered pindone concentrates. These are restricted chemical products available only to authorised people who have appropriate training in their use:
  - Pin-25 Rabbit Bait Rodenticide (Rentokil)
  - Pindone-25 Rabbit Bait Rodenticide (Aldi)
  - Rabbait® Aqueous Pindone Concentrate (Animal Control Technologies)
  - Pindone 25 Liquid Concentrate (Aldi)

  Preparation of poisoned rabbit baits from pindone powder or liquid concentrate must only be performed by authorised officers or persons under their direct supervision. Specific instructions on bait preparation can be found on the approved labels and in various State guidelines e.g. vertebrate pesticide control manuals, Landcare Notes, Farmnotes etc.

Other Equipment:

- Hoe, disc or mattock for digging shallow furrow or specially designed baitlayer
- Carrot cutter (if required)
- Bait mixer e.g. cement mixer or mixing drum (if required)
- Leakproof containers for storing poison bait
- Personal protective equipment
- Towel, soap, dish or bucket
- First Aid kit
- Warning signs
- Marking tape

Procedures

Always read the product label for specific directions on use.

Assessment of site and estimation of rabbit numbers

- A careful on-site risk assessment should be undertaken before a baiting program is commenced. To reduce the risks of pindone exposure to humans and non-target animals and to maximise effect on rabbit populations, bait should NOT be laid in the following instances:
  - in the vicinity of macropod, bandicoot and native rodent refuge areas;
  - when rain is expected in the next 24 hours;
  - in urban areas on residential blocks less than 1000m² in size;

Method 5 - human pest animal control - ground baiting of rabbits with Pindone

  - in areas that are accessible to livestock or domestic animals;
  - where streams, waterways or rivers may become contaminated;
  - where foodstuff or feed intended for human or animal consumption may become contaminated; or
  - where children may have access.
- Warrens, rabbit harbour and scratching and feeding areas should be located to ensure accurate placement of bait.
- The density of rabbits on the site should be estimated using spotlight counts and/or warren monitoring. The location and numbers of rabbits on neighbouring properties should also be approximated.
- Contact your local authority for more information and advice on site assessment and monitoring of rabbit numbers.

Notification and warning signs

- In most States formal notification of neighbours is not required (exception is NSW), but it is recommended that all adjoining neighbours be notified by telephone, personal contact or in writing of the commencement of a baiting program. In NSW, formal notification MUST be given at least 72 hours prior to laying baits.
- All stock should be removed from the baited area during a baiting program. Dogs should be muzzled or restrained and cats confined to prevent them from eating poisoned rabbit carcasses.
- Warning signs must be erected at all entry points to the property, entrances to the actual poisoning site and at property boundaries fronting a public thoroughfare. Each sign should include the date laid, which toxin has been used, and for which pest animal. They must remain up for a minimum of 4 weeks after baiting.
- More detailed information on notification and warning signs can be found in the relevant product labels, permits and State guidelines e.g. Vertebrate Pest Control manuals, Landcare notes, Farmnotes etc.

Laying of bait

- Most States use a '*pulse baiting technique*' where 2 to 3 free feeds of non-poisoned baits are laid at intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits laid 3 to 5 days apart. Although not essential, free feeding of non-poisoned baits allows estimation of amount of poisoned bait required and assessment of any non-target uptake. It also allows rabbits to become accustomed to eating the bait and for toxic bait to be eaten rapidly when applied.
- Western Australia uses a '*one-shot baiting technique*' where a trail of pindone impregnated oats, proportionally mixed with untreated oats, is laid at a specified rate. Bait is topped up as required using the minimum amount of bait possible. Separate free feeding is not offered.
- The placement of bait is critical. Trails of bait must be laid through feeding areas where rabbit activity is highest and preferably where the pasture is short or absent. It is recommended that two trails are laid. One at a minimum of 30 metres from where rabbits are living, and another 40 metres out from the first trail. Bait is distributed using either of the following methods:

RM8004v6 - Humane pest animal control - ground baiting of rabbits with fipronil

- *Furrow baiting* – bait is placed in a furrow 10 cm wide and 2 cm deep that has been cut into the soil using a hoe, mattock, disc or specially designed baitlayer.
- *Broadcast or scatter baiting* – bait is scattered in a swathe around 5 metres wide, often using a vehicle-mounted or towed spreader. This method is used in areas where it is impossible to run a trail e.g. rocky terrain, near fallen timber, in crops, where erosion may be a problem. A strip of spring steel can be attached to the bait laying vehicle so that a scratch mark is left in the soil enabling the scatter bait trail to be found later.

- Baits should be laid in the evening as rabbits are active between dusk and dawn.
- Monitoring of numbers and amount of free-feed taken will help to estimate the quantity of poisoned bait required. Sufficient bait is required to allow all rabbits in an area to consume approximately 15–30 g of bait from each application. Adjust quantities so that no more than 20% of the bait remains on the following morning. As a general guide the following amounts are recommended for '*pulse baiting*':

Density of rabbits	Low	Medium	High
Kg oat bait per km trail	3	6	9
Kg carrot bait per km trail	10	20	30

- The recommend rate of lay for *one-shot* baiting is: 17 kg/km for furrow trails and 20 kg/km for broadcast or scatter trails.
- Rabbit numbers will start to progressively decline about 10 days after the first application of poison bait.

Collection of uneaten baits and rabbit carcasses

- All bait that is uneaten 4 days after bait consumption ceases should be collected and destroyed either by incineration or burying at a depth of 500mm. Alternatively, trails of poisoned oat or pellet bait can be covered with sufficient soil to prevent non-targets from gaining access.
- Carcasses of poisoned rabbits should be collected for a minimum of 12 days after the last poison feed. They should be destroyed by incineration or buried at a minimum depth of 500 mm in a disposal pit.

Procedural Notes

- Bait containing pindone is likely to lose potency after laying in wet conditions, with bait prepared from the water soluble form (sodium salt) expected to do so more rapidly. It is therefore recommended to avoid laying bait if rain is predicted overnight.
- More detailed information on pindone use can be found on approved labels, from various State guidelines (e.g. vertebrate pest control manuals, Landcare Notes, Farmnotes etc.) and relevant Commonwealth, State and Territory legislation.

RABBIT • humane pest animal control • ground baiting of rabbits with Pindone

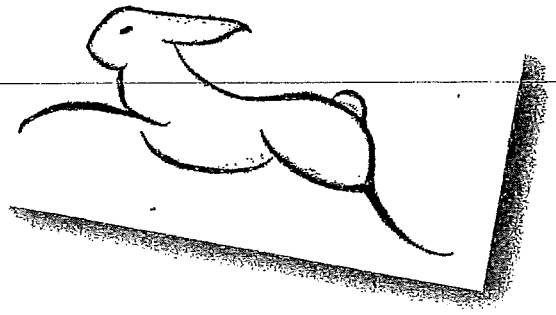
Attachment 4 Authorised Pindone mixing officers

ACT Parks and Conservation Service Authorised Control Officer training

Name	Current depot	NSW Vertebrate Pest Management Course	1080 training	Chemcert IV
Nicola Webb	Stromlo	✓	✓	✓
Sam Price	Stromlo	✓	✓	✓
Mick Clarke	Stromlo	✓	✓	✓
Murray Aston	TNR	✓	✓	✓
~~Brian Walsh~~	?	✓	✓	✓
Nadia Kuzmanoski	Mitchell	✓	✓	✓
Grant Woodbridge	Mitchell	✓	✓	✓
Jason Meredith	Cotter	✓	✓	
Alex Wolzko	TNR	✓		✓
Jenny Cosmely	Stromlo	✓		✓
Nick Diosatos	Athllon	✓		✓
Dennis Gray	Athllon	✓		
Colin Schofield	Cotter	✓	✓	
John McRae	TNR	✓	✓	
Olric Orgill	Namadgi	✓	✓	
Lara Woollcombe	Athllon	✓		✓
Mark Rudden	Namadgi	✓	Lapsed*	
Keith Smith	Namadgi	✓	Lapsed*	
Graham Bliekseil	TNR	✓		
Stuart Jeffress	Mitchell	✓		
Dean Darcy	Googong	✓		
Mick Lecoeguen	Namadgi	✓		
Mitch Jankuloski	Googong?	✓		
David Dobrowolczyk	TNR	✓		
Joel Patterson	Mitchell		✓	✓
Michael Rawnsley	Namadgi			✓
Lee Pointon	Namadgi			✓
Bob Burdick	Athllon			✓
* did not to wish to re-sit for TOLER	Athllon	Recertification when Lapsed		
High priority as only lack one course and could be used if rangers not available				

C:\Documents and Settings\Stephen Hughes\Local Settings\Temporary Internet Files\ACOtraining[2].doc

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REPORT
South Side - TAMS
Fumigation Program - March/April 2012

Feral Management fumigated these areas in October 2011 and we recommended a follow up program for 2012. It was very pleasing to return to do this work and find a significant reduction of rabbit activity. We have set out below a table of the information collected from last year in comparison to this years work.

AREA	TABLETS USED 2012	TABLETS USED 2011	WARRENS WORKED 2012	WARRENS WORKED 2011
Mugga Mugga	74	135	13 + 1 new = 14	17
Scribner Hill	26	28	4 + 1 new = 5	5
Wanniassa Hill	3	60	2	10
Isaacs Ridge	72	259	10 + 2 new = 12	29
Red Hill	17	108	11 + 1 new = 12	18
Jerrabomberra East	63	183	10	22
Callum Brae	79	161	21	48
Jerrabomberra West	215	0	21	0
McQuoids Hill	49	50	9	13
TOTALS	**519**	**984**	**106**	**162**

We would like to recommend that as this follow-up program was successful, that every six months these areas be revisited and fumigation work done. Then every 12 month, volunteers or FM do a complete search of these areas for new warrens and rabbit activity.

Jerrabomberra East, we recommend, if possible, both sides of the creek should be ripped. FM is very pleased to be involved with TAMS in reducing the rabbit population.

STANDARD OPERATING PROCEDURE

RAB004 ground baiting of rabbits with Pindone

Prepared by Trudy Sharp & Glen Saunders, NSW Department of Primary Industries

Background

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Application

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- Pindone is mostly used for rabbit control where 1080 (sodium monofluoroacetate) cannot be used because of the risk of poisoning to humans or domestic animals e.g. urban/residential and semi-rural areas.
- Before commencing a baiting program, an assessment of likely non-target exposure should be performed, preferably by authorised personnel with knowledge of local native fauna. If there is a significant risk of poisoning non-target animals, bait should not be laid or measures must be taken to reduce the risk. Such measures could include:

- use of bait stations or enclosures to restrict access to non-target animals;
- fencing to exclude larger species such as macropods; and
- avoidance of baiting near areas of native vegetation that is likely to harbor smaller non-target animals such as bandicoots.

- Although poisoning programs can be carried out year-round, baiting is most effective when alternative food for rabbits is scarce e.g. at the end of summer or early autumn. Baiting is less effective during the breeding season when rabbit movements are limited.
- Baiting of rabbits with pindone must be carried out in accordance with relevant State, Territory and Commonwealth legislation (*see Appendix*). The pindone user may need to make a referral under the EPBC Act.
- Pindone must be used according to instructions on approved labels and guidelines issued by relevant State authorities for vertebrate pest control.
- There are two types of registered pindone products; ready-to-use baits and concentrates used to prepare baits:
  - Ready-to-use oat or carrot baits are available 'over-the-counter' from retail merchants or from licensed contractors and government pest control agencies.
  - Liquid (sodium salt) or powder (free acid) pindone concentrates are restricted chemical products available only to authorised people who have appropriate training in their use. Pindone acid has low water solubility while the sodium salt is soluble in water.

Animal Welfare Considerations

Impact on target animals

- Pindone interferes with the routine synthesis of vitamin K-dependent blood clotting factors in the liver. Without these factors, the normal daily damage to blood vessels can no longer be repaired. Poisoned animals usually die from multiple causes associated with anaemia or hypovolemic shock. A large single dose (18 mg/kg for rabbits) or repeated smaller doses (0.52 mg/kg/day over 7 days) are generally needed to induce death.
- After ingestion of anticoagulants, there is usually a lag period of 3–5 days before the onset of clinical signs. This delayed onset reflects the time required to deplete existing stores of vitamin K and blood clotting factors. Initial signs of poisoning are depression/lethargy and anorexia followed by manifestations of haemorrhage including anaemia, laboured breathing, pale mucous membranes and weakness. Bleeding may be visible around the nose, mouth, eyes and anus and animals may pass bloody faeces. Swollen tender joints are common as a result of bleeding into the confined joint space.
- Discomfort and pain from haemorrhages in internal organs, muscles and joints typically lasts for several days before death. The time to death is around 10 to 14 days after the initial dose.
- To minimise the animal welfare implications of leaving dependant young to die a slow death from starvation it is preferable not to undertake baiting programs when rabbits are known to be breeding. This is also the time when young rabbits do not travel far from their burrows and bucks vigorously defend their territorial boundaries, making it less likely that all rabbits will

have access to bait. In many areas of Australia there is a peak in breeding from late winter to early summer when pastures have greened up after rain.

Impact on non-target animals

- Poisoning of non-target species can occur either directly by eating the carrot, oat or pellet baits intended for rabbits (primary poisoning) or through the tissues from a dead or dying poisoned animal (secondary poisoning).
- Although information on the toxicity and non-target impacts of pindone is limited, it is thought to be moderately toxic to a range of species. Whilst rabbits are extremely susceptible, sheep, possums and horses are comparatively resistant. Cattle, goats, chickens, cats and dogs are less susceptible than rabbits, but still may be at risk if exposed to large doses or smaller doses on successive days. A number of native species are likely to be as sensitive as rabbits to the effects of pindone. Macropods, bandicoots and a range of granivorous birds are susceptible to primary poisoning. Secondary poisoning can occur in species which feed on poisoned rabbits and carcasses e.g. dasyurids and raptors.
- Rabbits dying from pindone poisoning can become lethargic and less aware of their surroundings. This can predispose these animals to predation which can in turn place predators at greater risk from secondary poisoning.
- Non-target species that accidentally receive a high enough dose of pindone will exhibit the same clinical signs as target rabbits i.e. physical weakness and lethargy, coughing and respiratory distress, pallor, anorexia, and ventral haematomas as well as internal haemorrhages.
- Because pindone is slow acting, if accidental poisoning of stock or companion animals occurs, vitamin K_1 (phytomenadione) can be administered by a veterinarian as an effective antidote. It is usual to treat an affected animal with vitamin K_1 for at least one week after an initial loading dose. If bleeding is severe, whole blood or plasma can be given to replace clotting factors and red blood cells.
- To minimise the potential for toxic baits to be lethal to non-target animals, the following baiting strategies are recommended:

  Pre-feeding with non-poisoned bait – allows an assessment of what animals are eating the bait.

  Bait type – use of surface coated rather than vacuum impregnated oat baits will reduce exposure of granivorous birds to the toxin. Most of these birds will only eat the kernel and discard the poisoned husk.

  Colouring of baits – baits that are dyed a green colour are unattractive or less obvious to birds.

  Use of bait stations – bait can be placed under mesh canopies where it is accessible to rabbits but restricts access by non-target species such as kangaroos and wallabies.

  Placement of baits – the laying of poisoned bait in a wide swathe (i.e. broadcast or scattered) instead of a concentrated trail, may decrease the consumption of poisoned bait by non-target species and thus their risk of poisoning. However, uneaten broadcast bait is difficult to cover or collect and destroy after a baiting program. Laying the bait as a concentrated trail in a narrow pre-cut furrow allows subsequent identification of the trail of pre-feed and poisoned bait, attraction of rabbits to the trail and ease of covering

up any uneaten poison bait after the program. The bait should always be placed in the prime feeding areas of rabbits.

Timing of baiting – rabbits mostly feed at night, therefore bait laid in the evening will be mostly consumed overnight before diurnal non-target species such as birds will have access. However, nocturnal mammals will be at risk when bait is laid in the evening.

Collection of uneaten bait and rabbit carcasses – any uneaten bait and poisoned rabbit carcasses are collected and either destroyed by incineration or buried.

Health and Safety Considerations

- Operators using pindone must strictly follow the directions on the approved label when preparing for use, using, storing or disposing of the pesticide.
- Pindone is toxic to humans and should be handled with care. Exposure can occur from ingestion, inhalation of generated dust or skin contact/absorption. Toxic effects are produced after exposure to a high dose or repeated low doses over several days.
- Appropriate personal protective equipment including overalls, rubber boots, face mask or safety glasses, and elbow length PVC or rubber gloves must be worn when handling pindone and poisoned bait.
- If pindone gets on skin, immediately wash area with soap and water.
- After use and before eating drinking or smoking, wash hands, arms and face with soap and water.
- After use, wash contaminated clothing, boots and gloves.
- If poisoning occurs, go straight to a hospital or doctor or contact the Poisons Information Centre (Ph 131 126).
- Vitamin K_1 is an effective antidote and is readily available from hospitals and veterinary practices.
- For further information refer to the Material Safety Data Sheet (MSDS), available from the supplier.

Equipment Required

Poisoned baits

- In most States, poisoned bait is prepared by the application of pindone concentrate to oats, chopped carrots or manufactured pellets in simple mixing equipment. This creates a surface coating of the poison. Other material such as coloured dyes, sugar and starch may also be added. In Western Australia, pindone is vacuum impregnated into oats, forcing the poison into the kernel.
- The final concentration of pindone will be either 0.25 g/kg (or 0.025% w/w) or 0.5 g/kg (or 0.05% w/w) depending on bait type.
- Carrot baits are readily accepted by rabbits but must be freshly prepared and tend to dry out quickly in hotter climates. In comparison, oats and pellets are less susceptible to drying, and are more readily available, cheaper and easier to store and distribute.

- There are five registered ready-to-use oat or carrot baits available 'over-the-counter' from retail merchants or from licensed contractors and government pest control agencies:
  - Rabbait® Pindone Oat Bait (Animal Control Technologies)
  - Oat Bait for Rabbits (Aldi)
  - Bunnybait Oat Bait for Rabbits (Aldi)
  - Pindone Carrots Rabbit Bait (DNRE, VIC)
  - Pindone Impregnated Oats (APB, WA)
- There are four registered pindone concentrates. These are restricted chemical products available only to authorised people who have appropriate training in their use:
  - Pin-25 Rabbit Bait Rodenticide (Rentokil)
  - Pindone-25 Rabbit Bait Rodenticide (Aldi)
  - Rabbait® Aqueous Pindone Concentrate (Animal Control Technologies)
  - Pindone 25 Liquid Concentrate (Aldi)

  Preparation of poisoned rabbit baits from pindone powder or liquid concentrate must only be performed by authorised officers or persons under their direct supervision. Specific instructions on bait preparation can be found on the approved labels and in various State guidelines e.g. vertebrate pesticide control manuals, Landcare Notes, Farmnotes etc.

Other Equipment:

- Hoe, disc or mattock for digging shallow furrow or specially designed baitlayer
- Carrot cutter (if required)
- Bait mixer e.g. cement mixer or mixing drum (if required)
- Leakproof containers for storing poison bait
- Personal protective equipment
- Towel, soap, dish or bucket
- First Aid kit
- Warning signs
- Marking tape

Procedures

Always read the product label for specific directions on use.

Assessment of site and estimation of rabbit numbers

- A careful on-site risk assessment should be undertaken before a baiting program is commenced. To reduce the risks of pindone exposure to humans and non-target animals and to maximise effect on rabbit populations, bait should NOT be laid in the following instances:
  - in the vicinity of macropod, bandicoot and native rodent refuge areas;
  - when rain is expected in the next 24 hours;
  - in urban areas on residential blocks less than 1000m^2 in size;

- in areas that are accessible to livestock or domestic animals;
- where streams, waterways or rivers may become contaminated;
- where foodstuff or feed intended for human or animal consumption may become contaminated; or
- where children may have access.

- Warrens, rabbit harbour and scratching and feeding areas should be located to ensure accurate placement of bait.
- The density of rabbits on the site should be estimated using spotlight counts and/or warren monitoring. The location and numbers of rabbits on neighbouring properties should also be approximated.
- Contact your local authority for more information and advice on site assessment and monitoring of rabbit numbers.

Notification and warning signs

- In most States formal notification of neighbours is not required (exception is NSW), but it is recommended that all adjoining neighbours be notified by telephone, personal contact or in writing of the commencement of a baiting program. In NSW, formal notification MUST be given at least 72 hours prior to laying baits.
- All stock should be removed from the baited area during a baiting program. Dogs should be muzzled or restrained and cats confined to prevent them from eating poisoned rabbit carcasses.
- Warning signs must be erected at all entry points to the property, entrances to the actual poisoning site and at property boundaries fronting a public thoroughfare. Each sign should include the date laid, which toxin has been used, and for which pest animal. They must remain up for a minimum of 4 weeks after baiting.
- More detailed information on notification and warning signs can be found in the relevant product labels, permits and State guidelines e.g. Vertebrate Pest Control manuals, Landcare notes, Farmnotes etc.

Laying of bait

- Most States use a '*pulse baiting technique*' where 2 to 3 free feeds of non-poisoned baits are laid at intervals of 2 days. Free feeding is followed by 2 to 3 feeds of pindone poisoned baits laid 3 to 5 days apart. Although not essential, free feeding of non-poisoned baits allows estimation of amount of poisoned bait required and assessment of any non-target uptake. It also allows rabbits to become accustomed to eating the bait and for toxic bait to be eaten rapidly when applied.
- Western Australia uses a '*one-shot baiting technique*' where a trail of pindone impregnated oats, proportionally mixed with untreated oats, is laid at a specified rate. Bait is topped up as required using the minimum amount of bait possible. Separate free feeding is not offered.
- The placement of bait is critical. Trails of bait must be laid through feeding areas where rabbit activity is highest and preferably where the pasture is short or absent. It is recommended that two trails are laid. One at a minimum of 30 metres from where rabbits are living, and another 40 metres out from the first trail. Bait is distributed using either of the following methods:

- *Furrow baiting* – bait is placed in a furrow 10 cm wide and 2 cm deep that has been cut into the soil using a hoe, mattock, disc or specially designed baitlayer.
- *Broadcast or scatter baiting* – bait is scattered in a swathe around 5 metres wide, often using a vehicle-mounted or towed spreader. This method is used in areas where it is impossible to run a trail e.g. rocky terrain, near fallen timber, in crops, where erosion may be a problem. A strip of spring steel can be attached to the bait laying vehicle so that a scratch mark is left in the soil enabling the scatter bait trail to be found later.

- Baits should be laid in the evening as rabbits are active between dusk and dawn.
- Monitoring of numbers and amount of free-feed taken will help to estimate the quantity of poisoned bait required. Sufficient bait is required to allow all rabbits in an area to consume approximately 15–30 g of bait from each application. Adjust quantities so that no more than 20% of the bait remains on the following morning. As a general guide the following amounts are recommended for '*pulse baiting*':

Density of rabbits	Low	Medium	High
Kg oat bait per km trail	3	6	9
Kg carrot bait per km trail	10	20	30

- The recommend rate of lay for *one-shot* baiting is: 17 kg/km for furrow trails and 20 kg/km for broadcast or scatter trails.
- Rabbit numbers will start to progressively decline about 10 days after the first application of poison bait.

Collection of uneaten baits and rabbit carcasses

- All bait that is uneaten 4 days after bait consumption ceases should be collected and destroyed either by incineration or burying at a depth of 500mm. Alternatively, trails of poisoned oat or pellet bait can be covered with sufficient soil to prevent non-targets from gaining access.
- Carcasses of poisoned rabbits should be collected for a minimum of 12 days after the last poison feed. They should be destroyed by incineration or buried at a minimum depth of 500 mm in a disposal pit.

Procedural Notes

- Bait containing pindone is likely to lose potency after laying in wet conditions, with bait prepared from the water soluble form (sodium salt) expected to do so more rapidly. It is therefore recommended to avoid laying bait if rain is predicted overnight.
- More detailed information on pindone use can be found on approved labels, from various State guidelines (e.g. vertebrate pest control manuals, Landcare Notes, Farmnotes etc.) and relevant Commonwealth, State and Territory legislation.

Further Information

Contact the relevant Commonwealth, State or Territory government agency from the following list of websites:

Commonwealth	Department of Environment and Heritage http://www.deh.gov.au/
ACT	Environment ACT http://www.environment.act.gov.au/
NSW	NSW Department of Primary Industries www.dpi.nsw.gov.au
NT	Parks & Wildlife Commission www.nt.gov.au/ipe/pwcnt/
QLD	Department of Natural Resources and Mines www.nrm.qld.gov.au
SA	Animal & Plant Control Commission http://sustainableresources.pir.sa.gov.au
TAS	Department of Primary Industries, Water & Environment www.dpiwe.tas.gov.au
VIC	Department of Primary Industries, Agriculture & Food www.dpi.vic.gov.au
WA	Agriculture WA www.agric.wa.gov.au

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Appendix

Relevant Commonwealth, State and Territory Legislation for the Use of Pindone

- **Commonwealth**
  Environment Protection and Biodiversity Conservation Act 1999
  Information available from the Department of Environment and Heritage website: http://www.deh.gov.au/epbc
- **Australian Capital Territory**
  Environment Protection Act 1997
- **New South Wales**
  Pesticides Act 1999
- **Northern Territory**
  Poison and Dangerous Drugs Act 1999
  Territory Parks and Wildlife Conservation Act 1998
- **Queensland**
  Health (Drugs and Poisons) Regulations 1996
- **South Australia**
  Controlled Substances Act 1984
  Controlled Substances (Poison) Regulations 1996
- **Tasmania**
  Poisons Act 1971
  Agricultural and Veterinary Chemicals (Control of Use) Act 1995
- **Victoria**
  Agricultural and Veterinary Chemical (Control of Use) Act 1992
- **Western Australia**
  Poisons Act 1964
  Poisons Regulations 1965

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model **code of practice** for the humane control of **rabbits**

Prepared by Trudy Sharp & Glen Saunders, NSW Department of Primary Industries

Introduction

This aim of this code of practice is to provide information and guidance to vertebrate pest managers responsible for the control of rabbits. It includes advice on how to choose the most humane, target specific, cost effective and efficacious technique for reducing the negative impact of rabbits.

This code of practice (COP) is a guide only; it does not replace or override the legislation that applies in the relevant State or Territory jurisdiction. The COP should only be used subject to the applicable legal requirements (including OH&S) operating in the relevant jurisdiction.

Background

There is a growing expectation that animal suffering associated with pest management be minimised. This should occur regardless of the status given to a particular pest species or the extent of damage or impact created by that pest. While the ecological and economic rationales for the control of pests such as the rabbit are frequently documented, little attention has been paid to the development of an ethical framework in which these pests are controlled. An ethical approach to pest control includes the recognition of and attention to the welfare of all animals affected directly or indirectly by control programs. Ensuring such approaches are uniformly applied as management practices requires the development of agreed Standard Operating Procedures (SOPs) for pest animal control. These SOPs are written in a way that describes the procedures involved for each control technique as applied to each of the major pest animal species. While SOPs address animal welfare issues applicable to each technique, a Code of Practice (COP) is also required that bring together these procedures into a document which also specifies humane control strategies and their implementation. COPs encompass all aspects of controlling a pest animal species. This includes aspects of best practice principles, relevant biological information, guidance on choosing the most humane and appropriate control technique and how to most effectively implement management programs.

This code is based on current knowledge and experience in the area of rabbit control and will be revised as required to take into account advances in knowledge and development of new control techniques and strategies.

Definitions and Terms

Pest animal – native or introduced, wild or feral, non-human species of animal that is currently troublesome locally, or over a wide area, to one or more persons, either by being a health hazard, a general nuisance, or by destroying food, fibre, or natural resources (Koehler, 1964).

Welfare – an animals' state as regards its attempts to cope with its environment (Broom, 1999). Welfare includes the extent of any difficulty in coping or any failure to cope; it is a characteristic of an individual at a particular time and can range from very good to very poor. Pain and suffering are important aspects of poor welfare, whereas good welfare is present when the nutritional, environmental, health, behavioural and mental needs of animals are met. When welfare is good suffering is absent (Littin et al., 2004).

Humane – causing the minimum pain, suffering and distress possible. To be humane is to show consideration, empathy and sympathy for an animal, an avoidance of (unnecessary) stress, and the demonstration of compassion and tenderness towards our fellow creatures (Australian Veterinary Association, 1997).

Humane Vertebrate Pest Animal Control – the development and selection of feasible control programs and techniques that avoid or minimise pain, suffering and distress to target and non-target animals (RSPCA, 2004).

Best Practice Management – a structured and consistent approach to the management of vertebrate pests in an attempt to achieve enduring and cost-effective outcomes. 'Best practice' is defined as the best practice agreed at a particular time following consideration of scientific information and accumulated experience (Braysher, 1993).

Best Practice Pest Management

From an animal welfare perspective, it is highly desirable that pest control programs affect a minimum number of individuals and that effort is sustained so that pest densities always remain at a low level. Over the last decade, the approach to managing pest animals has changed. Rather than focussing on killing as many pests as possible, it is now realised that like most other aspects of agriculture or nature conservation, pest management needs to be carefully planned and coordinated. Pest animal control is just one aspect of an integrated approach to the management of production and natural resource systems. Most pests are highly mobile and can readily replace those that are killed in control programs. Unless actions are well planned and coordinated across an area, individual control programs are unlikely to have a lasting effect. When planning pest management, there are some important steps that should be considered (after Braysher & Saunders, 2002).

1. What is the trigger to undertake pest animal management? Is there a community or political pressure for action on pests and an expectation that pest animals should be controlled? Pest control is unlikely to be effective unless there is strong local or political will to take action and commit the necessary resources.
2. Who is the key group to take responsibility for bringing together those individuals and groups that have a key interest in dealing with the pest issue?

3. What is the problem? In the past the pest was usually seen as the problem. Hence the solution was to kill as many pests as possible. We now know that the situation is more complex. First, determine what is the problem. It may be reduced lambing percentage, fence damage, reduced crop yields, complaints from neighbours or emotional stress from worrying about the next attack. Several factors impact on each of these problems and control of pests are often only part of the solution. The following questions then help define the problem:
   - Who has the problem?
   - Where is the problem?
   - How severe is the problem?
   - Will the problem change with time?
4. Identify and describe the area of concern. Sometimes it helps to remove agency and property boundaries so that the problem can be viewed without the tendency to point blame at individuals; groups or agencies. Property and agency boundaries can be added later once agreement is reached on the best approach.
5. Trying to deal with the complexity of a very large area can be daunting so it often helps to break the area into smaller management units for planning. These smaller units may be determined by water bodies, mountain ranges, fences, vegetation that is unsuitable for a particular pest or other suitable boundaries that managers can work to. While it is best to work to boundaries that restrict the movement of pests, this may not be practicable and jurisdictional boundaries, for example, the border of a Landcare group, may have to be used in combination with physical boundaries. Once the management units are identified:
   - Identify as best you can, the pest animal distribution and abundance in each management unit.
   - Estimate as far as is practicable, the damage caused by the pest or pests to production and to conservation.
6. Gather and assess other relevant planning documents such as Catchment Management Plans, Recovery Plans for threatened species and Property Management Plans. Identify any key constraints that may prevent the plan being put into operation and identify all the key stakeholders.
7. Develop the most appropriate pest management plans for each of the management units.

   Implementing effective and humane pest control programs requires a basic understanding of the ecology and biology of the targeted pest species and in some cases those species affected directly (non-targets) or indirectly (prey species) by a control program. It is also essential to understand the impact created by the pest i.e. what is the problem? Managers should take the time to make themselves aware of such information by reading the recommended texts at the end of this code of practice. A brief summary follows. This information is extracted from the publication Managing Vertebrate Pests: Rabbits by Williams et al. (1995).

Rabbit Facts

Rabbits have a high reproductive potential. Adult females produce 15–40 young a year, but only 1–10% survive past the first year. Spring is the high point of the reproductive cycle and autumn the low with breeding triggered when pastures green up after rain and the last litters are conceived as soil moisture becomes limiting and pastures mature and dry out. At birth the young weigh 35 g each and by the time they first emerge from the warren at 21 days they have increased their body weight by 600% to 210 g each.

The key to the success of the rabbit in Australia is the warren, which provides protection from weather and predators and enables rabbits to inhabit semi-arid and arid country. Contrary to popular belief, rabbits do not dig new warrens readily. Although they usually live in warrens, rabbits readily live above the ground whenever there is adequate shelter. In some areas a high proportion of adult rabbits live mostly above ground. Soils are a major factor influencing local and regional distribution. Soils with a high clay (greater than 40%) content or high silt plus clay content (greater than 50%) are not suitable for warrens as these soils become waterlogged in winter and are too hard to dig in summer. The absence of warrens on cracking clays is due partly to waterlogging but it is also due to burrows collapsing as the soil shrinks and swells with changing water content. Warrens are larger and more dense in the deeper soils on lower slopes and flats.

The optimum habitat for rabbits in Australia is the intermediate rainfall zone, where parasite numbers are low, droughts are uncommon and breeding seasons relatively long. Rabbits occasionally do well in Australia's hot arid zones even though physiologically they are not well adapted to arid conditions. When some green vegetation is available, they readily find the high protein, high water content diet they need to survive and reproduce.

Although rabbit densities are rarely known precisely, low, medium and high rabbit densities approximate, less than 1.0, 1–4 and more than four rabbits per hectare respectively. Spotlight transect counts of low, medium and high rabbit densities in open country with low pasture are approximately less than 5, 6–30 and more than 30 rabbits per spotlight kilometre respectively.

Survivors of a population crash tend to be adult rabbits. After the breaking of a drought, rabbit populations are held at low densities for several years by a combination of native predators, foxes and feral cats. It is not until fox and feral cat numbers decline some time after the crash of the rabbit population, and good seasons return, that rabbit numbers build up again.

Adult rabbits live as territorial monogamous pairs, or in social groups of up to ten individuals with separate hierarchies for males and females. Males fight to defend females and females fight to defend access to breeding sites within warrens. As many more young males than females disperse, the warren is a heritage passed on by adult females to female offspring. Resident rabbits rarely move more than 200 metres from their warren. Major causes of death are drought, parasites, rabbit management programs, myxomatosis, rabbit haemorrhagic disease (RHD), and predators such as dingoes, birds of prey, goannas, foxes and feral cats.

Rabbit Impact

Before the introduction of myxomatosis and then RHD, rabbits greatly reduced stock productivity and caused profound direct and indirect damage to soils and to native plants and animals. While these biological controls have greatly reduced rabbit densities

nationally, damage is still significant. Rabbit damage is worst in the rangelands, where a whole suite of plant species and their dependent animals are threatened with severe range contraction or extinction. The effect of the rabbit in preventing regeneration of native plants is not always obvious. Many of these plants are long-lived but the populations are reaching a stage where many individuals are dying from old age. If rabbits are not controlled before the remaining plants reach the end of their reproductive lives, there will be a long-term decline of the tree and shrub populations in many parts of the rangelands. The extent of the ecological consequences of this are unknown. Significant changes in bird communities and increased soil erosion are likely to be two of the main consequences. There may be no safe rabbit density for some tree and shrub seedlings particularly within 200 metres of rabbits warrens.

As well as causing detrimental habitat change, rabbits threaten native mammals directly through grazing competition and indirectly through intensified predation by cats and foxes after rabbit numbers crash during droughts or disease outbreaks.

The extent to which rabbits reduce the carrying capacity for livestock is not well quantified, although there are numerous anecdotal accounts of increased carrying capacity for sheep following rabbit control. Competition between sheep and rabbits is likely to be most significant when pasture biomass falls below about 250 kilograms per hectare, especially during and coming out of drought. Rabbits, in combination with other wild grazers and livestock, cause damage to the long-term sustainable use of rangeland for nature conservation and pastoralism. Rabbits cause changes in the quality of forage and damage to the flora and habitat of native fauna.

Rabbit Control Strategies

Rabbit management has historically almost entirely been directed at protecting agricultural production. In more recent times the principles of natural resource management have been widely accepted and promoted, and the need to protect non-agricultural resources recognised. The degree to which control is implemented often depends on how well the problems caused by rabbits are recognised and the resultant priority assigned to rabbit management. By necessity, control effort must be sustained. There are three essential requirements for a pest control technique – necessity, effectiveness and humaneness. The best strategy is to develop a plan which maximizes the effect of control operations and reduces the need to cull large numbers of animals on a regular basis.

Developing a rabbit management plan

This involves:

- Defining management objectives. Objectives are a statement of what is to be achieved, defined in terms of desired outcomes, usually conservation or economic benefits. Objectives should state what will be achieved (reduced impact) where, by when and by whom.
- Selecting management options. The management option is selected that will most effectively and efficiently meet the management objectives. The options include: eradication, containment, sustained management, targeted management, one-off action and taking no action.
- Set the management strategy. This defines the actions that will be undertaken: who will do what, when, how and where. It describes how the selected pest management options and techniques will be integrated and implemented to achieve the management objectives.

- Monitoring the success of the program against the stated objectives. Monitoring has two components, operational monitoring – what was done when and at what cost:- this determines the efficiency of the program, and performance monitoring:- were the objectives of the plan achieved and if not why not, that is the effectiveness of the program.

Choosing control techniques

Rabbit control techniques have the potential to cause animals to suffer. To minimise this suffering the most humane technique useable in any given situation must be employed. This will be the technique that causes the least amount of pain and suffering to the target animal with the least harm or risk to non-target animals, people and the environment. The technique must also be effective in the situation where it will be used (e.g. cage traps will have little effect in a rural setting). It is also important to remember that the humaneness of a technique is highly dependant on whether or not it is correctly employed. In selecting techniques it is therefore important to consider whether sufficient resources are available to fully implement that technique.

Cooperative control

It may not be economic for a property to be independent in equipment and labour for rabbit management. Group schemes and cooperative effort provide economies of scale and social benefits that encourage sustained effort. Cooperative control effort can also encourage financial support from governments.

Rabbit Control Techniques

The most commonly used rabbit control techniques are lethal baiting, warren destruction and fumigation, shooting, trapping, exclusion fencing and biological control with RHDV and myxomatosis. Fertility control through immunocontraception is being investigated as an alternative or supplementary means of rabbit control. Other measures, such as the use of LPG technology to kill rabbit in their warrens, are also used but have not been evaluated for humaneness or efficacy.

Cost-effectiveness, humaneness and efficacy for each control technique are useful in deciding the most appropriate strategy. A brief evaluation of the humaneness of control techniques follows:

Humaneness of control techniques

Fertility control

Fertility control is seen as a preferred method of broad-scale rabbit control as it offers a potential humane and target specific alternative to lethal methods. Long term research is continuing into the development of a virally vectored immunocontraceptive to control rabbit populations. Egg surface antigens are delivered in a genetically modified, avirulent/low virulence myxoma virus to stimulate production of antibodies that will block reproduction. The main welfare problem with this approach is that it is delivered by a virus that causes infection and sometimes disease that can take a chronic course.

Exclusion fencing

The use of exclusion fencing is generally regarded as a humane, non-lethal alternative to lethal control methods. However, the high costs of establishing and maintaining rabbit-proof enclosures, limits their use to the protection of valuable pasture, crops and conservation areas. Although exclusion fencing acts as a barrier to rabbits, in some areas it can have negative effects on non-target species by altering dispersion

and foraging patterns, and causing entanglement and electrocution. It can also create a significant hazard to wildlife in the event of a bushfire.

Lethal baiting

Lethal baiting is an important component of integrated rabbit control programs; however, poisons do not usually cause a humane death. Depending on the poison used, target animals can experience pain/sickness and suffering, sometimes for an extended period, before death. Non-target animals including native species, cats, dogs and stock can also be exposed to poisons either directly by eating baits intended for pest animals (primary poisoning) or through the scavenging of tissues from a poisoned animal (secondary poisoning). Baiting campaigns should be well designed and carefully implemented to minimise any non-target effects. Sodium monofluoroacetate (1080) and pindone are the poisons currently used for rabbit control in Australia.

1080

In rabbits, clinical signs of 1080 poisoning include lethargy, laboured respiration and increased sensitivity to noise/disturbance. Convulsions also occur, often with gasping and squealing, followed by death. Time to death is variable depending upon the amount 1080 absorbed but is usually around 3 to 4 hours. 1080 is considered to be a more humane poison than pindone.

Pindone

After ingestion of pindone, rabbits initially show signs of depression/lethargy and anorexia followed by manifestations of haemorrhage including anaemia, laboured breathing, pale mucous membranes and weakness. Bleeding may be visible around the nose, mouth, eyes and anus and animals may pass bloody faeces. Swollen tender joints are common as a result of bleeding into the confined joint space, Discomfort and pain from haemorrhages in internal organs, muscles and joints typically lasts for several days before death. The time to death is around 10 to 14 days after the initial dose. Because anticoagulant poisons take several days to kill, during which time they cause distress disability and/or pain, they are considered inhumane. The use of pindone can only be justified in situations where 1080 cannot be used i.e. in close proximity to urban areas where the risk of accidental poisoning to humans and companion animals is greatest.

Warren Destruction by Ripping and Blasting

Destruction of warrens using explosives (blasting) or ripping is an important component of effective rabbit management. Because warren destruction gives long-term management of rabbit populations, the need for repeated control operations is reduced. It is more humane to perform ripping and blasting when rabbit numbers are at their lowest e.g. after poison baiting, drought or disease outbreak and when they are not breeding. This means that lower numbers of rabbits will be killed by these relatively inhumane techniques.

Ripping of the warren causes it to collapse and the rabbits are usually crushed or suffocated. A quick death is more likely when powerful machinery is used in loose soil and the warren is ripped deep enough to cause complete destruction. Failure to collapse deep warren systems may result in some rabbits becoming trapped in partly destroyed tunnels and then suffocating or starving over a long period of time. Direct mechanical wounding can also occur from the ripping tines.

When explosives are used for warren destruction, rabbits may be killed or injured by the effects of the blast or by crushing and suffocation from the collapse of the warren.

In most cases the time to death is thought to be quick especially when complete destruction of the warren is achieved.

Warren destruction also affects rabbits that are not inside the warren at the time by depriving them of shelter from extreme heat, cold and predators. Most rabbits that are forced to live above ground after their warren has been destroyed will have little chance of survival.

Warren fumigation

Chloropicrin

Chloropicrin (trichloronitromethane) is considered to be highly inhumane and its use is not recommended. It causes intense irritation of the respiratory tract and profuse watering of the eyes for considerable periods before death. Animals suffer over a long period, even longer if they escape from the warren. It has a delayed effect on rabbits that have been exposed to sub-lethal but acute doses, with some rabbits taking many weeks to die.

Phosphine

The precise nature and extent of suffering of rabbits after inhalation of phosphine is unknown. Symptoms of phosphine toxicity in humans often include nausea, abdominal pain, headache and convulsions followed by coma. It is not known whether other mammals experience similar symptoms. The time to death will be quicker when high concentrations of phosphine can be achieved throughout the warren. In practice the time taken to achieve adequate phosphine concentrations can be highly variable and is governed by the availability of moisture in the soil and air, or on the fumigation tablets. Phosphine is considered to be more humane than chloropicrin, because it causes less intense suffering and rabbits that escape from fumigated warrens after exposure to sub-lethal concentrations may only experience transient illness, not permanent debilitation. Therefore, phosphine is currently the preferred toxin for fumigation until more humane fumigation methods are developed.

Carbon monoxide

Carbon monoxide is a colourless, odourless gas that causes oxygen depletion leading to unconsciousness and rapid death without pain or discernible discomfort. Fumigation of rabbit warrens with carbon monoxide is currently being investigated as a humane alternative to chloropicrin and phosphine.

Car exhaust fumes

Exhaust from idling internal combustion engines is not acceptable as a fumigant as adequate carbon monoxide concentrations cannot be achieved (particularly with modern car engines) and exhaust contaminants such as hydrocarbons, ozone, nitrogen dioxide and nitric oxides cause severe irritation before death. Also, the exhaust gases produced may be unacceptably hot.

Carbon dioxide

Although carbon dioxide is often used to euthanase other species, it is neither effective nor economical for rabbit warren fumigation. Wild rabbits have a high tolerance to carbon dioxide (i.e. a concentration of 45% CO_2 needs to be maintained for at least 1 hour to kill wild rabbits) Also, CO_2 disperses poorly throughout the warren.

Shooting

Shooting can be a humane method of destroying rabbits when it is carried out by experienced, skilled and responsible shooters; the animal can be clearly seen and

is within range; and the correct firearm, ammunition and shot placement is used. Achieving a humane kill with a single shot can be difficult as rabbits are a small target. Wounded rabbits must be located and dispatched as quickly and humanely as possible.

Trapping

All traps have the potential to cause injury and some degree of suffering and distress so should only be used when no practical alternative exists. Traps that contain an animal e.g. cage or box traps cause fewer injuries than traps that restrain an animal e.g. leg-hold traps. Animals caught in a cage trap are not likely to experience significant injuries unless they make frantic attempts to escape. Importantly, non-target animals that are caught in cage trap can usually be released unharmed. Leg-hold traps on the other hand can cause serious injuries to both target and non-target animals such as swelling and lacerations to the foot from pressure of the trap jaws and dislocation of a limb if the animal struggles to escape. If leg-hold traps are to be used they must have a rubber-like padding on each jaw which cushions the initial impact and provides friction thus preventing the captured animals from sliding along or out of the jaws. Steel-jawed traps should not be used as they cause significant injury, pain and distress. They are illegal in most states.

As well as injuries, trapped animals can suffer from exposure, thirst, starvation, shock, capture myopathy and predation; therefore traps must be placed in a suitable area protected from extremes of weather and inspected at least once daily. Trapped animals must be approached carefully and quietly to minimise panic, further stress and risk of injury. Rabbits must be destroyed as soon as possible after capture using cervical dislocation. Non-target animals that are caught but not severely injured should be released at the trap site. If they are injured, but may respond to veterinary treatment, such treatment should be sought. Severely injured non-target animals should be destroyed with a single rifle shot to the brain.

Biological control

Myxomatosis

The deliberate infection of rabbits with the myxoma virus is no longer a commonly used technique, although fleas, which act as vectors of myxomatosis are sometimes released to enhance the spread of the disease, especially in arid areas. Infection with myxoma virus causes anorexia, subcutaneous swellings around the face and ears, and swollen eyelids and conjunctivitis leading to blindness. Time to death depends upon the strain of virus. Infection with a highly virulent strain causes death within 2 weeks, while rabbits infected with less virulent strains may take up to 4 weeks to die. The severity of symptoms and long interval between infection and death indicate that considerable suffering occurs with this disease.

Rabbit Haemorrhagic Disease

In most rabbits, death from rabbit haemorrhagic disease is sudden. Some animals show no signs of illness prior to death whilst others will have elevated temperature, anorexia, apathy, dullness, prostration and reddened eyes. Respiratory signs (e.g. rapid respiration, bloody nasal discharge) and occasionally nervous signs (e.g. convulsions, paralysis, squealing) may be seen in the later stages. Some rabbits (5 to 10%) may show a chronic or subclinical course of disease. These animals may have jaundice, weight loss and lethargy for up to 1 to 2 weeks before dying. Effective handling and restraint techniques must be used to minimise the risk of injury and to reduce the intensity of distress to the rabbit during the inoculation procedure.

Table 1: Humaneness, Efficacy, Cost-effectiveness and Target Specificity of Rabbit Control Methods

Control technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Fertility control	Conditionally acceptable	Unknown	Unknown	Depends on agent used	No products currently registered.
Exclusion fencing	Acceptable	Limited	Expensive	Can be in certain situations	Useful where there is high-value crop/pasture (e.g. market garden/ horticultural enterprises) or in conservation areas. Expensive, therefore impractical for broad scale application.
Ground baiting with 1080	Conditionally acceptable	Effective	Cost-effective	Potential risk of poisoning non-target animals	Effective for reducing rabbit populations prior to warren destruction. 1080 ingestion can also kill non-target animals including native species, cats, dogs and livestock. 1080 is toxic to humans; operators need to take precautions to safeguard against exposure.
Aerial baiting with 1080	Conditionally acceptable	Effective	Cost-effective	Potential risk of poisoning non-target animals	Effective for reducing rabbit populations prior to warren destruction. Useful difficult areas in broadscale areas. 1080 ingestion can also kill non-target animals including native species, cats, dogs and livestock. 1080 is toxic to humans; operators need to take precautions to safeguard against exposure.
Pindone baiting	**Only acceptable when there is no other alternative** Inhumane compared to 1080	Effective	Relatively expensive (compared to 1080)	Potential risk of poisoning non-target animals (esp. macropods and other native species)	Should only be used in areas where it is impractical or unsuitable to use 1080 e.g. urban/residential and semi-rural areas.
Pressure fumigation of warrens using chloropicrin	Not acceptable			Non-target wildlife using warrens are vulnerable	Inhumane and should not be used Alternatives are available

Table 1: Humaneness, Efficacy, Cost-effectiveness and Target Specificity of Rabbit Control Methods

Control technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target Specificity	Comments
Diffusion fumigation of warrens using phosphine	Conditionally acceptable only when rabbit populations are low	Variable effectiveness	Expensive	Non-target wildlife using warrens are vulnerable	Labour intensive. Warren is not destroyed therefore it can be easily recolonised. Unsuitable for large areas.
Warren destruction by ripping	Conditionally acceptable only when rabbit populations are low	Effective	Cost-effective	Non-target wildlife using warrens are vulnerable	Where warrens are the principal shelter for rabbits, ripping is the most cost effective and most long-lasting method of control. Cannot be used in inaccessible, rocky or environmentally sensitive areas.
Warren destruction using explosives	Conditionally acceptable only when rabbit populations are low	Effective	Relatively expensive (compared to ripping)	Non-target wildlife using warrens are vulnerable	Provides long term management of rabbit populations. Requires trained and licensed operators and adherence to strict OH&S requirements. Effective in inaccessible and rocky areas.
Treatment of rabbit warrens using LPG technology (Rid-a-Rabbit®)	Has not been assessed, thought to be inhumane	Unknown	Unknown	Non-target wildlife using warrens are vulnerable	Labour intensive. Warren is not destroyed therefore it can be easily recolonised. Unsuitable for large areas.
Ground shooting	Acceptable	Not effective	Not cost-effective	Target specific	Time consuming and labour intensive, only suitable for small scale operations. Not suitable in certain situations e.g. where dense cover is available, inaccessible or rough terrain, near human habitation.
Biological control with RHDV	Conditionally acceptable	Variable	No cost	Target specific	Effectiveness depends on habitat. RHDV outbreaks should be followed up with conventional control methods to achieve more long-term control of rabbit populations.
Biological control with myxomatosis	Depends upon strain. Highly virulent strains will kill rabbits quickly.	Unpredictable effectiveness. Has become less effective over time	No cost	Target specific	This is a self-disseminating virus that is already widespread in the environment. It is not routinely used as a control technique though natural outbreaks should be followed up with conventional control methods to achieve more long-term control of rabbit populations.

Table 1: Humaneness, Efficacy, Cost-effectiveness and Target Specificity of Rabbit Control Methods

Control technique	Acceptability of technique with regard to humaneness*	Efficacy	Cost-effectiveness	Target specificity	Comments
Soft-jawed traps	Conditionally acceptable	Not effective	Not cost-effective	Risk of catching non-target animals	Occasionally used in areas with small isolated rabbit populations but are inefficient for general control.
Steel-jawed traps	**Not acceptable**	Not effective	Not cost-effective	Risk of catching and causing severe injury and distress to non-target animals	**Inhumane and should not be used Alternatives are available**

* Acceptable methods are those that are humane when used correctly.
* Conditionally acceptable methods are those that, by the nature of the technique, may not be consistently humane. There may be a period of poor welfare before death.
* Methods that are not acceptable are considered to be inhumane. The welfare of the animal is very poor before death, often for a prolonged period.

Standard Operating Procedures

Standard operating procedures are currently available for the following rabbit control methods:

- Inoculation of rabbits with RHDV (RAB001)
- Ground baiting of rabbits with 1080 (RAB002)
- Aerial baiting of rabbits with 1080 (RAB003)
- Ground baiting of rabbits with Pindone (RAB004)
- Diffusion fumigation of rabbit warrens (RAB005)
- Rabbit warren destruction by ripping (RAB006)
- Rabbit warren destruction using explosives (RAB007)
- Trapping of rabbits using padded-jaw traps (RAB008)
- Ground shooting of rabbits (RAB009)

Legislation

All those involved in pest animal control should familiarise themselves with relevant aspects of the appropriate Commonwealth and State or Territory legislation. The table below gives examples of some of the relevant legislation. This list is by no means exhaustive and is current at January, 2004.

Commonwealth	*Agricultural and Veterinary Chemicals Code Act 1994* *Environment Protection and Biodiversity Conservation Act 1999*
ACT	*Animal Welfare Act 1992* *Nature Conservation Act 1980* *Poisons Act 1933* *Pesticides Act 1989* *Animal Diseases Act 1993* *Prohibited Weapons Act 1996* *Firearms Act 1996* *Environment Protection Act 1997* *Rabbit Destruction Act 1919*
New South Wales	*Prevention of Cruelty to Animals Act 1979* *Pesticides Act 1999* *Rural Lands Protection Act 1998* *National Parks and Wildlife Act 1974* *Game and Feral Animal Control Bill 2002* *Threatened Species Conservation Act 1995* *Wild Dog Destruction Act 1923*
Northern Territory	*Animal Welfare Act* *Territory Parks and Wildlife Conservation Act* *Poisons and Dangerous Drugs Act*
Queensland	*Animal Care and Protection Act 2001* *Health (Drugs and Poisons) Regulation 1996* *Land Protection (Pest and Stock Route Management) Act 2002* *Nature Conservation Act 1992*
South Australia	*Prevention of Cruelty to Animals Act 1985* *Animal and Plant Control (Agricultural Protection and Other Purposes) Act 1986* *Controlled Substances Act 1984* *National Parks and Wildlife Act 1972* *Dog Fence Act 1946*
Tasmania	*Animal Welfare Act 1993* *Vermin Control Act 2000* *Poisons Act 1971* *Agricultural And Veterinary Chemical (Control of Use) Act 1995* *National Parks and Wildlife Act 1970* *Police Offences Act 1935*
Victoria	*Prevention of Cruelty to Animals Act 1986* *Catchment and Land Protection Act 1994* *Agriculture and Veterinary Chemicals (Control of Use) Act 1992* *Catchment and Land Protection Act 1994* *Drugs, Poisons and Controlled Substances Act 1981* *Wildlife Act 1975* *Flora and Fauna Guarantee Act 1988* *National Parks Act 1975*
Western Australia	*Animal Welfare Act 2002* *Agriculture Protection Board Act 1950* *Agriculture and Related Resources Protection Act 1976* *Poisons Act 1964* *Wildlife Conservation Act 1950* *Biological Control Act 1986*
Other relevant legislation	Firearms Acts Occupational Health and Safety Acts Dangerous Goods or Substances Acts Dog Acts

Note: copies of the above legislation and relevant regulations may be obtained from Federal, State and Territory publishing services.

Further Information

Contact the relevant Commonwealth, State or Territory government agency from the following list of websites:

Commonwealth	Department of Environment and Heritage http://www.deh.gov.au/
ACT	Environment ACT http://www.environment.act.gov.au/
NSW	NSW Department of Primary Industries www.dpi.nsw.gov.au
NT	Parks & Wildlife Commission www.nt.gov.au/ipe/pwcnt/
QLD	Department of Natural Resources and Mines www.nrm.qld.gov.au
SA	Animal & Plant Control Commission http://sustainableresources.pir.sa.gov.au
TAS	Department of Primary Industries, Water & Environment www.dpiwe.tas.gov.au
VIC	Department of Primary Industries, Agriculture & Food www.dpi.vic.gov.au
WA	Agriculture WA www.agric.wa.gov.au

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Natural Heritage Trust

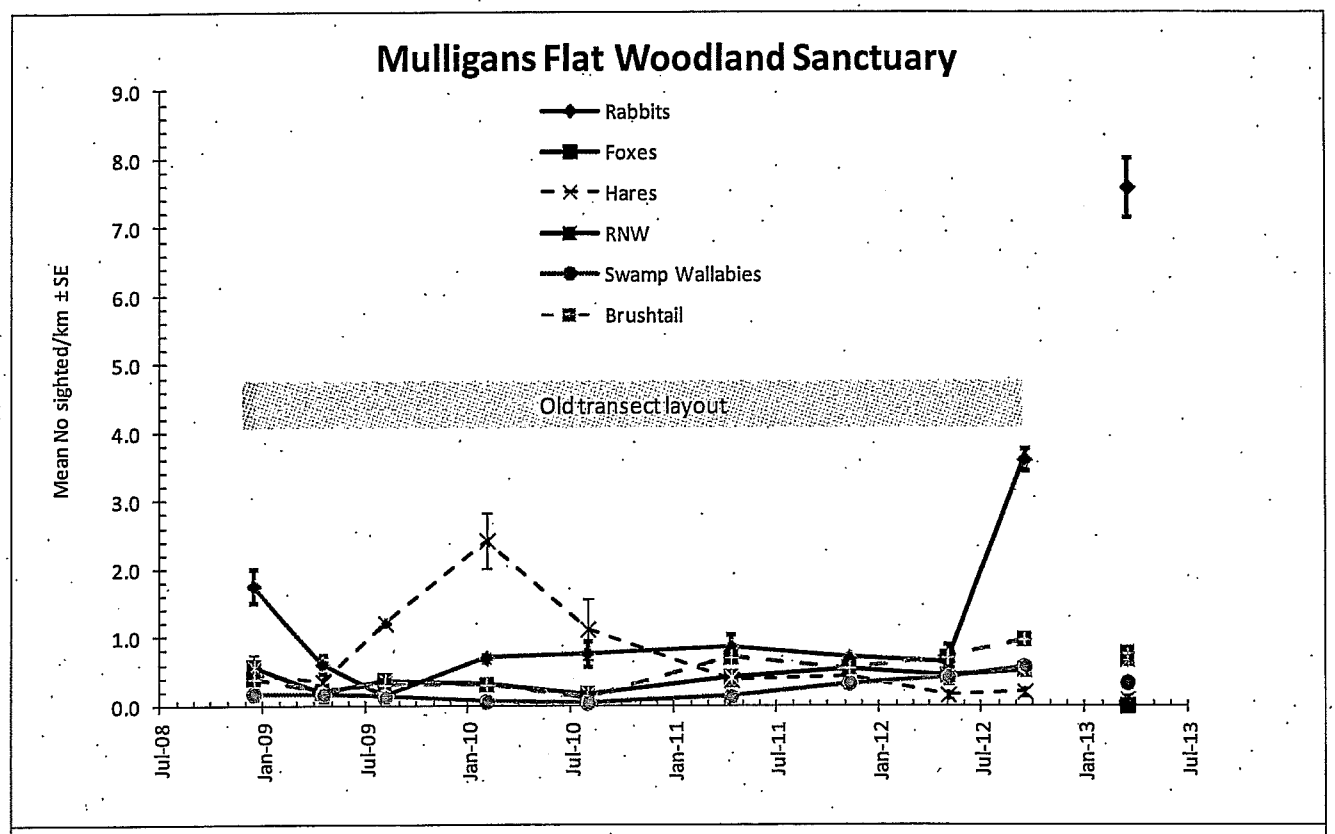
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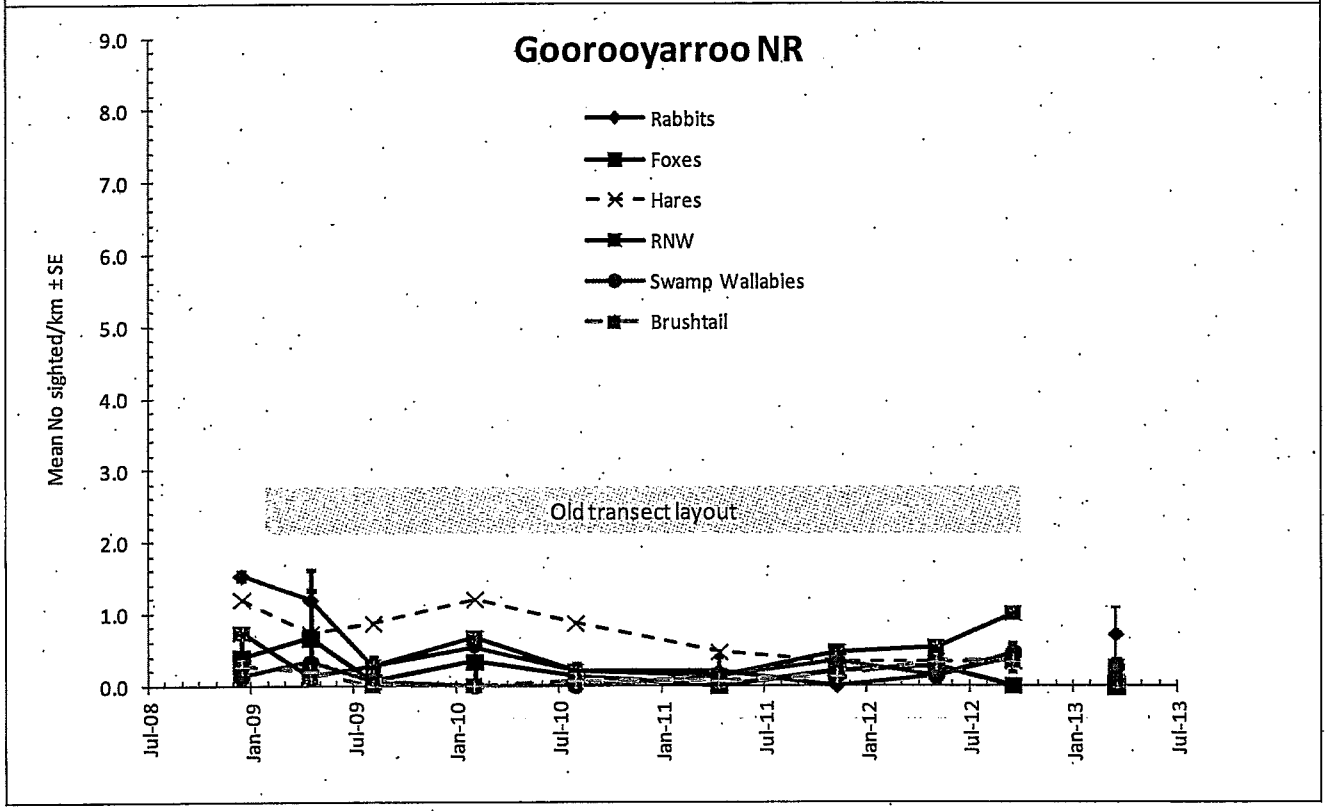
A Commonwealth Government Initiative

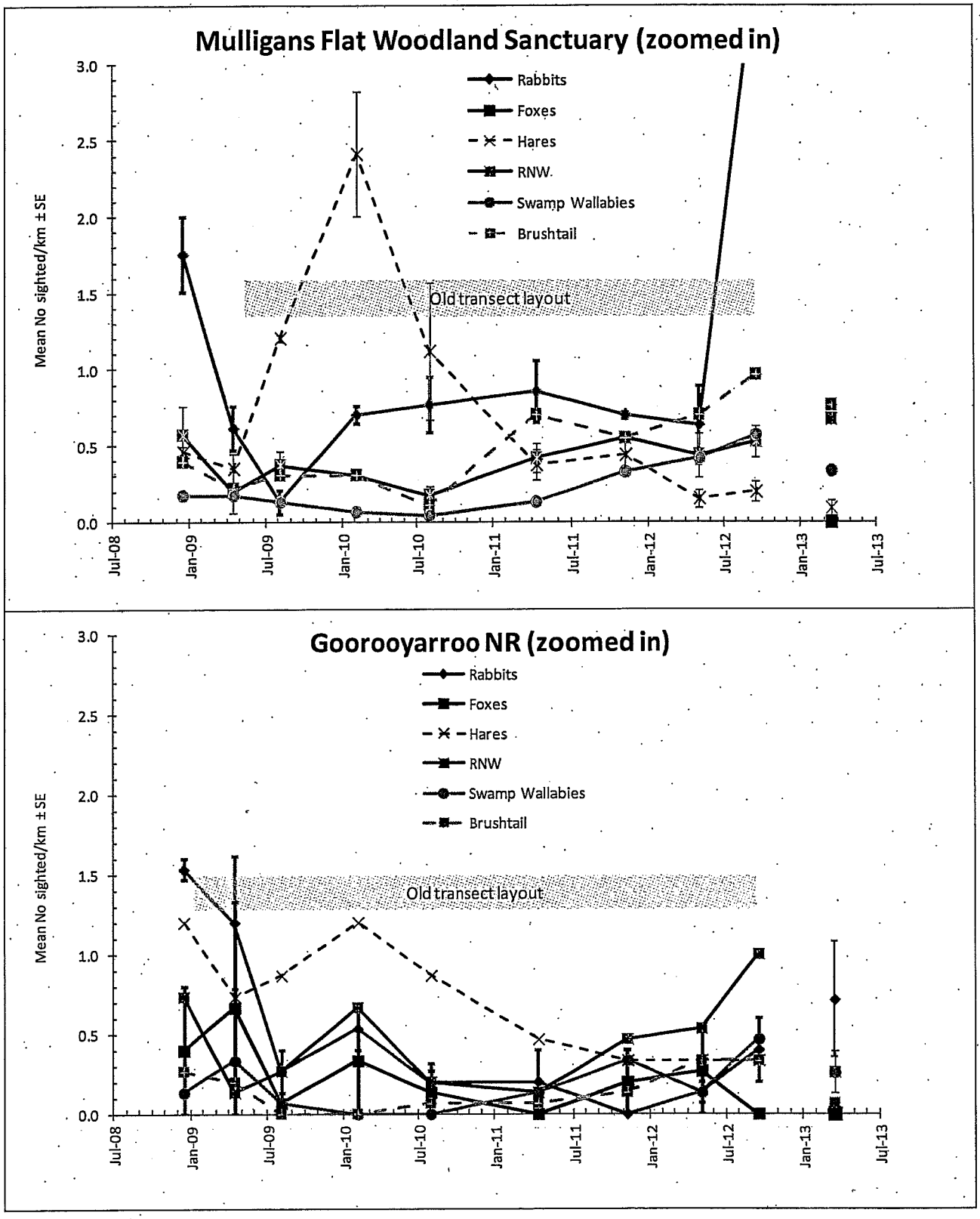
NSW DEPARTMENT OF PRIMARY INDUSTRIES

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Mulligans Flat Woodland Sanctuary
Rabbits
Foxes
Hares
RNW
Swamp Wallabies
Brushtail
Old transect layout
Mean No sighted/km ± SE
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13


Goorooyarroo NR
Rabbits
Foxes
Hares
RNW
Swamp Wallabies
Brushtail
Old transect layout
Mean No sighted/km ± SE
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13


Mulligans Flat Woodland Sanctuary (zoomed in)
Mean No sighted/km ± SE
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Rabbits
Foxes
Hares
RNW
Swamp Wallabies
Brushtail
Old transect layout
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13
Goorooyarroo NR (zoomed in)
Mean No sighted/km ± SE
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Rabbits
Foxes
Hares
RNW
Swamp Wallabies
Brushtail
Old transect layout
Jul-08
Jan-09
Jul-09
Jan-10
Jul-10
Jan-11
Jul-11
Jan-12
Jul-12
Jan-13
Jul-13

Rabbit Warren and diggings - April 2013

- this site is near Golden Sun Moth habitat
- land degradation; loss of vegetation; erosion and weed infestation





Rabbit Warren and diggings - March 2013

- this site is near Golden Sun Moth habitat, high forb diversity and rare flora e.g. Cullen Tenax
- land degradation; loss of vegetation; erosion and weed infestation





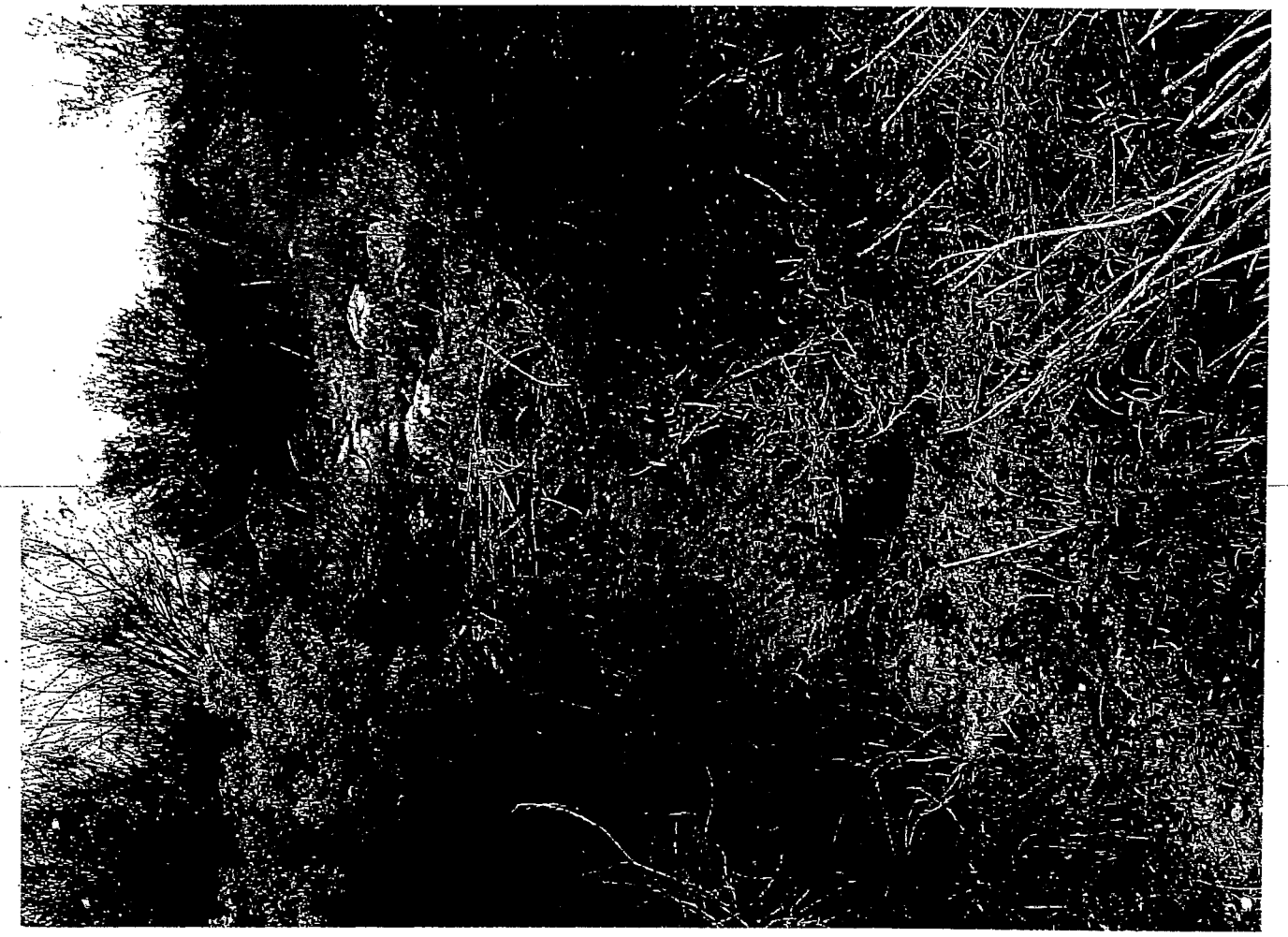
Rabbit Warren - Feb 2013

- this site is a large warren under Native Raspberry
- land degradation; erosion



- **Rabbit Warren and diggings** - Febuary 2013
    - this site is Pink-Tailed Worm Lizard habitat
    - land degradation; loss of vegetation; erosion and weed infestation





Rabbit Warren - March 2013

- impact of warren network
- land degradation; loss of vegetation; collapsing soil; erosion





ACT Government
Territory and Municipal Services

Dear Volunteers

Thank you for the significant contribution you have made toward the ACT Government's rabbit control program. Rangers and staff from the Parks and Conservation Service, within Territory and Municipal Services, appreciate the many hours you have dedicated to rabbit warren mapping over the past few months. The data you have recorded has been passed to the contractors conducting the rabbit control program, which has saved time and money by allowing them to start work immediately. With your help and the help of volunteers working in other nature reserves, we are confident in our ability to achieve effective rabbit control within Canberra Nature Parks.

The rabbit control program started on 18 January 2012 with Pindone baiting commencing in the northern blocks of Mount Majura. The Pindone baiting phase achieves an initial reduction of the rabbit population, targeting surface rabbits. This is followed by warren fumigation to further reduce the population and reduce the number of active warrens in the reserves.

We face an unusual 'green' season this year that has produced some challenges and may prolong the rabbit control program. There is still a large amount of green grasses, particularly along the powerline easements and adjacent to the houses of Ainslie and Hackett, that may prevent the uptake of poisoned bait by rabbits as they may favour their normal diet of green grass over the diced carrots we are using. We may need to delay the baiting in these areas until the grass has cured and dried out. If the grass does not fully dry out we will still conduct a baiting program but it will be a slower process.

The rabbit control program will be undertaken in stages throughout the areas our volunteers have mapped.

Thank you again for your efforts and contribution. We are confident the data you have provided will help us achieve a successful rabbit control program in Mount Ainslie and Mount Majura Nature Reserves.

Yours sincerely

Luke McElhinney
Ranger – North District
Parks and Conservation Service
23 January 2012

Rabbit poisoning program at Jerrabomberra Wetlands

- PCS has just embarked on a program to poison rabbits at Jerrabomberra Wetlands and the adjoining unleased Territory land next to the railway at Kingston. The program is follow up management of rabbits remaining after primary treatment in 2010 and 2011 which reduced the rabbit population by 91%.
- In 2010 and 2011 the program used pindone poison which is the preferred toxin in suburban areas due to the existence of an antidote which can be administered in case of accidental poisoning of domestic animals by consumption of the bait (primary poisoning) , or of poisoned rabbit carcasses (secondary poisoning). In contrast, 1080 poison is very toxic to dogs and cats and has no effective antidote.
- In 2012 a decision was made to use 1080 poison instead of pindone poison in the area around the bird hides and Dairy Flat buildings to the east of Jerrabomberra Creek. 1080 poison can be used in this area since it is beyond the minimum 500 metre distance from the nearest residential area (The Causeway Estate at Kingston) specified in the label direction for 1080 poison.
- The main reason for the decision to use 1080 at east Jerrabomberra Wetlands was due to recent concerns raised by Jerry Olsen from University of Canberra (see article in Canberra Times on 12/3/12) about the possibility that the decline the in numbers of the threatened Little Eagle in the ACT may be due to secondary poisoning after consumption of rabbits poisoned by pindone.
-
- 1080 poison is also the preferred toxin for rabbits in areas that are distant from habitation because the poison is more humane (it kills rabbits with hours rather than up to 10 days) and more effective (rabbits only require one small feed on one occasion rather than two or three feeds over a week).
- Rabbit poison on diced carrot is placed in cage style bait stations which prevent access to the bait by all animals larger than rabbits (eg. kangaroos, wallabies, livestock and dogs). Carrot bait is used in preference to oat bait since seed eating birds (parrots and finches) are attracted to oats and can access the bait stations.
- The strategy of presenting poisoned carrot bait in stations is successful in excluding all common non-target species in the ACT with the exception of brush-tailed possums. Possums (being of a similar size to rabbits) can access the stations and are known to eat carrot.
- 1080 has been used successfully in 2010 and 2011 to poison rabbits on the ACTEW land on Dairy Road with no recorded deaths of possums.
- The likelihood of poisoning possums with 1080 was raised by the contractor undertaking the work at the Wetlands prior to the program and a mitigating strategy of providing an alternative food source (apple) for possums was undertaken.

- Unfortunately the 1080 poison placed in baiting stations on 19 March 2012 at the Wetlands resulted in the death of three possums.

Considerations for future programs to reduce the likelihood of possum deaths

- It is possible that the possums that died from 1080 poison would also have succumbed if pindone poison had been used if they had eaten enough bait over the three successive pindone feeds placed out for rabbits. Possums that die of pindone poisoning will become sick and lethargic and are far more likely to die in their nests than out in the open after a relatively quick death from 1080. Returning to the use of pindone is therefore not necessarily the answer and has the potential worse scenario of increasing the chance of poisoning a threatened bird species, the Little Eagle.

- Wildlife monitoring cameras and/or sand pads for foot prints can be placed at bait stations during pre -feeding to determine if non-target species are feeding on carrot. If possums are observed, bait stations can be moved or a decision made not to proceed with the program. However, bait stations are initially placed in locations targeted to where rabbits are most active so moving stations far enough away from possums will result in a far less successful kill of rabbits in that area.

- Diversionary feeding of possums with apple (a likely preferred food to carrot, and/or with other food such as boiled egg) in areas away from rabbit bait stations and not accessible by rabbits, will be more successful if carried out from the beginning of the program in parallel with the pre-feeding of rabbits with un-poisoned carrot. This will hopefully condition the possums to the alternative feed rather than to the carrot bait.

- Rabbit management programs are more effective if they involve a number of rabbit control methods, the most important of which is harbour removal. This involves removal of thick woody vegetation (woody weeds or native shrubs) and ripping of rabbit warrens with machinery. Fumigation of rabbit burrows to kill rabbits prior to warren ripping is also recommended. Follow up shooting of surface rabbits can also be undertaken although it is an inefficient method of dealing rabbits over large areas and in thick vegetation, and has associated public safety concerns near residential areas.

- Unfortunately Jerrabomberra Wetlands poses a number of challenges for use of alternative techniques to rabbit poisoning. The adjoining unleased Territory land at Kingston contains large thickets of woody weeds which TAMS does not have funding to remove. Prior to 2010 this site contained the highest density of rabbits. The site is also a former dump and is contaminated by asbestos which precludes any ground disturbance necessary for warren ripping or fumigation. Practically speaking the warrens are also not accessible for ripping or fumigating under the dense woody weed thickets. On the eastern side of Jerrabomberra Creek in the Jerrabomberra Wetlands Reserve rabbits are mainly located amongst native shrub beds that have been planted for bird habitat, and under buildings (bird hides and the Dairy Flat buildings). Harbour removal is not possible in this instance, and burrows under buildings are not accessible for fumigation, leaving poisoning as the only effective method of control.

- In the long term rabbits should be excluded from under built structures by use of fine mesh fencing that is dug into the ground or laid with a long "skirt" along the ground facing out from the building to prevent rabbits burrowing under it. Future development of the unleased Territory land at Kingston will eventually result in the removal of woody weeds and asbestos and presumably the extinction of the rabbit population inhabiting this block. This leaves only the rabbits inhabiting the dense native shrub beds at the Wetlands that may require poisoning, although they do produce occasional breeding burrows under the shrubs that should be fumigated and then dug in with hand tools.

- In summary, all pest management requires careful consideration of all the costs and benefits (social, environmental and financial) associated with the different techniques available, including the "do nothing" option. While there are some options available to reduce the risk of non-target poisoning of possums in locations with the above challenges, the risk can probably never be entirely eliminated.

* Internal document

21

North District VOP 2012: October follow-up program

Legislative Framework

Wild European rabbits are defined as a pest animal in all Australian states and territories. They are listed as a key threatening process under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.* Private and public landowners are required to take reasonable actions to control rabbits on their land. ACT Parks and Conservation Service conduct rabbit control program in accordance with the ACT Vertebrate Pest Management Strategy. The legislative framework and is primarily guided by: *Pest Plants and Animals Act 2005; ACT Nature Conservation Act 1980; Animal Welfare Act 1992.*

Values

North District reserves are Lowland Woodland and Lowland Grassland communities. Within these communities are two threatened ecological communities: Yellow-box Red-gum grassy Woodlands (YRGW); and Natural Temperate Grasslands (NTG). These threatened ecological communities make up a significant proportion of Belconnen Hills, Majura Valley and Gungahlin grasslands nature reserves. The protection of YRGW and NTG is North District core business.

Program Background

- In an effort to reduce rabbit numbers, control programs have been conducted in North District since 2001
- The *rabbit calici disease* virus was introduced into parts of Canberra in 2007. However, this was in most parts unsuccessful
- An integrated rabbit control program was undertaken in early 2008/9 at Majura Nature Reserve, Watson Woodlands and adjacent to the Hackett Horse Paddocks
- In subsequent years monitoring and follow-up control programs have been conducted annually in Majura Valley (Mt Majura and Mt Ainslie); Belconnen Hills (Mt Painter, The Pinnacle and North Kama); and occasionally in Gungahlin Grasslands (Mulanggari, Gungaderra and Crace), Dunlop Grasslands, Aranda Bushlands and Bruce Ridge
- In 2011 North District began scheduling follow-up rabbit control programs six months apart as a strategy to better combat rabbit population growth. This scheduling applies to Mt Painter, Pinnacle, Mt Majura and Mt Ainslie only.

Objectives

- reduce land degradation caused by rabbits which has negative impacts on biodiversity;
- reduce rabbit grazing and browsing to maximise regeneration of native flora;
- reduce rabbit grazing, browsing and shelters to reduce their competition with native fauna;
- reduce rabbit diggings and warrens that result in loss of vegetation cover and create erosion
- reduce rabbit diggings and warrens that result in and soil disturbance and lead to weed infestation
- maintain low populations of rabbits in reserves
- limit the spread of rabbits in North District nature reserves and neighbouring lands/properties

Scope

- Monitoring
  - Work with ParkCare groups (FOMM, AW, FOAB, FOMP, FOTPIN) to map warrens in Mt Majura, Mt Ainslie, Mt Painter, Aranda Bushlands, Pinnacle, North Kama, Bottom Pinnacle
  - use archived and new GPS data to determine densities and identify ongoing hotspots
  - conduct pre and post spotlight counts in control areas
- Control
  - conduct a full follow-up program in the four main reserves of Belconnen Hills (MT Painter & Pinnacle) and Majura Valley (Mt Majura & Mt Ainslie)
- Methods
  - Warren fumigation - primary method;
  - Baiting - Pindone is excluded from the program due to home ranges; 1080 baiting is being explored for UXO site but is unresolved – will attempt in 2013
  - Warren ripping – will occur in suitable terrain (Mt Majura, Pinnacle). May need to be complete in early 2013
- Reporting
  - Summary results of spotlight data - produce visual data e.g. charts
  - Warren mapping – analyse data and develop a profile of densities, reopening and determine hotspots for assumed future control – produce visual data e.g. maps
  - Budget/expenditure to CC/SS

Time frame

- complete all works from 1 September - 30 October 2012

Budget

- $40K VOP. Any extra monies can be used in a hotspot program in April 2013
- $20K Woodland Restoration Project (WRP) money is available to enhance/expand the program

Stakeholders

- ACT Government
- Parkcare/Landcare/Community groups
- Neighbouring landholders
- Animal welfare groups

- Contractors

Contractor

- Chris Robinson: chosen as main contractor due to being the lowest risk; best value for money due to capability of employing appropriate technology (booked in April for September start)

Staff responsibilities

- CW to oversee program
- LM to assist setting up program
- CW, LM, BB to supervise contractor when operating in their reserves
- CW to supervise LM's reserves when LM has RDO's
- LM to supervise CWs reserves when CW has RDO's

Communications

- Parkcare groups - CW
- Chris Condon - CW
- Chris Robinson – CW, LM
- Signage – LM, CW, BB,
- Public and neighbours - CW
- WRP officer - CW

Records/documentation

- Folder set up- LM
- Works plan – LM
- Staff record sheet – LM, CW, BB
- Bird records sheet - LM
- Risk Assessment - CW
- Time Schedule – CW
- Financial monitoring – CW, LM
- Contractor record sheet – CW, LM, BB
- Maps – LM, CW, BB
- GPS set up - LM

Schedule

Reserve groups	Time (approx)
1. Painter	3-6 Sept (4 day)
2. Pinnacle	7-20 Sept (10 day)
8. Majura	21 Sept – 11 Oct (15 days)
9. Ainslie	12-31 Oct (14 days)

* Ripping (in house) funding from North District

Sept/Oct Program

Op Plan	ID No.	Agency Details	Location	Type of Work	Funding Allocation	Actual Cost	Budgets
VOP	VRM04	PC/Mitchell	Pinnacle Nature Reserve and Kama agistment	Rabbit	VOP $12K	$	VOP = $60K
VOP	VRM03	PC/Mitchell	Mount Painter Nature Reserve	Rabbit	VOP $5K	$	
VOP	VRM01	PC/Mitchell	Mount Majura	Rabbit	VOP $20K	$	
VOP	VRM02	PC/Mitchell	Mount Ainslie Nature Reserve	Rabbit	VOP $20K	$	

North District VOP 2013: April follow-up program

Legislative Framework

Wild European rabbits are defined as a pest animal in all Australian states and territories. They are listed as a key threatening process under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.* Private and public landowners are required to take reasonable actions to control rabbits on their land. ACT Parks and Conservation Service conduct rabbit control program in accordance with the ACT Vertebrate Pest Management Strategy. The legislative framework and is primarily guided by: *Pest Plants and Animals Act 2005; ACT Nature Conservation Act 1980; Animal Welfare Act 1992.*

Values

North District reserves are Lowland Woodland and Lowland Grassland communities. Within these communities are two threatened ecological communities: Yellow-box Red-gum grassy Woodlands (YRGW); and Natural Temperate Grasslands (NTG). These threatened ecological communities make up a significant proportion of Belconnen Hills, Majura Valley and Gungahlin grasslands nature reserves. The protection of YRGW and NTG is North District core business.

Program Background

- In an effort to reduce rabbit numbers, control programs have been conducted in North District since 2001
- The *rabbit calici disease* virus was introduced into parts of Canberra in 2007. However, this was in most parts unsuccessful
- An integrated rabbit control program was undertaken in early 2008/9 at Majura Nature Reserve, Watson Woodlands and adjacent to the Hackett Horse Paddocks
- In subsequent years monitoring and follow-up control programs have been conducted annually in Majura Valley (Mt Majura and Mt Ainslie); Belconnen Hills (Mt Painter, The Pinnacle and North Kama); and occasionally in Gungahlin Grasslands (Mulanggari, Gungaderra and Crace), Dunlop Grasslands, Aranda Bushlands and Bruce Ridge
- In 2011 North District began scheduling follow-up rabbit control programs six months apart as a strategy to better combat rabbit population growth. This scheduling applies to Mt Painter, Pinnacle, Mt Majura and Mt Ainslie only.

Objectives

- reduce land degradation caused by rabbits which has negative impacts on biodiversity;
- reduce rabbit grazing and browsing to maximise regeneration of native flora;
- reduce rabbit grazing, browsing and shelters to reduce their competition with native fauna;
- reduce rabbit diggings and warrens that result in loss of vegetation cover and create erosion
- reduce rabbit diggings and warrens that result in and soil disturbance and lead to weed infestation
- maintain low populations of rabbits in reserves
- limit the spread of rabbits in North District nature reserves and neighbouring lands/properties

Scope

- Monitoring
  - Work with ParkCare groups (FOMM, AW, FOAB, FOMP, FOTPIN) and the WRP officer to map warrens in Mt Majura, Mt Ainslie, Mt Painter, Aranda Bushlands, Pinnacle, North Kama, Bottom Pinnacle and Innabanya
  - rangers to map warrens in Bruce Ridge and Gungahlin Grasslands
  - use archived and new GPS data to determine densities and identify ongoing hotspots
  - conduct pre and post spotlight counts in control areas
- Control
  - conduct a full follow-up program in the four main reserves of Belconnen Hills (MT Painter & Pinnacle) and Majura Valley (Mt Majura & Mt Ainslie)
  - conduct small scale program in isolated pockets of grassland reserves, inner Belconnen reserves and neighbouring property – Innabanya
- Methods
  - warren fumigation - primary method;
  - Pindone baiting - excluded from the programs in Belconnen Hills and Majura Valley due to home ranges; was to be used in Gungaderra grasslands, however at the time of control the rabbit population dramatically decreased (suspected infestation of calicivirus)
  - 1080 Baiting - considering using in UXO site with a 500m buffer around Campbell boundary
  - Warren ripping – will occur in suitable terrain (grasslands, Majura Fair site, Pinnacle)
- Reporting
  - Record spotlight data - analyse results
  - Record warren mapping – analyse data and develop a profile of densities, reopening and determine hotspots for assumed future control

Time frame

- complete all works from 3 April - 3 June 2013

Budget

- The money left over from the spring program was planned to be used in an autumn follow-up program to treat 'hotspots' or areas with the highest densities within the 4 reserves treated in

Spring2012 (Majura, Ainslie, Painter, Pinnacle); additional VOP funding was allocated in Autumn resulting in a full program being conducted in the 4 reserves; Dunlop Grasslands (Bin St paddocks) was added

- Woodland Restoration Project (WRP) money became available and is used to support treatment in isolated areas in the Belconnen which included Aranda Bushlands and Bruce Ridge (S/E corner); and Majura Valley including Innabanya property and the Majura Pines border
- Offset money became available to treat Gungahlin Grasslands warrens. This will used be in Gungaderra and Mulanggari Grasslands

- VOP money became available to do a collaborative program with CSIRO, Botanical Gardens, City Services and ANU of Black Mt and the lands that border Black Mt. ANU will be coordinating the program and VOP program will make a contribution to the whole program. Matt Gregory is the contractor

- $5.4K remaining from VOP budget; $27K extra VOP allocation
- $20K remaining from WRP budget (can only be used on YBRG woodland reserves/lands); and
- $10K from Offset (can only be used on grasslands and neighbouring unleased territory lands)

Stakeholders

- ACT Government
- Parkcare/Landcare/Community groups
- Neighbouring landholders
- Animal welfare groups
- Contractors

Contractor

- Chris Robinson: chosen as main contractor due to being the lowest risk; best value for money due to capability of employing appropriate technology (booked in November for April-May)

Staff responsibilities

- CW to oversee program
- LM to assist setting up program
- CW, LM, BB, KJ to supervise contractor when operating in their reserves
- CW to supervise LM's reserves when LM has RDO's
- LM to supervise CWs reserves when CW has RDO's
- GW or CC– mixing pindone if used in grasslands

Communications

- Parkcare groups - CW
- Chris Condon - CW
- Chris Robinson – CW, LM
- Signage – LM, CW, BB, KJ
- Public and neighbours - CW
- WRP officer - CW
- Offsets officer - CW

Records/documentation

- Folder set up- LM
- Works plan – CW
- Staff record sheet – LM, CW, BB, KJ
- Bird records sheet - LM
- Risk Assessment - CW
- Time Schedule – CW
- Financial monitoring – CW, LM, BB, KJ
- Contractor record sheet – CW, LM, BB, KJ
- Maps – LM, CW, BB, KJ
- GPS set up - LM

Schedule

Reserve groups	Time (approx)
1. Dunlop GL	3 April (1 day)
2. Mulanggari	5 April (2 day)
3. Pinnacle	8-16 April (5 days)
4. Painter	17 April (1 day)
5. Aranda	18 -19 April (1.5 days)
6. Bruce	19&22 April (1.5 days)
7. Innabanya	23-24 April (2 day)
8. Majura	25April – 8 May (11 days)
9. Ainslie	9-24 May (12 days)
10. Gungahlin GL	27-29 May (3 days)

* Ripping (in house) funding from North District

*Remember different cost codes for each funding source

April
Final Program

Op Plan	D.N.D.	Agency District	Location	Type of Work	Funding Allocation	Actual Cost	Budgets
VOP	VRM04	PC/Mitchell	Pinnacle Nature Reserve and Kama agistment	Rabbit	VOP $6K	$	VOP = $32.4K
VOP	VRM03	PC/Mitchell	Mount Painter Nature Reserve	Rabbit	VOP $2K	$	
VOP	VRM09	PC/Mitchell	Dunlop Grasslands (Bins St paddock)	Rabbit	VOP $1K	$	
VOP	VRM01	PC/Mitchell	Mount Majura & Watson Woodland	Rabbit	VOP $8K	$	
OP	VRM02	PC/Mitchell	Mount Ainslie Nature Reserve	Rabbit	VOP $15K	$	
VOP	NA	PC/Mitchell	Bruce Ridge	Rabbit	WRP $3K	$	Woodlands RP = $20K
VOP	VRM07	PC/Mitchell	Aranda Bushland	Rabbit	WRP $3K	$	
VOP	NA	PC/Mitchell	Innabanya - Woodlands restoration request	Rabbit	WRP $4K	$	
VOP	VRM01	PC/Mitchell	Mount Majura & Watson Woodland	Rabbit	WRP $10K	$	
VOP	NA	PC/Mitchell	Mulanggari Nature Reserve	Rabbit	Offset funds $3K	$	Offset = $10K
VOP	VRM06	PC/Mitchell	Gungahlin Grasslands	Rabbit	Offset funds $5K	$	
							Total - $ 62.4K

Summary of Program – Mt Majura Nature Reserve

Reserve	Program Date	Control Method	Warrens Treated	Contractor or In-house	Completion Rate	Comments
Mt Majura	January/March 2012	Baiting Pindone	87 bait stations	C. Robinson	100% completed	As of April 2012 pindone/baiting is restricted due to Little Eagles. Use of Pindone is currently under review. A small population of Wombats stopped progress in one section of reserve Suggested Improvements: do a post-sweep of area and perform follow up fumigation to reopen warrens Ripping in the lower slopes of grassy woodland was restricted by the budget
	January/March 2012	Fumigation	686	C. Robinson	100% completed	
	October 2012	Fumigation	93	C. Robinson	Targeted the mapped reopenings and new warrens. 99% of program completed	
	April 2013	Fumigation	**To be completed**	Contractor	Planned follow-up on reopenings and new warrens	
	May 2013	Ripping	**To be completed**	In house		
			Total fumigated warrens = 779			

Summary of Program – Mt Ainslie Nature Reserve

Reserve	Program Date	Control Method	Warrens Treated	Contractor or In-house	Completion Rate	Comments
Mt Ainslie	January/March 2012	Baiting Pindone	105 bait stations	M. Gregory	70% due to UXO site	UXO site restricted the program in the south-eastern section. A strategy needs to be in place for this financial year, treatment must occur even if its just pindone, for the population has increased and expanded over the past year As of April 2012 pindone/baiting is restricted due to Little Eagles. Use of Pindone is currently under review. Follow up fumigation of reopen warrens in targeted area 'hotspot' was very successful Suggested Improvements: A future ripping program would be of benefit in the grassy woodland Neighbors need further encouragement to do a control program – defense conducted a program that employed ferrets, this may be an option for the UXO site. Investigating using 1080 in UXO site.
	January/March 2012	Fumigation	468	In-house treatment of reopened burrows	70% due to UXO site	
	May 2012	Fumigation	42	C. Robinson	Follow up of treated warrens at high density sites - tip site and house line	
	October 2012	Fumigation	96	C. Robinson	Targeted the mapped reopenings and new warrens.100% of program completed	
	April 2013	Fumigation	**To be completed**	Contractor	Planned follow-up on reopenings and new warrens	
			Total fumigated warrens = 606			



Mt Ainslie/Mt Majura Rabbit Warrens 2012 (2013 program ongoing)

Legend

- Warrens Treated 2012
- Fences
- Gates/Access points
- Powerlines
- Reserve boundaries

PCL_Track_Trails
Current_St
- Float
- Rigid_Float
- Tanker
- Light Unit
- Walking Trail
- Other Trails

0 145 290 580 870 1,160 Meters

N

ACT Government

10 April 2013

Contact details
13 22 81

Disclaimer: ACT Parks and Conservation Service does not warrant that the data is free from errors.

Data Copyright: Australian Capital Territory, Canberra 2012.

January - April 2012
Ainslie Majura Control Program
Pre Control Counts

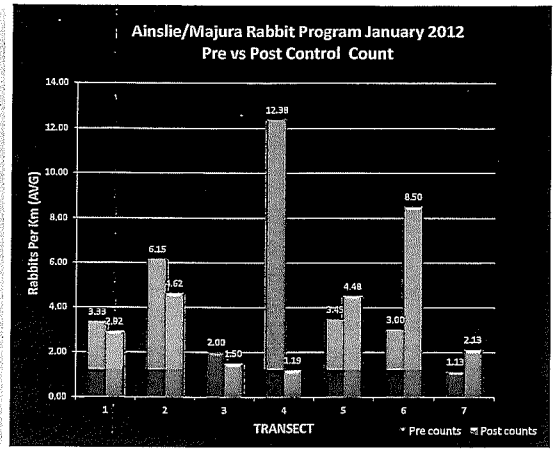
Transects	Short Name	Distance (km)	Night 1 - 16/04/12 Rabbits	Night 2 - 17/04/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
1 - Top Hwy main gate - down Oldfields Ln (North side only)	T1	2.4	6	10		8.00	3.33
2 - Oldfields Lane (South side only) - finish at treeline	T2	2.6	16	16		16.00	6.15
3 - Treeline - past MacKenzie to Phillip Ave Gate	T3	2	5	3		4.00	2.00
4 - Phillip Ave Gate to Canning Street gate	T4	2.1	26	26		26.00	12.38
5 - Canning St to Summit Rd	T5	2.9	13	7		10.00	3.45
6 - Campbell Park Rd gate north all the way to end of Hancock Rd Quarantine	T6	3	9	9		9.00	3.00
7 - Hancock Rd right at power line intersect - follow around to MacKenzie 1	T7	4	3	6		4.50	1.13
	Totals	19	78	77		77.50	4.08

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from a standing position on tray
* Conditions: Grass 20 cm

Post Control Counts

Transects	Short Name	Distance (km)	Night 1 - 16/04/12 Rabbits	Night 2 - 17/04/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
1 - Top Hwy main gate - down Oldfields Ln (North side only)	T1	2.4	6	8		7.00	2.92
2 - Oldfields Lane (South side only) - finish at treeline	T2	2.6	14	10		12.00	4.62
3 - Treeline - past MacKenzie to Phillip Ave Gate	T3	2	3	3		3.00	1.50
4 - Phillip Ave Gate to Canning Street gate	T4	2.1	2	3		2.50	1.19
5 - Canning St to Summit Rd	T5	2.9	9	17		13.00	4.48
6 - Campbell Park Rd gate north all the way to end of Hancock Rd Quarantine	T6	3	26	25		25.50	8.50
7 - Hancock Rd right at power line intersect - follow around to MacKenzie 1	T7	4	7	10		8.50	2.13
	Totals	19	67	76		71.50	3.76

NOTE: Transect 6 was not treated in this program due to unexploded ordinance in this area



August - November 2012
Ainslie Majura Control Program
Pre Control Counts

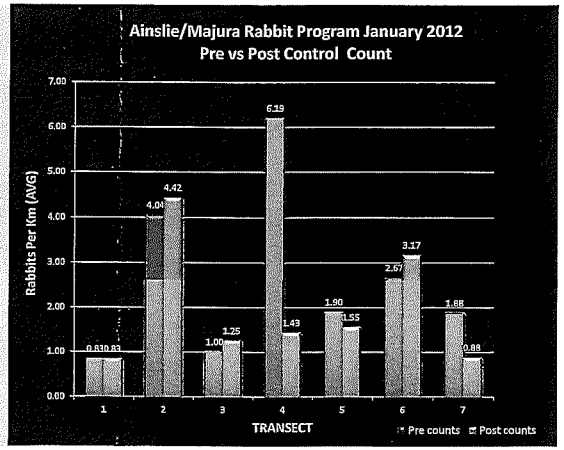
Transects	Short Name	Distance (km)	Night 1 - 10/08/12 Rabbits	Night 2 - 15/08/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
1 - Top Hwy main gate - down Oldfields Ln (North side only)	T1	2.4	2	2		2.00	0.83
2 - Oldfields Lane (South side only) - finish at treeline	T2	2.6	17	4		10.50	4.04
3 - Treeline - past MacKenzie to Phillip Ave Gate	T3	2	3	1		2.00	1.00
4 - Phillip Ave Gate to Canning Street gate	T4	2.1	17	9		13.00	6.19
5 - Canning St to Summit Rd	T5	2.9	8	3		5.50	1.90
6 - Campbell Park Rd gate north all the way to end of Hancock Rd Quarantine	T6	3	12	4		8.00	2.67
7 - Hancock Rd right at power line intersect - follow around to MacKenzie 1	T7	4	11	4		7.50	1.88
	Totals	19	70	27		48.50	2.55

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from a standing position on tray
* Conditions: Grass 20 cm

Post Control Counts

Transects	Short Name	Distance (km)	Night 1 - 10/08/12 Rabbits	Night 2 - 15/08/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
1 - Top Hwy main gate - down Oldfields Ln (North side only)	T1	2.4	1	3		2.00	0.83
2 - Oldfields Lane (South side only) - finish at treeline	T2	2.6	14	9		11.50	4.42
3 - Treeline - past MacKenzie to Phillip Ave Gate	T3	2	1	4		2.50	1.25
4 - Phillip Ave Gate to Canning Street gate	T4	2.1	4	2		3.00	1.43
5 - Canning St to Summit Rd	T5	2.9	4	5		4.50	1.55
6 - Campbell Park Rd gate north all the way to end of Hancock Rd Quarantine	T6	3	10	9		9.50	3.17
7 - Hancock Rd right at power line intersect - follow around to MacKenzie 1	T7	4	6	1		3.50	0.88
	Totals	19	40	33		36.50	1.92

NOTE: Transect 6 was not treated in this program due to unexploded ordinance in this area



April - May 2012
Ainslie Majura Control Program
Pre Control Counts

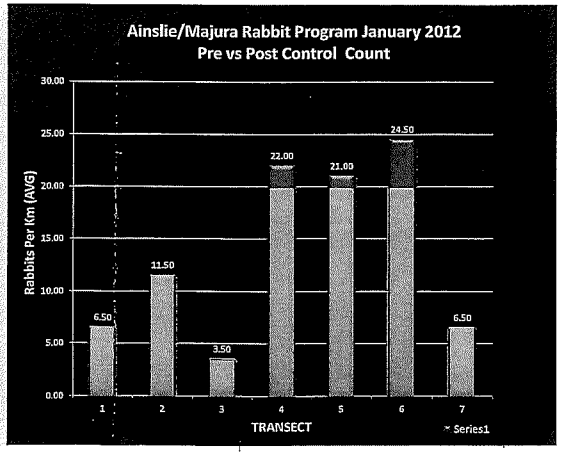
Transects	Short Name	Distance (km)	Night 1 - 27/04/13 Rabbits	Night 2 - 28/04/13 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
1 - Top Hwy main gate - down Oldfields Ln (North side only)	T1	2.4	4	9		6.50	2.71
2 - Oldfields Lane (South side only) - finish at treeline	T2	2.6	7	16		11.50	4.42
3 - Treeline - past MacKenzie to Phillip Ave Gate	T3	2	1	6		3.50	1.75
4 - Phillip Ave Gate to Canning Street gate	T4	2.1	21	23		22.00	10.48
5 - Canning St to Summit Rd	T5	2.9	24	18		21.00	7.24
6 - Campbell Park Rd gate north all the way to end of Hancock Rd Quarantine	T6	3	28	21		24.50	8.17
7 - Hancock Rd right at power line intersect - follow around to MacKenzie 1	T7	4	10	3		6.50	1.63
	Totals	19	95	96		95.50	5.03

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from a standing position on tray
* Conditions: Grass 20 cm

Post Control Counts

Transects	Short Name	Distance (km)	Night 1 - 27/04/13 Rabbits	Night 2 - 28/04/13 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
1 - Top Hwy main gate - down Oldfields Ln (North side only)	T1	2.4				#DIV/0!	#DIV/0!
2 - Oldfields Lane (South side only) - finish at treeline	T2	2.6				#DIV/0!	#DIV/0!
3 - Treeline - past MacKenzie to Phillip Ave Gate	T3	2				#DIV/0!	#DIV/0!
4 - Phillip Ave Gate to Canning Street gate	T4	2.1				#DIV/0!	#DIV/0!
5 - Canning St to Summit Rd	T5	2.9				#DIV/0!	#DIV/0!
6 - Campbell Park Rd gate north all the way to end of Hancock Rd Quarantine	T6	3				#DIV/0!	#DIV/0!
7 - Hancock Rd right at power line intersect - follow around to MacKenzie 1	T7	4				#DIV/0!	#DIV/0!
	Totals	19	0	0		0.00	0.00

NOTE: Transect 6 was not treated in this program due to unexploded ordinance in this area





Mt Ainslie & Mt Majura Rabbit Warrens
Volunteer Mapping 2011/2012

Legend

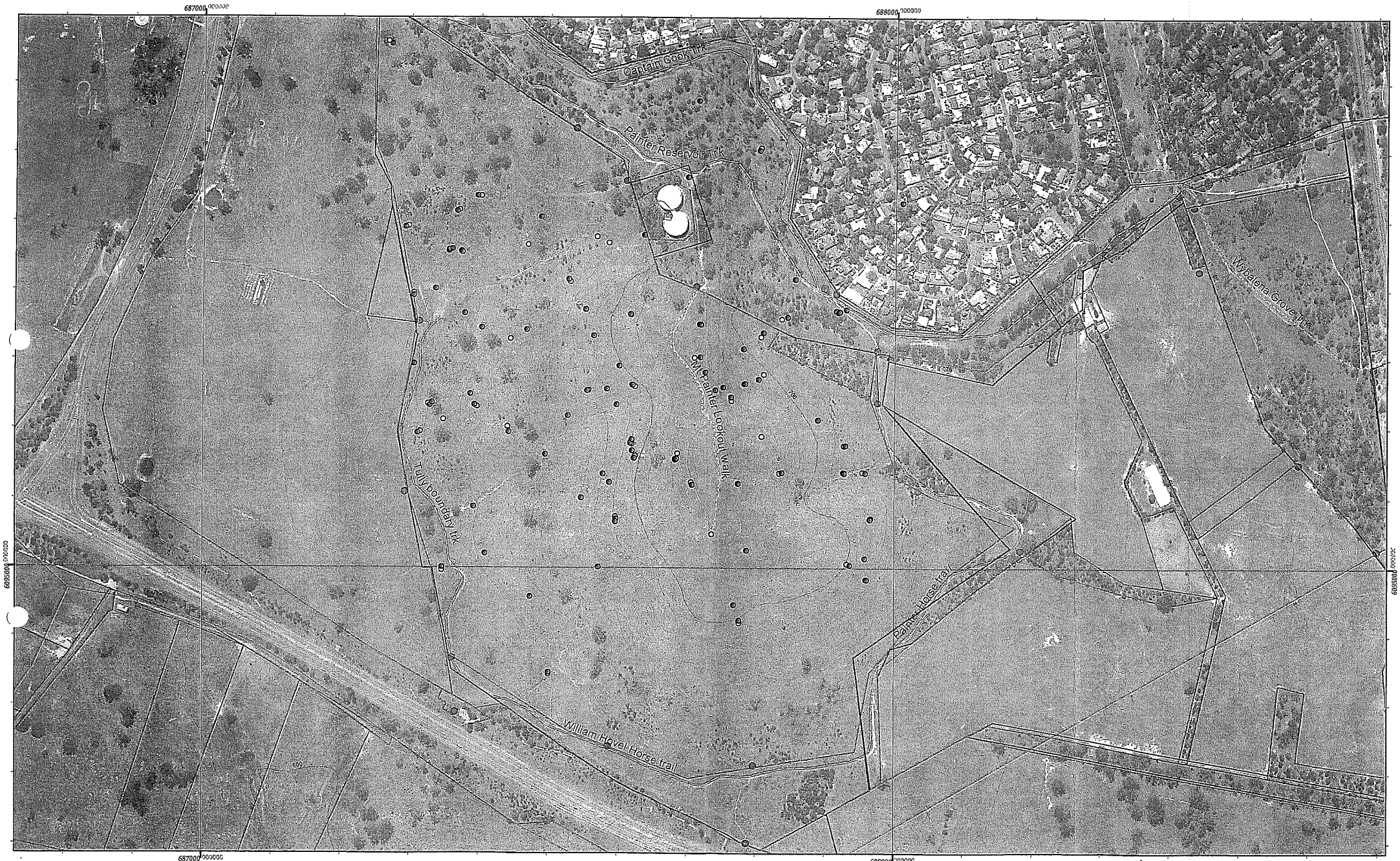
Rabbit Warrens 2012
Mapped Area
Gates
Tracks and Trails

0 175 350 700 1,050 1,400
Meters

N

Summary of Program – Mt Painter Nature Reserve

Reserve	Program Date	Control Method	Warrens Treated	Contractor or In-house	Completion Rate	Comments
Mt Painter	November 2011	Fumigation	75	M. Gregory	70% - work stopped due to weather	Population has been substantially reduced since 2010. Spotlight counts from 2010 to 2013 shows a significant reduction in the population after the initial 2010 full program. The low levels have been maintained since 2010. As of April 2012 pindone/baiting is restricted due to Little Eagles. Use of Pindone is currently under review. Ripping is restricted by the steep and rocky terrain As of 2012 fumigation is the only viable method of control. Western Ridge - large warrens not treated due to native raspberry – strategy to be developed
	January 2012	Fumigation	16	In-house treatment of reopened burrows	15% - lack of resources could not complete	
	April 2012	Fumigation	18	C. Robinson	15% completed – end of program	
	October 2012	Fumigation	51	C. Robinson	Full program conducted.100% of program completed	
	April 2013	Fumigation	38	C. Robinson	Full program conducted.100% of program completed	
	Total fumigated warrens = 198					



Mt Painter Nature Reserve
Rabbit Warrens 2012/2013

Legend

- Warrens Treated 2012
- Warrens Treated Autumn 2013
- Fences
- Gates/Access points
- Powerlines
- Reserve boundaries

PCL_Track_Trails
Current_St
- Float
- Rigid_Float
- Tanker
- Light Unit
- Walking Trail
- Other Trails

0 25 50 100 150 200 Meters

N

ACT Government

5 March 2013

Contact details
13 22 81

Disclaimer: ACT Parks and Conservation Service does not warrant that the data is free from errors.

Data Copyright: Australian Capital Territory, Canberra 2012.

November - January 2011/12

Mt Painter Control Program

Pre Control Counts

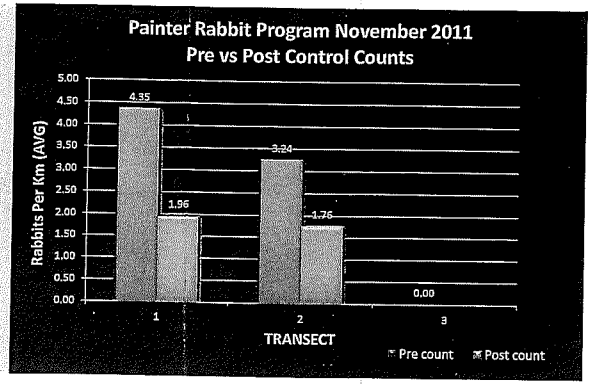
Transects	Short Name	Distance (km)	Night 1 - 2/01/12 Rabbits	Night 2 - 3/01/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - Coulter Drive gate to summit gate then to Back Track gate	T1	2.3	9	11		10.00	4.35
T2 - Back Track gate entrance to Dam at ACTEW gully	T2	1.7	5	6		5.50	3.24
T3 - Back Track gate to bike track gate then down to underpass (approx location)	T3						#DIV/0!
	Totals	4	14	17		15.50	3.88

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray

Post Control Counts

Transects	Short Name	Distance (km)	Night 1 - 10/01/12 Rabbits	Night 2 - 11/01/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - Coulter Drive gate to summit gate then to Back Track gate	T1	2.3	1	8		4.50	1.96
T2 - Back Track gate entrance to Dam at ACTEW gully	T2	1.7	2	4		3.00	1.76
T3 - Back Track gate to bike track gate then down to underpass (approx location)	T3						
	Totals	4	3	7		5.00	1.25

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray



August - November 2012

Mt Painter Control Program

Note: the transects have been modified from this date forward

Pre Control Counts

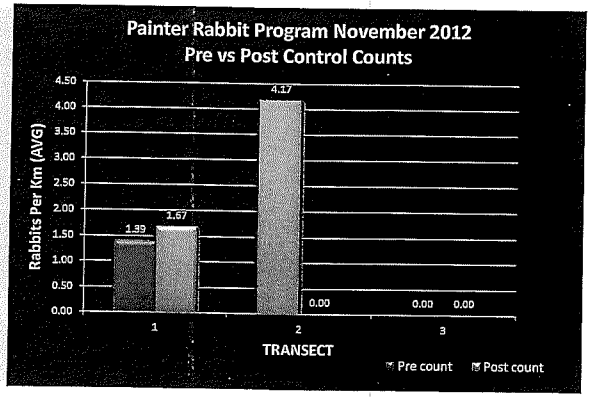
Transects	Short Name	Distance (km)	Night 1 - 14/08/12 Rabbits	Night2 - 15/08/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - Coulter Drive gate to summit gate then to Back Track gate	T1	1.8	2	3		2.50	1.39
T2 - Summit walk from gate to end of path	T2	0.6	2	3		2.50	4.17
T3 - Back Track gate entrance to Dam at ACTEW gully	T3	2.3	3	6			0.00
	Totals	4.7	7	12		9.50	2.02

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray

Post Control Counts

Transects	Short Name	Distance (km)	Night 1 - 17/10/12 Rabbits	Night 2 - 18/10/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - Coulter Drive gate to summit gate then to Back Track gate	T1	1.8	1	5		3.00	1.67
T2 - Summit walk from gate to end of path	T2	0.6	0	0		0.00	0.00
T3 - Back Track gate entrance to Dam at ACTEW gully	T3	2.3	0	0			0.00
	Totals	4.7	1	5		3.00	0.64

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray
* tall grass height inhibited counts



March-April 2013

Mt Painter Control Program

Pre Control Counts

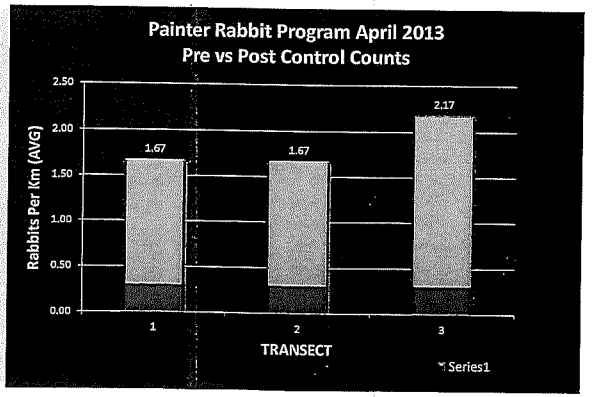
Transects	Short Name	Distance (km)	Night 1 - 12/03/13 Rabbits	Night2 - 13/03/13 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - Coulter Drive gate to summit gate then to Back Track gate	T1	1.8	2	4		3.00	1.67
T2 - Summit walk from gate to end of path	T2	0.6	0	2		1.00	1.67
T3 - Back Track gate entrance to Dam at ACTEW gully	T3	2.3	2	8		5.00	2.17
	Totals	4.7	4	14		9.00	1.91

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray

Post Control Counts

Transects	Short Name	Distance (km)	Rabbits	Rabbits	Rabbits	Average number counted	Average rabbits per km
T1 - Coulter Drive gate to summit gate then to Back Track gate	T1					#DIV/0!	#DIV/0!
T2 - Summit walk from gate to end of path	T2					#DIV/0!	#DIV/0!
T3 - Back Track gate entrance to Dam at ACTEW gully	T3						#DIV/0!
	Totals	0	0	0		0.00	#DIV/0!

* No post counts were conducted due to the program targeting sections of the reserve. It was not a full program



Summary of Program – Pinnacle Nature Reserve

Reserve	Program Date	Control Method	Warrens Treated	Contractor or In-house	Completion Rate	Comments
Pinnacle	December 2012	Fumigation	205	M. Gregory	60% due to prolonged rain	Population has been substantially reduced since 2010. Spotlight counts from 2010 to 2013 shows a significant reduction in the population after the initial 2010 full program. The low levels have been maintained since 2010. As of April 2012 pindone/baiting is restricted due to Little Eagles. Use of Pindone is currently under review. Fumigation is the major control method Ripping continues to be an important method of control (one tine rig only). A new approach was employed to tackle the challenging Aprasia site which contained the highest density of rabbits: - *Grevillea juniperina* (harbor) was removed - the thick cover of *Cassinia* (harbor) was thinned out and raised to allow 100% access to the site. - wooden plugs were used with newspaper to pack in burrows.
	January 2012	Fumigation	12	In-house treatment of reopened burrows	5% - lack of resources could not complete	
	April/May 2012	Fumigation	116	C. Robinson	35% - completed program	
	May 2012.	Ripping	10	In-house – one tyne rig	80% of targeted area due to challenging terrain	
	October 2012	Fumigation	43	Contractor	Targeted the mapped reopenings and new warrens.100% of program completed	
	April 2013	Fumigation	145	Contractor	Planned follow-up on reopenings	
	May 2013	Ripping	To be completed	In house		
			Total fumigated warrens = 521 Total ripped warrens = 10			



The Pinnacle Nature Reserve
Rabbit Warrens 2012/2013

Legend

- Warrens Treated Autumn 2013
- Warrens Treated 2012
- Fences
- Gates/Access points
- Powerlines
- Reserve boundaries

PCL_Track_Trails
Current_St
- Float
- Rigid_Float
- Tanker
- Light Unit
- Walking Trail
- Other Trails

0 50 100 200 300 400 Meters

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ACT Government

5 March 2013

Contact details
13 22 81

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November 2011 - January 2012

The Pinnacle Control Program

Pre Control Counts

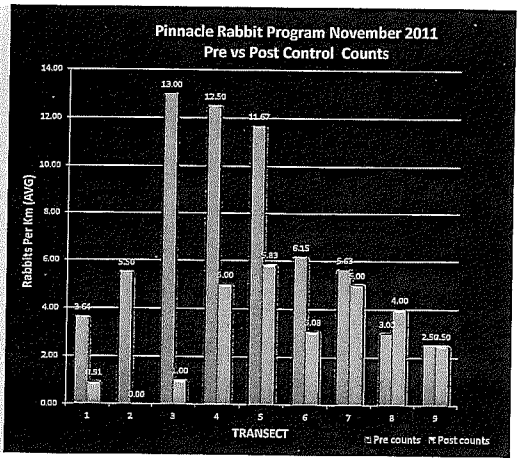
Transect	Short Name	Distance (km)	Night 1 - 7/11/11 Rabbits	Night 2 - 8/11/11 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - ACTEW pump rate up Springvale track and round to Tully Boundary trk	T1	1.1	4	4		4.00	3.64
T2 - ACTEW pump trk to trk branch at southern end of fenceline	T2	1	5	6		5.50	5.50
T2b - Southern end of ACTEW trk fenceline to bowling trk intersection	T2b	0.5	3	10		6.50	13.00
T3 - Bowling trk intersection follow eastern trk of central paddock to creek	T3	1	13	12		12.50	12.50
T4 - Pinnacle central trk to bowling trk	T4	1.2	22	6		14.00	11.67
T5 - Bowling trk to Dempsey gate	T5	1.3	6	10		8.00	6.15
T6 - Dempsey trk	T6	0.8	6	3		4.50	5.63
T7 - Fence North entrance gate to house	T7	0.5	1	2		1.50	3.00
T8 - Fence House to end of Orchard track (bottom exclosure)	T8	0.6	2	1		1.50	2.50
	Totals	8	62	54		59.00	7.25

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray

Post Control Counts

Transect	Short Name	Distance (km)	Night 1 - 28/11/11 Rabbits	Night 2 - 29/11/11 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - ACTEW pump rate up Springvale track and round to Tully Boundary trk	T1	1.1	1	1		1.00	0.91
T2 - ACTEW pump trk to trk branch at southern end of fenceline	T2	1	0	0		0.00	0.00
T2b - Southern end of ACTEW trk fenceline to bowling trk intersection	T2b	0.5	0	1		0.50	1.00
T3 - Bowling trk intersection follow eastern trk of central paddock	T3	1	3	7		5.00	5.00
T4 - Pinnacle central trk to bowling trk	T4	1.2	8	6		7.00	5.83
T5 - Bowling trk to Dempsey gate	T5	1.3	0	8		4.00	3.08
T6 - Dempsey trk	T6	0.8	4	4		4.00	5.00
T7 - Fence North entrance gate to house	T7	0.5	3	1		2.00	4.00
T8 - Fence House to end of Orchard track (bottom exclosure)	T8	0.6	2	1		1.50	2.50
	Totals	8	21	29		25.00	3.13

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from passenger seat



August - November 2012

The Pinnacle Control Program

Note: the transects have been modified from this date forward

Pre Control Counts

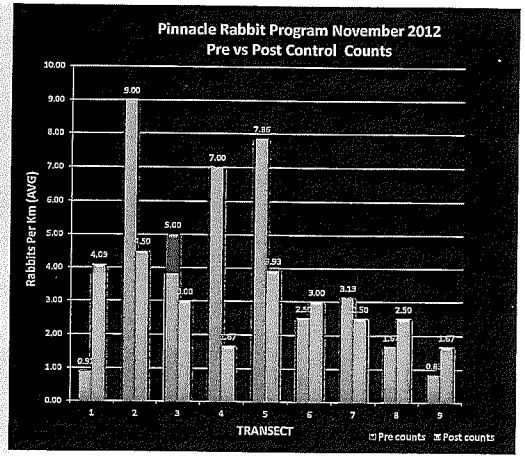
Transect	Short Name	Distance (km)	Night 1 - 6/08/12 Rabbits	Night 2 - 7/08/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - ACTEW pump rate up Springvale trk and round to Tully Boundary trk	T1	1.1	1	1		1.00	0.91
T2 - Start of ACTEW pump trk to turn right at southern end of fenceline	T2	1	13	5		9.00	9.00
T2b - Southern end of ACTEW trk fenceline to bowling trk intersection	T2b	0.5	4	1		2.50	5.00
T3 - Bowling trk intersection follow eastern trk of central paddock to creek	T3	1.5	13	8		10.50	7.00
T4 - Pinnacle central trk to bowling trk	T4	1.4	14	8		11.00	7.86
T5 - Bowling trk to Dempsey gate	T5	1	2	3		2.50	2.50
T6 - Dempsey trk	T6	0.8	1	4		2.50	3.13
T7 - Fence North entrance gate to house	T7	0.6	0	2		1.00	1.67
T8 - Fence House to end of Orchard track (bottom exclosure)	T8	0.6	0	1		0.50	0.83
	Totals	8.5	48	33		40.50	4.76

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray

Post Control Counts

Transect	Short Name	Distance (km)	Night 1 - 4/11/12 Rabbits	Night 2 - 5/11/12 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - ACTEW pump rate up Springvale trk and round to Tully Boundary trk	T1	1.1	5	4		4.50	4.09
T2 - Start of ACTEW pump trk to turn right at southern end of fenceline	T2	1	5	4		4.50	4.50
T2b - Southern end of ACTEW trk fenceline to bowling trk intersection	T2b	0.5	2	1		1.50	3.00
T3 - Bowling trk intersection follow eastern trk of central paddock to creek	T3	1.5	2	3		2.50	1.67
T4 - Pinnacle central trk to bowling trk	T4	1.4	6	5		5.50	3.93
T5 - Bowling trk to Dempsey gate	T5	1	1	5		3.00	3.00
T6 - Dempsey trk	T6	0.8	2	2		2.00	2.50
T7 - Fence North entrance gate to house	T7	0.6	1	2		1.50	2.50
T8 - Fence House to end of Orchard track (bottom exclosure)	T8	0.6	0	2		1.00	1.67
	Totals	8.5	24	28		26.00	3.06

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from passenger seat



March-April 2013

The Pinnacle Control Program

Pre Control Counts

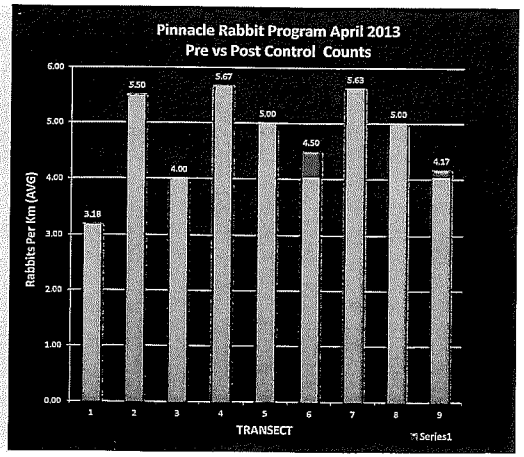
Transect	Short Name	Distance (km)	Night 1 - 19/03/13 Rabbits	Night 2 - 20/03/13 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - ACTEW pump rate up Springvale trk and round to Tully Boundary trk	T1	1.1	4	3		3.50	3.18
T2 - Start of ACTEW pump trk to turn right at southern end of fenceline	T2	1	6	5		5.50	5.50
T2b - Southern end of ACTEW trk fenceline to bowling trk intersection	T2b	0.5	2	2		2.00	4.00
T3 - Bowling trk intersection follow eastern trk of central paddock to creek	T3	1.5	11	6		8.50	5.67
T4 - Pinnacle central trk to bowling trk	T4	1.4	4	10		7.00	5.00
T5 - Bowling trk to Dempsey gate	T5	1	3	6		4.50	4.50
T6 - Dempsey trk	T6	0.8	3	6		4.50	5.63
T7 - Fence North entrance gate to house	T7	0.6	3	3		3.00	5.00
T8 - Fence House to end of Orchard track (bottom exclosure)	T8	0.6	1	4		2.50	4.17
	Totals	8.5	37	45		41.00	4.82

* counts undertaken from 4WD approx 10km per hr/ counter spotlighting from standing position on tray

Post Control Counts

Transect	Short Name	Distance (km)	Night 1 Rabbits	Night 2 Rabbits	Night 3 Rabbits	Average number counted	Average rabbits per km
T1 - ACTEW pump rate up Springvale trk and round to Tully Boundary trk	T1	1.1				#DIV/0!	#DIV/0!
T2 - Start of ACTEW pump trk to turn right at southern end of fenceline	T2	1				#DIV/0!	#DIV/0!
T2b - Southern end of ACTEW trk fenceline to bowling trk intersection	T2b	0.5				#DIV/0!	#DIV/0!
T3 - Bowling trk intersection follow eastern trk of central paddock to creek	T3	1.5				#DIV/0!	#DIV/0!
T4 - Pinnacle central trk to bowling trk	T4	1.4				#DIV/0!	#DIV/0!
T5 - Bowling trk to Dempsey gate	T5	1				#DIV/0!	#DIV/0!
T6 - Dempsey trk	T6	0.8				#DIV/0!	#DIV/0!
T7 - Fence North entrance gate to house	T7	0.6				#DIV/0!	#DIV/0!
T8 - Fence House to end of Orchard track (bottom exclosure)	T8	0.6				#DIV/0!	#DIV/0!
	Totals	8.5	0	0		0.00	0.00

* No post counts were conducted due to the program targeting sections of the reserve. It was not a full program



Craig Agenda Meeting notes: FoMM set agenda in Black : Craigs response in Blue. 26

FoMM Meeting Friday, 8 February 2013

Attended: Waltraud Pix, Stephen Wilkes, Craig Wainwright

Out of Scope

Out of Scope

6. Rabbits

Programmed, strategy, funding, next thorough survey – resourcing to survey. No capacity to do in-house works until 2014

Majura paddock - damage to plantings in this area. are there any actions planned to tackle the rabbits/warren? – Luke to investigate - April program will treat

Rivett St. Waltraud proposed removal of wood pile including the large log and contact the tenant to ask him to stop dumping garden waste there. The rabbits in this area are still a concern – Luke to do

Out of Scope

Notes for Shelly ①

Review of Rabbit Control Program – CNP North District 2012

CNP North Districts Funding – $110,000 for 2011-12

G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Annual Vert Pest Progs\Vertebrate Pest Database\VP ProgramRecords 2011-2012.xls

CNP North Districts Control methods

Poisoning

- 1080 is restricted to 500m of an urban environment, therefore it is not used.
- Pindone is used but is restricted in the Belconnen Hills area (Painter, Pinnacle, Kama) due to suspected secondary poisoning effects to raptors especially Little Eagles.
- Pindone is an anticoagulant that blocks the synthesis of vitamin K, causing fatal haemorrhages. Poisoning is more effective when given as a series of smaller doses over a period of 4 to 12 days. It can take up to 14 days for a rabbit to die from chronic poisoning (poisoning built up over time).

Fumigation

- Diffusion fumigation with phosphine gas tablets (phostoxin).
- When placed in burrows the gas generated is diffused through the warren. Phosphine is a systemic poison which depresses the central nervous system and respiratory function.

Warren destruction (ripping)

- Warrens are destroyed using a tractor or bulldozer fitted with single or multiple-tined rippers.

Shooting

- Shooting is a high risk activity near urban environments and control measures are labour intensive, therefore it is not used in the rabbit control program. The only exception is at Mulligan's Flat.

Surface harbour removal

- A pre-control measure to enable access to warrens. Conducted in Mt Pleasant (blackberries) and the Pinnacle (Grevillia Juniperina) this year.

Aussie Majors

Note: ParkCare feedback = found mapping program (full reserve survey) disruptive & massive effort - recommend to map in winter rather than in spring early summer where they prefer to do VEG management - Dec 2012

(2)

Target areas

Mt Painter

- Scale – approximately 40 warrens were mapped
- Costs - program cost $6500 in November 2011. No follow up required for 12 months.
- Control Methods – fumigation only. The success of the 2010 program has left numbers low, therefore a Pindone program was not considered. The terrain is not suitable for ripping.
- Issues – there may be future restrictions on Pindone use
  This will limit our control methods to fumigation only at this site.

Pinnacle

- Scale – approximately 160 warrens were mapped
- Costs - program cost $16000 in December 2011. Program was interrupted due to Pindone use restrictions and rain events. Follow up required estimated at $15000 for fumigation and ripping.
- Control Methods –Pindone is restricted due to raptor issues. Fumigation has been the only method employed so far. Small isolated areas are suitable for ripping and are recommended to be included in the next stage of the program.
- Issues – restriction Pindone use . The program began but was stopped due to the Pindone debate and then did not resume due to the rain events over January – March and complications surrounding the new procurement (began in March). The program should resume in April.

Ainslie and Majura

- Scale – approximately 1500 warrens were mapped
- Costs - program is still in progress. At present the program is over budget with an estimated cost of $95,000. South Ainslie (Campbell park area) may not be completed due to the UXO issues and is not included in this estimate.
- Control Methods – Pindone followed by fumigation. A few areas are suitable for ripping but there is no funding available for it.
- Issues – South Ainslie UXO issue is not resolved. Awaiting instruction/risk assessment on what is possible at this site (Stu

Mt Pleasant

Harbour removal conducted November 2011 to allow for a program to begin in 2012-13.

Discussion

The NSW Department of Primary Industries identify effective rabbit control as a multipronged approach. Poisoning is identified as the primary control measure to knock down rabbit numbers: surface and beneath surface populations. Follow up or 'mop up' methods such as fumigation and or ripping are employed once the population has been reduced by poisoning. Ripping is identified as more effective than fumigation. Shooting is the least effective method.

Discussion points

- Poison baiting is most effective when alternative food for rabbits is scarce e.g. at the end of summer or early autumn. We start our program in spring when poisoning is least effective and therefore start our programs with fumigation followed by poisoning (as was the plan for Pinnacle/Painter). Is this effective management?

  Is the reason we start in spring due to the management timeline of controlling all PCS lands with limited contractors?

  Time line G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Annual Vert Pest Progs\2011_12\VOPTimeLine11_12FinalDraft.xls

  Funding may also be a reason for fumigating first, where there is an option of skipping poisoning, for poisoning needs to be combined with closing or destroying warrens, which adds to the cost.

- We are reduced to using only fumigation is some programs (Pinnacle and in-house): 'Fumigation should only be used in a strategic manner as part of a co-ordinated program designed to achieve sustained effective control. Reducing and maintaining low rabbit numbers by a combination of control methods over time is more effective than repeated (seasonal) use of a single method.'

  Re: RAB005 Diffusion Fumigation of Rabbit Warrens - NSW DPI G:\23 PARKS RESERVES AND PUBLIC PLACES\ENVIRONMENT\Canberra North District\Veterbrate Pests\SOP's

  While fumigation has an impact on rabbit numbers it not an effective use of resources but it appears it will now have to be the primary method used in areas where poison is restricted.

- Ripping appears to be the only option available to combine with fumigation (Pinnacle). While ripping is an effective method, conservation values and rough terrain restrict its use. Added to this, it is not favourable with parkcare groups who protest against disturbance of soils that allow the colonisation of invasive weeds.

- Note: Fumigation can be carried out at any time of year but it has the greatest long term effect if done shortly before the commencement of the rabbit breeding season. There are some animal welfare issues surrounding fumigation during breeding season.

Ripping Mtg

18/2/12

w/Speedy

- Tine needs to be 700-900cm deep for best results
- Googong has proper equipment. Simon Bretheton may be able to assist with machinery
- Speedy will assist to assess suitable rip sites in Pinnacle and Painter
- Key breeding times occur in milder seasons – beginning of Spring and beginning of Autumn due to veg growth where higher levels of protein are available.
- Have ripping done at latest by end of May – best not to treat warrens from June to August

Majura Ainslie Mtg

17/4/12

w/ Luke

- Check VOP budget - check Kates Budget
- Check Parkcare groups for reopenings and any recent observations and GPS data
- Pinnacle - can bring in clean fill for those areas around rocks that CR identified as difficult to fumigate due to leakage (smoke machine indicator)
- Rocks near ACTEW area still working on – CR suggests covering with clean fill or other – CW to take up w/Raf
- Pinnacle has started this week – follow up by identifying potential rip sites
- Survey rip sites GPS and map
- Speedy recommends >6 burrows per warren and a 10 warren minimum at locations - otherwise not worth ripping (cost effective)
- Book a site visit with CW and Speedy
- Source native seed mix for site regeneration – try GA
- Sterile rye corn - $1.32 per Kilo – Bungendore Clean Seeds 62380000 – get 100kg – can put down first to vreate structure for native seeds to establish and not get washed/blown away
- Use sand traps to monitor other wildlife occupying suspect sites e.g. wombats in NE Majura
- Campbell offices are out of the question due to UXO issue but GPS if possible for future reference

- Plan to have sites mapped by end of month so Raf can rip in May

VOP mtg 25/10/12
Shelley, Chris C, CW

UXO site still an issue – no solutions – no management plan available
SS- explore expanding foam

CW – Pressure from ParkCare group to treat Aranda/Black Mt

CC – follow up must be done in an reserves first

CW - has funding from WRP that can be used this financial year – will also look at the population around the caravan park in Bruce ridge

CW - eastern edge of Dunlop, North edge of Mullanggari, rabbit hutch and isolated areas of Gungaderra grasslands high densities of warrens that need to be address

CC – needs to use some of our budget to assist with ANU program – includes edges of Black Mt and Bot gardens south slope on Blk Mt. CW to map

(1)

Pindone Meeting

Mitchell Depot – 11/1/12

General Info

Legislative background

- A restricted chemical product under the Agvet code
- Must not be used unless authorised under a pesticide control order (NSW pesticides Act)
- Persons Authorised to use Pindone concentrate under PCO, are ACO's
- Persons Authorised to use Baits made from concentrate can only obtain bait if program approved by an ACO.
- Users in the ACT require environmental authorisation from the EPA

Use

- Pindone is primarily used as a rabbit poison in urban areas where 1080 cannot be used.
- lower level of hazard to humans and domestic animals and has an antidote
- Should only be used as part of a strategic co-ordinated program

How it works

- Pindone interferes with the routine synthesis of vitamin K – dependent blood clotting factors in the liver.
- Without these factors daily damage to blood vessels is not repaired and severe internal haemorrhaging results.
- Lag period of 3-5 days before onset of clinical signs.
- Initial lethargy/anorexia followed by bleeding, may be visible externally.
- Time to death is generally around 5-14 days after initial dose. – keep picking up carcasses after 14 days
- Pindone is relatively slow to break down
  - 2-3 weeks in full sun
  - 5 to 6 weeks in moist sheltered area

] must do a thorough clean up.

Off target considerations

- Label states 'where there is a significant risk of exposure to non target animals , measure must be taken to reduce this risk or bait should not be laid' – cage placement is important.
- Pindone generally has a lower risk to native wildlife and domestic animals than 1080 but care is still needed. Kangaroos, wallabies, native rodents and bandicoots are susceptible to primary poisoning.
- Secondary poisoning can occur in species which feed on poisoned rabbits and carcasses – raptors – quolls.
- Rabbits dying from Pindone poisoning can become lethargic and less aware of their surroundings; this may predispose these animals to predation. – easy to catch for predators.

- Rabbits are generally more sensitive to Pindone than any other vertebrates, raptors may be susceptible – but very little research has been done.

Pindone Rabbit programs in the ACT

- Carrot preferable bait, most attractive to rabbits , possibly more attractive to non targets also
- Cages used over baits to limit non target access to baits - primary poisoning mitigation
- Cages placed in rabbit feeding areas, avoid small mammal habitat and roo camps.
- Baits mixed in house using powder concentrate – rate 250mg/kg
- 3 free fees – allows estimation of poison bait required, off target uptake and ensure good uptake of poison bait.
- 2-3 poison feeds (pulse baiting technique)
- Area thoroughly searched for carcasses for up to 14 days after last poison feed

PINDONE MEETING 11 January 2012

- Little Eagles have declined over the years – Jerry Olsen suggested that our pindone work may have contributed to this. There has been little study into the effects of pindone but we know raptors are more susceptible to secondary pindone poisoning.
- Don't put bait cages in dense fallen wood areas where other mammal habitats exist
- Brushtail possums need excessive amount of pindone to be affected so its relatively safe for them,
- Surveillance cameras can be used during the free feed to see what animals are taking the feed (ideal situation)
- Rabbits will often enter burrows to die so surface carcasses are not a great indication of how successful the program is
- Rabbit control always needs multiple methods
- Poisoning should aim for chronic poisoning (overtime build up) not acute poisoning (lethal dose in one feed)
- Take notes of field observations of what occurs during the program. Provide feedback for the collation of research – use Murray Evans, Nic Webb, Don Fletcher
- Raptors are not susceptible to 1080 poisoning but 1080 can't be placed withing 500m of urban environment
- Wedgetails are not declining in numbers. They eat rabbits but prefer larger animals. They prefer live over dead animals. but don't often carve.
- Little Eagle – declining population. Action plans are on TAMS website. There is an association of declining numbers to secondary poisoning. It's the smallest eagle in the world and is often mistaken for a Whistling Kite. They are rabbit specialists. They don't like to eat dead carcasses or carrion (flesh) but will if they need to.
- There is a poisoning program for feral pigeons and this is perhaps affecting little eagles, paragon falcons, goshawks and other raptors.
- Raptors seek out certain patterns, characteristics or feature in their prey. They can be particular.
- Any raptor species nests or breeding cycle is important information when considering pindone programs
- If any raptors carcass is found it needs to be reported to Don Fletcher if fresh freeze it and pass onto Don.

Pindone and Little Eagles Mtg 12 April 2013

Don, Margaret, Michael Mc, Chris C, Stu CW

Action Plan No. 31 – written Dec 2012 has been approved will be out in a few weeks

DF – further research since our mtgs last year - thoughts about decline of LE relate more to urban expansion rather than Pindone. Suggested that Pindone may be still a contributing factor

- better quality of control will reduce risks, such as good programs, follow-up and keeping numbers low
- avoid Pindone during LE breeding seasons August/Sept - best to do baiting in April/May
- young rabbits are the prime target for LE
- In spotlight monitoring programs record if kittens/adolescent rabbits are being sited – if so what proportion – use this data when making decisions to use pindone
- 5km seems to be a safe approximate home range for LE
- If LE are sited in area before program or during baiting program– do not use Pindone choose other methods
- Include in briefs/goals how we have minimized the risk to LE during rabbit programs ie time of year monitoring for kittens
- Have contractor weigh carcasses to determine average age (adult or adoles). Mulligans have quality scales. CC may have some.
- CC to do SOP
- LE eat live rabbits – wedgetails will eat live or carrion but usual target young roos
- 1080 okay to use in UXO site – given 500m buffer

* for Shelly Swain - manager.

Handover notes for October 2012

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Craig Wainwright

Out of Scope

Rabbits

- **Chris Robinson** is booked until end of October. Budget $40K. Will complete the follow program on Painter, Pinnacle, Majura, Ainslie as well as doing a paddock in Mullangarri. He should come in or under budget. We have funds from woodlands money (Kate's commitment) if we need extra
- **Spotlight counts** will occur in November when program is complete
- We will use rest of budget in a follow up program in Feb/March. We will target priority areas identified as having continued reopening's and high densities areas – 'hotspots'
- Luke may find an opportunity to do some **in-house rabbit control**. Priorities are areas where funding is not provided:

- Aranda (promise to parkcarers)
- Mulingarri (mop up after contractors work)
- Duntroon Dairy
- Dunlop GL (Binns St paddock)
- Crace GL (south west phalaris corner paddock)

Out of Scope

- **Ainslie** – Margaret is discouraged at present about old tip site. She feels the weeds they remove are replaced by other weeds and wants native grass to grow. Grazing and diggings of rabbits and roos are a contributing factor. She is looking for advice and strategies and has requested a site meeting with Greg Baines. I have asked Luke to talk further to Margaret and Greg

Out of Scope

Pindone Program - Notes for users

- Please read the **Standard Operating Procedure** before conducting the program.

- It is very important to **pre-bait with unpoisoned bait (diced** carrot or whole oats if they are to be used as bait) to ensure rabbits get used to the new food and to assess the amount of poisoned bait that will be required. This may take several pre-feeds.

- Pindone poison is fed on carrots or whole oats. Pindone oat bait can be bought from rural stores. The **pindone concentrate** required to treat diced carrot or oats is a restricted chemical so has to be obtained **ready mixed onto carrot or oats** from an authorised officer of the ACT Parks and Conservation Service (ACTPCS).

- Trail baiting has been found to be more effective than bait stations, however covered bait stations will often be required to prevent birds eating pindone oats or kanagaroos/wallabies from eating pindone treated carrot or oats.

- Ensure Pindone **warning signs** are displayed in a prominent location eg. at /on your entrance gate and on any fence that fronts a public area like a road or reserve. Leave the signs up for at least 2 weeks after the last poisoned feed. You will be supplied with Pindone warning signs.

- Notify **all your neighbours** (with 3 days notice before the first poisoned feed) of the pindone program, in particular those with domestic animals. Primary poisoning of dogs is a risk if they eat pindone carrot bait. Sick rabbits will move off your property and could potentially cause secondary poisoning in dogs/cats that eat them.

- Put poisoned bait out in **late afternoon** or early evening. This keeps it fresh and reduces the chances of birds feeding on it.

- Poisoned bait tastes slightly different to unpoisoned bait so rabbits may not eat quite as much on the first night as they have with the unpoisoned bait. They will usually eat any left over bait **on the second night** and take the second poisoned feed better when they have got used to the new flavour.

- Rabbits will start to die around 10 days after the first poison feed (earlier for young ones). Please **pick up dead rabbits** and dispose of them by burial. With many dead/sick rabbits available there is a real risk of **secondary poisoning in birds of prey** if carcasses are not removed. You will find dead rabbits for **up to 2 weeks** after the last poisoned feed.

- **Three** poisoned feeds will be required as the poison acts progressively. Poisoned feeds should be given at **2 to 5 day intervals**

- Reduction of rabbits by **at least 95%** is necessary to prevent rabbits building up again within 18 months of the program. It is therefore important to **follow up** after the program to remove the last few rabbits. This can be done by:
  - A second pindone program
  - Use of phosphine gas tablets in accessible burrows
  - Ripping of accessible burrows and/or removal of above ground harbour
  - Shooting
  - Trapping

Please give me a call – PH 6207 2135 if you have any questions about your program, to discuss follow up options or arrange a second pindone program.

Approximate costs:

Carrot baiting
Diced carrot currently costs about $2.50/kg and can be ordered from Manuels' Potatoes in Fyshwick. PH 62951255. They are located opposite Fyshwick markets.

The ACT Parks and Conservation Service will provide pindone poisoned carrot/oat bait at cost price. This is currently $3.95 / kg carrot (note – cost has reduced since 2008/09 as the recommended poison rate has been decreased by the Australian Pesticides Veterinary Medicines Authority). Alternatively we can mix pindone poison onto diced carrot that you provide.

Oat baiting
Whole oats currently cost about $1/kg for a 20 kg bag.
The pre-prepared pindone oat bait that can be purchased from rural stores costs around $15.00 / kg alternatively ACTPCS can mix pindone onto oats that you provide. Pindone poison for mixing onto oats which you provide will cost $ 3.05 per kg of oats provided.

Nicola Webb
Vertebrate Pests Coordinator
ACT Parks and Conservation Service
2011

Stockdill /Drake Brockman Drive Pindone Program
- Notes for users

- Please read the **Standard Operating Procedure** before conducting the program.
- It is very important to **pre-bait with unpoisoned bait (diced/** sliced carrot) to ensure rabbits get used to the new food and to assess the amount of poisoned bait that will be required. This may take several pre-feeds.
- Pindone poison is fed on carrots. The **pindone concentrate** required to treat diced carrot is a restricted chemical so has to be obtained **and mixed onto carrot** by an authorised officer at Parks, Conservation and Lands.
- Trail baiting has been found to be more effective than bait stations, however covered bait stations will be required to prevent birds, livestock, kangaroos/ wallabies and dogs from eating pindone treated carrot.
- Ensure Pindone **warning signs** are displayed in a prominent location eg. at /on your entrance gate and on any fence that fronts a public area like a road or reserve. Leave the signs up for at least 2 weeks after the last poisoned feed.
- Notify **all your neighbours** of the pindone program, in particular those with domestic animals. Sick rabbits will move off your property and can cause **secondary poisoning** in dogs/cats that eat them.
- Put poisoned bait out in **late afternoon** or early evening. This keeps it fresh and reduces the chances of birds feeding on it.
- Poisoned carrot tastes slightly different to unpoisoned carrot so rabbits may not eat quite as much on the first night as they have with the unpoisoned carrot. They will usually eat any left over carrot **on the second night** and take the second poisoned feed better when they have got used to the new flavour.
- Rabbits will start to die around 10 days after the first poison feed (earlier for young ones). Please **pick up dead rabbits** and dispose of them. With many dead/sick rabbits available there is a real risk of **secondary poisoning in birds of prey** or other scavengers if carcasses are not removed. You will find dead rabbits for **up to 2 weeks** after the last poisoned feed.
- **Three** poisoned feeds will be required as the poison acts progressively. Poisoned feeds should be given at **2 to 5 day intervals**
- Reduction of rabbits by **at least 95%** is necessary to prevent rabbits building up again within 18 months of the program. It is therefore important to **follow up** after the program to remove the last few rabbits. This can be done by:
  - A second pindone program
  - Use of phosphine gas tablets in accessible burrows
  - Ripping of accessible burrows and/or removal of above ground harbour

- Shooting
- Trapping

Please call – PH 6207 2135 OR 6205 0855 to discuss follow up options or arrange a second pindone program.

Approximate costs:

Carrot baiting
Diced carrot currently costs about $2.50/kg and can be ordered from Manuels' Potatoes in Fyshwick. PH 62951255

Pindone concentrate for treatment of diced carrot costs $28 for 200g which treats 20 kg of carrot. Parks, Conservation and Lands charges for this concentrate and the carrot onto which it is mixed at cost recovery so poisoned carrot is supplied at around $3.90 /kg.

Sam Price
Rural Programs Officer
ACT Parks Conservation and Lands
6205 0855

Nicola Webb
Vertebrate Pest Coordinator
ACT Parks Conservation and Lands
6207 2135

INDEMNITY FORM RE: USE OF PINDONE POISON

POISON SUPPLIED OR LAID BY THE ACT GOVERNMENT

I.....of .....being the Lessee/occupier of the property known as .....

Do hereby consent to an officer, servant or agent of the ACT Government, laying or supplying for use, Pindone or Pindone poisoned bait material on that portion of the property described hereunder and that neither the ACT Government nor it's officers, servants or agents shall be under any legal liability whatsoever to me for the death or injury to any person or stock arising from the conduct of the said poisoning or any action taken in connection therewith. I hereby agree to indemnify the ACT Government, it's officers, servants and agents against any losses which may result from the laying or supply of such poisons and I further agree that the laying of such poisons is to be carried out at my own risk and I hereby accept all responsibilities arising from the use of the poisoned bait material.

Description of Area: .....

Dated this .....day of .....20.....

Signature of owner/occupier .....

Witness .....

For office use

Date:..... Weight of bait supplied:..... Poison supplied:.....

Date:..... Weight of bait supplied:..... Poison supplied:.....

Date:..... Weight of bait supplied:..... Poison supplied:.....

Copy of Standard Operating Procedure supplied (please tick): ☐

Warning signs supplied (please tick): ☐ Number of signs:.....

Date invoice issued:.....

Environment and Recreation – Parks, Conservation and Lands

PO Box 158, Canberra ACT 2601

Telephone 02 6207 2135 **Fax** 02 6207 2544 **email** nicola.webb@act.gov.au **website** www.tams.act.gov.au

Lambie, Bruce

From: Rae, Kirsten
Sent: Wednesday, 14 March 2012 2:10 PM
To: Iglesias, Daniel
Cc: Webb, Nicola; Maconachie, Michael
Subject: RE: rabbit poisoning notice
Attachments: Rabbit control program public notice.docx

Hi Daniel,

Please see attached community noticeboard entry for your approval.

Cheers
Kirsten

From: Webb, Nicola
Sent: Wednesday, 14 March 2012 1:58 PM
To: Rae, Kirsten; Maconachie, Michael
Subject: RE: rabbit poisoning notice

Hi Kirsten
I just checked Google maps and the UBD and its Dairy Road (my mistake!). Its in Fyshwick. Maybe we should say Dairy Road, Fyshwick in the notice. I think anyone who goes there will know where we mean if we do that.
Cheers

Nick Webb
Vertebrate Pests Coordinator| ACT Parks and Conservation Service
Territory and Municipal Services
Stromlo Depot, 500 Cotter Rd, Weston ACT 2611
Ph: 02 6207 2135 | Fx: 02 6207 2544 |
nicola.webb@act.gov.au

From: Rae, Kirsten
Sent: Wednesday, 14 March 2012 1:54 PM
To: Maconachie, Michael; Webb, Nicola
Subject: RE: rabbit poisoning notice

Hi Michael and Nicola,

Can you please confirm where the rabbit control program will be running? I cannot locate a Dairy Flat Road as described in the draft public notice (attached).

Best regards
Kirsten

From: Maconachie, Michael
Sent: Wednesday, 14 March 2012 11:49 AM
To: Ashcroft, Kelly
Cc: Gould, Kristy
Subject: rabbit poisoning notice

Kelly,

As mentioned on the phone , attached is a draft notice for inclusion in the Community Notice Board of CT this Saturday if timelines allow. Thanks.

Nick Webb (Vertebrate Pest Officer did the first version).

Michael Maconachie
Ranger
Jerrabomberra Wetlands
Parks and Conservation Service
TAMS Directorate

Community Noticeboard – 17 March 2012

Rabbit Control Program

The ACT Government will conduct a rabbit control program from Sunday 18 March 2012 to Monday 16 April 2012 between Dairy Road in Fyshwick and the Kingston railway line, including the Jerrabomberra Wetlands Nature Reserve. The program will use 1080 and pindone poisons.

Users of these areas are requested not to touch or interfere with poisoned carrots or caged bait stations. Domestic animals are at-risk of poisoning and must be kept away from the area. Warning signs will be posted at entries to the control area.

For further information contact Canberra Connect on 13 22 81.

Lambie, Bruce

From: Wainwright, Craig
Sent: Thursday, 12 January 2012 3:19 PM
To: Orgill, Oliver; McElhinney, Luke
Subject: rabbits

Hi Ollie and Luke,

I had a short meeting with Matt Gregory today and was able to talk about some of the baiting issues and procedures. It was interesting to note that Murray Aston helped him to develop his process.
Points Matt made were:

- 1 kg of feed is placed in each cage. If 100% is consumed a second cage put out. 1 kg is the standard measurement per cage.
- We supply the Pindone signs for cages and he writes a number on the sign to signify what cage it is
- He has handled possum problems by feeding them apples (placed in trees) when he puts out the cages and this tends to keep them away from the cages
- He suggested we free feed some areas first to gage their activity

Luke All forms can be found at G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Admin\Data sheets and forms

All signage (including cage sign) can be found at G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Admin\Signs

Ignore the recording sheet I mocked up – I found one we already use that is comprehensive G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Admin\Data sheets and forms

I talked to Grant and he is happy to do the mixing for us if need be. He only asks that it is organised so that he mixes at the start or end of the day at Mitchell.

Cheers
Craig

Lambie, Bruce

From: Wainwright, Craig
Sent: Sunday, 29 January 2012 2:23 PM
To: Halley, Andrew; Orgill, Oliver
Subject: Rabbit programs

Hi

Ollie
Majura/Ainslie: 100% uptake of feed in all cages on both Tuesday's and Friday's feed - must be an awful lot of rabbits out there. I checked in on Chris during his Friday feed and met him again Saturday morning to check the cages, I also checked the stations Sunday morning. I will stay back on Monday arvo to supervise the next feed. Chris will start fumigating the upper slope rocky sections this week. Luke is back on Wednesday.

Pinnacle: I am having a site visit Monday with Matt to discuss the pindone program, he should start by the end of the week.

Cheers
Craig

Lambie, Bruce

From: McElhinney, Luke
Sent: Thursday, 5 January 2012 2:28 PM
To: Orgill, Oliver
Subject: Rabbit program. Chris Robson

Ollie

I have spoken with Chris and he is good to go for the 18th. I am having a meeting with him on Friday 13th Jan at 9.00am to show him the maps and the site so he can organise traps and carrots for the pindone program, did you want to come along to that meeting? I will speak with the mapping volunteers about getting the rest of the points before then but i think it will be less important to have that data for the baiting program than the fumigation.

I haven't spoken with Matt Gregory yet, i wanted to talk with Murray first. He should be getting back to me today. I also spoke with Josh Clancy about getting in contact with Ryan Walsh, he mentioned that you said something about that.

Luke McElhinney
Ranger | Canberra Nature Park North | Parks and Conservation Service
Department of Territory and Municipal Services
Mitchell Depot - 66-68 Grimwade Street, Mitchell ACT 2911 GPO Box 158 Canberra ACT 2601 | P: 02 6207 2113
P: 02 6207 4337 | F: 02 6207 2096 | E: luke.mcelhinney@act.gov.au

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Lambie, Bruce

From: Clancy, Josh
Sent: Thursday, 5 January 2012 4:07 PM
To: 'Territory Agistment'
Cc: McElhinney, Luke; Orgill, Oliver
Subject: Rabbit control Hackett HHP / Mt Majura

Hi Ryan and Natasha
PCS is conducting rabbit control on land adjacent to the Hackett HHP. This work is due to commence on the 18th – 20th January 2012. Can you please assist by running your own control program in conjunction with, or shortly after, PCS's program. North side District Ranger, Luke McElhinney 62074337, or Olly 62072135 or doing Nic Webb's job) or myself will be in touch with more details when they come to hand. There is an option for you to use a contractor to do the work, if you like. Chris Robson will be doing the work near the Horse Paddocks. Olly will supply his details if you want them.
Matt Gregory will be doing the fencing between Wanniassa Hill NR and Rose Cottage HHP. We don't have any money for any fencing in the Horse Paddocks. Perhaps we could get GA to fund it, or Kate Boyd?
I hope you are well and enjoyed yourselves over Christmas and new year.
Kind regards

osh Clancy
Rural Programmes Officer
Natural Resource Protection
Parks and Conservation
Territory and Municipal Services
t(02)62050855 email josh.clancy@act.gov.au

ACT Government

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Lambie, Bruce

From: Orgill, Oliver
Sent: Friday, 10 February 2012 11:35 AM
To: Tozer, Simon
Subject: Rabbit Program Info

Hi Simon,

As discussed at this stage there is $73K allocated for rabbit control works in the Rural Region, there may be the possibility of some leftover funds from the CNP work to be allocated to Rural, but this won't become clear for another 6 weeks or so.

In regards to program design, Fumigation, followed by ripping and possible shooting if numbers dictate it as a necessity is a good strategy for the open grassland areas, but experience shows that in areas where rabbits are living around rocky outcrops, in and around the tracking station and Teatree and other thickly vegetated areas these measures alone are not successful. It would be my suggestion to run a 1080 cage baiting program, targeting these specific areas as first measure, then follow up with fumigation and warren destruction.

Are you planning to extend rabbit control into any other areas this financial year?

Please forward proposed works plan for comment and sign off when you have finalised your proposed program.

Previous works plan for Orroral Valley and 1080 PCO below: -

2011 fumigation/ripping works plan/ counts/ - G:\22 ENVIRONMENTAL MANAGEMENT\ANIMAL WELFARE\Vertebrate Pest\Namadgi\Ferals_rabbits\Rabbit Control 2011

PCO for 1080 baiting - http://www.environment.nsw.gov.au/resources/pesticides/2010PCO1080.pdf

Thanks,

Oliver Orgill
Vertebrate Pests Coordinator
Parks and Conservation Service
Dept. of Territory and Municipal Services
Stromlo Depot, 500 Cotter Rd, Weston ACT 2611
Ph. 02 62072135 Fax. 02 62072544

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Lambie, Bruce

From: Condon, Chris
Sent: Wednesday, 24 April 2013 4:45 PM
To: Lambie, Bruce
Subject: FW: Rabbit Control /agenda /location details

AWL

FYI

From: Condon, Chris
Sent: Monday, 19 November 2012 10:15 AM
To:
Subject: RE: Rabbit Control /agenda /location details

G'day George,

I just wanted to touch base and let you know I am hoping to have Craig Wainwright (Senior Ranger North District) with me tomorrow as he will be able to provide on ground advice if/when you run the control program. He will also be able to organise rabbit control on Black Mountain Reserve to make it a more coordinated approach.

Any q's give me a bell on

Cheers

From: [redacted] u.edu.au]
Sent: Tuesday, 6 November 2012 4:29 PM
To: [redacted] @csiro.au; [redacted] atcap.gov.au; [redacted] nma.gov.au; [redacted] nvironment.gov.au; [redacted] @environment.gov.au; [redacted] @environment.gov.au
Cc:
Subject: Rabbit Control /agenda /location details

Dear Everyone,

The agenda for our meeting scheduled for 10am on 20 November 2012 is to –

1. Explore the concept of a coordinated approach to rabbit control over the Acton Peninsula.
2. Discuss the options for control methods given the different conditions and environments present on Acton Peninsula.

I am very happy for anyone else to add other agenda items.

Kind regards,

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Lambie, Bruce

From: Condon, Chris
Sent: Wednesday, 24 April 2013 4:45 PM
To: Lambie, Bruce
Subject: FW: Rabbit control at Acton

FYI

From: Condon, Chris
Sent: Monday, 22 October 2012 8:55 AM
To: 'George Abraham'
Subject: RE: Rabbit control at Acton

Good Morning George,

No worries at all. I am free any other day that week. So pick a day and time and I'll lock it in.

Cheers Chris

From anu.edu.au]
Sent: Friday, 19 October 2012 2:23 PM
To: Condon, Chris
Subject: RE: Rabbit control at Acton

Dear Chris,

Thank you for your prompt response. Given your role I consider you to be a key player in making any coordinated effort a success; so I'm really keen for you to be at the meeting. I'm happy to change the date so that you could attend.

Could you let me know some dates around that time that would be suitable for you and then I'll send out a change of date notification to all the stakeholders.

Regards,

Australian National University

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From: Condon, Chris [mailto:Chris.Condon@act.gov.au]
Sent: Friday, 19 October 2012 10:14 AM
To:
Subject: RE: Rabbit control at Acton

Good Morning George,

This is a really good approach to rabbit control. Unfortunately I will be at a Pest Animal Forum in Tumut all day and will not be able to attend. However if you would like to get together after you meet or before let me know and we can work out a date. Very keen to be involved in programs like these as it has the greatest effect.

Please feel free to contact me on any of the below contact details and we can have a chat about it.

Regards,

Chris Condon

A/g Senior Vertebrate Pest Management Officer | ACT Parks and Conservation Service
Territory and Municipal Services
500 Cotter Road Weston Creek ACT 2611
Ph: 02 6207 2135 | Fax: 02 6207 2544 |
Email: chris.condon@act.gov.au



Tomorrow becomes yesterday too quick!!

From: George Abraham [mailto:George.Abraham@anu.edu.au]
Sent: Thursday, 18 October 2012 4:03 PM
To: Condon, Chris
Subject: Rabbit control at Acton

Dear Chris,

Due to the ongoing problems associated with the increasing population of rabbits the University would like to invite a range of relevant stakeholders located in the Acton area to participate in a coordinated rabbit control program to be undertaken in the autumn of 2013.

In 2011 the University funded a comprehensive 'pindone' control program across the campus; the result at best was only a short term decrease in the number of rabbits. It is envisaged that a coordinated approach by all stakeholders would have a greater chance of being more effective in controlling the rabbit population.

I would like to invite you or your representative to attend an initial meeting to discuss the concept of undertaking a coordinated rabbit control programme.

Australian National University
Acton

Other stakeholders invited to attend will be representatives from, CSIRO, Australian National Botanic Gardens, National Museum of Australia, National Capital Authority and the ACT Government.

I would be grateful if could confirm your attendance at the meeting by COB Friday 26 October 2012.

Yours sincerely,

Australian National University

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Lambie, Bruce

From: Harley, Lannon
Sent: Monday, 30 January 2012 10:13 AM
To: Orgill, Oliver
Subject: Canberra Times media enquiry

Hi Oliver

I have had a media enquiry this morning about the poison used in the ACT to control rabbits.

I have included the journalists questions below.

Is there a chance we might have a chat about what the process for choosing the poison etc?

Thanks.

Cheers

Lannon

" Research indicates the chemical Pindone, now in use to control Canberra's rabbit population, can be fatal for raptors, including the Little Eagle, which is endangered in the ACT.

Given this research, why is Pindone used?

Has there been consultation with scientists on its suitability?"

Lannon Harley | Communications Officer |
Phone 02 6207 1286 | Fax 02 6207 6148 |
Governance | Territory and Municipal Services Directorate | **ACT Government**
Wattle Street, Lyneham | GPO Box 158 Canberra ACT 2601
www.act.gov.au

Follow us on Twitter: http://twitter.com/tamsmediaroom

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Lambie, Bruce

From: Kitchin, Margaret
Sent: Friday, 3 February 2012 12:16 PM
To: Virtue, Geoff; Fletcher, Don; Cassie, Alexandra; Mollett, Anthony
Cc: King, Geoff; Hughes, Stephen; Harley, Lannon; Orgill, Oliver; Tomlinson, Heather
Subject: RE: Pindone use and risk to eagles
Attachments: Little Eagles - V2 for CT 030212.docx

Thanks All,

I have incorporated the comments from Geoff and made some additional edits, saved it as a final version which CP&R are happy to be released through TAMS media,

Margaret

Dr Margaret Kitchin
A/g Manager
Conservation Planning and Research | Environment and Sustainable Development Directorate |
Phone: +61 2 6207 7623| Fax: +61 2 6207 2122 |
Building 38, Gungahlin Homestead, CSIRO Ecosystem Sciences, Bellenden Street, Crace |
GPO Box 158 Canberra ACT 2601

From: Virtue, Geoff
Sent: Friday, 3 February 2012 9:06 AM
To: Orgill, Oliver; Fletcher, Don; Kitchin, Margaret; Cassie, Alexandra
Cc: King, Geoff; Hughes, Stephen; Harley, Lannon
Subject: RE: Pindone use and risk to eagles

Thanks Don and Ollie for your work to date.

While I realise this is a complex issue, I think it can be cut down while still conveying all the points and not raising other questions.

My version is attached.

Thanks
Geoff

From: Orgill, Oliver
Sent: Thursday, 2 February 2012 11:11 AM
To: Fletcher, Don; Kitchin, Margaret; Cassie, Alexandra; Virtue, Geoff
Cc: King, Geoff; Hughes, Stephen
Subject: RE: Pindone use and risk to eagles

Thanks for your work on this Don.

I've made a couple of comments (see document).

I agree that this is quite a complex issue and it is hard to respond to the question adequately without putting forward substantial information.

Regards,

Oliver Orgill
Vertebrate Pests Coordinator
Parks and Conservation Service
Dept. of Territory and Municipal Services
Stromlo Depot, 500 Cotter Rd, Weston ACT 2611
Ph. 02 62072135 Fax. 02 62072544 Mob.
oliver.orgill@act.gov.au

From: Fletcher, Don
Sent: Wednesday, 1 February 2012 6:56 PM
To: Orgill, Oliver; Kitchin, Margaret; Cassie, Alexandra; Virtue, Geoff
Subject: Pindone use and risk to eagles

Ollie for comment
Margaret for approval
Everyone for coordination

Ollie and I were working to a Friday deadline for this. But I hear it has been brought forward to Thursday. Yikes!!!! So here is my draft so far, based on Ollie's earlier version. When you respond that one and half pages is too long, you may be right, but ecology is complex, and this is a particularly tricky example. I will look forward to reading your simpler ways of putting it, if you can do that.

cheers

Don Fletcher
Ecologist, *in* Conservation Planning and Research,
Environment and Sustainable Development Directorate
ACT Government
61+02 6207 2104, *Fax* 62072122, *Mob*
Mail to: Conservation Planning and Research/ PO Box 158 / Canberra ACT 2601 / Australia
Deliver to: Parks and Conservation Depot/ Grimwade St/ Mitchell ACT / Australia

'Introduced animals are responsible for about 40% of historic extinctions ... Nearly 50% of the mammal extinctions occurred in Australia ... the main culprit seems to be introduced predators, particularly the red fox' – Charley Krebs in *Ecology* 6th Edn 2009, p337-8.

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Lambie, Bruce

From: Fletcher, Don
Sent: Wednesday, 11 January 2012 5:58 PM
To: Jerry.Olsen; Maconachie, Michael
Cc: Orgill, Oliver
Subject: RE: possible LE next on property

Jerry

We should organise a meeting between you and Olly about LE, WTE, and how Pindone is being managed, but on this particular question, Pindone is only used near the city where 1080 is disallowed. The belief is that 1080 poses lower risk to most native species, including raptors.

cheers

Don Fletcher
Ecologist, in Conservation Planning and Research, Environment and Sustainable Development Directorate ACT Government
61+02 6207 2104, Fax 62072122, ...
Mail to: Conservation Planning and Research/ PO Box 158 / Canberra ACT 2601 / Australia
Deliver to: Parks and Conservation Depot/ Grimwade St/ Mitchell ACT / Australia
'Introduced animals are responsible for about 40% of historic extinctions ... Nearly 50% of the mammal extinctions occurred in Australia ... the main culprit seems to be introduced predators, particularly the red fox' - Charley Krebs in Ecology 6th Edn 2009, p337-8.

-----Original Message-----
From:
Sent: Wednesday, 11 January 2012 4:56 PM
To: Maconachie, Michael; Fletcher, Don
Subject: RE: possible LE next on

Thanks Michael

Sounds good.
there was an adult Little Eagle there (and an adult Swamp Harrier) that nobody has reported. Is this within 5 km of place? Are they using Pindone or 1080 at

Jerry

From: Maconachie, Michael [Michael.Maconachie@act.gov.au]
Sent: Wednesday, January 11, 2012 3:12 PM
To: ; Fletcher, Don
Subject: possible LE next on

Jerry / Don,

Just spoke to , owner of who thinks there might be a LE nest at the bottom of her property. She says didn't see anything at the nest the other week but doesn't often go down there. She is happy for me to take Jerry down to look at the nest. I will be away until Mon 23rd but will get in touch on my return and arrange with a day to go.

Michael Maconachie
Ranger-in-Charge
Cotter Depot
Rural District - North
National Parks, Reserves and Rural Lands Parks and Conservation Service TAMS Directorate

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Lambie, Bruce

From: Fletcher, Don
Sent: Wednesday, 1 February 2012 5:27 PM
To: Cassie, Alexandra; Kitchin, Margaret
Cc: Orgill, Oliver
Subject: RE: Pindone and Little Eagle - Canberra Times media enquiry

Hi Cassie,
Cc Ollie, Margaret

I was brought in on this issue by Ollie Orgill in TAMS, who is acting Vertebrate Pest Management Coordinator for ACTGOV. Our coordination needs to include his area. So there are four units to coordinate – TAMS media unit, ESDD media unit, CPR and its hierarchy, and NPRAR and its heirarchy.

For your info, Nick Webb will return from leave soon and reclaim her position from Ollie. Their phone number is 72135. Their unit head is Stephen Hughes on 72508.

Ollie and I were working toward a joint reply by Friday, so if the person in the TAMS media unit needs to finalise it by tomorrow I need to speed up.
cheers

Don Fletcher
Ecologist, *in* Conservation Planning and Research,
Environment and Sustainable Development Directorate
ACT Government
61+02 6207 2104, *Fax* 62072122, *Mob*
Mail to: Conservation Planning and Research/ PO Box 158 / Canberra ACT 2601 / Australia
Deliver to: Parks and Conservation Depot/ Grimwade St/ Mitchell ACT / Australia

'Introduced animals are responsible for about 40% of historic extinctions ... Nearly 50% of the mammal extinctions occurred in Australia ... the main culprit seems to be introduced predators, particularly the red fox' – Charley Krebs in *Ecology* 6th Edn 2009, p337-8.

From: Cassie, Alexandra
Sent: Wednesday, 1 February 2012 4:30 PM
To: Kitchin, Margaret; Fletcher, Don; Evans, Murray
Subject: RE: Pindone and Little Eagle - Canberra Times media enquiry

Hi All
Have just got off the phone to the TaMS media guys – I understand this will be finalised tomorrow.
Please send through all words to me tomorrow and I can get clearance through the exec before it goes over to TaMS for incorporation in their response to the Can Times.

Thanks everyone
Alex

Alexandra Cassie | Communications Officer
Phone 02 6207 2464 |
Communications | Environment and Sustainable Development | **ACT Government**

From: Kitchin, Margaret
Sent: Wednesday, 1 February 2012 9:46 AM
To: Cassie, Alexandra; Fletcher, Don
Cc: Tomlinson, Heather
Subject: Pindone and Little Eagle - Canberra Times media enquiry

Hi Alex,

As discussed, we have had a media enquiry through TAMS regarding the use of pindone for rabbit control and its possible implications for raptors (see below).

may be an emerging issue which may require further research.

Don – could you briefly provide Alex with details on any further information on the above and information you may have given Olly.

Let me know if you need any further details,

Thanks
Margaret

Dr Margaret Kitchin
A/g Manager
Conservation Planning and Research | Environment and Sustainable Development Directorate |
Phone: +61 2 6207 7623| Fax: +61 2 6207 2122 |
Building 38, Gungahlin Homestead, CSIRO Ecosystem Sciences, Bellenden Street, Crace |
GPO Box 158 Canberra ACT 2601

From: Fletcher, Don
Sent: Tuesday, 31 January 2012 11:15 AM
To: Kitchin, Margaret
Cc: Evans, Murray
Subject: FW: Canberra Times media enquiry

To be discussed

Don Fletcher
Ecologist, *in* Conservation Planning and Research,
Environment and Sustainable Development Directorate
ACT Government
61+02 6207 2104, *Fax* 62072122,
Mail to: Conservation Planning and Research/ PO Box 158 / Canberra ACT 2601 / Australia
Deliver to: Parks and Conservation Depot/ Grimwade St/ Mitchell ACT / Australia

'Introduced animals are responsible for about 40% of historic extinctions ... Nearly 50% of the mammal extinctions occurred in Australia ... the main culprit seems to be introduced predators, particularly the red fox' – Charley Krebs in *Ecology* 6th Edn 2009, p337-8.

From: Orgill, Oliver
Sent: Tuesday, 31 January 2012 9:52 AM
To: Fletcher, Don
Subject: FW: Canberra Times media enquiry

Don,

As discussed,

Ollie

From: Harley, Lannon
Sent: Monday, 30 January 2012 10:13 AM
To: Orgill, Oliver
Subject: Canberra Times media enquiry

Hi Oliver

I have had a media enquiry this morning about the poison used in the ACT to control rabbits.

I have included the journalists questions below.

Is there a chance we might have a chat about what the process for choosing the poison etc?

Thanks.

Cheers

Lannon

" Research indicates the chemical Pindone, now in use to control Canberra's rabbit population, can be fatal for raptors, including the Little Eagle, which is endangered in the ACT.

Given this research, why is Pindone used?

Has there been consultation with scientists on its suitability?"

Lannon Harley | Communications Officer |
Phone 02 6207 1286 | Fax 02 6207 6148 |
Governance | Territory and Municipal Services Directorate | **ACT Government**
12 Wattle Street, Lyneham | GPO Box 158 Canberra ACT 2601
www.act.gov.au

Follow us on Twitter: http://twitter.com/tamsmediaroom

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Lambie, Bruce

From: Virtue, Geoff
Sent: Friday, 3 February 2012 2:11 PM
To: Orgill, Oliver; Hughes, Stephen; King, Geoff
Subject: FW: 20120203 - Media Enquiry - TaMS ESDD - Pindone - Little Eagle
Attachments: 20120203 - Media Enquiry - TaMS ESDD - Pindone - Little Eagle.docx

Hello all, FYI the version cleared by ESDD. It looks fine.

From: Cassie, Alexandra
Sent: Friday, 3 February 2012 2:07 PM
To: Virtue, Geoff; Harley, Lannon
Subject: 20120203 - Media Enquiry - TaMS ESDD - Pindone - Little Eagle

Hey Guys
Sorry for the delay – this has been signed off by my exec (attached version, some edits)
Thanks
Alex

Virtue, Geoff

From: Virtue, Geoff
Sent: Friday, 3 February 2012 3:28 PM
To:
Subject: Response regarding Pindone

Hi John

Here is a response to your questions about the use of Pindone for rabbit control.

What is the status of the Little Eagle in the ACT?

Little Eagles were once relatively abundant in Canberra but there is now only one breeding pair of Little Eagles remaining, and a number of other non-breeding individuals. They do not reside in the higher parts of the ACT such as Namadgi National Park. Former territories of Little Eagles were concentrated around the edges of the expanding city. The species has been declared 'vulnerable' to extinction and a draft Action Plan has been released by the Government for public comment. The Action Plan is available at www.environment.act.gov.au/__data/assets/pdf_file/0005/236840/Little_Eagle_Action_Plan_Final.pdf

Why control rabbits with Pindone?

Rabbits impact on natural and rural systems causing a loss of vegetation cover which exacerbates erosion, weed colonisation, and threatens the survival of native birds, small mammals and insects that rely on groundcover plants for food and shelter. Rabbit numbers have been increasing in the ACT and in all other Australian jurisdictions over the last five years. In response, the ACT Government has committed $0.5 million to rabbit control from 2011/12 to 2013/14. Competition and land degradation by rabbits is listed as a key threatening process under the Commonwealth *Environment Protection and Biodiversity Conservation* Act.

Baiting is an essential component in an integrated control program for rabbits, which also includes warren fumigation and harbour destruction. It is the most efficient technique for reducing large rabbit populations. Only two agents are registered for this purpose by the relevant national authority, 1080 (sodium monofluoroacetate) and Pindone. In proximity to populated areas, only Pindone is allowed, due to the potential for accidental poisoning of domestic animals and humans by 1080, which has no antidote.

Pindone has a low level of risk to humans and domestic animals and there is an antidote. It is the only agent available for rabbit baiting in Canberra Nature Park Reserves. Rabbits are highly susceptible to Pindone, which is widely used across Australia. All Pindone use in the ACT is in accordance with nationally accepted Standard Operating Procedures and Codes of Practice.

What is the evidence about risk of rabbit control operations to eagles?

There is no clear scientific evidence available that links the decline of Little Eagles with the use of Pindone in rabbit control. Pindone has never been detected in a Little Eagle carcass. While that cannot rule out Pindone as a possible threat to Little Eagles, the ACT Government is currently consulting with other researchers in regard to the most likely causes of the decline of Little Eagles. This includes studying the extent of the territory over which a pair of eagles forage. No Australian eagle species have ever been radio-tracked. ACT Government scientists have offered to assist researchers at the University of Canberra to purchase satellite tracking equipment for a pilot study to commence in the second half of this year.

While this additional research is undertaken, the ACT Government will continue to undertake pest control programs in accordance with national standards designed to minimise any impact on non-target species while also reducing environmental impact.

Thanks
Geoff

Condon, Chris

From: Orgill, Oliver
Sent: Thursday, 18 April 2013 10:32 AM
To: Taylor, Steve; Condon, Chris; Lambie, Bruce
Subject: Interesting results

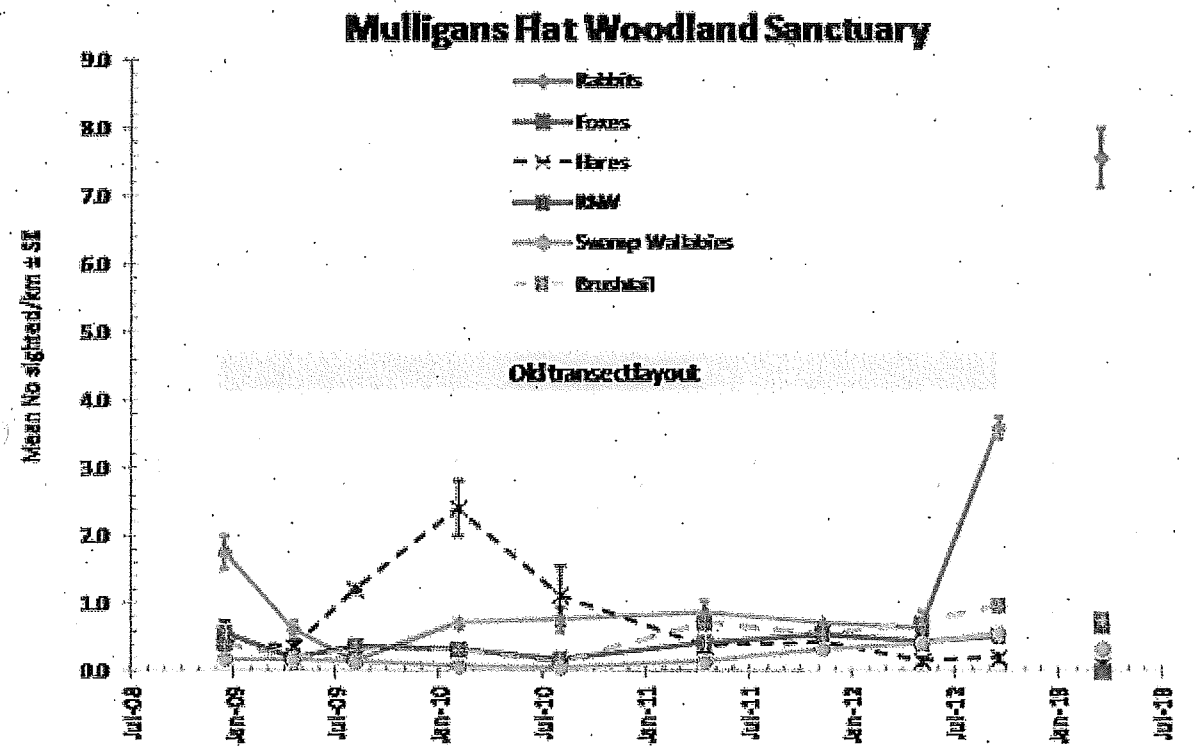
Good Morning All

See below, an interesting graph from the spotlight monitoring from Mulligans Flat.

Note, that despite an extensive regular rabbit spotlight shooting program in place and more recently lot more effort into fumigation totalling thousands of staff hrs, rabbit numbers are now at a higher level (as per the relative spotlight count index) since monitoring has begun!!

This is a clear illustration of the perils of removing predators first (this had also recently previously been illustrated on Macquarie island, with the removal of cats which then led to the subsequent explosion in rabbit numbers). It also demonstrates that localised control techniques like shooting and trapping and fumigation are inadequate without the use broad-scale technique such as poisoning.

This will be a good case study in years to come.



Ollie

Condon, Chris

From: Rae, Kirsten
Sent: Tuesday, 12 March 2013 2:11 PM
To: Akmacic, Julie; ' ; director.communications; @natcap.gov.au; ' @natcap.gov.au); @csiro.au; Speer, Stephen; Carmody, Daniel; Matthew Grady @nma.gov.au); Condon, Chris
Subject: RE: Rabbits [SEC=UNCLASSIFIED]
Attachments: MR108_0313 rabbit control program (2).docx

Thanks Julie, these look fine. If anyone else has any issues/edits can you please let me know by Friday 15 March 2013?

Cheers
Kirsten

From @environment.gov.au]
Sent: Thursday, 7 March 2013 3:48 PM
To: director.communications; @natcap.gov.au; @natcap.gov.au); csiro.au; Speer, Stephen; Carmody, Daniel; @nma.gov.au); Condon, Chris; Rae, Kirsten
Subject: RE: Rabbits [SEC=UNCLASSIFIED]

Hi all

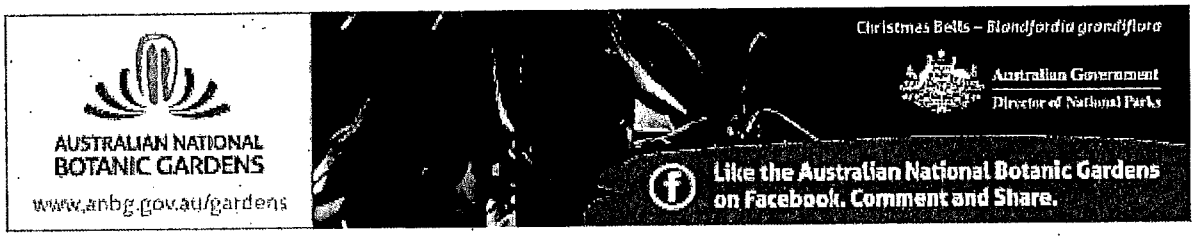
Media release looks good. Please find attached suggested edits (if it's not too late).

Kind regards

Manager, Media & Marketing
Australian National Botanic Gardens

Clunies Ross St, Acton ACT 2601
GPO Box 1777, Canberra ACT 2601

e: t.gov.au
www.anbg.gov.au/gardens



From: @anu.edu.au]
Sent: Wednesday, 6 March 2013 2:55 PM
To: director.communications; atcap.gov.au; natcap.gov.au); :@csiro.au; , Akmacic, Julie; Speer, Stephen; Carmody, Daniel; Matthew Grady @nma.gov.au); Chris.Condon@act.gov.au; Rae, Kirsten <Kirsten.Rae@act.gov.au>

(Kirsten.Rae@act.gov.au)
Subject: FW: Rabbits

Dear All,

Please see attached draft for a media release prepared by Act Government media unit. For your information or comment.

Regards,

Australian National University

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From: Condon, Chris [mailto:Chris.Condon@act.gov.au]
Sent: Tuesday, 5 March 2013 10:48 AM
To: George Abraham
Subject: FW: Rabbits

G'day George,

Our media unit would like to do a small media release also. Would you mind running it by everyone to see if they are happy with the proposed article? It is very similar to the notice we are putting in the CT's, with a few words from our Director added.

Cheers,

Chris Condon

A/g Senior Vertebrate Pest Management Officer | ACT Parks and Conservation Service
Territory and Municipal Services
500 Cotter Road Weston Creek ACT 2611
Ph: 02 6207 2135 | Fax: 02 6207 2544 |
Email: chris.condon@act.gov.au

ACT Government

Tomorrow becomes yesterday too quick!!

From: Rae, Kirsten
Sent: Tuesday, 5 March 2013 10:41 AM
To: Condon, Chris
Subject: RE: Rabbits

Hi Chris,

Here is a media release – let me know what you think. If everyone is happy with it then I'll send it to Daniel for approval.

Cheers
Kirsten

From: Condon, Chris
Sent: Monday, 4 March 2013 3:00 PM
To: Rae, Kirsten
Subject: RE: Rabbits

Hi Kirsten,

They were thinking a low profile approach would be the way to go. If you would like to draft something up and send it to me I can see what they all think about it.

Cheers Chris

From: Rae, Kirsten
Sent: Monday, 4 March 2013 2:40 PM
To: Condon, Chris
Subject: RE: Rabbits

Hi Chris,

I've spoken to Geoff and he thinks we should do a media release as well. I can draft something up quickly but want to check whether you think the other stakeholders (NCA, ANU etc) would agree to this as I remember that everyone wanted to keep a low key approach.

Cheers
Kirsten

From: Condon, Chris
Sent: Monday, 4 March 2013 2:05 PM
To: Rae, Kirsten
Subject: RE: Rabbits

G'day Kirsten,

Please find attached the version that all participants agreed to at last week's meeting for the Community Noticeboard.

Cheers,

Chris Condon

From: Rae, Kirsten
Sent: Wednesday, 27 February 2013 2:28 PM

To: Condon, Chris
Subject: RE: Rabbits

Hi Chris,

Are you going to the rabbit meeting tomorrow at ANU? I am not sure if it is worth both of us going again, but if you would like support I am happy to go. Let me know.

FYI I have already booked in the community noticeboard on 6 April, now we just need the words. I have attached a rough draft based on what we have done previously.

Cheers
Kirsten

From: Condon, Chris
Sent: Monday, 4 February 2013 1:41 PM
To: director.communications; Rae, Kirsten; Ken Gibson; @csiro.au; @environment.gov.au
Cc: Mick Serena; Matthew Smith; @nma.gov.au); Speer, Stephen @environment.gov.au); @environment.gov.au;
Subject: RE: Rabbits

Hi Melanie,

Works for me. I can get the words drafted before I go on leave and pass them on to Kirsten.

Does that work for you Kirsten?

Regards,

Chris Condon

A/g Senior Vertebrate Pest Management Officer | ACT Parks and Conservation Service
Territory and Municipal Services
500 Cotter Road Weston Creek ACT 2611
Ph: 02 6207 2135 | Fax: 02 6207 2544 |
Email: chris.condon@act.gov.au

ACT Government

Tomorrow becomes yesterday too quick!!

From: natcap.gov.au]
Sent: Monday, 4 February 2013 1:35 PM
To: director.communications; Condon, Chris; Rae, Kirsten; Ken Gibson; @csiro.au; @environment.gov.au
Cc: Mick Serena; Matthew Smith; Matthew Grady @nma.gov.au); Speer, Stephen @environment.gov.au); @environment.gov.au; tennantrural@bigpond.com
Subject: RE: Rabbits

Hi all.

I recommend delaying the start date of the rabbit control program so we are not advertising around the Easter period. With Easter from 29 March to 1 April, it would be my preference to advertise in the community noticeboard on Saturday 6 April and commence the eradication program one week later. If that is still within the best window for eradication, it will be better from a media point of view.

Does that work?

Regards

National Capital Authority

GPO Box 373 | CANBERRA ACT 2601

@natcap.gov.au | @nca_media

work part-time hours on Mon, Tue, Thu and Fri, however am available on the mobile for any urgent issues.

From: @anu.edu.au]
Sent: Friday, 1 February 2013 1:37 PM
To: director.communications; Chris.Condon@act.gov.au; Rae, Kirsten; Ken Gibson; siro.au; c@environment.gov.au
Cc: Mick Serena; Matthew Smith; @nma.gov.au); ironment.gov.au); environment.gov.au;
Subject: Rabbits

Dear Everyone,

Thank you for attending yesterday's meeting to discuss the best way to approach the publication of our coordinated rabbit control programme. Here is a summary of the key points discussed at the meeting with some action items. I have also attached a list of the stakeholders involved and their contact details.

Summary of Project Method
During previous discussions it was agreed that due to the urban nature of the area involved the only appropriate method of rabbit control is a pindone baiting program. The program will take approximately 3 to 4 weeks and involves the distribution of bait stations (mesh cages to encourage entry by rabbits and discourage non-target species). The bait stations are baited with plain carrots to encourage the rabbits to start feeding on the carrots; once feeding is established the stations are baited with carrots covered in pindone. Two or three feeds are required to kill the rabbits. Most of the rabbits will die under cover and any that die in open areas need to be disposed of. For a more detailed description of pindone and its use in rabbit control please refer to the following web links

http://www.environment.gov.au/biodiversity/invasive/publications/pubs/rab004-ground-baiting-rabbits-pindone.pdf

http://www.animalcontrol.com.au/pdf/RABBAIT%20Pindone%20Oat%202008.pdf

It is proposed that each organisation will engage a licenced pest controller to undertake the program within their boundary. The recommended pest controller for all organisations to use is Tennant Rural . The crucial factor that will dictate the level of success is that the baiting program in each organizations area is rolled out concurrently.

Media Approach

From a media perspective it was agreed that a low key approach to public notification be adopted. Chris Condon recommended that the ACT Government approach is to publicize such a project by including it in the regular ACT Government 'Community Notice Board' advertisement posted in the Canberra Times. It was agreed that the project should adopt this example with the wording of the notification being based on previous notices with additional information about the range of stakeholders involved and the need for a collaborative approach to address the problem effectively. Chris Condon kindly offered to prepare the notice and arrange its inclusion in the Canberra Times. It is recommended that Chris send a draft of the notice to all stakeholders prior to formally approving the notice for publication.

Notice on Bait Stations

It is usual practice for a notice with contact details to be attached to each bait station. Chris Condon recommended that the usual notice used by ACT Government be used with the inclusion of the logos of all organizations involved in the project. The notice will direct anyone with enquires to contact 'Canberra Connect'. Could the media representatives of each organization please send an electronic version of their logos to Chris – chris.condon@act.gov.au Chris will arrange for the notices to be printed and the pest controller will attach the notices to bait stations as they are installed.

iming

Chris Condon advised that April would be the best time to start the project. reminded the group about the negative implications associated with advertising the project too close to Easter. With the Easter break starting on 29 March 2013 it is recommended that the notice should be issued in the Canberra Times two weeks before – I assume in the edition published on Saturday 16 March 2013. The notice will advise that the project is to start on Monday 8 April 2013.

Key Dates

16 March 2013 – Notice in Canberra Times in the 'Community Notice Board' section to publicize the event and its start date being Monday 8 April 2013.
8 April 2013 – Project start date.

Implementation Meeting

will invite all stakeholders to attend a meeting during week beginning 25 February 2013 to discuss the implementation of the program. This will give everyone the opportunity to meet with the (recommended pest controller) and firm up arrangements for the program in their areas. I would also like to confirm the media arrangements at this meeting. I'll send out a meeting request in the next week.

Summary of Action Items

Chris Condon – Prepare notice for inclusion in Canberra Times on 16 March 2013
Prepare notice to be attached to bait stations.

Media Representatives - send electronic version of logo to Chris Condon

– Coordinate Implementation Meeting with all stakeholders during week beginning 25 February 2013

Please let me know if I have left anything out. Thanks again for your time and cooperation in helping organize this important project.

Kind regards,

Australian National University

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ACT Government
Territory and Municipal Services

MEDIA Release

MR108/0313

5 April 2013

ACTON PENINSULA RABBIT CONTROL PROGRAM

A coordinated rabbit control program will be conducted at various locations across the Acton Peninsula from Monday 8 April 2013 until Monday 6 May 2013.

"The ACT Government is working with the Australian National University, CSIRO, the Australian National Botanic Gardens and National Capital Authority to target increasing rabbit numbers across Acton Peninsula," said Director, Parks and Conservation, Daniel Iglesias.

"The program will use Schedule 7 Poisons to help control rabbit populations across the lands managed by these agencies and Black Mountain Nature Reserve.

"Rabbits are a serious environmental pest and regular control programs are vital to prevent overgrazing which results in loss of vegetation and threatens native wildlife.

"If left uncontrolled the rabbit population will continue to invade the surrounding area including backyards causing significant damage to the environment and private property.

"Signs will be erected at the entries to control areas and on baiting cages to alert people. Users of these areas are requested not to touch or interfere with poisoned carrots, oats or caged bait stations.

"Control work does not pose a risk to public safety. However domestic animals should be kept away from these areas.

"Schedule 7 Poisons are considered one of the most target-specific means of control available and have been effective in use across other sites in the ACT," Mr Iglesias said.

Statement Ends

Media contact: Kirsten Rae, telephone 6205 2173

Condon, Chris

From: @anu.edu.au]
Sent: Tuesday, 22 January 2013 3:51 PM
To: @environment.gov.au; @environment.gov.au; @environment.gov.au; Condon, Chris; csiro.au; @natcap.gov.au; @nma.gov.au
Cc: Michael Kelly
Subject: RE: Rabbit Control

Hi

is available to make this meeting at 2pm on 31 January. Can you please advise of the venue.

Thanks

From: @anu.edu.au]
Sent: Monday, 21 January 2013 4:37 PM
To: yron@environment.gov.au; r@environment.gov.au; @environment.gov.au; Chris.Condon@act.gov.au; csiro.au; @natcap.gov.au; @nma.gov.au
Cc: Michael Kelly
Subject: FW: Rabbit Control

Dear Everyone,

As discussed late last year (see email below) I would like to schedule a meeting to discuss the media strategy for our proposed coordinated rabbit control program to be undertaken in March 2013. I suggest we meet sometime during week beginning Tuesday 29 January 2013. How would 2pm on Thursday 31 January suit everyone? I'd be grateful if you could let me know whether or not this time suits and offer an alternative if it doesn't. Please 'reply to all' in your response.

Kind regards,

Australian National University

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From: George Abraham
Sent: Friday, 23 November 2012 8:46 AM
To: Chris.Condon@act.gov.au; siro.au; natcap.gov.au; nma.gov.au; environment.gov.au; @environment.gov.au; y@environment.gov.au; Michael Kelly
Cc: ie
Subject: RE: Rabbit Control

Dear Everyone,

Firstly allow me to thank you all for taking the time to attend the meeting on Tuesday. At the meeting it was gratifying to confirm that we are all in agreement that the concept of an integrated approach to the rabbit problem is clearly the most efficient approach to take. It was also agreed that –

1. In regards to the choice of control method the only realistic method of control in such an urban environment is a pindone baiting program.
2. The most effective timing for the program would be in the early autumn of 2013.
3. From a funding perspective it was proposed that each organization would fund the cost of the program rolled out over the area under each organisations control.
4. The most challenging aspect of initiating the program will be how to publically promote the program to satisfy legislative requirements and at the same time minimise opposition to the program.

Due to the challenge associated with publically promoting the program our next step is convene a meeting with the relevant media personal from each organization with the aim of formulating an effective media strategy for the program. I have made contact with the University's media office and they recommended that due to the upcoming Christmas period and their current commitments that the 'media' meeting be held towards the end of January 2013. I will therefore make contact with you all in mid-January 2013 to schedule a specific meeting time for the 'media' meeting. I would be grateful if you could all notify your respective media people about the meeting to be scheduled in January 2013.

I would like to take this opportunity to wish you all a Merry Christmas and I look forward to working with you all next year in our quest to controlling our vertebrate pests that are -unfortunately - so cute.

Kind regards,

Australian National University

From:
Sent: Tuesday, 6 November 2012 4:29 PM
To: Chris.Condon@act.gov.au; @csiro.au; @natcap.gov.au; @nma.gov.au; @environment.gov.au; @environment.gov.au; @environment.gov.au
Cc:
Subject: Rabbit Control /agenda /location details

Dear Everyone,

The agenda for our meeting scheduled for 10am on 20 November 2012 is to –

1. Explore the concept of a coordinated approach to rabbit control over the Acton Peninsula.

2. Discuss the options for control methods given the different conditions and environments present on Acton Peninsula.

I am very happy for anyone else to add other agenda items.

Out of Scope

Kind regards,

Australian National University

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Condon, Chris

From: s@anu.edu.au]
Sent: Tuesday, 22 January 2013 3:22 PM
To: @environment.gov.au; @environment.gov.au; /@environment.gov.au; Condon, Chris; @csiro.au; @natcap.gov.au; @nma.gov.au
Cc:
Subject: RE: Rabbit Control

Dear All,

I'm fine with the afternoon of 31 January.

I'd propose we look at issuing a community notice jointly advising of the rabbit control program across the area, and perhaps consider a community information session to help manage the group who will object or be concerned about it.

Look forward to discussing at meeting,

The Australian National University
Canberra ACT 0200 Australia

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Looking for expert comment? Try www.anu.edu.au/experts
Find out more about ANU: YouTube / Facebook / Twitter

CRICOS Provider #00120C

From: anu.edu.au]
Sent: Monday, 21 January 2013 4:37 PM
To: @environment.gov.au; @environment.gov.au; environment.gov.au; act.gov.au; csiro.au; @natcap.gov.au; @nma.gov.au
Cc:
Subject: FW: Rabbit Control

Dear Everyone,

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To: Chris.Condon@act.gov.au; @csiro.au; natcap.gov.au; ma.gov.au; @environment.gov.au; environment.gov.au; dy@environment.gov.au;

Cc:
Subject: RE: Rabbit Control

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Kind regards,

Australian National University

From: George Abraham
Sent: Tuesday, 6 November 2012 4:29 PM
To: Chris.Condon@act.gov.au; @csiro.au; @natcap.gov.au; nma.gov.au; nvironment.gov.au; environment.gov.au; environment.gov.au
Cc:
Subject: Rabbit Control /agenda /location details

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Condon, Chris

From: Orgill, Oliver
Sent: Thursday, 22 November 2012 4:58 PM
To: Wilkes, Stephen
Cc: Condon, Chris; Fletcher, Don
Subject: RE: Rabbit Management Plan Meeting

Good afternoon Stephen,

I won't be able to make the meeting on the 26th but I've summarised the main points I wanted to raise at the meeting below.

- The objective of this program must be clearly defined, this will inform budget bids and resource requirements
    - Keep rabbits and Hares at current relatively low levels - this will require an ongoing commitment of the current level of resourcing and funding for the foreseeable future or;
    - Eradicate rabbits and Hares from MF –this will be initially expensive, and require a greater resourcing level than what is current but will drop off to low levels when is eradication achieved (realistic timeline needs to be established)
- If eradication is the goal some relevant points for discussion
    - Numbers indicate that the program is not in the eradication stage and' knockdown' is still yet to be achieved in some areas – poison baiting is the best technique for this.
    - Methods targeting individual rabbits are not the most efficient use of resources at this stage
    - Eradication without the use of poison baiting will be very difficult to achieve
    - Sectioning the reserve into areas via the use of rabbit proof fences and systematically working through these areas with a baiting program with intensive follow-up is a good model (this would possibly allow bettongs to be removed from baiting areas)
    - The use of 1080 rather than Pindone should be explored (will require off an off label permit from the APVMA and clearance form EPA), it may be feasible given that the public are easily excluded and animals cannot leave the control area.
    - Off target mortality (esp. BT possums) will occur, it can be minimised through controls but it will be factor and it needs to be accepted
    - Dogs should be used as much as possible, particularly when searching for warrens and putting rabbits underground prior to fumigation (do not need to be Steve Austin dogs - any breed with a good tracking/hunting instinct should be sufficient i.e Labradors /spaniels etc) keep dogs on long leads if they show any signs of chasing wildlife.
- Monitoring
    - Spotlight monitoring should continue but be modified somewhat – suggest more transects taking into account different veg types, does not matter if this doesn't correlate with previous data – draw a line in the sand and start from now.
    - Do not shoot during monitoring – keep this separate to ensure that monitoring is accurate and repeatable.
- Hares
    - Different species/ different habits don't lump control of the two species in together
    - Shooting has given a good reduction in hare numbers and is the only real control method – spotlight shooting should continue – but emphasis is on hares rather than rabbits at this stage.

Happy to discuss or elaborate on any of the above.

Cheers,

Ollie

Oliver Orgill
Kangaroo Management
Natural Resource Protection Unit
ACT Parks and Conservation Service | Territory And Municpal Services
Mob. 0427015529 | Fax: 02 62072544
Post: GPO Box 158 Canberra ACT 2601
Address: 500 Cotter Road Weston Creek ACT 2611

-----Original Appointment-----
From: Condon, Chris **On Behalf Of** Wilkes, Stephen
Sent: Tuesday, 20 November 2012 1:59 PM
To: Orgill, Oliver
Subject: FW: Rabbit Management Plan Meeting
When: Monday, 26 November 2012 9:30 AM-12:30 PM (UTC+10:00) Canberra, Melbourne, Sydney.
Where: 66 - 68 Grimwade street Mitchell

-----Original Appointment-----
From: Wilkes, Stephen
Sent: Monday, 19 November 2012 10:00 AM
To: Wilkes, Stephen; Galvin, Peter; Fletcher, Don; Condon, Chris; Woodbridge, Grant; Whitfield, Dave; Adrian Manning; Barry Richardson; Nicola Munro
Subject: Rabbit Management Plan Meeting
When: Monday, 26 November 2012 9:30 AM-12:30 PM (UTC+10:00) Canberra, Melbourne, Sydney.
Where: 66 - 68 Grimwade street Mitchell

Hi

Meeting rescheduled please meet to discuss the rabbit management plan action options, resourcing requirements and likely success within the context of a 485 Ha mammalian predator proof, rabbit proof fenced area. The area has highly significant vegetation elements including hollow trees and fallen timber which must not be significantly damaged. It has reintroduced previously extinct Bettong. There is significant long term research underway which represents a significant investment.

We need to rethink rabbit control methods and timing to find an appropriate regime for action. Thank you.

Regards

Stephen

Condon, Chris

From: Wainwright, Craig
Sent: Thursday, 19 April 2012 9:51 AM
To: Condon, Chris
Subject: Ainslie Majura Spotlight data

Hi Chris,

Our data is in for the post control spotlight counts conducted this week in Ainslie Majura.

G:\23 PARKS RESERVES AND PUBLIC PLACES\ENVIRONMENT\Canberra North District\Veterbrate Pests\Rabbits\Spotlighting

The data is somewhat skewed due to:

1. not being able to do the program in the Ainslie unexploded ordinance site (note the increase in number over the past few months).
2. Most rabbits were found at neighbours' boarders (Antil street Majura and War Memorial area). Numbers were low inside the parks.

Is there any money this financial year to do a follow up ripping and fumigation program in selected areas of Majura?

I am negotiating for the present Pinnacle and Painter program to be mainly funded by Kate Boyd's Woodland Project (it will cost about $20K)

Cheers
Craig

AG Senior Ranger | Parks and Conservation Service
Department of Territory and Municipal Services
Mitchell Depot - 66-68 Grimwade Street, Mitchell ACT 2911
P: 02 6207 2924 | F: 02 6207 2096 | E: craig.wainwright@act.gov.au

ACT Government

Condon, Chris

From: Aston, Murray
Sent: Monday, 3 September 2012 3:07 PM
To: Gans, Karen de (ACTEDU); McNamara, Brett; Forrest, Jason (ACTEDU)
Cc: Alegria, Stephen; Blinksell, Graham; Condon, Chris; Patterson, Joel
Subject: RE: Rabbits Control at Birrigai

Follow Up Flag: Follow up
Flag Status: Completed

Hi Karen

Carrot will be used as bait, these will be placed under cages designed for this type of reduction work. The cages will be secured into the ground to minimise the cages from been overturned.

The days of the (October)

- Friday 5th
- Monday
- Wednesday 10th

will be **free feed only**, meaning no poison will added to the carrots (human friendly). On the 12th when no staff, guest or other visitors will be onsite, this is when the 1080 poison carrots will be layed.

The contractors will be onsite first thing Saturday 13th morning to remove the cages and clean aup ny carrots or residue poison that my be left over.

From the 13th to the 22nd (10 days) of October the contractors will be onsite daily to remove any carcass from Birrigai and transfer them to TNR.

The cages will be signed with a warning label of POISON 1080. These cages will be placed along the old drive way between the caretakers cottage and up to the high ropes. Cages will also be place around the water treatment plant.

If you could just ask the teachers tell the children not to touch. The cages should be out of any area that the children would nornally be.

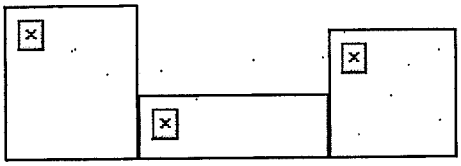
Our staff and contractors will have a onsite induction closer to the day

Cheers,

Murray Aston
Ranger, Tidbinbilla Nature Reserve,
ACT Parks and Conservation Service,
Territory and Municipal Services.
RMB 141 Tidbinbilla Road, VIA Thawra
Desk Ph: 02 6205 1220 | Office Ph: 6205 1228 | Fax: 02 6205 1231
Email: murray.aston@act.gov.au

ACT Government

Discover Tidbinbilla



From: de Gans, Karen [mailto:Karen.deGans@ed.act.edu.au]
Sent: Monday, 3 September 2012 11:27
To: McNamara, Brett; Forrest, Jason (ACTEDU); Aston, Murray
Cc: Alegria, Stephen; Blinksell, Graham
Subject: RE: Rabbits Control at Birrigai

Hi All
Confirming that no groups are booked in on 12th Oct.
There will be a group here from 5 – 7 Oct.

he next group of students here is on Tues 16th, this is a day program only, so closely supervised.
Then Wed 17 – Friday 19 there will be a group on camp, walking around the site and digging in the creek for gold (I think)

Are the baits buried? How much information do teachers need to keep students safe?

Kind regards
Karen

Karen de Gans
A/g Principal
Birrigai@Tidbinbilla
02 62056748
www.tidbinbilla.com.au/birrigai

From: McNamara, Brett [mailto:Brett.McNamara@act.gov.au]
ent: Friday, 31 August 2012 4:36 PM
To: de Gans, Karen; Forrest, Jason; Aston, Murray (ACTGOV)
Cc: Alegria, Stephen (ACTGOV); Blinksell, Graham (ACTGOV)
Subject: Rabbits Control at Birrigai

Hi Murray

Many thanks for preparing this - very comprehensive indeed.

Karen

Fyi .. Can you please get back to Murray with any comments etc.. in particular with reference to any groups who may be using Birrigai during this period

I'm happy to then sign off

With thanks

Brett McNamara

Manager Regional Operations
National Parks and Catchments
ACT Parks and Conservation Service
Territory and Municipal Services Directorate
Ph: 02 6207 2904
Mobile :
www.tams.act.gov.au

From: Aston, Murray
Sent: Friday, 31 August 2012 4:00 PM
To: McNamara, Brett
Cc: Blinksell, Graham
Subject:

Good Afternoon Brett

As part of TNR feral animal reduction program the attached documents are for the rabbits at Birrigai School using 1080 on carrots through contractors, this is also part of the ongoing fox program with TNR (No food no fox, great in theory).

Could you browse over and comment on the risk assessment and works plan please.

The program was designed to be implement over the school holidays when no one is on site to reduce contact with the 1080 carrots.

Cheers,

Murray Aston
anger, Tibinbilla Nature Reserve,
ACT Parks and Conservation Service,
Territory and Municipal Services.
RMB 141 Tidbinbilla Road, VIA Thawra
Desk Ph: 02 6205 1220 | Office Ph: 6205 1228 | Fax: 02 6205 1231
Email: murray.aston@act.gov.au

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Condon, Chris

From: Wilkes, Stephen
Sent: Thursday, 1 November 2012 3:45 PM
To: Adrian Manning; Barry Richardson; David Shorthouse; Fletcher, Don; Galvin, Peter; Lambie, Bruce; Condon, Chris; Wilkes, Stephen; Swain, Shelley; Mcinnes, Alison; [illegible]; Helen Crisp
Cc: Nicola Munro
Subject: Rabbit Management Plan - consultation
Attachments: Mulligans Sanctuary_RabbitsA3.jpg.jpg

Follow Up Flag: Follow up
Flag Status: Completed

Hi

Please find attached, a map of the burrows located and treated since June 2012. This goes on page 21. The size of the red circles represents the number of holes to each burrow/warren. It shows distribution across the sanctuary. Recent spotlighting puts most sightings around the large dam area with few in other parts (Woodbridge pers com).

Regards

Stephen Wilkes
Ranger-in-Charge
Mulligan's Flat Woodland Sanctuary
ACT Parks and Conservation Service
Telephone: 02 62072923
Mobile:
Fax: 02 62072096
GPO Box 158 Canberra ACT 2601
stephen.wilkes@act.gov.au
(location: North District Office, 66-68 Grimwade Street, Mitchell)
www.tams.act.gov.au

ACT Government


Mulligans Flat
Sanctuary
Rabbit Burrows
22 Oct 2012
Scale: 1:10,000
MGA 94 Zone 55
Air Photo May 2012
N
W
E
S
Spotlight Rabbits
Burrows
Scale
1 - 2
3 - 4
5 - 7
8 - 10
11 - 17
Sanctuary Fence
ACT Border
Area not searched
Area not searched

57

Condon, Chris

From: Dobroszczyk, David
Sent: Wednesday, 16 May 2012 11:50 AM
To: Maconachie, Michael; Gould, Kristy; Condon, Chris
Subject: RE: Fyshwick rabbits

Gd morning all; thanks Michael for the info-as a suggestion-if you do not still have any positive action; pls let me know and as you suggest I will draft a letter of support for the work.

Regards

DAVID DOBROSZCZYK
ACTING MANAGER - CANBERRA SOUTH DISTRICT
ACT PARKS & CONSERVATION SERVICE | TERRITORY AND MUNICIPAL SERVICES
Athllon Depot | Cnr Athllon Dr and Sulwood Dr, Farrer ACT 2607
p: 02 6207 2087 | m: | f: 02 6207 2093
david.dobroszczyk@act.gov.au

From: Maconachie, Michael
Sent: Wednesday, 16 May 2012 11:28 AM
To: Gould, Kristy; Condon, Chris; Dobroszczyk, David
Subject: Fyshwick rabbits

Having determined that Steven Buck, ACTEW, has not started their rabbit control, having promised it was being organised and would start soon.....I managed to speak to him today and he said he would contact his contractor this week and will send me an e-mail to confirm by the end of the week .....

David – for your info in previous years it has apparently taken a letter from the Manager to an ACTEW manager to get this work done by Steven Buck .....

Michael Maconachie
Ranger
Jerrabomberra Wetlands
Parks and Conservation Service
TAMS Directorate

59

Bruan, Nicole Kristy Gould.

From: Maconachie, Michael
Sent: Wednesday, 6 February 2013 8:48 AM
To: Gould, Kristy; Sweaney, Mark
Subject: FW: jerra Wetlands
Attachments: Map1.gpx

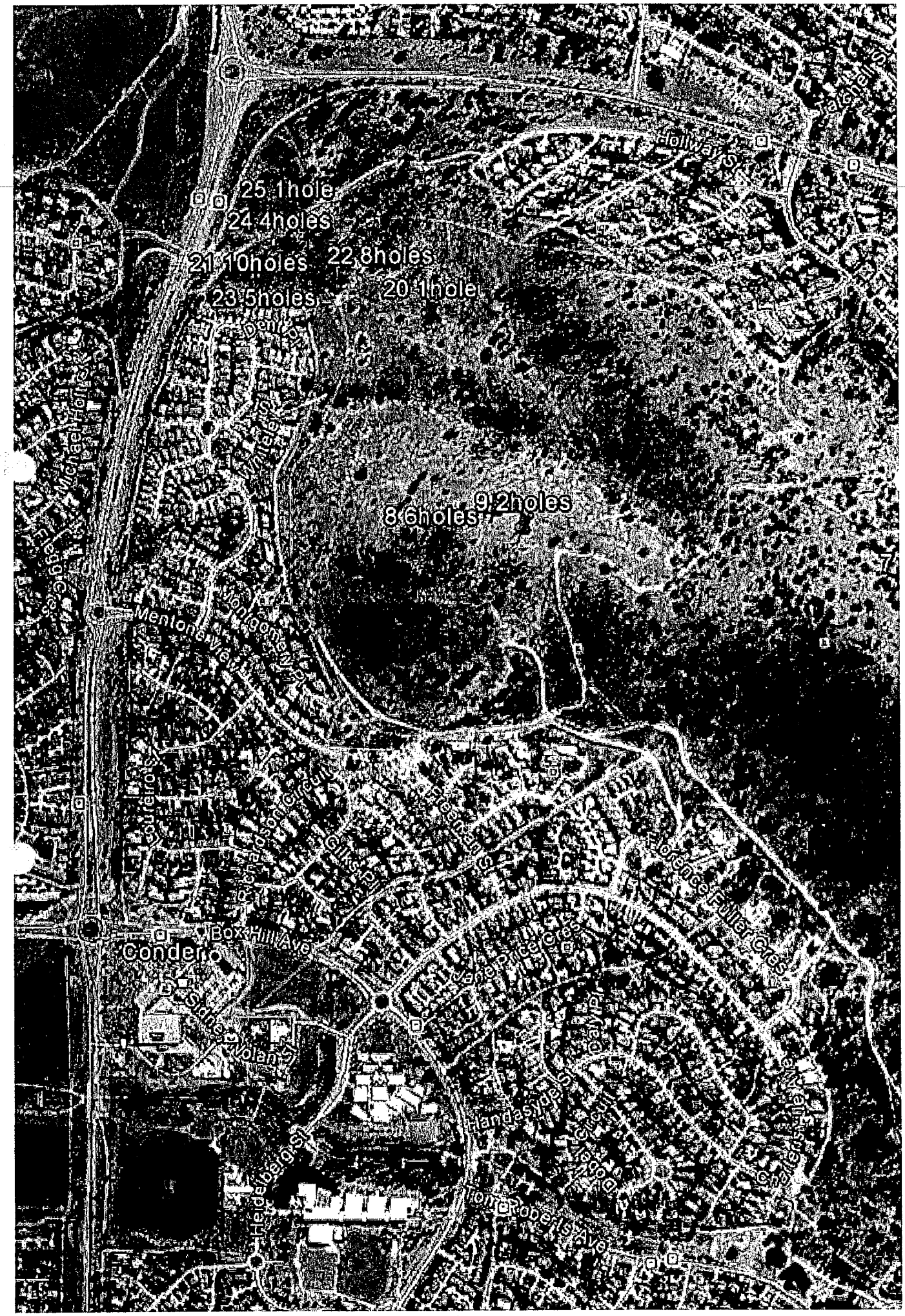
Sorry maps for urambi and tug were with the JW maps – see below

---

From: Daniel [redacted] au]
Sent: Monday, 4 February 2013 1:11 PM
To: Maconachie, Michael
Subject: RE: jerra Wetlands


045
046
047
Newcastle St
044
043
048
033
041
032
031
030
Sandalwood St
The Causeway
Spruce St
Eurabbie St
Larch St
Cunningham St
Mildura St


U4 6holes
U6 5holes
U7 3holes


25 1hole
24 4holes
21 10holes
22 8holes
23 5holes
20 1hole
9 2holes
8 6holes
Holloway St
Dent St
Mentone Ave
Box Hill Ave
Conder
Hargastyle Cres
Roberts Ave

Michael – this file should open up in any GIS program – at least google Earth – let me know if it doesn't and ill get it as something else for you.

Regards

Daniel

Daniel | Senior Consultant/Director

B. Env. Sci. CertIII in CALM CENVP

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From: Maconachie, Michael [mailto:Michael.Maconachie@act.gov.au]
Sent: Monday, 4 February 2013 12:29 PM
To: Daniel
Subject: RE: jerra Wetlands

Daniel - send them to me. You can e-mail if you wish. 2/3rd of contract price per station as you suggest is acepteable for Jerra Wetlands. If you want to send hardcopy address is:

Michael Maconachie
ACT Parks and Conservation Service
Athllon Depot
GPO Box 158
Canberra
ACT 2601

I am looking at re-starting the rabbit program the week after Easter (first week of April) - are you available then ?

Michael Maconachie
Senior Ranger
ACT Parks and Conservation Service
Jerrabomberra Wetlands

From: Daniel
Sent: Monday, 4 February 2013 12:17

To: Maconachie, Michael
Subject: RE: jerra Wetlands

Michael,

Who did I send the invoice off for the work recently completed (invoice details / address etc) down there and how do you reckon we go about charging for the Jerra Wetlands site?

We did 3 checks of the six required but two of the most labour intensive components (setup and packup) so 2/3 of the contract price per station?

Regards

Daniel

Daniel Senior Consultant/Director

B. Env. Sci. CertIII in CALM CENVP

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From: Maconachie, Michael [mailto:Michael.Maconachie@act.gov.au]
Sent: Tuesday, 22 January 2013 1:09 PM
To: Daniel
Subject: RE: jerra Wetlands

Thanks. Yes realise the quote for wetlands will be a long way out.

Michael

From: Daniel
Sent: Tuesday, 22 January 2013 12:45 PM
To: Maconachie, Michael
Subject: Re: jerra Wetlands

No worries Michael - I will send the swms the boys are using - they have a copy on them as we'll.

With carrots - be good if you could keep supplying them - wasn't sure what the go was there. Just let me know the total and ill take $2.80 p/kg of total invoice.

1 invoice for total works won't be a problem - obviously the wetlands job will change from quote due to increased stations and we can play the other sites by ear if you like?

I will let Nigel and jack know the rabbits are eating them - we still have 9 stations to put out which we will in areas of high activity.

Will also send you through the schedule for the baiting days etc tomorrow when I'm back in the office.

Daniel

On 22/01/2013, at 11:39 AM, "Maconachie, Michael" <Michael.Maconachie@act.gov.au> wrote:

> Daniel,
>
> Request from the Manager. Do you have a SWMS you operate under for the various control methods ?
>
> For all three jobs (Urambi, Tuggeranong and Jerra Wetlands) you can send one invoice if preferred.
>
> Apparently you should have supplied the carrots as part of your price (my mistake) – in the tender process. For the Wetlands job either I can continue to supply the carrots and we take this off your invoice ? or you can go back to supplying carrots. They are costing me $2.80 kilo diced, if this would be more than you would have obtained them for them I will pay the difference. Sorry for confusion.
>
> I did a spotlight count last night and the rabbits are already tucking in. Again plenty of young rabbits. Have put a camera on one of the bait stations.
>
> Michael Maconachie
> Ranger
> Jerrabomberra Wetlands
> Parks and Conservation Service
> TAMS Directorate

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McElhinney, Luke

From: Wainwright, Craig
Sent: Thursday, 11 April 2013 5:32 PM
To: Jeffress, Stuart; Wilkes, Stephen
Cc: McElhinney, Luke
Subject: RE: from _____ re Rabbit Control Mt Majura

Hi All,

Luke has already talked to Ryan Walsh and I understand he has agreed to do this work via Chris Robinson when Chris is doing Majura for us.

Luke has been updating Waltraud so I will check to see if they are now aware of the plans.

Craig

-----Original Message-----
From: Jeffress, Stuart
Sent: Thursday, 11 April 2013 4:39 PM
To: Wilkes, Stephen
Cc: Wainwright, Craig
Subject: FW: from re Rabbit Control Mt Majura

Hi Stephen

Could you or Craig speak to Josh Clancey in regard to the Horse Paddocks contractor undertaking the rabbit control work as per the request below. They have done it in the past.

Stu

-----Original Message-----
From: Iglesias, Daniel
Sent: Thursday, 11 April 2013 10:50 AM
To: Jeffress, Stuart; Galvin, Peter
Subject: FW: from re Rabbit Control Mt Majura

Stu, Peter, makes perfect sense to me.

Can we add to the program?

Daniel Iglesias
Director
ACT Parks and Conservation Service

Parks and City Services, Territory & Municipal Services Directorate
PTel: (02) 6207 6997| Fax: (02) 6207 5366 | Mob:

-----Original Message-----
From: _____]
Sent: Thursday, 11 April 2013 9:50 AM
To: Iglesias, Daniel
Subject: from re Rabbit Control Mt Majura

Dear Daniel,

I couldn't reach you by phone at the moment, but will myself not be easily contactable today. So let me briefly outline what my concern is.

Last weekend I have been mapping rabbit warrens on Mt Majura in preparation for the control program that will begin shortly. I found the Southern end of Control Block 6 (horse paddock just north of the Antil street part of Casuarina Trail) to house the worst collection of very large and active rabbit warrens I have seen over 3 years of mapping at Mt Majura.

I have learnt since that this paddock will apparently not be treated in the current round of control measures, because control is the responsibility of the current manager of the paddocks. I note that there is very little evidence of any past control in this area.

I would therefore like to talk to you about the urgent need to have this paddock treated during the current round of control measures. To my knowledge, this area is the biggest source of re-infestation anywhere in the Mt Majura area and any control measures in the nature reserve will be completely in vain, should this paddock not be included.

Warm regards,

Gould, Kristy

From: Gould, Kristy
Sent: Friday, 10 August 2012 11:49 AM
To: ; Pointon, Lee
Cc:
Subject: RE: Rabbit warren on Farrer Ridge

Great thank you.

Kristy Gould
a/g Ranger In Charge | Canberra Nature Park | Parks & Conservation Athllon Depot - Cnr Athllon Dr & Sulwood Dr, FARRER ACT 2607
P:02 62075980 | M:0401593067 | F:02 62072093 |
E: kristy.gould@act.gov.au

-----Original Message-----
From:
Sent: Thursday, 9 August 2012 3:30 PM
To: Gould, Kristy; Pointon, Lee
: Jennie Widdowson;
Subject: Re: Rabbit warren on Farrer Ridge

Hi Kristy,
There has not been a comprehensive rabbit warren survey on Farrer Ridge in a formal sense, but:
1. and i are doing the Farrer Ridge Biodiversity Survey, and would report any warrens in the areas selected, and the sites selected do give good coverage.
2. walks on the ridge very regularly, and gave the coordinates of the rabbit warren she sighted.
3. To my knowledge there are not a lot of warrens, but those reported would be worth fumigating, so the occurrence is minimised.

Regards,

On 09/08/2012, at 9:19 AM, Gould, Kristy wrote:

Hi

> Thank you for the information. Do you know if anyone has done a rabbit warren search in recent times of Farrer Ridge? If not maybe we could organise one. If there are a couple of isolated rabbit warrens the rangers can go and treat them but if the problem is bigger than that we need to do them all at once to minimise reopening and then follow up a month or so later. As far as I know there is not a big rabbit problem on Farrer but any information you could provide us with would be useful.
>
> Thank you
>
> Kristy Gould
> a/g Ranger In Charge | Canberra Nature Park | Parks & Conservation
> Athllon Depot - Cnr Athllon Dr & Sulwood Dr, FARRER ACT 2607
> P:02 62075980 | M: | F:02 62072093 |
> E: kristy.gould@act.gov.au
>
> -----Original Message-----
> From: Pointon, Lee
> Sent: Thursday, 2 August 2012 3:19 PM
> To: Wendy Rainbird
> Cc: Gould, Kristy; Wotzko, Alex

> Subject: RE: Rabbit warren on Farrer Ridge
>
> Thanks
>
> We have a day fumigating some other warrens planned for next week (weather permitting), so will try to get to that one as well.
>
> Cheers
>
>
> Lee Pointon
>
> Ranger
> Canberra South Region - Athlon Depot
> ACT Parks and Conservation Service
> P: (02)6207 2272 | F: (02)6207 2197 | M:
> E: lee.pointon@act.gov.au
>
>
>
>

> -----Original Message-----
> From:
> Sent: Thursday, 2 August 2012 2:11 PM
> To: Gould, Kristy; Pointon, Lee
> Subject: Rabbit warren on Farrer Ridge
>
> Dear Kristy,
> A former ParkCarer has given this info about a rabbit warren on Farrer Ridge NP.
> Perhaps some of your staff can follow up and fumigate/ destroy the warren?
>
>
> There is a large rabbit warren with several holes and there are signs
> there are rabbits all around Farrer Hill about 2 thirds down from the
> top in line with that warren.
> Location is 35 23 10 S
> 149 06 22 E
>
> 740 metres height 10 or so metres from large E. rossii. The GPS was set to
> GS84 units km/kph. Perhaps something could be done before they too
> get out of control.
>
> Do let me know when staff have destroyed the warren, please, then I can pass that info on to members.
>
> Best wishes,
>
> ---
> - This email, and any attachments, may be confidential and also
> privileged. If you are not the intended recipient, please notify the sender and delete all copies of this transmission along with any attachments immediately. You should not copy or use it for any purpose, nor disclose its contents to any other person.
> ---
> -

McElhinney, Luke

From:
Sent: Friday, 2 March 2012 3:50 PM
To: .com
Subject: Friends of Mount Majura Newsletter March 2012

Friends of Mount Majura (FoMM) Newsletter March 2012

- Screams on Mount Majura
- Ant Walk Sunday, 4 March postponed to Sunday, 11 March
- Final Rabbit Mapping Session on Mount Ainslie – Saturday, 10 March
- March Working Party – Sunday, 18 March

Dear Friends

I had a recent request to place the most important item on top of the newsletter because people won't have the time to read a lengthy text. What is the most important item - news on threats, wildlife, working bees? I guess everyone has priorities, so please scroll to the item that interests you most.

Screams on Mt Majura. Last time I've asked if anyone has a suggestion about the screams heard at night time on Mt Majura. Thank you for the responses. Everyone agreed that the most likely source is an owl of some sort. Some people suggested a *Sooty Owl*, also known as the 'Screaming Woman' bird, and some suggested a *Barking Owl*, which is rare but can occur in Canberra. Tony sent a link of a *Barking Owl* call, click here to listen. Unfortunately I don't have an Audio output and I can't listen to it myself.

Ant Walk Sunday, 4 March postponed. Due to the rain forecast for this Sunday, 4 March we postponed the ant walk to Sunday, 11 March, 3.00pm to 4.30pm. The Mt Ainslie Weeders will be hosting a second walk on Sunday, 18 March. For further information and booking details please click on Ant Walks.

Final Rabbit Mapping Session on Mount Ainslie. Margaret, who coordinates the rabbit mapping, requests experienced rabbit mappers to help map rabbit warrens on parts of Mt Ainslie that were closed to the public for the last three months. A concerted mapping action will start at 9am on Saturday, 10 March. If you can help on Saturday or at another time that suits you better, please contact at . See progress report on the rabbit control work at the end of this newsletter.

March Working Party. Our monthly working party will be at the Majura paddock. We will be cutting and daubing woody weeds along the drainage line close to the little dam which requires the use of herbicide, hand-weeding herbaceous weeds around the young plants, and replanting some of the seedlings that succumbed to grazing. Please choose your pet activity.
When: Sunday, 18 March, 9.00 am to 1.00pm
Where: meet at the parkCare noticeboard close to the reservoir off Rivett/French Sts intersection.
Wear and Bring: Sun protection, sturdy shoes, body covering (old garden) clothing.
Tools, herbicide, gloves, drinking water will be provided.
Enquiries and further information: www.majura.org

Thank you for your support.
Warm regards,
Waltraud

Rabbit control update. If you have been on the mountain in the past few days you will notice a marked decline in the number of rabbits racing about. This may be partly due to the wet weather, but is also an indication of the success of the rabbit baiting program. The contractors report an excellent uptake of bait -

in many cases the bait stations were totally eaten out by morning, which is unusual. Baiting has now finished and the contractors are working their way across the two mountains, fumigating and filling in warrens. The Mt Ainslie contractor said he was amazed at our mapping efforts and couldn't believe how we had found some of the well-concealed ones. Some of the large warrens will now be ripped using more effective equipment which can be used in difficult terrain. Ripping is by far the best way to destroy a warren, but the process can be very damaging to the surrounding area - this equipment will minimise that damage.

McElhinney, Luke

From:
Sent: Thursday, 1 March 2012 5:26 PM
To: McElhinney, Luke
Subject: Experienced rabbit mappers needed - Block 36

Dear Rabbit Mappers

If you have been on the mountain in the past few days you will notice a marked decline in the number of rabbits racing about. This may be partly due to the wet weather, but is also an indication of the success of the rabbit baiting program. The contractors report an excellent uptake of bait - in many cases the bait stations were totally eaten out by morning, which is unusual. Baiting has now finished and the contractors are working their way across the two mountains, fumigating and filling in warrens. The Mt AInslie contractor said he was amazed at our mapping efforts and couldn't believe how we had found some of the well-concealed ones. Some of the large warrens will now be ripped using more effective equipment which can be used in difficult terrain. Ripping is by far the best way to destroy a warren but the process can be very damaging to the surrounding area - this equipment will minimise that damage.

FINAL MAPPING SESSIONS. At last the closed area on Mt Ainslie has been re-opened and we are able to map Block 36. So we are calling on experienced mappers to help cover that area. We will have two mapping sessions, on SATURDAY 10 MARCH AT 9.00am and a mid-week session for members of the leisured classes (or retired and poor), possibly on WEDNESDAY 9.00am although this is negotiable depending on when people are available. It is quite a large block so we would appreciate all the help we can get. Ranger Luke McElhinney has also said he would appreciate help with another two smaller blocks further down the mountain as he is finding it hard to make time for these.
If you are able to help with Block 36 on either of those dates please let me know asap, preferably by email or phone on and I'll give you location details. If you would like to tackle one of the other smaller blocks in your own time also let me know and I can get a GPS and equipment to you.

Many thanks for your support

Coordinator

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McElhinney, Luke

From:
Sent: Tuesday, 31 January 2012 5:01 PM
To:
Cc: McElhinney, Luke; Jeffress, Stuart
Subject: RE: Rabbit Warren Mapping

Hello

I can well understand your dismay and frustration at the re-opening of rabbit warrens after fumigation. It is a big problem.

Having covered a pretty large area of Mt Ainslie during this current mapping project I can see a huge difference in the rate of re-opening across various areas. In some areas the majority of warrens have remained closed, and in others almost all have been reopened. Usually the warrens higher up the mountain have remained closed and we can only speculate on the reasons for this - fewer rabbits in the area overall , harder soil etc Possibly the quality of work done by some of the contractors last time was not as good as it could have been. The spotlighting done by rangers very recently indicated there is a big reduction in rabbit numbers overall all though this seems hard to believe when you walk on the mountain - certainly rabbits are less fearful of humans than they were several years ago.

Ripping the warrens would be effective but I am told this would be too destructive in most areas to consider as a general option. I know the rangers are planning to do some ripping where there is good access.

Hopefully the current baiting program will be successful in reducing rabbit numbers initially - it should help.

Possibly we should consider follow up of at least the huge warrens? Certtainly we need to discuss further action after fumigation, because as you say, it will be difficult to recruit experienced mappers if the problem is just as bad in another two years .

Many thanks for your interest

From:
Sent: Tuesday, 31 January 2012 10:21 AM
To:
Cc: luke.mcelhinney@act.gov.au; stuart.jeffress@act.gov.au
Subject: RE: Rabbit Warren Mapping

Is it possible to have some feedback on warren destruction? It is just too easy for the rabbits to recolonise the old warrens when they start to build up again. This means that when you map again you are having to check each of the old burrows as well as look for new ones.

Either destroy, or just use the old maps and fumigate where they have been found - it was quite demoralising to redo such a big job so soon after the last mapping - I found it very hard to generate enthusism but quite enjoyed the first mapping i was involved in. Doing this every 2 years will evaporate all but the hardiest and most persistent volunteers.

I would be very pleased to get a reply,

(reluctant second-time mapper)

From:
To:
CC: Luke.McElhinney@act.gov.au; Stuart.Jeffress@act.gov.au
Subject: Rabbit Warren Mapping
Date: Mon, 30 Jan 2012 17:52:17 +1100

Dear Rabbit Warren Mappers

The huge task of locating and mapping rabbit warrens on Mt Ainslie and Mt Majura is almost complete. The data you collected so carefully has been processed by our Data Manager, Waltraud Pix - another huge task - and forwarded to the rangers.

Scrambling around the mountain, slogging up those rocky slopes, slipping and sliding down into gullies, scraping through prickle bushes, dodging bullants - it's no Sunday School Picnic, this rabbit warren mapping! But we have done it, and done it well. And we have a very nice set of data to ensure that the contractors engaged to treat the warrens can work more quickly and effectively. So a very big thank you is due to all you enthusiastic volunteers for your effort on the mountain!
Special thanks to those valiant volunteers who mapped several blocks, or parts of them, and to section coordinators, Liese, Peter, Richard and Waltraud for their role in organising the mapping in each section.

Attached is a letter from Luke McElhinney, ranger in charge of the rabbit control program, expressing appreciation from Parks and Conservation Service staff, who I know are extremely happy with what we have achieved. The rangers have also worked really hard to contact landowners around the perimeter of both Mt Majura and Mt Ainslie, including the War Memorial, CSIRO and owners of farming properties. These groups have all agreed to do some rabbit control to reduce rabbit numbers across the wider region. This will have a very positive impact on the effectiveness of rabbit control within the Nature Reserves.

We have not yet been able to map block 36 on the eastern slopes of Mt Ainslie because of the discovery of unexploded ordinance in that area. We expect to get access in mid February and will be calling for volunteers for a one-off mapping session to search the block. If we get clearance as expected, this will probably happen on Sunday 19 February so if you are interested, keep this date in mind. We'll send confirmation at a later date.

If you enjoyed your experience on the mountain you may be interested in joining one of the ParkCare groups that do conservation work in our nearby Nature Reserves.
For more details, call Mt Ainslie Weeders), (Friends of Mt Majura) or Watson Woodland Group) or go to the FoMM website (www.majura.org.au.
We are always very happy to welcome new volunteers!

Thank you once again for your commitment and hard work!

Coordinator, Rabbit Mapping Project

McElhinney, Luke

From:
Sent: Wednesday, 18 January 2012 6:00 PM
To:
Subject: Friends of Mt Majura January 2012 newsletter

Friends of Mount Majura (FoMM) Newsletter January 2012

- Working party – this Sunday, 22 January
- Chemical training course
- Centenary Trail update
- Rabbit program update
- Wildlife poaching on Mt Majura
- FoMM report for the financial year 2010/11

Dear Friends

Welcome to the January 2012 edition of the FoMM newsletter. I hope you enjoyed a great break and will start the year with recharged batteries.

We will have a **working party this coming Sunday 22 January** to control woody weeds along the drain ditch downhill of the Hackett reservoir. It would be great if you could give a couple of hours of your time to help. We will deal with a range of weeds most of them escapes from nearby gardens such as English Ivy, Japanese Honey suckle, Privet and Nettle tree which arrived there via dumping garden debris or bird droppings. If we are enough volunteers we will also replace some of the plastic guards around the seedlings planted in the paddock with more robust wire mesh guards. A crew of Conservation Volunteer Australia produced them at a working bee on Mt Majura yesterday and they are ready for installation.

Here are the details for the working party:
When Sunday, 22 January 2012, 9 am to 1 pm; morning tea with cake and coffee around 10.30 am;
Where Meet at the Hackett reservoir off Rivett / French Streets, click on this map to view the meeting point;
Wear and bring Sun protection, sturdy shoes, old garden clothing, long sleeves and pants;
Tools and information on the weeds will be provided; come early for an introduction on the safe use of chemicals.
Enquiries Ph 6247 7515 or admin@majura.org (the admin address wasn't working for a while; it's fixed now).

Herbicide use training course. The Southern ACT Catchment Group is organising a training course on herbicide use for the weekend 18/19 February 2012 to be held at Westwood Farm near Kambah. FoMM needs more trained volunteers who are qualified to apply herbicide in the nature reserve. Please consider to take part in the course. You will gain accreditation and the skills and knowledge required for applying herbicide safely. The accreditation will enable volunteers to conduct foliar spray treatment such as using a backpack spray to control thistles, Paterson's Curse, St John's Wort, horehound, and noxious grass weeds as well as being able to handle undiluted chemicals for mixing. ParkCare working parties that involve the use of herbicide require a trained person on site. The course is paid by the government and free for ParkCare volunteers. Bookings are essential and places are limited. Contact Steve Welch on info@sactcg.org.au, 6296 6400 or . Further information on the course will then be provided. Please let me know if you are interested in the training.

Centenary trail update. FoMM submitted a comment which you can find by clicking here. The consultation period has been extended to 10 February 2012. Representatives of FoMM and the Mt Ainslie Weeders met on site with Government representatives, CBRE Town planning (Feasibility report) and

Anthony Burgess (ground investigation of the proposed route) to discuss the issues raised by the Parkcare groups.

Rabbit control update. The mapping of rabbit warrens has been completed on Mt Majura and is on track on Mt Ainslie. Notices of the rabbit control work are placed at nature park entry points and according to my information contractors started today. They will work their way from the north of Mt Majura to the south. A preliminary analysis of the recorded warrens reveals mixed results: the number of warrens recorded in some parts of Mt Majura is similar to the number recorded in 2009/2010 however the number of active warrens and entrances appeared reduced. In some parts however such as on the steeper west slope, the number of warrens are down from 154 warrens recorded in January 2010 to 31 recorded in January 2012. We'll keep you updated on the rabbit front.

Wildlife poaching on Mt Majura. There is increasing evidence of wildlife poaching in the nature reserve. I am concerned that our publications on wildlife and guided walks intended to share the treasures of the nature reserve with the wider public are being abused by poachers. For the time being I propose to communicate observations of rare and threatened species or species that might attract the interest of poachers only to trusted FoMM members and the land manager.

The FoMM annual report for the financial year 2010/11 is available on our website; click here to read the report.

Warm regards
Waltraud

Sweaney, Mark

From:
Sent: Sunday, 3 February 2013 1:31 PM
To: Sweaney, Mark
Subject: RE: warrens on Taylor!

No worries!! Cheers, A
-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Friday, 1 February 2013 2:46 PM
To:
Subject: RE: warrens on Taylor!

Yes we'll have to catch up next week to discuss the summit ideas, sorry I didn't get to arrange a meeting today. I'll let you know asap.
Mark

From:
Sent: Friday, 1 February 2013 2:44 PM
To: Sweaney, Mark
Subject: RE: warrens on Taylor!
Importance: High

Right, the guy who mentioned the warren under the gate (Sulwood/park entrance towards ACTEW lines immediately before you turn into C'houn st) laughed about the rabbit disappearing under the gate..I have not been there yet but will try and see it tomorrow!! The warren may be in the actual drain on the other side of the gate...Ta heaps for the warren fumigations. Many thanks, see you next week for the summit stuff? Cheers,
-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Friday, 1 February 2013 11:07 AM
To:
Cc: Wotzko, Alex; Gould, Kristy
Subject: RE: warrens on Taylor!

Hi
Alex and I fumigated and closed the warrens this morning. The lower one near the powerlines was certainly large and active. We have not done the Chu/Sulwood intersection yet, a more precise location would be handy before we attempt that one. Thanks for tracking down the warrens.

Cheers,

8

Mark Sweaney
Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au



From: anne & john ions [mailto:ajions@iimetro.com.au]
Sent: Thursday, 31 January 2013 2:43 PM
To: Sweaney, Mark
Subject: RE: warrens on Taylor!

Done, what ever..I can get to the Depot tomorrow (Friday) if any of you are available..let me know time, or next week..Cheers, A
-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Thursday, 31 January 2013 7:46 AM
To: ajions@iimetro.com.au
Subject: RE: warrens on Taylor!

Hi
Coming in to the depot would be great, or we could do a site visit. Kristy is away until next Monday but I'll have a chat with Stuart the manager and Dennis the foreman see if we can come up with a time.
Mark

From: . om.au]
Sent: Wednesday, 30 January 2013 4:14 PM

To: Sweaney, Mark
Subject: RE: warrens on Taylor!
Importance: High

Hello Mark, !

Mark,
the red rags will lead straight up to the warrens, but I will look at the map again..its pretty small!! I also had a message about two weeks ago about some funding for the replacement of the old info board on the Taylor summit, and I also need to contact you all about the info for our planting (100 years celebration event with Taylor group) and also simple PR stuff for the boards which I can put up..and hopefully get all the walkers on side and avoid the two short cuts on the summit!! I know you are all very busy, when can I nip in and see you to make sure everything is OK so I can get going on the PR info? Before I stand on somebody's toes, who else should I be communicating with further up the management line or not?? I think we will need minor work on the summit to assist with blocking the two short cuts (no big deal, mainly the fallen trunk or two sliced up a bit, info on boards at Mannheim and near the start of the concrete path (my effort), and PR in various e-mails, groups etc. Think we can have several meets on the summit to dig holes etc so that we can then have the planting day sometime in autumn. We need to think about public involvement with the planting: any ideas on how far this should go? If there is more involvement by the public it may have better commitment to care of the summit? Anyway, when you have a minute, send me a time and I will meet you at the depot. I am available all this week..etc Cheers, I will send this map again too

-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Wednesday, 30 January 2013 12:05 PM
To:
Subject: warrens on Taylor!

Hi /
I have just come back after leave, I have put all of the rabbit data together and passed it onto Alex who will put time aside to take care of these warrens. Thanks for all of the info we really appreciate your effort.

Mark Sweaney
Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au

From:
Sent: Wednesday, 16 January 2013 1:28 PM
To: Sweaney, Mark
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

I checked on our red markers for your two new warrens..all in place (there are always idiots who remove things..!!) Cheers, A
-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Wednesday, 9 January 2013 1:39 PM
To:
Cc: Wotzko, Alex; Gould, Kristy
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Hi
We can begin treating the rabbit warrens on Mt Taylor. As you would be aware the rangers are pretty stretched for time so would appreciate the location of warrens. Would you have a map or GPS points for the warrens?

Thanks,

Mark Sweaney
Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au

From:
Sent: Sunday, 23 December 2012 11:56 AM
To: Sweaney, Mark
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Ta heaps, I have more info on rabbits on summit (!!).the spies are out! I will bring more info..look after yourself and a very Happy Christmas.
-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Saturday, 22 December 2012 11:10 AM
To:
Cc: Wotzko, Alex
Subject: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Hi Anne,

Thanks for this information, very much appreciated. I have added this job to our schedule and we should be able to begin addressing the warrens in Jan. Would you be able to send in a map or GPS co-ordinates?

We have also observed the lack of St-Johns Wort in mown areas. I think we should soon be able to monitor how our control efforts are affecting the long term weed pattern and measure how well we are helping conserve native communities and biodiversity, that's the dream anyhow.

Hope you have a happy and safe Christmas,

Mark Sweaney
A/g Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au

From: ;
Sent: Friday, 21 December 2012 12:27 PM
To:
Subject: A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!
Importance: High

When you have a moment, I have found a reopened (or new) warren near the righthand side of Mannheim park entrance (a couple of months ago you treated the old warrens near our bench) And with Kathy today we refound a warren near ACTEW power line before the lower dam (in scrubby shrubs etc) above the
Parkway: I can mark a map line for you off the power line track, and is easy to get at them off Sulwood with truck. How about something early Jan?? The lower gate off the Parkway has been damaged but hanging in there with padlock, some large trees have been chopped up and removed by the gate: that was obviously in winter with some large truck tracks and bogging...Anyway, thank you for some help next month?? Cheers and again, enjoy the Christmas and N/Y. And something: having observed the mowing over the years in areas round Taylor and the Sulwood road verges, where the mowing is done frequently, most of the St John's wort plants have departed: we are now removing heads (now drying off) for spraying in the spring of 2113: it works very well. Its a stop gap when we can't spray or its too late.Cheers,

---

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Sweaney, Mark

From: [redacted]
Sent: Saturday, 12 January 2013 2:34 PM
To: Sweaney, Mark
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Ranger meeting, To Do

Hello Mark: we have another warren report..near the gate entry off Sulwood/C'houn st where you enter the gate and go up the ACTeW line! It was reported by cyclist who nearly tripped over the rabbit as it shot into the new warren!! Cheers, A

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Sweaney, Mark

From:
Sent: Friday, 11 January 2013 2:42 PM
To: Sweaney, Mark
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Categories: To Do

Hello Mark! With our student (Duke of Edinburgh guy) we found and marked the two warrens (now 3 actually, two new and one old that has another hole that Lee fixed) We have marked them with red material: drive along Sulwood passed Livingstone avenue: as you continue along Sulwood there is a small road to left which goes up to small park..pass that, then look to your right and you will see the red material marker!! Stop the truck, then walk up the hill passed the red markers that go over the ditch keep walking up towards the ACTeW line that turns up towards the agistment..the warrens are marked en route right of the Actew line towards the little rocky summit..we have marked both of the warrens...the lower warren is large and busy!! I will be looking after another student next week, and I could get to the warrens if you want more assistance. My stab at the map location is fairly good!! Take care,

-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Wednesday, 9 January 2013 1:39 PM
To:
Cc: Wotzko, Alex; Gould, Kristy
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Hi
We can begin treating the rabbit warrens on Mt Taylor. As you would be aware the rangers are pretty stretched for time so would appreciate the location of warrens. Would you have a map or GPS points for the warrens?

Thanks,

Mark Sweaney
Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au

ACT Government

From: .au]
Sent: Sunday, 23 December 2012 11:56 AM
To: Sweaney, Mark
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Ta heaps, I have more info on rabbits on summit (!!).the spies are out! I will bring more info..look after yourself and a very Happy Christmas..
-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Saturday, 22 December 2012 11:10 AM
To: au
Cc: Wotzko, Alex
Subject: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Hi ,

Thanks for this information, very much appreciated. I have added this job to our schedule and we should be able to begin addressing the warrens in Jan. Would you be able to send in a map or GPS co-ordinates?

We have also observed the lack of St-Johns Wort in mown areas. I think we should soon be able to monitor how our control efforts are affecting the long term weed pattern and measure how well we are helping conserve native communities and biodiversity, that's the dream anyhow.

Hope you have a happy and safe Christmas,

Mark Sweaney
A/g Senior Ranger
Athllon Depot
Parks and Conservation Service

ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au

From: au]
Sent: Friday, 21 December 2012 12:27 PM
To:
Subject: A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!
Importance: High

When you have a moment, I have found a reopened (or new) warren near the righthand side of Mannheim park entrance (a couple of months ago you treated the old warrens near our bench) And with Kathy today we refound a warren near ACTEW power line before the lower dam (in scrubby shrubs etc) above the
Parkway: I can mark a map line for you off the power line track, and is easy to get at them off Sulwood with truck. How about something early Jan?? The lower gate off the Parkway has been damaged but hanging in there with padlock, some large trees have been chopped up and removed by the gate: that was obviously in winter with some large truck tracks and bogging...Anyway, thank you for some help next month?? Cheers and again, enjoy the Christmas and N/Y. And something: having observed the mowing over the years in areas round Taylor and the Sulwood road verges, where the mowing is done frequently, most of the St John's wort plants have departed: we are now removing heads (now drying off) for spraying in the spring of 2113: it works very well. Its a stop gap when we can't spray or its too late.Cheers,

---

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Sweaney, Mark

From:
Sent: Thursday, 10 January 2013 2:27 PM
To: Sweaney, Mark
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Categories: To Do

Hello Mark, I have another warren for your attention: very active..we found a pile of scats, then the warren.. It is very close to the last one Lee and his troop blotted out: just below the ACTew line that runs parallel to the agistment fence. I will send you a map with mark on it: you can get at it on foot off Sulwood without too much trouble. Cheers, A

-----Original Message-----
From: Sweaney, Mark [mailto:Mark.Sweaney@act.gov.au]
Sent: Wednesday, 9 January 2013 1:39 PM
To:
Cc: Wotzko, Alex; Gould, Kristy
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Hi
We can begin treating the rabbit warrens on Mt Taylor. As you would be aware the rangers are pretty stretched for time so would appreciate the location of warrens. Would you have a map or GPS points for the warrens?

Thanks,

Mark Sweaney
Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile: 7

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Hope you have a happy and safe Christmas,

Mark Sweaney
A/g Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au

ACT Government

From: [redacted] .au]
Sent: Friday, 21 December 2012 12:27 PM
To: [redacted]
Subject: A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!
Importance: High

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Sweaney, Mark

From:
Sent: Wednesday, 9 January 2013 5:13 PM
To: Sweaney, Mark
Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

Importance: High

Ah, yes..the first warren is right near the last treatment (near our bench): I will send the photos for you..I think the treatment was done in Oct, and Lee was involved?? I could not find the warren on the summit, and I will go back and get someone else to look too. I have found the one between the two dams, but I have to go back and get the map info..so relax..only the shooting one is near our bench! I will send photos now. Happy 2013 anyway..its so dry..I have two school students trying to do something useful on projects, but we have been frustrated by the last few days! Cheers, A

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Mark Sweaney
Senior Ranger
Athllon Depot
Parks and Conservation Service
ACT Government
Phone: (02) 6205 0526 Mobile:

www.tams.act.gov.au



40

From: [redacted]
Sent: Sunday, 23 December 2012 11:56 AM
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Subject: RE: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

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To:
Cc: Wotzko, Alex
Subject: RE :A very happy Christmas and 2013 : I have remembered to look into warrens on Taylor!

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---

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Wainwright, Craig

From:
Sent: Wednesday, 20 March 2013 10:19 AM
To: Wainwright, Craig
Cc: Jenkins, Katherine; Wilkes, Stephen
Subject: Rabbits
Attachments: Rabbit-warrens_Large&Reopened_130320_updated.gpx

G'day again.

A couple of new large warrens came in overnight so I am attaching an updated version of the file.

Regards,

From: Wainwright, Craig [mailto:Craig.Wainwright@act.gov.au]
Sent: Thursday, 14 February 2013 19:12
To:
Cc: Jenkins, Katherine; John Brannan; Wilkes, Stephen
Subject: RE: Geocaches and fireplaces

Hi Warren,

I mentioned to John in a meeting today that I intend to have our April rabbit program mapped out by mid March. We don't have much left in the budget so it will be a 'hotspot' or 'main' warrens approach. I know you are usually on top of the rabbit situation so any intel on large reopened or new warrens will be most helpful.

Thanks for all the great work.
Craig

Out of Scope

Out of Scope

Regards,

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Wainwright, Craig

From:
Sent: Wednesday, 20 March 2013 10:08 AM
To: Wainwright, Craig
Cc: Jenkins, Katherine; 'John Brannan'; Wilkes, Stephen; Pax
Subject: Rabbits
Attachments: Rabbit-warrens_Large&Reopened_130320.gpx; Rabbit-warrens_unknown-size_130320.gpx

G'day Craig and all,

Further to my email of 15 February, attached are some updated files of our "chance encounters: with rabbit warrens on the Pinnacle Nature Reserve and neighbouring Bottom Pinnacle and North Kama.

I have split the data into two files.
The first contains locations of warrens we know to have been reopened or to be large (3 entrances or more).
The second file contains everything else. Some of these may also be reopened or large, but that information as not collected at the time.

I hope that this helps inform the imminent round of treatment. Let me know if I can be of further assistance.

Regards,

From: Wainwright, Craig [mailto:Craig.Wainwright@act.gov.au]
Sent: Thursday, 14 February 2013 19:12
To:
Cc: Jenkins, Katherine; John Brannan; Wilkes, Stephen
Subject: RE: Geocaches and fireplaces

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Wainwright, Craig

From: et]
Sent: Friday, 15 February 2013 4:02 PM
To: Wainwright, Craig
Cc: Jenkins, Katherine; , Wilkes, Stephen
Subject: Rabbits
Attachments: Active-burrows_Sep-2012_to_present.gpx

Follow Up Flag: Follow up
Flag Status: Completed

G'day Craig and all,

Attached is our current "chance sighting" database of active rabbit burrows. We started collecting in September, straight after the completion of fumigation, and I last added to it yesterday.

There are 78 waypoints, but more active burrows, because some are labelled as RW x3, which means there are 3 at that waypoint. Some of them also have a name that reflects that they are reopened burrows, but there will be others that were reopened but not labelled as such. I can do some translating of waypoint names if that would help. Of those 78 waypoints, 62 are on the Reserve.
And of that 62, approximately one third were not in our comprehensive database we sent to you last August, but which I don't think made it to the Exterminators in time because they started early. So I suspect that there would be many more that would be new to the exterminators. Not having a database of the waypoints that they visited, I can't determine that for sure.

For comparison, between September 2011 and February 2012 we mapped 44 active burrows, and that number doubled by May.

A few relevant "anecdotes".

1. There seemed to be less rabbits for a while, but recently I'm seeing a lot more as I go quietly around spraying.
2. Some of the warrens I've seen are quite big and very well used
3. I was "amused" to discover a reopened warren a few weeks ago that I had actually watched the exterminators check last year because I happened to be spraying PC nearby at the time. To my knowledge it hadn't been reopened before their visit, but their disturbance of it seems to have created an opportunity for the wily bunnies.
4. On a related note, hares are present in abundance and are almost as big and more tame than the kangaroos ☺

I think I've said it before, but the contactors need to address more than the warrens they have previously visited when next they do the rounds. Although it flies in the face of "conventional wisdom" our observations suggest as many new burrows as reopened ones.

I hope this is useful, but do contact me if I can provide more details.

Out of Scope

From: Wainwright, Craig [mailto:Craig.Wainwright@act.gov.au]
Sent: Thursday, 14 February 2013 19:12
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Wainwright, Craig

From:
Sent: Friday, 8 March 2013 10:22 PM
To: Wainwright, Craig
Cc: Jenkins, Katherine
Subject: Re: rabbits ABL

Craig,

Whatever, the rabbit problem overrides that, and I'll mark someway the burrows beyond those you delimit. Do you mean you're OK to locate all within the 'square' bounded by Powerline Track / Link Rd / Smiths Rd?
There are some just beyond the 1st pylon on that side, but more across the track, NW of that pylon, most in a Carex(?) thicket, so well-hidden.
Also at least one, over the hill, E-side of junction of Powerline & Summit tracks.
Some I've already marked, with recycled (faded) pink-ribbons, but rest assured they'll be obvious by the time you really need; which is when?
Cheers,

On Thu, Mar 7th, 2013 at 8:33 AM, "Wainwright, Craig" <Craig.Wainwright@act.gov.au> wrote:

> Hi
>
> We have a rabbit contractor starting in mid April and have an
> opportunity to treat Aranda BL. Jean recently mentioned you were aware
> of more rabbit warrens than Ian had previously passed on to PSC. Are
> you able to provide us with locations either GPS or a general
> descriptions? Ian passed on the
> 15 warrens that run down the western slope under the powerline track
> and into the gully that runs south parallel to Bindubi.
>
> much appreciation,
> Craig
>
> AG Senior Ranger |Parks and Conservation Service Department of
> Territory and Municipal Services Mitchell Depot - 66-68 Grimwade
> Street, Mitchell ACT 2911
> P: 02 6207 2924 | F: 02 6207 2096 | E:
> craig.wainwright@act.gov.au<mailto:joel.patterson@act.gov.au>
>
>
>
> ----------
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> ----------
> -
>

Wainwright, Craig

From:
Sent: Tuesday, 5 March 2013 4:25 PM
To: Wainwright, Craig
Subject: Fwd: Re: Rabbits, fence and cost of contract spraying

Hi Craig
You may be interested in getting Jim's response. Am just checking my February emails for statistics.
Jean

Out of Scope

You'd know that the rabbit scourge has expanded since FoAB was debarred from tackling it.

Lesson meanwhile: to not confuse PCL with updates; seems Ian?s original mapping (15 warrens) was ?actioned?, rather than the final (>50) it was told of.

They?re now over the Summit track and behind NW houses.

Shall relay my spots in time.

Cheers,

On 15/02/2013, at 1:42 PM, . ›te:

Wainwright, Craig

From:
Sent: Wednesday, 19 December 2012 8:51 AM
To: McElhinney, Luke
Cc: Wainwright, Craig; Jeanette Ruxton
Subject: Rabbits hop back as resistance to viruses increases

Hi Luke and Craig

Thank you so much for the "ThankYou" Barbecue on Sunday. Although numbers were disappointing (Christmas!) I think those who came were really interested to see the data you presented and encouraged by hearing of your plans for the future. It made us all feel valued members of a team. I believe there will be renewed willingness to take on some limited mapping prior to the planned control in April (Funding permitting of course.)

uke, would I be able to have a copy of the data for Mt AInslie. I might write something up for our notice oard, with a few photos as I know the general public are interested un the rabbit problem.

I've attached the email containing the radio interview on ABC666.

Cheers

Margaret

http://www.abc.net.au/rural/news/content/201212/s3651891.htm

By Julia Holman

Tuesday, 11/12/2012

Plenty of feed and resistance to control viruses have led to a boom in rabbit numbers.

The Invasive Animals Co-operative Research Centre says rabbits now cover two-thirds of the country, threaten vulnerable plant species and cost farmers $200 million a year.

CRC chief executive Andreas Glanznig says community efforts to destroy warrens are important, as scientists look at introducing new viruses to control the pests.

"Community action is really vital," he said.

"In the areas where you had a combination of bio-control with a very active conventional control, community groups and the landholders and the like, really trying to suppress rabbit numbers through warren ripping and so on, it's taken the rabbits a long, long time to bounce back."

Wainwright, Craig

From: Jeffress, Stuart
Sent: Monday, 17 December 2012 8:05 AM
To: Wainwright, Craig; Wilkes, Stephen
Cc: Condon, Chris; Iglesias, Daniel
Subject: RE: Parkcare Rabbit mappers BBQ

Hi Craig

Thanks for taking the initiative to organise this event. I support the 3 take home messages, however dot point 3 may be more difficult to accurately measure. We may need to talk to CPR and see if they are doing any veg monitoring on Mt Ainslie/Majura and see if we may be able to use that as an indicator. The current level of kangaroo grazing may make this difficult.

Stu

From: Wainwright, Craig
Sent: Sunday, 16 December 2012 4:25 PM
To: Jeffress, Stuart; Wilkes, Stephen
Cc: Condon, Chris
Subject: Parkcare Rabbit mappers BBQ

Hi All,

On Sunday CNP North (Luke and Craig) held a BBQ for the rabbit mappers who made a significant contribution to the 2011-12 rabbit control program.

It was held at MT Majura and was attended by 17 people, including the conveners of the 4 reserves we treated. We were well received by all. A small formal speech turned into a group discussion about the way forward. It was a healthy and illuminating discussion and I am certain they feel valued and understand the interdependency of all our roles.

The take home message I received from them was

- they endorse the use of technology which makes their efforts more efficient
- they would like to see more statistical information that illustrates the results of the program over time (some charts and maps were presented on the day)
- as the program progresses over time they would like see integrated information that illustrates what effect the program has had on achieving environmental outcomes such as native vegetation regeneration

Cheers
Craig

Wainwright, Craig

From:
Sent: Monday, 29 October 2012 5:16 PM
To: Swain, Shelley
Cc: Wainwright, Craig; McElhinney, Luke; Barnsley, Louisa
Subject: Re: more rabbit warrens Rivett St

Okay Shelley and my apologies if the info provided in previous emails wasn't clear.
Cheers,

On 29/10/2012 2:21 PM, Swain, Shelley wrote:

> Thanks , appreciate your clarification. I had taken them all to be in the backyards!
>
> Many thanks

Shelley Swain a/g Ranger-in-Charge North District
Parks and Conservation Service | Territory and Municipal Services Directorate | **ACT Government**
Phone 02 6207 2925 | Fax 02 6207 2096 | Email shelley.swain@act.gov.au
66-68 Grimwade Street Mitchell ACT 2911 | GPO Box 158 Canberra ACT 2601 | www.act.gov.au

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From: .au]
Sent: Friday, 26 October 2012 9:47 PM
To: Swain, Shelley
Cc: Wainwright, Craig; McElhinney, Luke; Barnsley, Louisa
Subject: Re: more rabbit warrens Rivett St

thanks Shelley
Just to clarify: the warrens at and Rivett St are in the nature reserve; only the Rivett St warren is in the backyard of the residence with a large entrance into reserve.
cheers

On 25/10/2012 6:43 PM, Swain, Shelley wrote:

> Hi
>
> Thanks for this information.
>
> As discussed with you this afternoon, we will soon be door-knocking at the houses on Rivett St with the rabbit issues. We hope we will be able to inspire some prompt action with the householders, however we do have some other tactics 'up-our-sleeve' if an amicable solution cannot be found.
>
> We'll keep you informed of our progress.
>
> Kind regards
>
> Shelley

Shelley Swain a/g Ranger-in-Charge North District
Parks and Conservation Service | Territory and Municipal Services Directorate | **ACT Government**
Phone 02 6207 2925 | Fax 02 6207 2096 | Email shelley.swain@act.gov.au
66-68 Grimwade Street Mitchell ACT 2911 | GPO Box 158 Canberra ACT 2601 | www.act.gov.au

From:
Sent: Wednesday, 24 October 2012 10:18 PM
To: x; Swain, Shelley; Wainwright, Craig; McElhinney, Luke
Cc: Barnsley, Louisa
Subject: more rabbit warrens Rivett St

Hi Luke Shelley and Craig
Today I saw a rabbit entering a third rabbit warren in the back of Rivett St close to those two reported at and Rivett St (my emails 9 and 16 October).
Please find attached a gpx file with the records of the three Rivett St warrens and 2 photographs of the warren behind Rivett St.
The Rivett St warren is amongst large logs and dumped garden debris overgrown with Sticky weed (*Galium aparine*). I think this needs to be cleaned up and perhaps you could ask the tenant of Rivett St to stop dumping garden waste in the reserve.
The resident of Rivett St, whom I met today when I recorded the warren, bitterly complained about the rabbits in his garden.
I think the main issue is the rabbit warren in the backyard of Rivett Street; this seems to be the biggest and most prolific (because protected) of all.
I'd much appreciate if you could let me know of any action to address these problems.
Many thanks.
Cheers,

24 October 2012

On 16/10/2012 10:54 AM, wrote:

> Hi Luke
>
> On the 9/10/2012 I reported about the large rabbit warren in the backyard of Rivett St with an entrance in the nature reserve; see below email and attached photograph.
>
> Today I report a second very active rabbit warren in the back of the backyard (northern end).
> This warren is very close to the backyard at the power pole amongst the horehound (see attached photograph); I'm not sure whether there is an entrance inside the residential garden.
> Yesterday I observed 2 rabbits entering this warren.
>
> Please find attached the GPX coordinates of both warrens.
>
> FoMM reported the situation at and residents' complaints about rabbits roaming their gardens several times in the past.

I would very much appreciate if you could let me know whether PCS will tackle the rabbits at the two sites.

Many thanks.
Cheers,

16 October 2012

On 9/10/2012 12:00 AM, wrote:

Hi Luke
At about 7pm today on my way back from work at Majura paddock I observed 6 rabbits entering from the nature reserve the warren located under the pile of wood in the backyard of Rivett Street.
This warren seems to be quite extensive and we know about this warren for a long time. I knocked on the door but no answer. Rivett St said that she hasn't seen the old man for a while that lives there.
I don't know how to go about it - close entrance from the reserve side? bait? clearly if nothing is done the rabbits will spread.
Pls let me know if you need the gps coordinates.
Cheers
W

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Wainwright, Craig

From: [redacted]
Sent: Tuesday, 4 September 2012 8:50 AM
To: Wainwright, Craig
Cc: Warren Bond
Subject: Re: Rabbit fumigation program has begun
Attachments: Forest block rabbit warrens.gpx; Forest block rabbit warrens.jpg

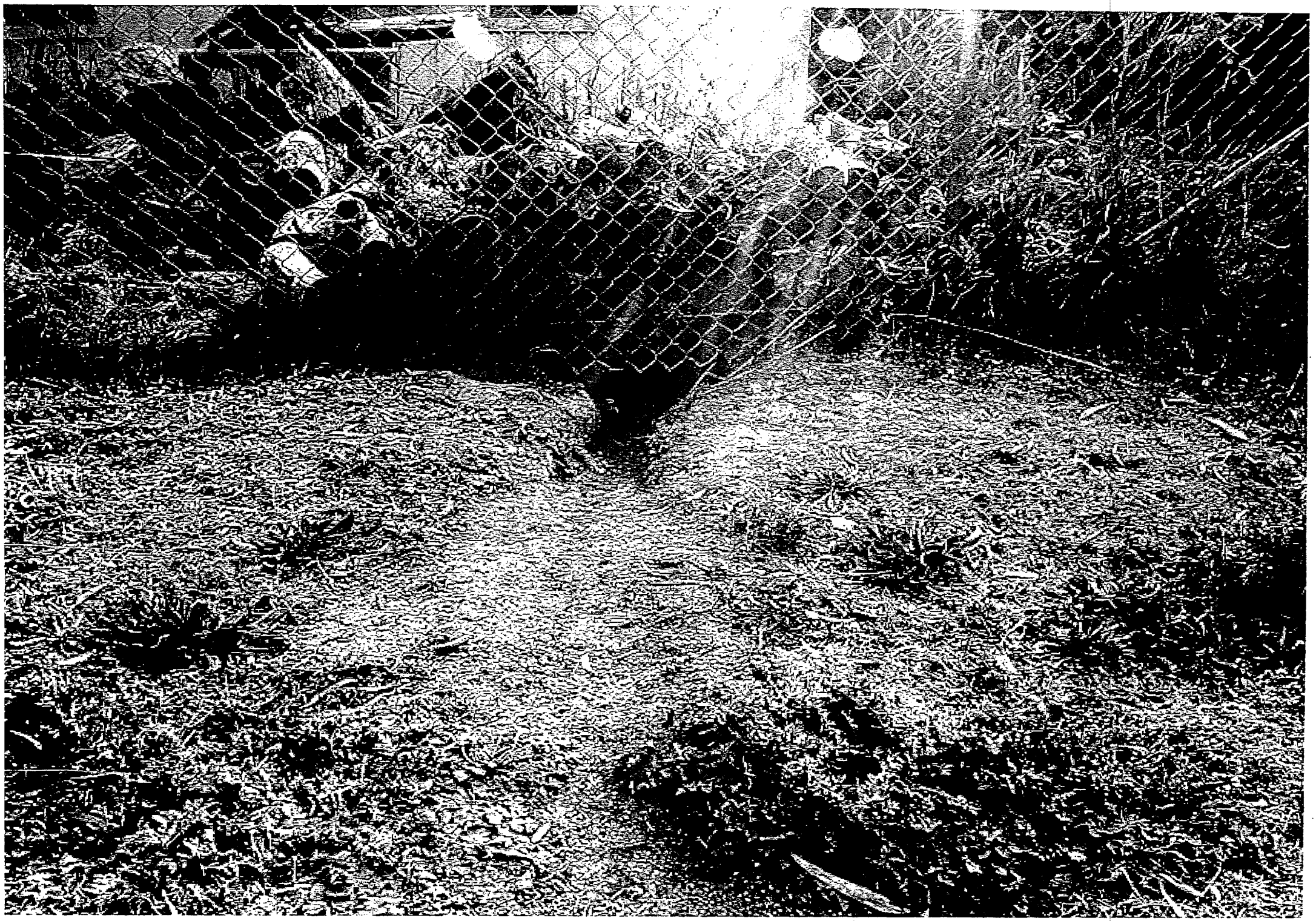
Hi Craig,

Thanks for this. I'm afraid you got the jump on us a bit. We've almost finished the warren mapping in the reserve -- we should be completely finished in a couple of days -- and Warren will send you what we currently have tonight. In the meantime, I've attached the data I've collected for the Forest (which is 90% mapped). I'll finish mapping the remaining Forest block this morning and the completed data set will be in with the other data Warren sends you tonight.
I would agree that many of the old warrens have stayed closed (sometimes with follow-up from us), but we're seeing a lot of new warrens/burrows that really need some attention this time round.
I hope this is not all too late, but we weren't expecting the fumigation to begin quite this soon.
heers,

On 3/09/12 5:08 PM, Wainwright, Craig wrote:

> Hi All,
>
> Rabbit fumigation program began today in the Pinnacle. The contractors were pleased to see that many of the warrens are still closed from their last efforts and I am hoping this is the trend throughout all of your reserves. This means the program should move along faster than planned if the weather stays good.
> At this early stage it appears
>
> - Pinnacle/Kama North/ Bottom Pinnacle should be complete by mid next week
> - Painter completed possibly by end of next week
> - Majura to begin in 2 weeks followed by Ainslie
>
> I am pushing for some follow up ripping to occur if we can find the resources. If it goes ahead it will only be conducted on flatter areas that are easily accessed. I will keep you posted.
>
> Regards
> Craig
>
> **AG Senior Ranger | Parks and Conservation Service**
> **Department of Territory and Municipal Services**
> **Mitchell Depot - 66-68 Grimwade Street, Mitchell ACT 2911**
> **P: 02 6207 2924 | F: 02 6207 2096 | E: craig.wainwright@act.gov.au**

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Wainwright, Craig

From:
Sent: Tuesday, 4 September 2012 7:00 PM
To: Wainwright, Craig
Cc: Warren Bond; John Brannan
Subject: warren mapping
Attachments: Active-entrances_Aug-2012.gpx

Hi Craig

Warren and John tell me your rabbit contractor is hard at it again. Good news. You should therefore be aware that we have been mapping warrens and active entrances over the last two weeks – with a view to supplying up to date information for control purposes.

Please see attached .gpx file with warrens etc marked, and let Warren or myself know if there is anything further we can do to help.

We have several paddocks remaining to be mapped (Southern and Dam), which should be completed over the weekend.

I know that means more to think about/of, but if you're organising a contractor give us a few days warning and we can furnish the latest information. Bunnies do colonise new areas, it seems.

All the best.

Wainwright, Craig

From:
Sent: Tuesday, 21 August 2012 9:58 AM
To: Wainwright, Craig; Jenkins, Katherine; McElhinney, Luke; Jean Geue
Cc:

Subject: Rabbits

Dear rangers,
There is a very active warren at the top of the power line track in the Aranda Bushland, on the cleared space on the south side. GPS 35.16.001 149.04.540
It has always been there, even when a fox had its winter residence! The ground is full of holes from the rotting of the trees buried when the power lines were constructed.
It is one of the 13 warrens marked on the map that I sent (no.13).
Thanks,

----- Original Message -----
From: Jean Geue
To:
Cc:

Out of Scope

Wainwright, Craig

From:
Sent: Tuesday, 31 July 2012 7:45 AM
To: McElhinney, Luke
Cc: Wainwright, Craig; Swain, Shelley
Subject: follow up rabbit control work Mts Ainslie / Majura

Follow Up Flag: Follow up
Flag Status: Completed

Hi Luke
you mentioned at the School planting event last Friday that PCS will conduct follow up rabbit control on Mts Ainslie / Majura. If I recall rightly you said this will happen in September? sorry I wasn't quite receptive for what you said with all the students, parents and teachers....

Could you please let us know what PCS rabbit control plans are?
Should I ask regular runners / walkers to keep an eye open for re-opened warrens? Some National Tree Day planters told me about warrens in the vicinity (north) of the planting area.

I regret that we didn't have a debrief of the 2011/12 rabbit control program as we had in the past. In my view debriefs are important because they are an opportunity to improve processes and volunteers feel they are valued as partners in a program rather than a source of free labour. In the past Stuart wrote an update for residents abutting the reserves, there was a debrief meeting of volunteer coordinators and PCS, and a info / BBQ meeting for participating volunteers.

Debrief issues

- What was good / could have been better / should be improved;
- Results of control: pre- and post spotlight counts, other observations;
- Considering that re-invasion is one of the biggest problems: uptake of rabbit control by abutting landholders (rural, War Memorial, CSIRO...);
- Outlook and future plans.

I'm sure has a bag of issues.

Thanks

Wainwright, Craig

From: [redacted]
Sent: Tuesday, 10 July 2012 6:39 PM
To: Wainwright, Craig
Cc: Pax; Warren Bond
Subject: Re: Remedial work for ripped warrens
Attachments: Waypoints_08-JUL-12.gpx

Hi Craig,

Just to let you know, we planted a total of 24 replacement shrubs and trees up at the Pinnacle NR on Sunday (July 8th). The tubestock was raised from seeds sourced on the reserve itself -- the species are listed below. Over half the plants were replacements for plants in last year's planting that have died, with 11 used on ripped warrens. In the case of the acacias, we only had *Acacia rubida* available, so we used that regardless of the original acacia species (*Acacia dealbata*, mostly). I've attached a gpx file showing the locations and species for the plants used on ripped warrens.

Cheers,

On 19/05/12 4:06 PM, Wainwright, Craig wrote:

> Hi John
>
> Because its a straight 'like-for-like' replacement, I can't see a problem with your plan.
>
> Cheers
> Craig
>
> ---
>
> **From:**
> **Sent:** Saturday, 19 May 2012 2:14 PM
> **To:** Wainwright, Craig
> **Cc:** Pax
> **Subject:** Re: Remedial work for ripped warrens
>
> Craig,
>
> Thanks very much for that. The map is very interesting, since it shows how focused the rabbit activity is on the area immediately around the Pinnacle itself.
> A few days ago, I came across the site marked as RIP14 in the stringybark forest and noticed that the ripping has uprooted a number of Cassinia shrubs. As it happens, we (fotpin) have a number of Cassinia that we've raised from seed collected at the Pinnacle (by Malcolm Fyfe of GA). Would you be OK with us planting some of those in the rip sites to replace the uprooted shrubs? I stress that we'd only be looking at replacing the uprooted plants, not introducing new plants, and only on a like-for-like basis.
>
> On 19/05/12 10:49 AM, Wainwright, Craig wrote:

Attached is a mud map of the rip sites and the worker's report indicating what sites he was able to achieve.

The seeds used were sterile rye corn -the native mix is still on its way, however, ranger Luke has assured me he asked CPR to advise him on what grasses to put in the mix to make it specific to the Pinnacle. He said there was scope to put in local forbs as well, but I will need to clarify that with him when he gets back from his leave.

Cheers
Craig

From:
Sent: Thursday, 10 May 2012 8:49 PM
To: Wainwright, Craig
Cc: Angela Calliess; Pax; McElhinney, Luke; Len Taylor
Subject: Re: Remedial work for ripped warrens

Hi Craig/Luke,

Thanks very much for this. I was sort of hoping that you guys might have some sort of remedial action in mind. I'll be interested to see how successful your approach is in preventing the sort of heavy weed infestation we've seen in the past when warrens have been ripped.
Can I ask what sort of native seed mix you plan to use? I was also wondering how many warrens you ripped with the backhoe. I'm aware of 4, but there are areas of the reserve I don't get to that much.

Cheers,

On 10/05/12 10:02 AM, Wainwright, Craig wrote:

Sorry for not informing you earlier about the ripping program. We did the ripping in house with a small backhoe using one tyne because the sites were small and in some difficult and sensitive areas. This allowed for minimal disturbance.

Sterile Rye Corn seed was spread over the sites. We had intended to sew in some native grass mix but did not get the supplies on time. We will follow through with this procedure once the seed is in stock. Ranger Luke McElhinney is in charge of this project and has been advised by Kate Boyd who is providing the funding for the seed mix. While this will assist the rejuvenation of the sites they will obviously need to be monitored for weeds.

We have now finished in the Pinnacle and intend to do some sites in North Kama in mid June, however this cannot be confirmed at this stage due to the work load for our GSO gang who carried out the ripping.

I hope that assists you in understanding our strategy. Any suggests to improve our approach are welcome.

Thanks
Craig

-----Original Message-----
From: John Brannan [m.au]
Sent: Wednesday, 9 May 2012 8:20 PM

To: Wainwright, Craig
Cc: Angela Calliess; Pax
Subject: Remedial work for ripped warrens

Hi Craig,

I've noticed in the last few days that the rabbit control contractors have gone back and comprehensively ripped some of the more frequently used warrens with heavy machinery.
This is exactly what was needed and is very welcome. However, it does leave us with some large patches of denuded ground that serve as an open invitation to weed infestation.
We're interested in using some approach that will minimize future weed infestation in these scarred areas (e.g. a covering of microlena thatch), and I was wondering whether you have any suggestions or preferred methods for remedying this sort of situation.

Cheers,

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Wainwright, Craig

From: Swain, Shelley
Sent: Thursday, 28 June 2012 5:11 PM
To: Jeffress, Stuart
Cc: Wainwright, Craig
Subject: Rabbit warren ripping funding

Hi Stu

As you will know, ; in the Belconnen Hills Pindone is no longer able to be used, and warren ripping is being undertaken. The team are also extending the warren ripping into the Majura Valley given warren destruction is regarded as a key technique in rabbit control.

Out of Scope

I'm aware that Chris Condon and Bruce will probably not have budgets on their radar at the moment, but just thought I'd put it out there since Craig and I were discussing.

Cheers

Shell

elley Swain a/g Manager North District
Parks and Conservation Service | Territory and Municipal Services Directorate | **ACT Government**
Phone 02 6207 2925 | Fax 02 6207 2096 | Email
66-68 Grimwade Street Mitchell ACT 2911 | GPO Box 158 Canberra ACT 2601 | www.act.gov.au

Wainwright, Craig

From:
Sent: Monday, 7 May 2012 1:49 PM
To: Wainwright, Craig
Cc: Swain, Shelley
Subject: Mt Ainslie Weeders

Dear Craig,

I apologize if my recent email to Daniel Iglesias has caused problems for you.

Some background: I had a meeting with Daniel last week about the Centenary Trail. Prior to starting the meeting proper,
there was some general discussion about Mt Ainslie Weeders activities. I mentioned that Margaret and I were concerned at the number of reopened or
newly dug rabbit holes at the tip only a few weeks after the control work. Daniel commiserated and said that he knew the tip was a busy
bbit site. We then moved on to our CT discussions.

The next day I sent Daniel an email thanking him for organizing the meeting. I added that if some follow-up rabbit control could be done at the tip,
we would be very grateful. I had assumed that there would be provision for this and wanted to flag the tip as a priority area.

My motive was not to make life difficult for you. Rather, I took advantage of the face to face meeting with Daniel to directly express our
concerns. In any event, we greatly appreciate you organizing a contractor to come and re-treat the holes at the tip.

Regards,

Wainwright, Craig

From: Swain, Shelley
Sent: Friday, 4 May 2012 6:00 PM
To:
Cc: Wainwright, Craig; Iglesias, Daniel; Galvin, Peter;
Subject: Mount Ainslie Rabbit Control

Dear Jeannette

Unfortunately we have not yet had opportunity to meet, however I would like to thank you for the incredible work undertaken by yourself, (Convenor Mount Ainslie Weeders) and the Mount Ainslie Weeders (and, of course, the Friends of Mount Majura!) in mapping the rabbit warrens in the Mount Ainslie and Mount Majura Nature Reserves. The data collected and mapped is impressive and will be of great assistance in the ongoing control of rabbits in the area.

I would like to take this opportunity to update you on the rabbit control program at Mount Ainslie, for which I understand you usually work closely with our Park Rangers, Craig Wainright and Luke McElhinney. The rabbit poison and fumigation programs in the Reserve were both completed at the end of March this year. As you will know, it is usual following a fumigation program for some back-filled rabbit holes to be reopened by surface rabbits. I understand in the case of Mount Ainslie, 12 holes have been found reopened following this year's program. For the follow up fumigation of the 12 reopened holes, Craig and Luke had undertaken to conduct this work internally, given the limited availability of the small number of specialist contractors available in the ACT. However, since this was communicated with , Craig has been fortunate to engage the services of a contractor to undertake the follow up work within the coming weeks.

As with our other works areas, Mount Ainslie will continue to be investigated for rabbit activity as part of usual Park Ranger duties. As Craig has discussed with the intention is to continue the control programs through the neighbouring areas of Mount Majura and Campbell Park as soon as is practical. The area behind CSIRO will also be of focus due to its proximity to the Nature Reserves and high level of rabbit harbor.

Please, if you have any further questions about the rabbit control program or any other issues with Mount Ainslie, feel free to contact me directly. Thank you again for your hard work and dedication. I look forward to meeting you very soon.

Kind regards

Shelley

Shelley Swain a/g Manager North District
Parks and Conservation Service | Territory and Municipal Services Directorate | **ACT Government**
Phone 02 6207 2925 | Fax 02 6207 2096 | Email
66-68 Grimwade Street Mitchell ACT 2911 | GPO Box 158 Canberra ACT 2601 | www.act.gov.au

Wainwright, Craig

From: Webb, Nicola
Sent: Monday, 26 March 2012 10:26 AM
To: Bruns, Nina
Cc: Maconachie, Michael; Galvin, Peter; Gould, Kristy; King, Geoff; Condon, Chris; Iglesias, Daniel; Clifton, Joe; Wainwright, Craig; McElhinney, Luke; Whitfield, Dave; Swain, Shelley; Halley, Andrew; Tozer, Simon; Roberts, Louisa; Burdick, Bob
Subject: warning on wallabies and pindone
Attachments: Rabbit and Possum Pindone sensitivity.doc

Hello All
Apologies to Nina for not including you in the first e-mail which is why the document is attached to this e-mail again. I've also copied in Northsiders and Rural as this information is just as relevant to you.

Following the camera observation that swamp wallabies were gaining access to pindone carrot in caged stations at Jerra Wetlands please note that both wallabies and Eastern Grey Roos have an LD50 to pindone of 2 mg/kg body weight. They are therefore not as sensitive as rabbits (LD50 = 0.52mg/kg) to the poison but still very sensitive compared to bt possums (LD50 = >50mg/kg). This is why we do not trail bait with pindone bait in reserves. Small roos and wallabies are obviously the worry here as they have lower body weight so need to eat less bait to get poisoned. You can find this LD50 information in your depot copies the DPI Vertebrate Pest Manual. All people who have attended the DPI vertebrate pest management course should have a copy of this manual.

Please note that you need to make sure that the contractor's bait stations have the chicken wire on either end pulled down so that only a rabbit (and therefore unfortunately also possum) sized animal can gain access. Poisoned bait should only be placed in the centre of the cage so that an animal actually has to get into the cage to eat it and that larger animals with small heads can't reach in and get it. Free feed bait will probably still need to be placed outside and at the entrances to the cages to get rabbits feeding on the bait.

Cheers

Nick Webb
Vertebrate Pests Coordinator| ACT Parks and Conservation Service
Territory and Municipal Services
Stromlo Depot, 500 Cotter Rd, Weston ACT 2611
Ph: 02 6207 2135 | Fx: 02 6207 2544 | Mb:

From: Webb, Nicola
Sent: Thursday, 22 March 2012 11:45 AM
To: Maconachie, Michael; Galvin, Peter; Iglesias, Daniel; Clifton, Joe; Gould, Kristy; King, Geoff; Condon, Chris
Subject: Sensitivity of possums to pindone poison

All
Please see the attached information I have found on the relative sensitivity of rabbits versus brush tail possums to pindone poison. While this does not mean it is not possible to kill possums with pindone carrot bait, it probably makes it unlikely if the bait is correctly dosed and delivered in a 'pulse' baiting regime of bait supplied every 3 to 5 days.

Nick Webb
Vertebrate Pests Coordinator| ACT Parks and Conservation Service
Territory and Municipal Services
Stromlo Depot, 500 Cotter Rd, Weston ACT 2611
Ph: 02 6207 2135 | Fx: 02 6207 2544 | Mb:

From: The NRA Review of PINDONE, May 2002, National Registration Authority For Agricultural and Veterinary Chemicals

3.3.1.8 Toxicity of pindone to possums
Wild possums were administered a single high dose of 25 or 100 mg/kg by gastric intubation. Haematocrits (indicators of haemorrhage), one-stage prothrombin and activated partial prothrombin times were measured in blood samples. No changes could be seen at the lower dose, but activated partial prothrombin time increased significantly at the higher dose. All possums remained healthy, with no symptoms evident at autopsy in euthanased individuals, or in live animals monitored for 28 days. In contrast, rabbits intubated with 25 mg/kg underwentheavy mortality, with extensive haemorrha ging in abdomen and thorax. Haematocrit values were significantly decreased and prothrombin times significantly extended (Eason and Jolly,1993).
Possums remained resistant to the anticoagulant effects of pindone even when administered 5 consecutive daily doses. No mortalities occurred at 8 and 16 mg/kg, 1/12 at 32 mg/kg and 9/14 at 64 mg/kg (estimated LD50 51 mg/kg/day) with death generally occurring between 1 and 2 weeks after dosing. Liver damage was the only apparent pathology, apart from small areas of subcutaneous haemorrhage in three animals (Jolly *et al*, 1994).

From: NSW DPI Vertebrate Pest Control Manual

A table in the above manual gives the following Lethal Dose (LD)50's for rabbits versus brush tail possums. Note this suggests that rabbits are about 100 times more sensitive to pindone poisoning than possums.

Animal	Average live weight (kg)	Approx LD50 (mg/kg)
Rabbit	1.3	0.52
Brush tailed possum	2.5	>50

Note: tests conducted using technical grade pindone which is a purer form than the commercial poison.

Wainwright, Craig

From: Orgill, Oliver
Sent: Monday, 13 February 2012 8:52 AM
To: Wainwright, Craig
Subject: Ripping Guidelines

Hi Craig,

Ripping SOP - http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0006/57282/rab-006.pdf

Have a read through the specs paying a particular attention to size of area and depth requirements which will help define the areas which may be suitable. If conditions are suitable, ie not in the rootzone of significant trees or in high value veg areas, it is an essential component of an integrated rabbit program.

Cheers,

Ollie

Oliver Orgill
Vertebrate Pests Coordinator
Parks and Conservation Service
Dept. of Territory and Municipal Services
Stromlo Depot, 500 Cotter Rd, Weston ACT 2611
Ph. 02 62072135 Fax. 02 62072544

Wainwright, Craig

From: Jeffress, Stuart
Sent: Thursday, 12 January 2012 4:19 PM
To: Wainwright, Craig; McElhinney, Luke
Subject: Final Letter_Rabbit control_Ainslie Majura
Attachments: Final Letter_Rabbit control_Ainslie Majura.doc

Hi Craig and Luke

The final approved letter is attached

Thanks

Stu

Canberra Connect Dot Points

RABBIT CONTROL PROGRAM

Mt Majura and Mt Ainslie Nature Reserves

Where is the rabbit control program being undertaken?

- A followup Rabbit Control Program will be undertaken on the Mt Majura and Mt Ainslie Nature Reserves, Watson Woodlands (Justice Robert Hope Park) and the surrounding Hackett Horse Paddocks

- The rabbit control program undertaken in Autumn 2009 was very effective. However, if no further works are undertaken, rabbit numbers will return to there original levels over the next 12 months.

What are the benefits of controlling rabbits?

- Rabbits are a serious environmental pest as their grazing results in a loss of vegetation and their warrens contribute to soil erosion.

How will the program be undertaken?

- From mid January to late April, PCL plans to undertake an integrated control program using recognised control techniques.

- The program will include the fumigation of rabbit warrens using phosphine gas and the poisoning of surface rabbits using pindone carrot bait.

- In open areas where access is available, a bulldozer may be used to remove rabbit warrens to remove this harbour. Children present within the area must be supervised at all times.

What is the risk to native animals?

- The program will be undertaken in a manner that limits the risk to native animals. If a warren is known to be occupied by a non-target species, fumigation will not be performed.

- With regard to pindone poisoning, the carrot bait used to poison rabbits will be laid in a manner that restricts access by animals such as kangaroos and other native animals.

File reference: C:\Users\craig wainwright\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\CBOEUWMA\FINAL Mt Majura_Ainslie Rabbit Control Program 10 - Canberra Connect Dot Points.doc

Macarthur House • 12 Wattle Street Lyneham ACT 2602
GPO Box 158 Canberra ACT 2601 • Telephone (02) 6207 1229 • Facsimile (02) 6207 2502

What is the risk to domestic animals?

- Pindone is widely used throughout Australia to control rabbit populations within the urban area.
- It is extremely unlikely a dog could receive a toxic dose of pindone poison through eating poisoned rabbits (secondary poisoning). While secondary poisoning is very unlikely dogs may be susceptible to primary poisoning if they eat the poisoned bait (carrot or oats).
- In the event of a domestic animal showing symptoms of pindone poisoning (vomiting, bloody fluid in the mouth, blood in the faeces), an antidote is available from most veterinarians. It consists of an injection of Vitamin K, (1mg/kg liveweight) which counteracts the effects of pindone in the body.
- Fumigation of warrens poses little risk to domestic pets and is considered one of the most target specific means of rabbit control available.

More information?

For further information please contact North District on 6207 2113

2012200306 - PDMS Ministerials [Update]

File Edit Select Help

Minister: KAT | Priority: FRO | Register Date: 20/02/2012

Division: LMP | Reply Level: KAT | Due Date: 05/03/2012

Branch: PCS | Status: REQ | Finalised Date:

Ministerial Details | Diary Text/History | Related Information | View Division | View Schedule

Sender Details ☐ Non Standard

Title: Mr

First Name: Shane

Surname: Rattenbury MLA

Position: ACT Greens Member for Molonglo

Street: ACT Legislative Assembly

Suburb: CANBERRA

State: ACT | Postcode: 2601

☐ VIP Correspondence ☐ Attachments To Follow

Correspondence Date: 15/02/2012

On Behalf Of:

Organisation From:

Subject: Rabbit Baiting in North Watson

Comments: Due to ED, PACS 1 March 12

Enter or select the minister's code | Administrator | ARAH BOURN | NUM | CAPS | INS

RECEIVED
DATE 22/2/12 BY CL

COPY

Katy Gallagher MLA

CHIEF MINISTER

MINISTER FOR HEALTH

MINISTER FOR TERRITORY AND MUNICIPAL SERVICES

MEMBER FOR MOLONGLO

Mr Shane Rattenbury MLA
Member for Molonglo
ACT Legislative Assembly
London Circuit
CANBERRA ACT 2601

Dear Mr Shane Rattenbury

Thank you for your representations of 15 February 2012 about the rabbit control program being conducted in North Watson.

The Territory and Municipal Services Directorate is currently undertaking a large scale rabbit control program in the Mt Majura and Mt Ainslie Nature Reserves, Watson Woodlands (Justice Robert Hope Park) and surrounding Hackett Horse Paddocks. The program includes the fumigation of rabbit warrens with phosphine gas and poisoning of rabbits using pindone carrot baits. Subject to suitable weather conditions, the program should be finished by the end of May 2012 and the advisory signage will be removed at that time.

Pindone baits will in fact not be placed in the dog off- leash area to which you refer at the end of Stirling Avenue adjacent to the Watson Woodlands. It is unfortunate that an incorrectly located advisory sign may have led your constituents to the conclusion that baiting would occur in this dog offleash area. The offending sign has since been removed.

Pindone is widely used throughout urban areas of Australia to control rabbit populations and it is unlikely that a dog could receive a toxic dose. Should a domestic animal show symptoms of pindone poisoning, an antidote is available from most veterinarians.

Litter bins are provided at shopping centres, town and district parks, some sports grounds and other areas where there are high numbers of visitors. However, bins are not provided in local park areas and the cost of providing and servicing garbage bins in these locations would be prohibitive. In accordance with the provisions of the *Domestic Animals Act 2000*, the carer of a dog must hygienically dispose of any faeces dropped by their dog in a public place.

Should your constituents have any further concerns in relation to the rabbit control program in North Watson, I would encourage them to contact the Manager North District, Parks and Conservation Service on 6207 2925.

Thank you for raising this matter with me. I trust that this information is of assistance.

Yours sincerely

Katy Gallagher

Katy Gallagher MLA
Minister for Territory and Municipal Services

14 MAR 2012

Shane Rattenbury MLA
ACT Greens
Spokesperson for Attorney General, Environment, Climate Change and Water, Energy, Police and Emergency Services, Tourism, Sport and Recreation.

MEMBER FOR MOLONGLO

17 FEB 2012
CHIEF MINISTER'S OFFICE

Ms Katy Gallagher
Minister for Territory and Municipal Services
ACT Legislative Assembly
Civic Square., London Circuit
CIVIC

Dear Ms Gallagher, Katy

I am writing on behalf of constituents who have raised with me their concerns about rabbit baiting in a reserve in North Watson. The reserve is located between Anthill and Aspinall St, and forms an easement that extends in an east west direction from the end of Stirling St.

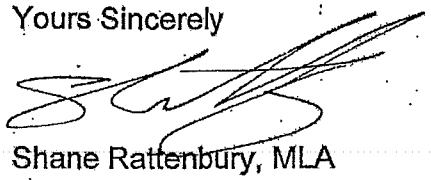
Apparently signs were installed in the reserve in early January notifying users that poisoning for rabbits would occur in the area over the next three months, and that dogs should be confined to leashes during this time.

I see from the TAMS website that this area is designated as an off leash area, and I understand that it is a very popular dog walking park. It is important for dog owners to have access to suitable off leash area where they can exercise and socialise their dogs. The constituents have drawn to my attention that off-leash areas are particularly important for their guide dog that spends most of its day at work and needs regular off leash exercise and play. As you can imagine, they are keen to resume use of the park as soon as it is safe to do so.

Can you please advise as to whether or not the poisoning has been completed, and if not, when it is scheduled to occur? Can you please also advise when this area will be safe for dogs, and how your department will be communicating this to park users?

As the park is designated as an off leash area, can your department please investigate the possibility of providing biodegradable plastic bags and rubbish bins so that dog owners are able to dispose of dog waste responsibly.

Yours Sincerely



Shane Rattenbury, MLA

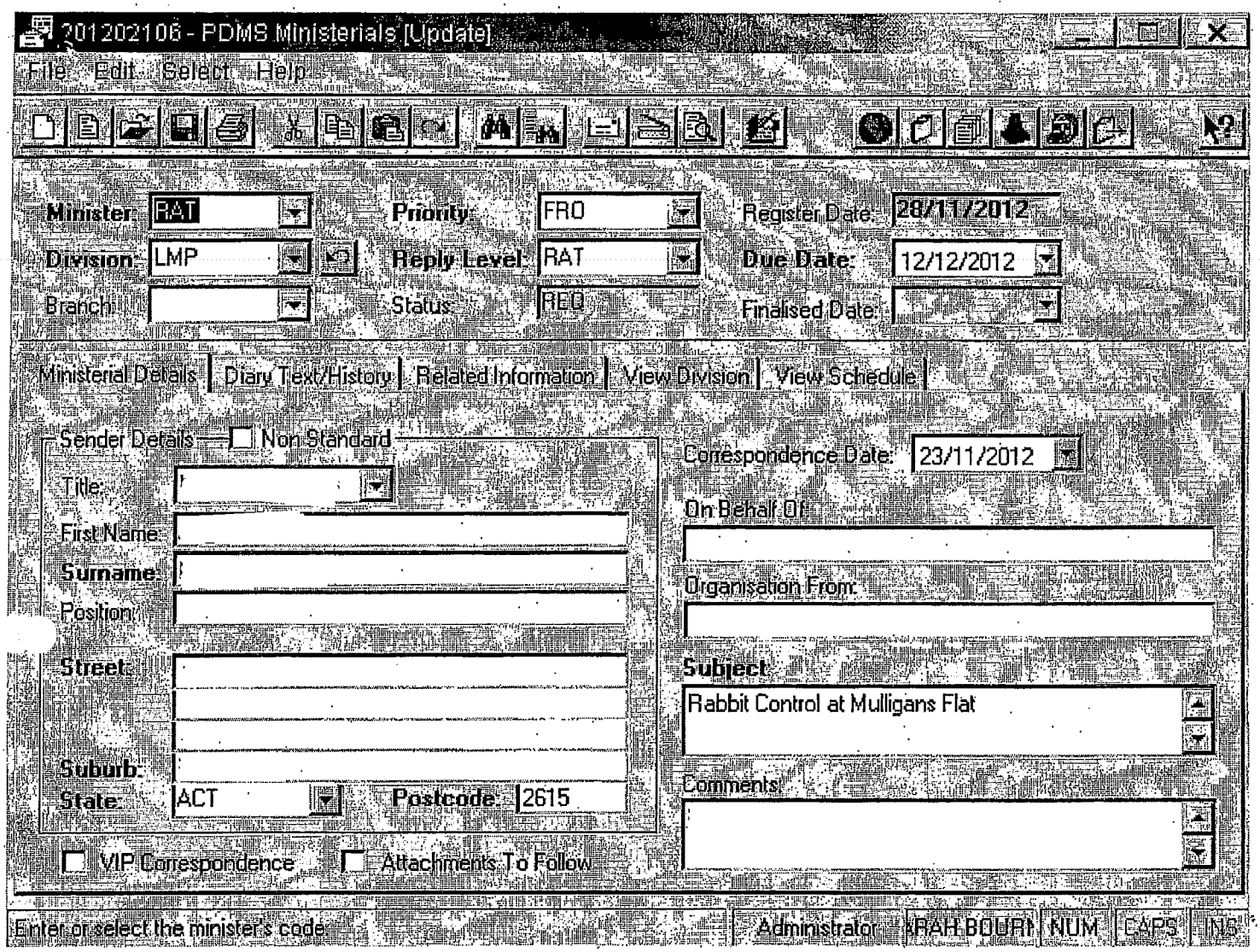
Member for Molonglo

15 February 2012

Ph: 6205 0005
Fax: 6205 0007
Email: RATTENBURY@parliament.act.gov.au
Post: GPO Box 1020, Canberra, ACT 2601

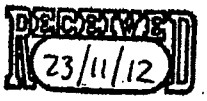
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cc: Caroline Le Couteur MLA
Greens TAMS spokesperson



D/c to ED PMC 5 10 DEC 12

RECEIVED
DATE 5/12/12 BY



The Hon Shane Rattenbury MLA
Minister for Territory and Municipal Services
GPO Box 1020
Canberra ACT 2601

Dear Minister Rattenbury

Rabbit control at Mulligans Flat Woodland Sanctuary

It has come to the attention of the [redacted] that the rabbit control project at the Sanctuary is to come to an end this month.

The [redacted] Group was set up late last year and is gaining some momentum with over 70 people subscribed to the Google Group. An active group of over 20 volunteers work in the reserve assisting the rangers and our current priorities are to identify active rabbit warrens (which we mark with flags for destruction by the ranger looking after rabbit control) and removing annual and woody weeds.

We are concerned that the rabbit control project is being wound down before the population has been controlled and despite significant progress using volunteers to assist with identification. This undermines our efforts and also means we will end up with a bigger pest problem down the track. Importantly, our kids who are part of the Friends Group enjoy the challenge of finding the warrens and marking them with flags.

We note that the Greens recent election package included a rabbit management program for Canberra nature reserves and additional support for Parkcare groups.

We are seeking your assistance to ensure the current rabbit control project at Mulligans Flat is continued until the rabbit population of the reserve is under control.

Yours sincerely

COPY

Shane Rattenbury MLA

MINISTER FOR TERRITORY AND MUNICIPAL SERVICES
MINISTER FOR CORRECTIONS
MINISTER FOR HOUSING
MINISTER FOR ABORIGINAL AND TORRES STRAIT ISLANDER AFFAIRS
MINISTER FOR AGEING

MEMBER FOR MOLONGLO

Dear

Thank you for your letter of 23 November 2012 regarding rabbit control at Mulligans Flat Woodland Sanctuary. As you noted, as the Greens Minister, I am committed to ensuring continuation of TAMS' rabbit control work.

I would like to thank you and the for the excellent work being done to support the ACT Parks and Conservation Service within the Mulligans Flat Nature Reserve. Your group has helped locate many rabbit burrows and enabled staff to efficiently destroy them thereby disrupting the rabbit breeding season.

Rabbit control at Mulligans Flat will continue and Sanctuary staff are currently organising the next phase of control, which is planned for mid February 2013. The next phase, in partnership with CSIRO researchers, will use a rabbit virus as a species specific bait to rapidly reduce rabbit numbers within the Sanctuary.

Rabbit control works will be consistent with the recently completed Mulligans Flat Woodland Sanctuary Rabbit Management Plan. This plan benefited from consultation with a panel of pest species experts from the Invasive Animals Cooperative Research Centre, CSIRO, ACT Government and land managers. It is hoped your group will continue to survey for signs of rabbit activity, thereby allowing staff to focus on the continuing destruction of burrows.

I understand you have had recent email correspondence with ACT Parks and Conservation Service staff regarding this matter and I encourage you to keep in touch with the staff if you have any further questions.

Thank you for raising this matter with me. I trust that this information is of assistance.

Yours sincerely

Shane Rattenbury MLA
Minister for Territory and Municipal Services

21 DEC 2012

ACT LEGISLATIVE ASSEMBLY