

## **Session 4 Current works and Critical Gaps**

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### Outcomes from this session

- List of research in different jurisdictions (by jurisdictions we have state and topic here).
- Common agreement of a list of gaps and their level of priority.

### Working groups

Groups are separated into states. I have directed the feedback into topics to provide some focus for the discussion. Note there is an *other* topic – for activities that do not fit into these topics - please be explicit about how the research relates to mammal decline issues especially if indirectly related.

Please include research being conducted by others not present if possible.

### Current research & management

Includes recent, current and proposed activities.

### **Topics**

[Distribution & monitoring – includes patterns of decline historic or recent](#)

[Taxonomy / Ecology](#)

[Fire regimes](#)

[Cats](#)

[Pastoralism](#)

[Disease](#)

[Cane toads](#)

[Other](#)

### **Prioritisation**

Please use the last 5-10 minutes to develop a consensus within your group what issues are the highest priority knowledge gaps that need to be overcome – this is to be filled in on the last page.

## DISTRIBUTION & MONITORING – includes patterns of decline historic or recent

### Research

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds
EWLS	RF	Cobourg and KNP	Eucalypt open forest	Conilurus	Population status	Fire management in KNP at Mardugal campground
	RF/JS	Jabiluka	Sandstone and woodland, floodplains	Small mammals and reptiles	Revisiting MW's sites	
KNP/NRETAS		KNP	Focus on sandstone in 2009	Small mammals, birds, reptiles	Response to fire	
		KNP	Biodiversity hotspots- Stone country- others?	Small mammals	Persistence of small animals in “hotspots”	
		KNP	SAD, EAD	False water rat distribution		
		KNP-Northern quoll survey-	EAD	Dasyurus hallucatus in conjunction with cane toad trapping	Persistence of quolls	
NRETAS		Cape Arnhem- survey of Dhimurru IPA	coastal	Small mammals	Resurvey of previously surveyed sites	
		English Company Islands	islands	quolls	Monitoring translocated population	
		Wessel Islands	islands	Golden	Monitoring translocated	

				bandicoots	population	
<u>NRETAS/Warddeken</u>		West Arnhem	Stone country	GBTR	Distribution-presence of species	
<u>Warddeken</u>		West Arnhem	Stone country	Small mammals	Capacity building for fauna surveys by indigenous rangers	Distribution and abundance of small mammals
<u>NRETAS</u>		Lesser-known islands	islands	Small mammals	Baseline surveys	

### Gaps (prioritise within topic)

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
how much decline and where	Phascogales		mid
Low survey effort for Arnhem Land, lower Daly, VRD, Wardekken IPA			high
response to cane toads, distribution	Small dasyurids		low
Persistence	Nabarlek		mid

### Issues inhibiting better management

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Resources			high
Community engagement-cross tenure, education and awareness (sm mammal decline)			high

## TAXONOMY / ECOLOGY

### Research

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds
		KNP-EAD		Planigale kakadu	description	
NRETAS		NT	all	dingo	Genetic purity of populations	

### Gaps *(prioritise within topic)*

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Response to fire for many species-basic ecology			low

### Issues inhibiting better management

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Long term mammal demographics and responses to threatening processes			mid


## FIRE REGIMES

### Research

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds
Warddeken-WALFA	JRS	West Arnhem	Stone country	Small mammals	Response to fire	
KNP/NRETAS fire plots as above						
CDU	TG	Kapalga, KNP	Open forest	Small mammals	Demographic response to fire	
CDU	MW	KNP	Open forest/woodlands	Small mammals	Response to fire regimes	

### Management initiatives

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key issue being addressed	How management addresses mammal decline – if unclear in key question or value adds
KNP/NRETAS		KNP/NT parks	Landscape scale fire management eg stone country			
CALFA (Bushfires, NLC, communities)		Central AL				

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**Gaps** (*prioritise within topic*)

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Knowledge of appropriate fire intervals	all	all	high
Factors affecting proliferation of annual grasses			mid
Climate change			low

**Issues inhibiting better management**

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Spread of exotic pasture grasses			mid
Broad scale perception of early dry season burning paradigm			high
Difficulty of setting up a fine scale mosaic regime			high
Long term-resources/commitment			mid

## CATS

### Research

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds
NRETAS	LC	Pellews	Islands	Small mammals	eradication	
NRETAS/KNP (proposed)		KNP			Exclosure trial	
KNP (planned)		KNP			Cat populations	Remote techniques for cat population study
EWLS	RF	Jabiluka	Stone country		Cat trapping	

### Management initiatives

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key issue being addressed	How management addresses mammal decline – if unclear in key question or value adds

### Gaps *(prioritise within topic)*

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Techniques for unmanned monitoring of cats			high

Abundance and impact of cats			high
Disease transmission			low

**Issues inhibiting better management**

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Efficient and cost effective techniques for control			high
People like their cats			Mid-high

## PASTORALISM

### Research

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds
NRETAS	TG	Daly	Eucalypt woodlands	Small mammals	Fragmentation and habitat loss-small mammal decline	
Warddeken		West Arnhem Land	Stone country		Small mammal monitoring in buffalo-damaged area	
KNP		KNP			Feral animal strategy-quantifying damage	

### Management initiatives

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key issue being addressed	How management addresses mammal decline – if unclear in key question or value adds
NRETAS		VRD	savanna		Control of donkeys, horses, buff and pigs, inc comm. Awareness program	
Warddeken		WIPA	Stone country		Buff control-pigs-depends on awareness	

**Gaps** (*prioritise within topic*)

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Thresholds of env damage for feral animals, livestock			high

**Issues inhibiting better management**

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Community awareness-impact of feral animals/grazing			high
Cultural values of animals-conflict of aspirations			high
Promotion of safari hunting by NLC			mid

## DISEASE

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### Research

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds

### Management initiatives

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key issue being addressed	How management addresses mammal decline – if unclear in key question or value adds

### Gaps *(prioritise within topic)*

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>



## CANE TOADS

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### Research

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds

### Management initiatives

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key issue being addressed	How management addresses mammal decline – if unclear in key question or value adds

### Gaps *(prioritise within topic)*

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>



**OTHER**

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**Research**

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key question being addressed	How research addresses mammal decline – if unclear in key question or value adds

**Management initiatives**

Organisation	Individual/s	Geographic location	Habitat/s	Species/group	Key issue being addressed	How management addresses mammal decline – if unclear in key question or value adds

**Gaps** (*prioritise within topic*)

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>


**Issues inhibiting better management**

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>

## PRIORITISATION - SUMMARY

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*To be completed in the last 10 minutes of the group sessions*

Please identify the highest priorities for filling knowledge gaps highlighted by the group.

Key question or issue	Species/group	Geographic location	Priority - <i>high, mid, low</i>
Low survey effort for Arnhem Land, lower Daly, VRD, Wardekker IPA			high
Knowledge of appropriate fire intervals	all	all	high
Techniques for unmanned monitoring of cats			high
Abundance and impact of cats			high
Thresholds of env damage for feral animals, livestock			high