



# KZN BIODIVERSITY STEWARDSHIP

a programme championed by Ezemvelo KZN Wildlife

## “Biodiversity and Grazing”

## The reality of developing recommendations



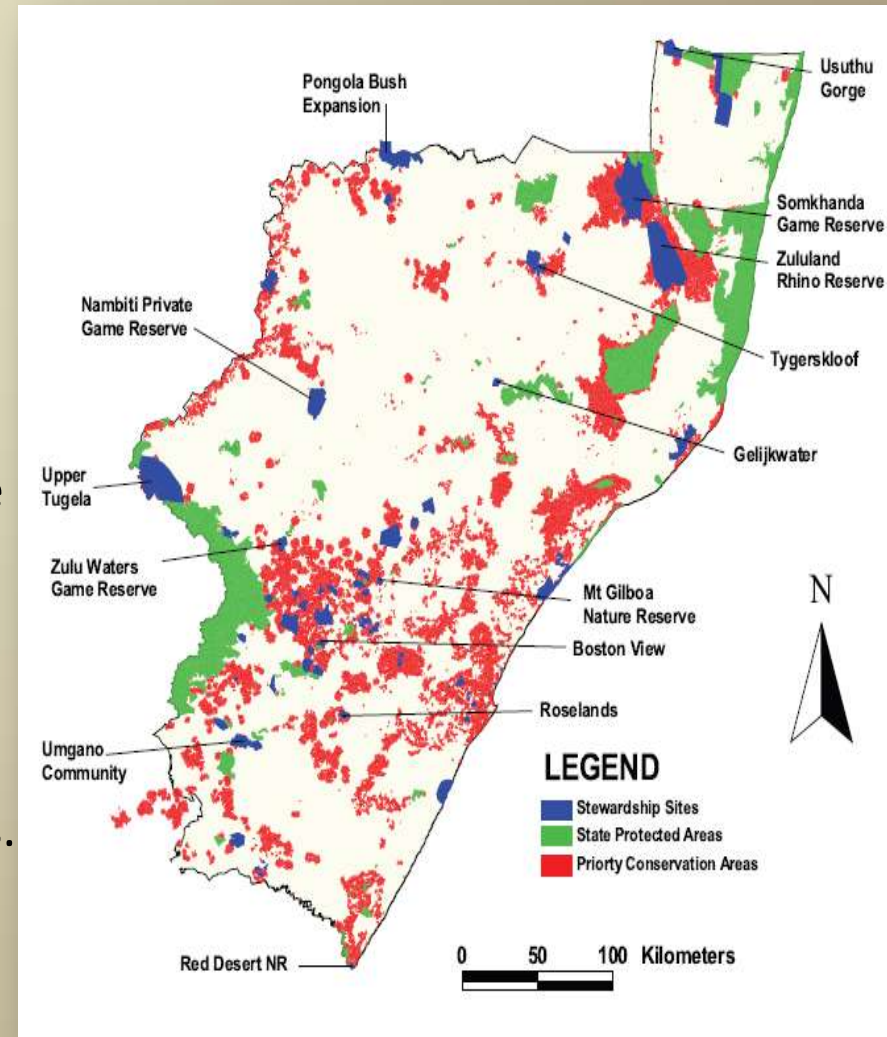
Agriculture & Environmental Affairs  
KwaZulu-Natal





# SECURING OF PROTECTION AND REMNANT BIODIVERSITY

- ❑ 53% of important biodiversity in private / communal ownership, outside of state protected areas.
- ❑ Biodiversity stewardship is the most efficient and cost-effective way of achieving this.
- ❑ The majority of properties involved in the Stewardship Programme will have some form of grazing (livestock or game).
- ❑ Management plans developed in terms of the Protected Areas Act (Act 57 of 2003) seek to make Biodiversity compatible grazing recommendations.
- ❑ Is this possible?







# EXAMPLES OF RECOMMENDATIONS

Biodiversity Stewardship Sites where grazing and burning recommendations have been made:

- ❑ Roselands Nature Reserve
- ❑ Lake Merthley Nature Reserve.
- ❑ Bill Barnes Crane and Oribi Nature Reserve.
- ❑ Michaelhouse Nature Reserve

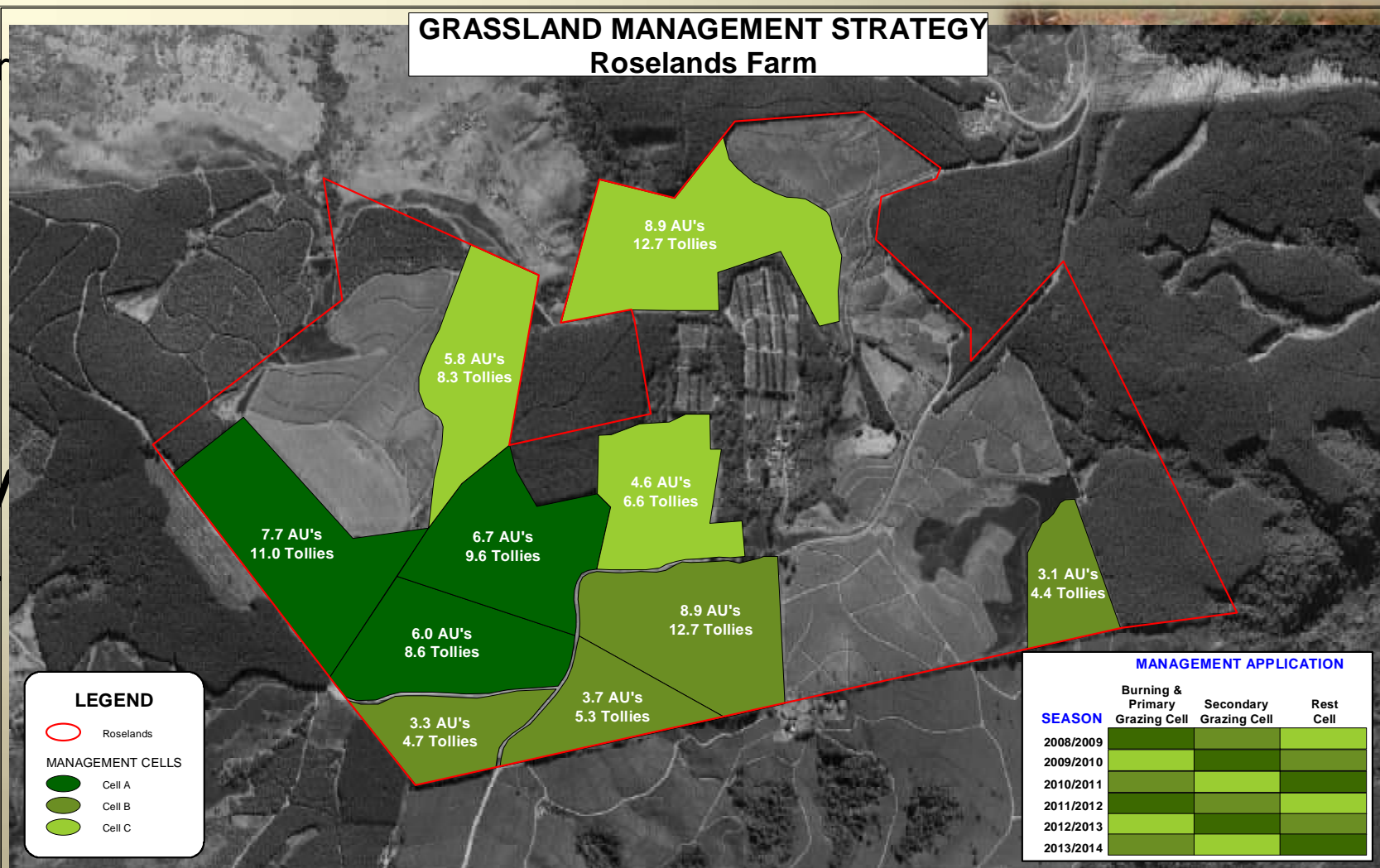




# ROSELANDS NATURE RESERVE



## GRASSLAND MANAGEMENT STRATEGY Roselands Farm



**LEGEND**

- Roselands

**MANAGEMENT CELLS**

- Cell A
- Cell B
- Cell C

**MANAGEMENT APPLICATION**

SEASON	Burning & Primary Grazing Cell	Secondary Grazing Cell	Rest Cell
2008/2009			
2009/2010			
2010/2011			
2011/2012			
2012/2013			
2013/2014			



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Natural Resources Section  
Macro Planning



**CLIENT**  
Mr. M. Nicholson

**MAP NUMBER**  
07/2008

**TITLE**  
Proposed grassland management strategy for Roselands Farm.

**1:10000**

**STUDY AREA**  
Roselands

**DATE**  
19/02/2008



# ROSELANDS NATURE RESERVE



Other specific recommendations due to vegetation type and species of conservation importance:

## Blue Swallow

- Burning during the blue swallows' breeding cycle (spring) is undesirable.
- Disturbance around the nest site should be kept to a minimum during the breeding cycle.



## Hilton Daisy

- Annual burning is detrimental to seedling recruitment and is undesirable.
- Mosaic burning with two year intervals between burning of sections is preferable.
- The areas containing Hilton Daisy's should be excluded from grazing. If grazing must take place it must be from 1 April to 31 August.







# ROSELANDS NATURE RESERVE



## Oribi

- Oribi require both long grass for cover and short grass for food during the same year.
- Cover can be provided by having one or more "rested" camps each year, with areas that are not grazed, burnt or mowed.
- The provision of short grazing can be achieved by mosaic veld burning in conjunction with rotational grazing by cattle.
- Wide firebreaks burnt during early winter, provides suitable grazing until the main late winter or spring burns take place.





# LAKE MERTHLEY NATURE RESERVE



To be proclaimed as a Nature Reserve:

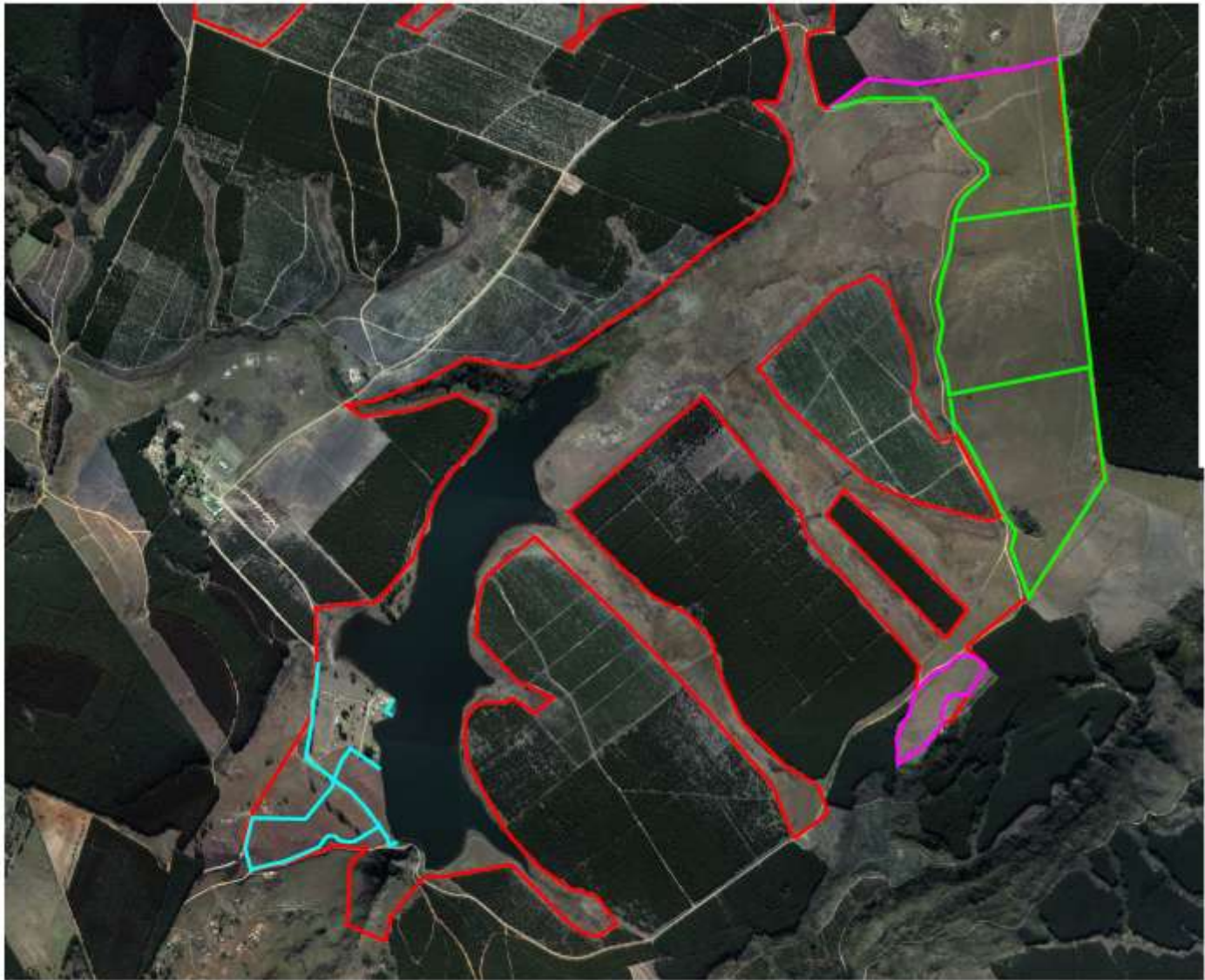
- Midlands Mistbelt Grassland (EN)
- Wattled Crane *Buggeranus carunculatus* (CE)
- Hilton daisy *Gerbera aurantiaca* (EN)
- *Aloe neilcrouchii* (KZN Endemic)
- *Watsonia canaliculata* (EN)
- *Dierama luteoalbidum* (VU)
- *Kniphofia ichopensis* (DD)
- *Tephrosia natalensis* subsp. *Pseudocapitata* (NT)
- New *Watsonia* species
- Long-Toed Tree Frog *Leptopelis xenodactylus* (EN)
- Water Provision – Greytown water supply










# LAKE MERTHLEY NATURE RESERVE



## LEGEND

-  Proposed Grazing Fences
-  Proposed Exclusion Fences
-  Existing Fence
-  Nature Reserve Boundary

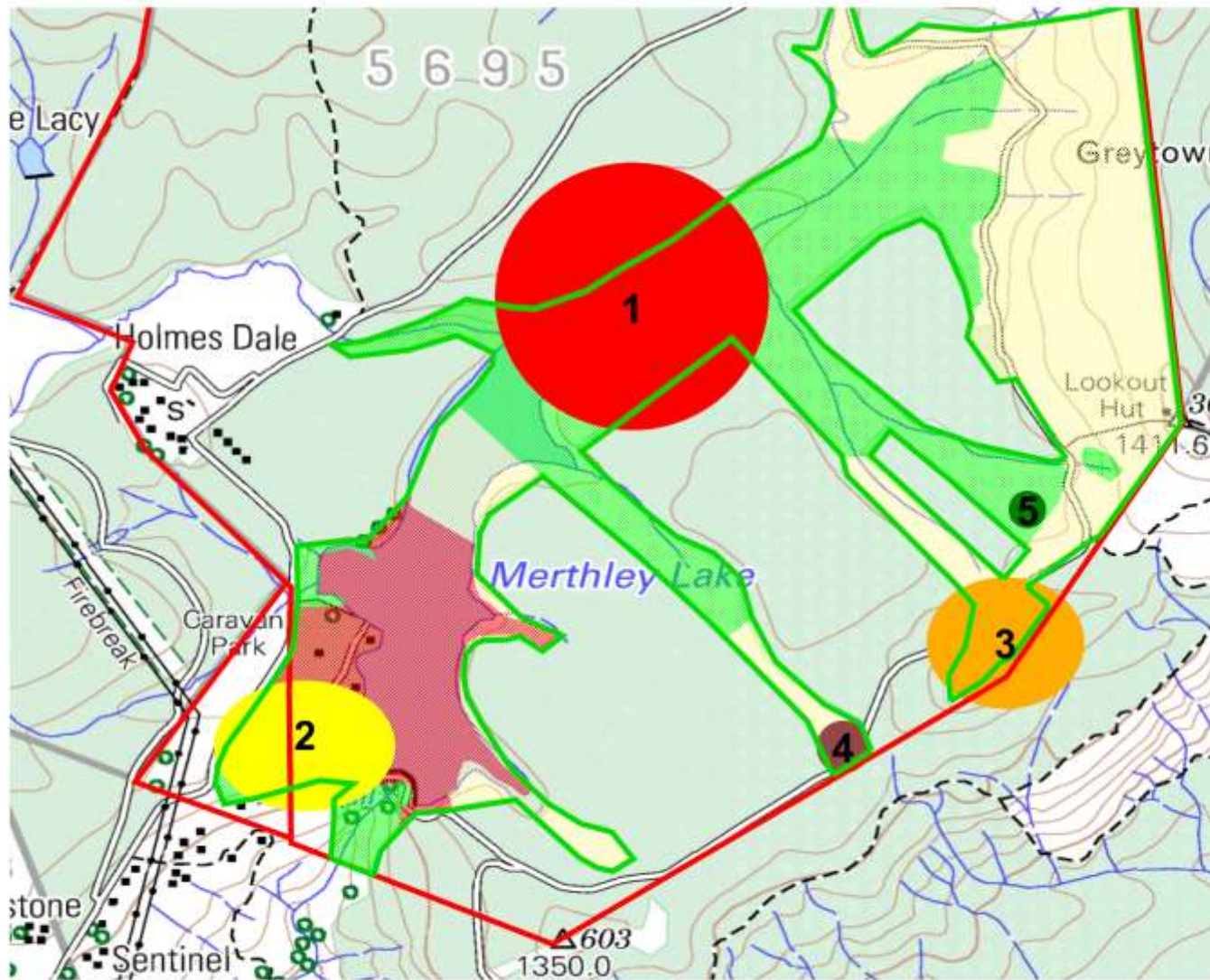


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# LAKE MERTHLEY NATURE RESERVE



## LEGEND

- Nature Reserve Boundary
- Property Boundary
- Key Feature Protection Overlay**
- 1
- 2
- 3
- 4
- 5
- Zonation**
- High Use
- Moderate Use
- Limited Use



1:20000



# BILL BARNES CRANE AND ORIBI NATURE RESERVE



Proclaimed as a Nature Reserve:

- Wattled Crane *Bugeranus carunculatus* (CE)
- Grey Crowned Crane *Balearica regulorum* (EN)
- Blue Crane *Anthropoides paradiseus* (VU)
- *Nerine pancratioides* (VU)
- Oribi *Ourebia ourebia* (EN)



## COMPLICATIONS

1. Owned by KZN Crane Foundation.
2. Three Donors (commercial farmers) who retain the right to graze and bale the property they donated.



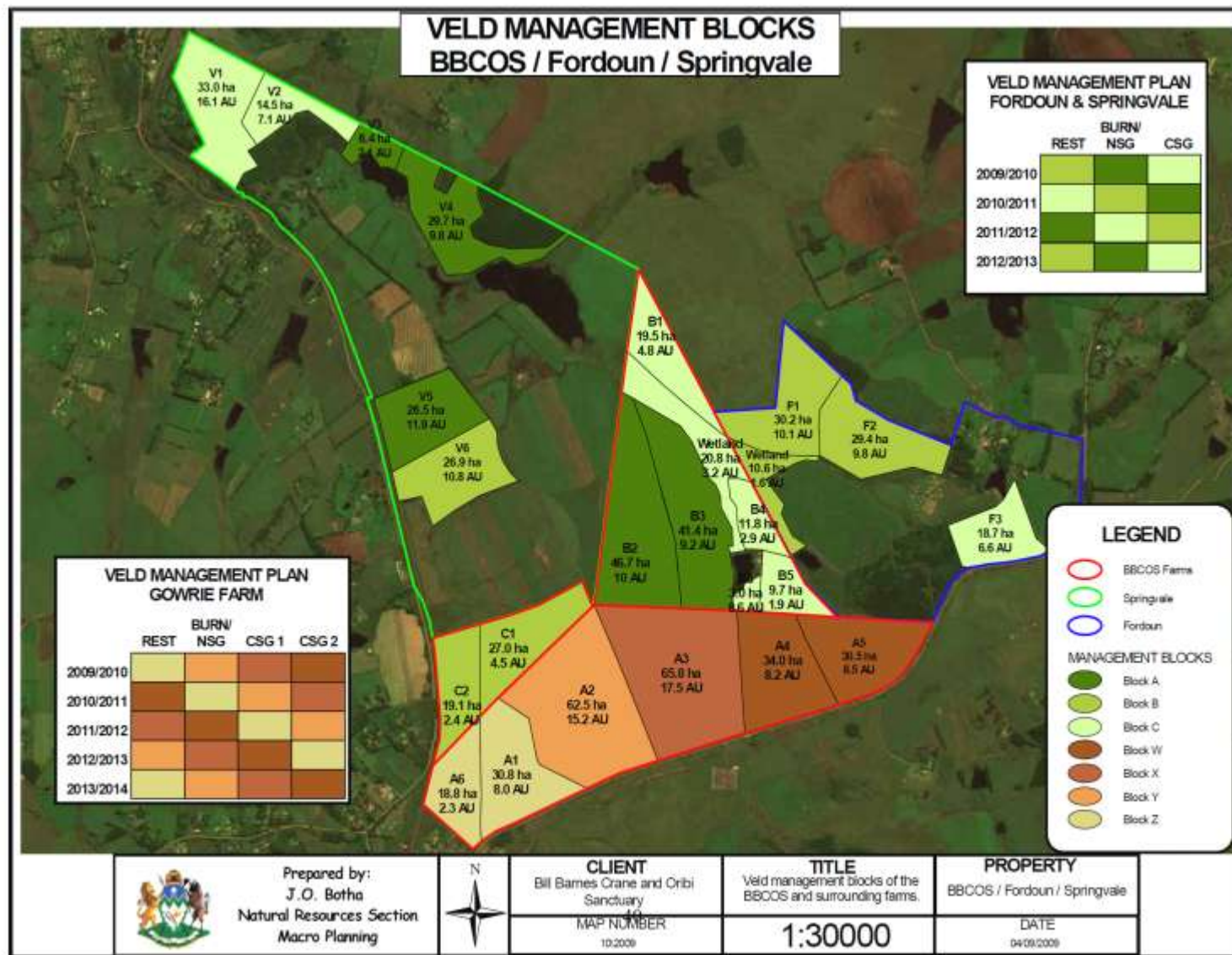




# BILL BARNES CRANE AND ORIBI NATURE RESERVE



1  
2  
3





# MICHAELHOUSE NATURE RESERVE



To be proclaimed as a Nature Reserve:

- Midlands Mistbelt Grassland (EN)
- Oribi *Ourebia ourebia* (EN)
- African Grass Owl *Tyto capensis* (VU)
- Tree Hyrax *Dendrohyrax arboreus* (VU)
- Denham's Bustard *Neotis denhami* (VU)
- *Dierama luteoalbidum* (VU)



## COMPLICATIONS

1. Utilisation of High Density Grazing to optimise biodiversity management?
2. Extremely moribund grass sward (8000 kg/ha) with very low basal cover.







# MICHAELHOUSE NATURE RESERVE



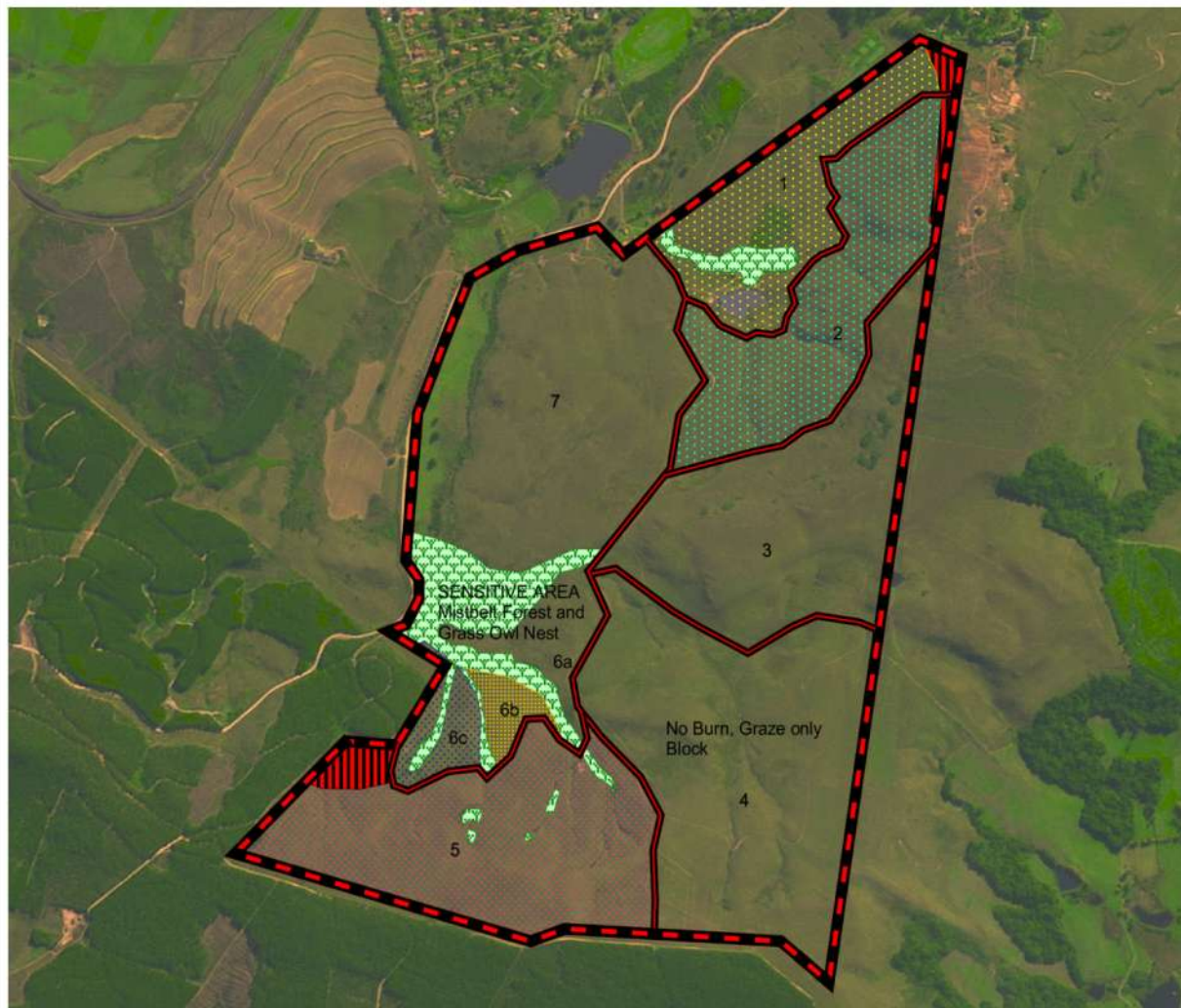
MICHAELHOUSE

## LEGEND

- Firebreaks**
- External Break
  - Internal Break
- Blocks**
- 1
  - 2
  - 5
  - 6b
  - 6c
- Firebreak**
- Forest**



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Conservation, Partnerships & Education



MICHAELHOUSE NATURE RESERVE  
2013 PLANNED BURNS

0 0.3 0.6 Kilometers





# MONITORING



## **PURPOSE:**

The purpose of monitoring livestock grazing at biodiversity stewardship sites would be to determine whether we are maintaining biodiversity at the sites or not.

## **METHOD:**

At five year intervals on the same plot.

1. Veld Condition Assessment Plots (25m x 50 m with 200 point observations)
2. Forb Biodiversity Assessment Plots (10m x10m plot (staked); 16 1m x 1m quadrates; a further 20m x 20m plot all additional plants are identified)

## **SITES TO BE MONITORED:**

1. Fort Nottingham Nature Reserve – commercial cattle
2. Roselands Nature Reserve – commercial cattle
3. Michaelhouse Nature Reserve – high density grazing – not commercial
4. Bill Barnes Crane and Oribi Nature Reserve – commercial cattle
5. Umgano Biodiversity Stewardship Agreement – communal cattle





## OTHER FACTORS TO BE CONSIDERED

- Effect of trampling on the forb component of grasslands
- Recommendations for the management of other game species
- Historical management may inform recommendations
- Individual properties are unique in terms of condition, management practice, climate, geology, soils, vegetation, species of conservation concern etc.
- Adaptive management – no two years are ever the same.



**Thank you**

*Tamara Hiltunen*

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