

ACT GOVERNMENT

# Environmental Offsets

## Implementation case studies



**ACT**  
Government

# Offsets Implementation Team

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- Even though we are only in our infancy, the offsets implementation team have already undertaken a long list of land management activities for the protection and enhancement of habitat for Matters of National Environmental Significance (MNES).
- In line with the Offset Management Plans for each area, projects already undertaken have included:

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- Annual weed mapping & control (spraying, trial phalaris spraying)
- Erosion control (large scale and small scale)
- Tree plantings (over 10,000 so far)
- European and cultural heritage assessments
- Rabbit fumigation and warren ripping
- Indian Myna community project with CIMAG
- Spotlighting
- Conservation grazing management including grazing strategies
- Strategic fencing of MNES ecological communities - Box Gum Woodland & Natural Temperate Grassland
- Tree thinning
- Phytophthora testing
- Soil sampling
- Planning for future conservation burns
- Boardwalk for Golden Sun Moth protection (1.2km)
- Superb parrot monitoring and research

AND MUCH MORE!

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In lieu of there being very little monitoring data available yet for these projects, I will talk about two case studies which are of interest and may raise some questions.

## Two case studies

1. Isaacs Ridge tree thinning
2. Strategic conservation grazing
3. Throsby tree planting or erosion stabilisation and habitat connectivity



# Isaacs Ridge tree thinning





# Isaacs Ridge tree thinning

- The Isaacs Ridge offset area is an offset for the extension of the Mugga Lane Resource Recovery Centre
- Isaacs Ridge is part of the White Box - Yellow Box – Blakely's Red Gum Grassy Woodland Community which is nationally recognised as Critically Endangered under the *Environment and Protection Biodiversity Conservation ACT 1999*.



# Isaacs Ridge tree thinning

Habitat improvement commitments in the Offset Management Plan include restoration works and improvement for the Box Gum Woodland including:

- Natural Regeneration and revegetation;
- Placement of coarse woody debris; and
- Ecological thinning.





# Isaacs Ridge tree thinning





# Isaacs Ridge tree thinning

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- The aim of this project is to thin regenerating eucalypts and wattles using the density benchmark (outlined by Gibbons et al) as a guide to returning the site to pre-European density.
- The thinning will target the smaller individuals within the size class.
- Thinning will involve treating all eucalypt and wattle saplings that have a diameter at breast height (DBH) between 5 - 20 centimetres by cutting off at ground level and poisoning to prevent regrowth.

# Isaacs Ridge tree thinning

- Area ranger Nina has worked closely with the PCS Conservation Research team to search literature, and produce a method that has a robust scientific background.
- Literature has shown that when there are high densities of single aged stands we have partial or complete loss of habitat features such as:



# Isaacs Ridge tree thinning

- Fifteen plots, each measuring 20 x 50m (0.1 Ha) have been thinned evenly across the plot to leave a density of 12 - 24 similarly sized trees standing within each plot.
- Each plot has a corresponding control plot located between 5 - 50m away with a similar aged stand and species composition.





# Isaacs Ridge tree thinning

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As part of the ongoing monitoring of the project, we will test if stands with this benchmark stem density, provide a more structurally diverse habitat, and higher growth rates, than the control groups.

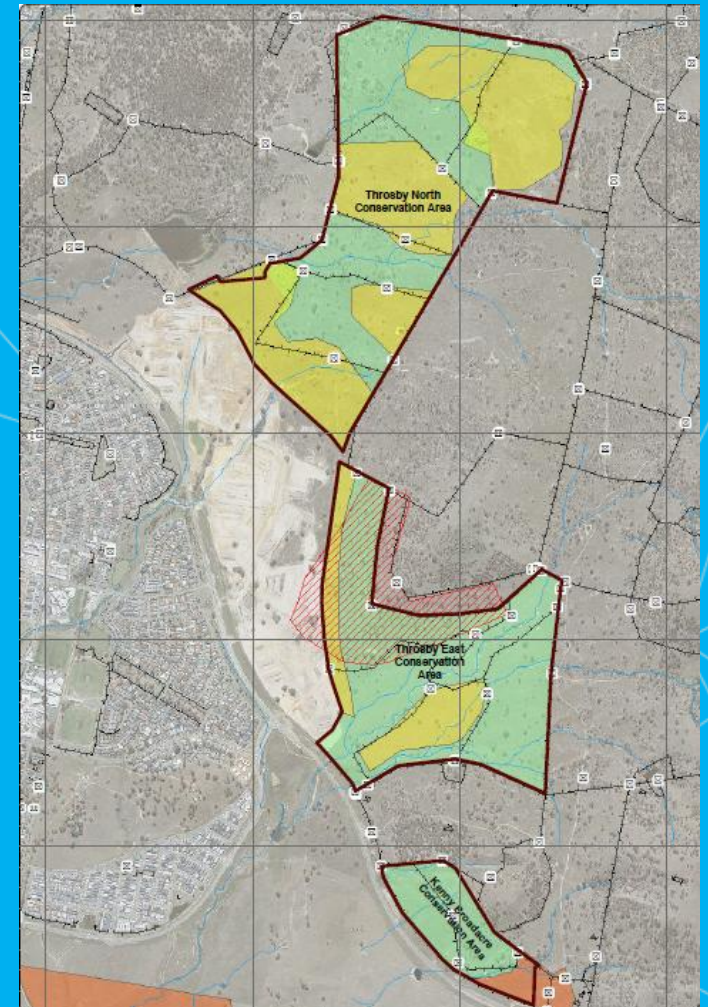
# Strategic conservation grazing - Throsby





# Strategic conservation grazing - Throsby

- Throsby Offset is part of the Gungahlin Strategic Assessment and consists of Throsby North, Throsby East and Kenny Broadacre.
- The offsets were formed as offsets for the development of a number of northern Canberra suburbs, including Throsby.

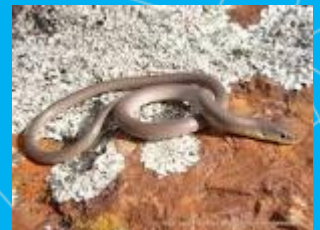




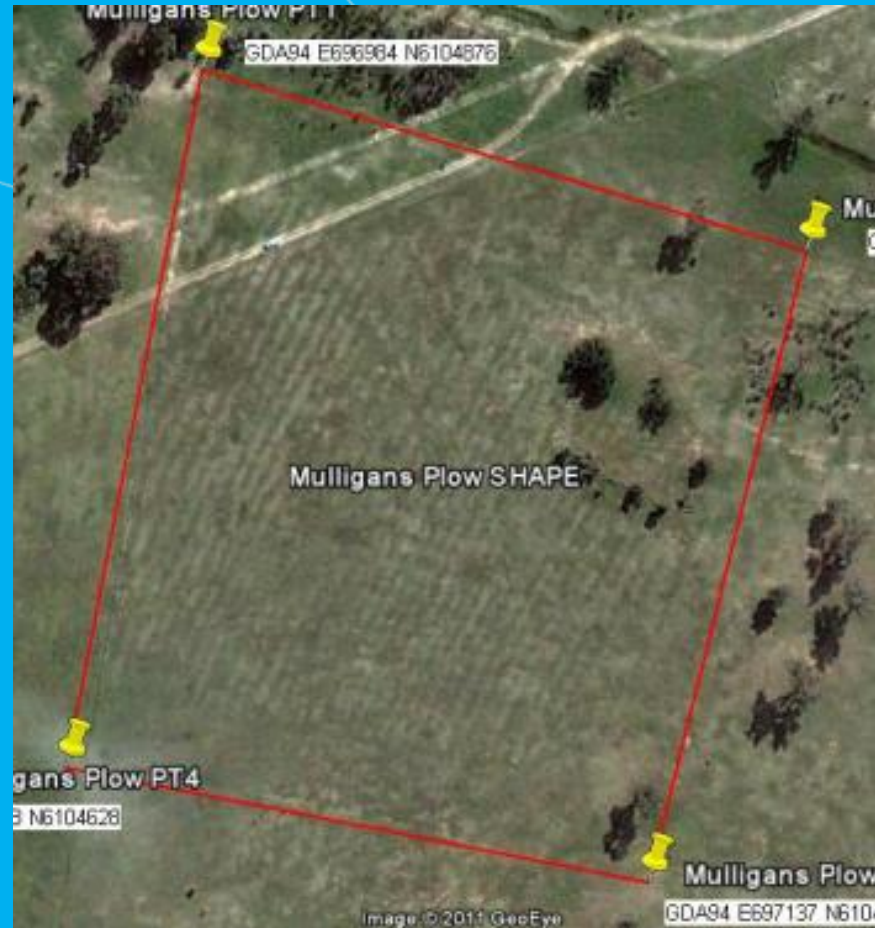
# Strategic conservation grazing - Throsby

Commitments for Throsby offset area include:

- Improve habitat management for Golden Sun Moth (GSM)
- Improve existing and potential habitat management to support recovery of the Superb Parrot (SP)
- Improve management of existing habitat to support the persistence of a viable population of Striped Legless Lizard (SLL)
- Improve the quality and extent of Box Gum Woodland (BGW).



# Strategic conservation grazing - Throsby



# Strategic conservation grazing - Throsby

If all grazing was removed at once, the effects could be detrimental on both the GSM habitat and the BGW:

- large amount of phalaris and other exotic annuals could dominate GSM habitat and out compete native cover.



Phalaris dominating the understory of BGW at Throsby



# Strategic conservation grazing - Throsby

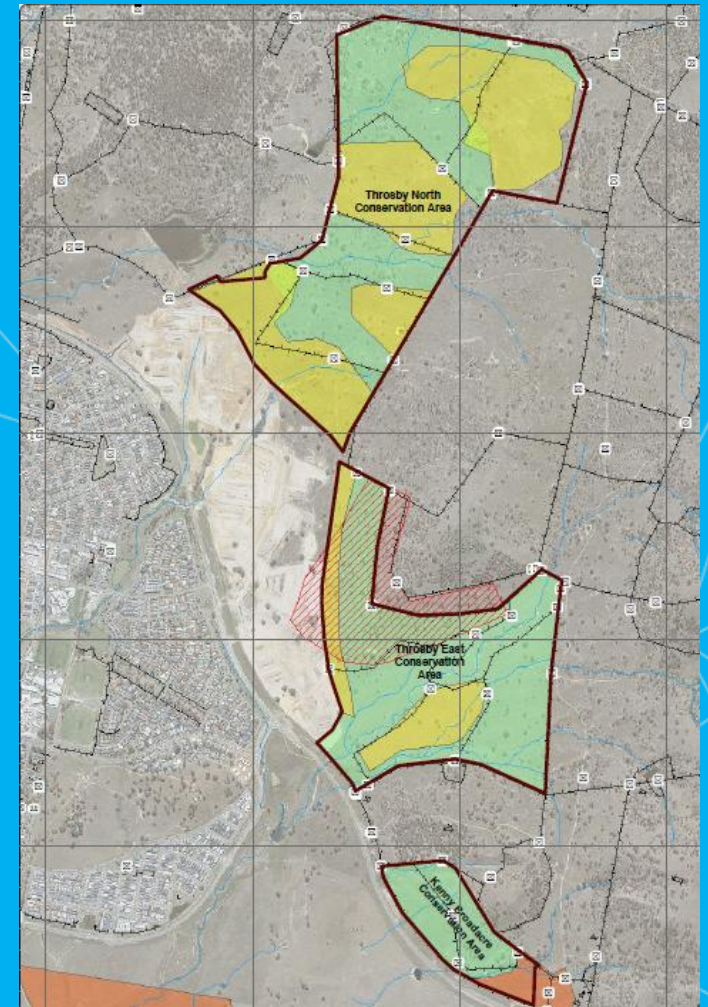
Fencing has been erected to strategically separate areas of different MNES and target grazing at different times of the year.

Yellow – GSM

Green – BGW

Orange – SLL

Red hatched – Superb Parrot.

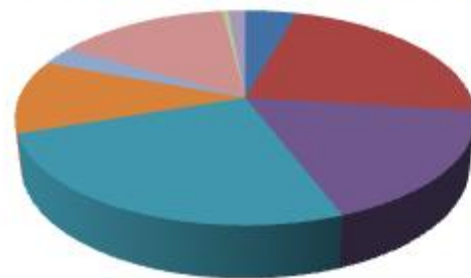


# Strategic conservation grazing - Throsby

Developed in consultation with PCS conservation research team and an agronomist, our new grazing management plan includes:

- A detailed species composition for each paddock
- A pasture growth curve for the type of grassy ecosystem.

Figure 7.11. Functional composition in Paddock 11



■ Native C4 Grass      ■ Native C3 Grass  
■ Clover                ■ Annual Grass  
■ Exotic Perennial Grass   ■ Native Forbs  
■ Litter                 ■ Bare



# Strategic conservation grazing - Throsby

We have developed clear guidelines for grazing times to achieve the biomass goals for the desired MNES.

*Table 8.1 Grazing plan for GSM habitat areas. Green amber and red shading indicates whether the paddocks are available to graze and Grey shading they suggested minimum requirements for feed budgeting.*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Available to graze	Red	Green	Green	Amber	Amber	Green	Green	Green	Green	Green	Green	Red	Red
Target Biomass kgDM/ha	Grey		1500-2000		Grey			1000 - 1500			<2000		

Soil sampling across 14 paddocks is being undertaken. This will be analysed and used to inform the final pasture growth curves.



# Strategic conservation grazing - Throsby

We have excluded grazing from areas where we have undertaken restoration work, such as the habitat connectivity planting and erosion stabilisation at Sullivans Creek, which includes 8000 new trees and shrubs.



We will also be undertaking restoration of all the dams for better aquatic habitat and aim to restrict stock from those areas.

# Strategic conservation grazing - Throsby

