

# Wombat Ridge Nature Reserve Five Year Conservation Land Management Plan 2022 to 2027



## Introduction

Wombat Ridge Nature Reserve is a 50 hectare conservation property protected through a conservation agreement with the NSW Biodiversity Conservation Trust. It is a significant ecological area in the Southern Highlands of NSW with important flora and fauna. It provides valuable habitat for endangered species including: Koalas, Gang gang and Glossy black cockatoos, Rosenberg goanna, Scarlet and Flame robins, Swift parrots and Hoary sunrays.

This comprehensive Conservation Management Plan outlines the forward-looking actions and strategies to be implemented over the next five years (2022-2027) to enhance and protect the Reserve's biodiversity and ecological integrity. It builds on the initial four years of conservation management of the property since its purchase in 2018.



## Priority Initiatives

The ten priority initiatives in this plan combine biodiversity conservation science, Indigenous Traditional Ecological Knowledge (TEK) and our local experience and observations. They include integrated vertebrate pest management, integrated weed management, assisted and natural regeneration, Indigenous cultural burning, nest boxes for hollow-nesting species, regular fauna and flora surveys, selective tree thinning, herbivore exclusion trials, and additional practical measures to protect the Reserve's unique wildlife and foster community engagement in conservation efforts.

### 1. Integrated Vertebrate Pest Management

*Action:*

Continue regular monitoring and control of invasive vertebrate animals including foxes, feral pigs, goats, deer, rabbits, hares and feral cats. Implement regular fox baiting using 1080 chicken wings, tied down with fishing line and camera trapped to ensure effectiveness.

From late-2022, initiate a three-year feral vertebrate professional shooting and trapping program, targeting priority locations and species based on camera trap survey data. Primary targets include feral pigs, goats, and deer. Funding to be secured from BCT NSW.

*Scientific Justification:*

Invasive vertebrates are known to have detrimental effects on native flora and fauna. Continuously monitoring and preventing their resurgence will help protect vulnerable species. Feral animals such as pigs, goats, and deer, contribute to habitat degradation and outcompete native wildlife. Targeted management will help restore the natural balance of the ecosystem.

### 2. Integrated Weed Management

*Action:*

Maintain regular volunteer weeding bees to identify and remove blackberry seedlings, serrated tussock grass, thistles, and lambs' tongue. Continue three-year integrated weed spraying program funded by the NSW BCT grant and which commenced in late Spring 2022. The program will initially knock back key weeds in a degraded area at the bottom of the main valley and along the ephemeral creek line. From late 2023, continue with careful selective spraying if needed to reduce regrowth of blackberries and tussock grass and transition to 100% volunteer weeding bees to avoid need for ongoing spraying.

*Scientific Justification:*

Invasive weeds outcompete native vegetation and reduce biodiversity and habitat quality for native wildlife. Wombat Ridge has relatively few weeds but prevention is the best approach for invasive species. Combining manual removal through volunteer efforts and targeted weed spraying will also aid in the restoration of degraded areas.

### **3. Assisted and Natural Regeneration**

*Action:*

Continue monitoring and tree-guarding locally endemic trees planted since 2019 in the degraded south-eastern corner of the property. Implement regeneration measures across the property, including using dead wood to close and regenerate unnecessary tracks and clearings, strategic placement of dead wood to reduce erosion and run-off, and tree guarding priority saplings, such as koala habitat trees. Redistribute endangered Hoary sunray seeds and other understory plant species to promote regeneration.

Utilise 13 thousand litres of rainwater tank storage to water priority saplings during droughts and hot summers, with the option of carting in water during severe drought conditions.

*Scientific Justification:*

Planting locally endemic trees and protecting saplings from invasive herbivores will contribute to the restoration of native vegetation and enhance habitat quality for native fauna. Utilising dead wood strategically can help with erosion control and provide habitat for various wildlife, contributing to the overall ecological health of the reserve. Distributing seeds for priority plant species will promote regeneration.

### **4. Indigenous Cultural Burning**

*Action:*

Continue regular Indigenous cultural burning practices, focusing initially on over-abundant sedge grasses and grasses that pose added risk for canopy fires, especially around high-value and emerging priority trees.

A two-day burn in collaboration with the Rural Fire Service and surrounding local landholders will be held in July 2022 to promote community involvement and cooperation. Maintain an operational burn plan, regularly sharing it with the NSW BCT and the local RFS. Continue with this engagement, preferably annually.

*Scientific Justification:*

Indigenous cultural burning practices have proven ecological benefits, including promoting diverse vegetation structure, enhancing habitat conditions, and reducing the risk of intense wildfires. Collaborative burning efforts will foster a sense of community ownership and responsibility for the land.

## **5. Nest Boxes for Hollow-nesting Species**

### *Action:*

Install and actively monitor nest boxes for priority species such as Glossy black cockatoos and Gang gang cockatoos, utilising funding from the NSW BCT. Based on success of initial grant, consider raising additional funds through a Go Fund Me campaign.

### *Scientific Justification:*

The relative absence of old-growth trees due to historical disturbances and selective logging necessitates the provision of artificial nesting sites for hollow-nesting species. Installing nest boxes will help support the populations of these critical bird species.

## **6. Regular Fauna and Flora Surveys**

### *Action:*

Continue deployment of camera traps across the property for strategic fauna surveys, collecting data on species and their frequency to monitor the impacts of land management measures. Initiate active monitoring of trees for koalas after a camera trap detected a koala near the northern border of the property in July 2022. Continue monitoring termite mounds, including with camera traps, to track the presence of Rosenbergs goannas. Conduct regular flora monitoring and surveys to document new plant species and monitor weed populations.

### *Scientific Justification:*

Regular fauna and flora surveys, including camera trapping, provides valuable data on the effectiveness of conservation efforts and help identify species' presence and distribution. Monitoring specific species, such as koalas and Rosenbergs goannas, will aid in understanding their habitat preferences and conservation needs.

## **7. Selective Tree Thinning of Overabundant Casuarina Trees**

### *Action:*

Initiate selective tree thinning of overabundant casuarina trees across approximately two hectares in the north of the property and around Base Camp following the guidelines provided by BCT NSW. Conduct an ecological assessment of the thinning process to monitor the impact on the ecosystem and document changes in vegetation and wildlife distribution.

### *Scientific Justification:*

Over abundant casuarina trees caused by historical fire disturbance have suppressed the growth of other native vegetation and impacted biodiversity across approximately 4 hectares of Silvertop ash and Stringy bark woodland on the property. Selective tree thinning will help restore a balanced and diverse vegetation community, promoting habitat conditions for various species. Comparing the thinned area with the remainder will provide data on tree-thinning as woodland restoration method.

## **8. Herbivore Exclusion Trial for Woodland Restoration**

### *Action:*

Commence a herbivore exclusion trial in 2023 across two hectares in the north of the property, focusing on restoring Silvertop ash and stringybark woodland. Install and maintain electric fencing to exclude herbivores, such as deer and kangaroos, from the trial area. Maintain the fence and regularly monitor the trial area to assess changes in vegetation composition, seedling establishment, and the return of native fauna.

### *Scientific Justification:*

Herbivore exclusion trials provide valuable insights into the impact of herbivore pressure on vegetation regeneration. Restoring Silvertop ash and stringybark woodland will enhance biodiversity and ecosystem resilience, and the exclusion trial will help determine the effectiveness of this approach in the restoration process. It will also provide data on potential benefits of future fencing across a wider area of the property.

## **9. Additional Measures**

### *Action:*

Continue monitoring and maintaining water points for wildlife installed after the 2019-2020 bushfires. Maintain erected signs at entry points and strategic locations to deter unlawful entry and protect the reserve.

### *Scientific Justification:*

Provision of water points during droughts and the presence of clear signage will contribute to wildlife survival and protection from human disturbances.

## **10. Sharing Stories and Lessons Learned**

### *Action:*

Promote conservation stories and the challenges faced by Australia's wildlife on social media channels @WombatRidgeResv. Use direct engagement and social media channels to foster communication with local landholders about the benefits of collaborative invasive species management and fire practices.

### *Scientific Justification:*

Increasing public awareness of conservation efforts and involving the local community will garner support for the reserve's conservation goals and foster a sense of stewardship among stakeholders.

## Conclusion

This *Wombat Ridge Nature Reserve Conservation Management Plan 2022 to 2027* outlines a proactive and scientifically justified approach to preserving and enhancing the reserve's unique biodiversity. It builds on significant work since purchase of the property. Through integrated pest management, weed control, habitat restoration, Indigenous cultural practices, and active monitoring, we aim to create a thriving and sustainable ecosystem for current and future generations. Tree thinning and herbivore exclusion trials will provide data and lessons for future adaptive management. The plan will guide us in safeguarding and enhancing the ecological values of Wombat Ridge, making it more climate resilient and fostering community engagement in conservation efforts.