



Annual Report

Silver Peppermint Reserve 2018-19



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Introduction

The Tasmanian Land Conservancy (TLC) protects important natural areas as permanent reserves and aims to demonstrate excellence in reserve management for biodiversity conservation. The TLC has adopted an adaptive management framework – the Open Standards for the Practice of Conservation which comprises 5 key steps – planning, implementing, monitoring, reporting, review/adaptation and communication.

Silver Peppermint Reserve was acquired by the TLC in 2003 and protects 40 hectares of dry heathy *Eucalyptus tenuiramis* forest in the Derwent Valley near Ellendale. The management of the Reserve is guided by the Silver Peppermint Reserve Management Plan. The plan is implemented by TLC staff through an Annual Work Plan and Monitoring Plan. Details of ecological monitoring methods can be found in TLC's Ecological Monitoring Procedures Manual on www.tasland.org.au.

This report describes progress made towards delivery of the management plan in 2018-19, and is divided into three sections:

1. Reserve Scorecard – a table summarising the results of management effectiveness and ecological monitoring to date;
2. Ecological Monitoring Summary – providing details of the status of conservation targets and trends of key ecological indicators
3. Management Effectiveness Summary – providing details of the implementation of key management strategies and making recommendations for plan improvement;


The recommendations made in this report are used to adapt and improve management of the Reserve, update the management plan, and revise work and monitoring plans for the coming year. Key findings of this report are communicated to TLC Board, supporters and other stakeholders.

SILVER PEPPERMINT RESERVE SCORECARD 2018-19


Ecological Monitoring				
Target	Indicator	Status 2015 - 16	Status 2016-17	Status 2018 – 19
Dry grassy forest	Floristic diversity	6.0 lifeforms/site	No new data	10.5 species/site
	Structural complexity	1.3 cohorts/site	No new data	6.3 lifeforms/site
	Canopy sp recruitment		No new data	1.3 cohorts/site
Dry heathy forest	Floristic diversity	2.3 lifeforms/site	No new data	10.7 species/site
	Structural complexity	2.5 cohorts/site	No new data	6.8 lifeforms/site
	Canopy sp recruitment		No new data	2.3 cohorts/site
Bird Diversity	Native species richness	25 species	27 species	29 species
Terrestrial mammals	Species richness	4 native species 1 introduced sp	7 native species 2 introduced sp	7 native species 1 introduced sp
	Proportion native species	0.80	0.78	0.88
	Native species diversity indices	Simpsons 0.69 Shannon-Wiener 1.28	Simpsons 0.75 Shannon-Wiener 1.57	Simpsons 0.61 Shannon-Wiener 1.34
Pest species	Cat occupancy	0 (0 of 3 cameras)	0.5 (1 of 2 cameras)	0.3 (1 of 3 cameras)
	Cat activity	0 (0 detections, 50 trap nights)	0.05 (2 detections, 39 trap nights)	0.01 (1 detection, 84 trap nights)
	Rabbit occupancy	0.3 (1 of 3 cameras)	0.5 (1 of 2 cameras)	0 (0 of 3 cameras)
	Rabbit activity	0.08 (4 det'n, 50 trap nights)	0.03 (1 det'n / 39 trap night)	0 (0 detections, 84 trap nights)
Management Effectiveness				
Strategy	Indicator	Status 2016-17	Status 2017 – 18	Status 2018 – 19 Trend
Access control	Evidence of illegal access	0	1 - increase	0 - stable
Fire managem't	No unplanned fires	0	0 - stable	0 - stable
Stock exclusion	Instances of stock access	0	0	0 - stable
Weed management	Weed extent	~20 ha	~ 5 ha	~ 5 ha - stable
	Weed density	Moderate	Low	Low - stable


Cover image: Tasmanian devil on Silver Peppermint Reserve monitoring camera Aug 2018. Photo: TLC


ECOLOGICAL MONITORING SUMMARY


Dry Heathy Forest		Status: Good	
Goals Structural complexity has increased by 20% by 2020. Floristic diversity is maintained		Outcome: On Track	
Description The Reserve protects dry eucalypt forest dominated by silver peppermint, white gum and brown-topped stringy bark. A long history of wood-hooking and frequent burning has resulted in reduced structural complexity and floristic diversity in the vegetation and a very high density of bracken fern in the understorey.		 <p>Dr Jamie Kirkpatrick and UTAS Masters student Cherry Cheng at Silver Peppermint Reserve Oct 2018 Photo: S Bryant</p>	
Target	Indicator	Status 2016-17	Status 2018 – 19 - Trend
Dry grassy forest	Floristic diversity	No new data	10.5 species/site
	Structural complexity	No new data	6.3 lifeforms/site
	Canopy sp recruitment	No new data	1.3 cohorts/site
Dry heathy forest	Floristic diversity	No new data	10.7 species/site
	Structural complexity	No new data	6.8 lifeforms/site
	Canopy sp recruitment	No new data	2.3 cohorts/site
Bird Diversity	Native species richness	27 species	29 species - improving
Terrestrial mammals	Species richness	7 native species 2 introduced sp	7 native species 1 introduced sp - stable
	Proportion native species	0.78	0.88 - stable
	Native species diversity indices	Simpsons 0.75 Shannon-Wiener 1.57	Simpsons 0.61 Shannon-Wiener 1.34 - reduced
Pest species	Cat occupancy	0.5 (1 of 2 cameras)	0.3 (1 of 3 cameras) -stable
	Cat activity	0.05 (2 detections, 39 trap nights)	0.01 (1 detection, 84 trap nights) - stable
	Rabbit occupancy	0.5 (1 of 2 cameras)	0 (0 of 3 cameras)
	Rabbit activity	0.03 (1 det'n / 39 trap night)	0 (0 detections, 84 trap nights) - stable
Key findings 2018-19 <ul style="list-style-type: none"> Vegetation was re-assessed in 2018-19 and data shows continued improvement post fire. Terrestrial fauna show good species diversity post fire: Tasmanian devil, Tasmanian bettong, Bennetts wallaby, pademelon, echidna, brushtail possum, wombat and feral cat were recorded. Save The Tasmanian Devil annual monitoring report in July 2019 showed that density of devils has increased at Fentonbury/Meadowbank over the last five years to the point where the May 2019 density estimate represents approximately 90% of pre-disease densities despite DFTD remaining prevalent on the site. UTAS Masters Student Cherry Cheng commended a project analysing TLCs bird data supervised by Prof Jamie Kirkpatrick – no information is available as yet. Bird diversity continues to increase post fire but has likely reached its maximum threshold for the habitat mosaics available on the reserve. Song meters will be installed during the next phase of monitoring for bird and frog diversity 			
Key Recommendations <ul style="list-style-type: none"> Continue ecological monitoring Ensure song meters are dovetailed with visual observations to detect diurnal raptors. 			

MANAGEMENT EFFECTIVENESS SUMMARY

Access Control		
Key objective(s) <ul style="list-style-type: none"> No unauthorised access by 2016 		Status 2018-19 Stable
Strategy description <p>The aim of this strategy is to prevent illegal access to the Reserve. Unregulated access has caused significant impacts to some TLC Reserves. Unauthorised access is associated with a range of activities that impact on the natural values of a Reserve, including hunting, wood-hooking, campfires, dumping of rubbish, damage to infrastructure (such as gates and fences) and off-road vehicle use. Rockmount Road passes through Silver Peppermint Reserve, allowing public access to the property. The relative isolation of the Reserve allows people to undertake illegal activities undetected.</p>		 <p>Illegal wood cutting at Silver Peppermint Reserve. Photo: Tim Deveraux</p>
Indicator	Status 2017-18	Status 2018-19 Trend
Evidence of unauthorised access	1 incidence	0 - Improved
Progress in 2018-19 <ul style="list-style-type: none"> The barrier fence constructed along Rockmount Road in May 2015 is being maintained and the one incidence of firewood theft detected in July 2017 has not been repeated this season. More regular winter inspections are needed to ensure this is not breached. 		
Key recommendations for future management <ul style="list-style-type: none"> Maintain the barrier fence along Rockmount Road. Maintain communications with PWS regarding illegal firewood gathering in Mt Bethune Reserve and with neighbours regarding breaches of fences or illegal firewood gathering 		

Fire management		
Key objective(s) <ul style="list-style-type: none"> No unplanned fires occur on the reserve (ongoing). 		Status 2018-19 On-track
Strategy description An excessively high frequency of bushfires has reduced the condition of the vegetation and a severe bushfire in 2013 burnt the entire Reserve. The lighting of fires will not be permitted at Silver Peppermint Reserve and TLC will work with neighbours, the PWS and the TFS to reduce the risk of unplanned fires.		 <p>Past fire event at Silver peppermint Reserve Dec 2016. Photo: S Bryant</p>
Indicator	Status 2017-18	Status 2018-19 Trend
No. of unplanned fires	0 unplanned fires	0 unplanned fires - stable
Progress in 2018-19 <ul style="list-style-type: none"> There were no unauthorised fires on the Reserve in 2018-19 which bodes well for the continued recovery of the Reserve after the 2013 fires. A fire management policy for all TLC Reserves is being implemented across all TLC Reserves. A fuel stove only policy is also being implemented. A whole-of-TLC fire management strategy is being developed to ensure all TLC properties are effectively managed from threats relating to fire, and that fire is used appropriately as a tool to manage the values of TLC properties. 		
Key recommendations for future management <ul style="list-style-type: none"> Implement TLC Fire Management Policy. Continue to implement a fuel stove only policy for the Reserve. Continue to develop the whole-of-TLC fire management strategy. 		

Stock exclusion		
Key objective(s) <ul style="list-style-type: none"> Access by neighbouring stock is prevented (ongoing) 		Status 2018-19 On-track
Strategy description Livestock are grazed on neighbouring properties to the north, west and south of Silver Peppermint Reserve. Livestock have the potential to reduce vegetation condition. Existing fences prevent stock from accessing the reserve. Fence condition will be checked annually and fences will be repaired as necessary.	Chimney on Silver Peppermint Reserve indicating past farming occupation. Photo: S Bryant 	
Indicator	Status 2017-18	Status 2018-19 Trend
No stock access the reserve	No stock access	No stock access - Flat
Progress in 2018-19 <ul style="list-style-type: none"> No stock were detected in 2018-19 and the fencing remained intact. Boundary fences were assessed, fallen branches were removed and the section of fence where illegal firewood gathering last year was inspected. 		
Key recommendations for future management <ul style="list-style-type: none"> Continue to monitor fences and repair fences when necessary. Continue to maintain communication with neighbours regarding breaches of fences or illegal firewood gathering 		

Weed management		
Key objective(s) <ul style="list-style-type: none"> Weed infestations have received primary treatment by 2016 		Status 2018-19 On-track
Strategy description Infestations of thistles (several species) occur across the reserve, with higher densities occurring in areas where fire has removed the tree canopy. Weeds have the potential to become much more widespread on the Reserve, but are likely to reduce in number as the tree canopy re-establishes. Reducing the density of weeds will assist with the re-establishment of a healthy, native plant understorey.		Photo-sphere at Silver Peppermint Reserve 2018. Photo: TLC 
Indicator	Status 2017-18	Status 2017-18 Trend
Weed extent	~ 5 ha	~ 5 ha – no change
Weed density	Low	Low – no change
Progress in 2018-19 <ul style="list-style-type: none"> Areas of high density spear thistle infestation (primarily west of the main road) received follow-up weed treatment in December 2016 and January 2017. Reserve assessment for 2018-19 did not identify any new weed infestations and the prevalence of weeds appeared to be stable due to the re-emergence of undergrowth native vegetation. The rapid regeneration of native woodland species post fire and now contributing to weed suppression efforts with low density of weeds observed in 2018-19. 		
Key recommendations for future management <ul style="list-style-type: none"> Continue follow-up weed control at known infestations, with spraying scheduled for January or February. Check Californian Thistle as a priority weed. Record and treat existing or any new weed infestations. 		