



# Annual Report

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## Silver Peppermint Reserve 2017-18



## 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](http://www.tasland.org.au).

This report describes progress made towards delivery of the management plan in 2017-18, 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 2017-18

<b>Ecological Monitoring</b>				
<b>Target</b>	<b>Indicator</b>	<b>Status 2015 - 16</b>	<b>Status 2016-17</b>	<b>Status 2017 – 18</b>
Dry grassy forest	Floristic diversity	6.0 lifeforms/site	No new data	No new data
	Structural complexity	1.3 cohorts/site	No new data	No new data
	Canopy sp recruitment		No new data	No new data
Dry heathy forest	Floristic diversity	2.3 lifeforms/site	No new data	No new data
	Structural complexity	2.5 cohorts/site	No new data	No new data
	Canopy sp recruitment			
Birds	Native species richness	25 species	27 species	15 sp – see note
Terrestrial mammals	Species richness	4 native species 1 introduced sp	7 native species 2 introduced sp	No new data
	Proportion native species	0.80	0.78	No new data
	Native species diversity indices	Simprons 0.69 Shannon-Wiener 1.28	Simpsons 0.75 Shannon-Wiener 1.57	No new data
Pest species	Cat occupancy	0 (0 of 3 cameras)	0.5 (1 of 2 cameras)	No new data
	Cat activity	0 (0 detections, 50 trap nights)	0.05 (2 detections, 39 trap nights)	No new data
	Rabbit occupancy	0.3 (1 of 3 cameras)	0.5 (1 of 2 cameras)	No new data
	Rabbit activity	0.08 (4 det'n, 50 trap nights)	0.03 (1 det'n / 39 trap night)	No new data
<b>Management Effectiveness</b>				
<b>Strategy</b>	<b>Indicator</b>	<b>Status 2015 - 16</b>	<b>Status 2016-17</b>	<b>Status 2017 – 18 Trend</b>
Access control	Evidence of illegal access	0	0	1 - increase
Fire man'gt	No unplanned fires	0	0	0 - stable
Stock exclusion	Instances of stock access	0	0	Flat
Weed management	Weed extent	To be mapped	~20 ha	~ 5 ha Improving
	Weed density		Moderate	Low

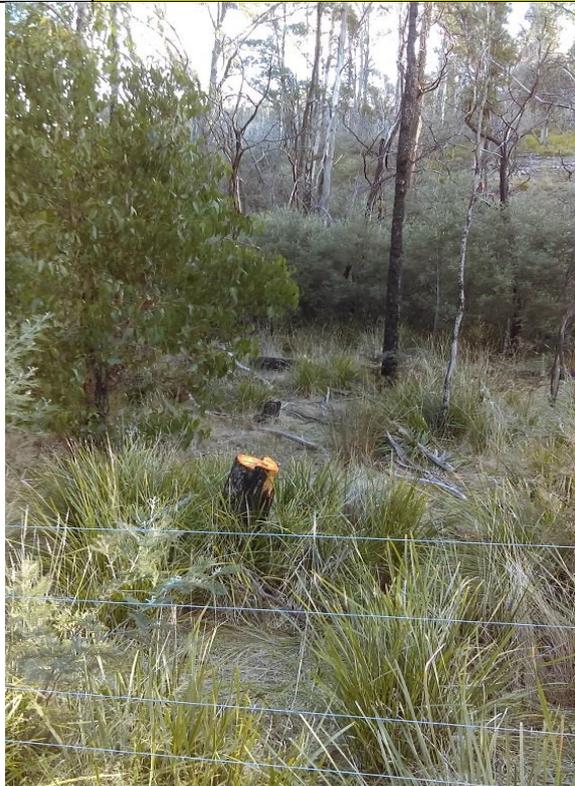
Note: Community connection to the landscape has been removed and is now reported as a target across all TLC reserves

Cover image: Active devil den at Silver Peppermint Reserve. Photo: Sally Bryant

## ECOLOGICAL MONITORING SUMMARY

<b>Dry Heathy Forest</b>		<b>Status: Good</b>	
<b>Goals</b> Structural complexity has increased by 20% by 2020. Floristic diversity is maintained		<b>Outcome: On Track</b>	
<b>Description</b> 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>Silver Peppermint woodland in 2018 showing regeneration. Photo: S Bryant</p>	
<b>Ecological indicator</b>	<b>Status 2014-15</b>	<b>Status 2016-17</b>	<b>Status 2017-18</b>
Floristic diversity	8.9 species/site	No data No data No data	Data due in 2018-19 Data due in 2018-19 Data due in 2018-19
Structural complexity	8.7 strata/site	No data	Data due in 2018-19
Canopy species recruitment	2.6 cohorts per site	No data	Data due in 2018-19
Vertebrate fauna diversity	4 native species 84% native	7 native species – increase 97% native - increase	Data due in 2018-19
Bird diversity	16 species per visit	27 species per visit - increase	15 species per visit – decrease (see note)
<b>Key findings 2017-18</b>			
<ul style="list-style-type: none"> <li>Vegetation condition will be assessed in 2018-19 but visual signs show rapid regeneration and continued improvement.</li> <li>The data for measuring vegetation changed now incorporates two forest communities and indices for terrestrial fauna have been updated.</li> <li>Results for Tas devil monitoring by DPIPWE's Billy Lazenby (2 June 2017) for Mt Bethune and Silver Pepp (approx 30 km<sup>2</sup>): 43 individuals captured, 27 female, 16 male, 6 were clearly diseased (constituting 14%), 24 one year olds, 16 two year olds, and 3 three year olds, 11 individuals were recaptured that were first marked last year. This shows an increase in density and the number of older devils constituting the population compared to previous post-disease years. Biopsy results may give some indication as to whether this apparent improvement is related to changes in the devils (e.g. their immunity) or a change in the disease strain, and therefore whether the improvement is likely to be sustained.</li> <li>Bird diversity continues to increase post fire but monitoring in March 2017 however detected only 15 species (and no new species) due to the very windy conditions.</li> </ul>			
<ul style="list-style-type: none"> <li>Continue ecological monitoring</li> <li>Install song meters to continue long term bird monitoring though this should also be dovetailed with visual observations to detect diurnal raptors.</li> </ul>			

## MANAGEMENT EFFECTIVENESS SUMMARY

<b>Access Control</b>		
<b>Key objective(s)</b>		<b>Status 2017-18</b>
<ul style="list-style-type: none"> <li>No unauthorised access by 2016</li> </ul>		<b>Fair</b>
<b>Strategy description</b>		 <p>Evidence of illegal wood cutting at Silver Peppermint Reserve 2018. Photo: Tim Deveraux</p>
<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>		
<b>Indicator</b>	<b>Status 2016-17</b>	<b>Status 2017-18 Trend</b>
Evidence of unauthorised access	0 - Stable	1 - Decrease
<b>Progress in 2017-18</b>		
<ul style="list-style-type: none"> <li>The barrier fence constructed along Rockmount Road in May 2015 is being maintained with no signs of fence cutting. However, one incidence of firewood theft was detected in July 2017 with several live and dead trees being cut within the reserve.</li> <li>The fence has been reinforced in this area</li> </ul>		
<b>Key recommendations for future management</b>		
<ul style="list-style-type: none"> <li>Maintain the barrier fence along Rockmount Road.</li> <li>Maintain communications with PWS regarding illegal firewood gathering in Mt Bethune Reserve and with neighbours regarding breaches of fences or illegal firewood gathering</li> </ul>		

<b>Fire management</b>		
<b>Key objective(s)</b>		<b>Status 2017-18</b>
<ul style="list-style-type: none"> <li>No unplanned fires occur on the reserve (ongoing).</li> </ul>		<b>On-track</b>
<b>Strategy description</b>		
<p>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>		
Native vegetation recovering post fire Dec 2016. Photo: S Bryant		
<b>Indicator</b>	<b>Status 2016-17</b>	<b>Status 2017-18 Trend</b>
No. of unplanned fires	0 unplanned fires	0 unplanned fires - stable
<b>Progress in 2017-18</b>		
<ul style="list-style-type: none"> <li>There were no unauthorised fires on the Reserve in 2017-18 which bodes well for the continued recovery of the Reserve after the 2013 fires.</li> <li>A fire management policy for all TLC Reserves is being implemented across all TLC Reserves.</li> <li>A fuel stove only policy is also being implemented.</li> <li>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.</li> </ul>		
<b>Key recommendations for future management</b>		
<ul style="list-style-type: none"> <li>Implement TLC Fire Management Policy.</li> <li>Continue to implement a fuel stove only policy for the Reserve.</li> <li>Continue to develop the whole-of-TLC fire management strategy.</li> </ul>		

<b>Stock exclusion</b>		
<b>Key objective(s)</b>		<b>Status 2017-18</b> <b>On-track</b>
<ul style="list-style-type: none"> <li>Access by neighbouring stock is prevented (ongoing)</li> </ul>		
<b>Strategy description</b>		<p>Preventing stock access reduces the incidence of weed infestations on Silver Peppermint Reserve. Photo: T Deveraux</p> 
<p>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.</p>		
<b>Indicator</b>	<b>Status 2016-17</b>	<b>Status 2017-18 Trend</b>
No stock access the reserve	No stock access	No stock access - Flat
<b>Progress in 2017-18</b>		
<ul style="list-style-type: none"> <li>No stock access was detected in 2017-18 though a breach of the fence was noted.</li> <li>Boundary fences were assessed, fallen branches were removed and the section of fence was strengthened in areas where illegal firewood gathering was detected.</li> </ul>		
<b>Key recommendations for future management</b>		
<ul style="list-style-type: none"> <li>Continue to monitor fences and repair fences when necessary.</li> <li>Continue to maintain communication with neighbours regarding breaches of fences or illegal firewood gathering</li> </ul>		

**Weed management**

**Key objective(s)**

- Weed infestations have received primary treatment by 2016

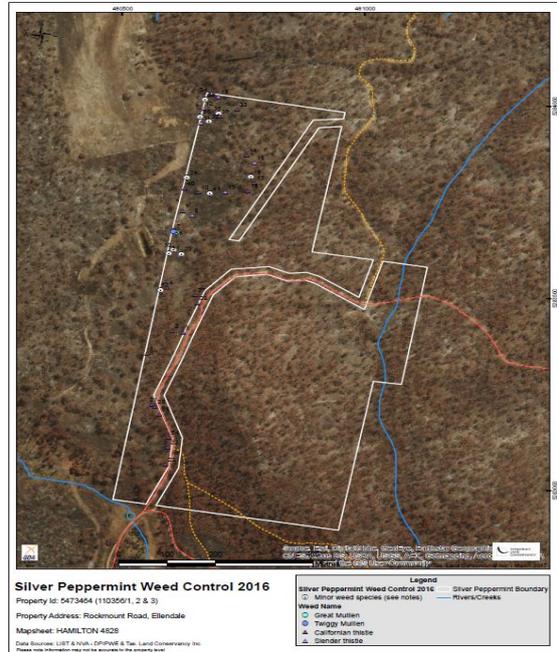
**Status 2017-18**

**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 understory.

Silver Peppermint weed control map 2016. Photo: TLC



Indicator	Status 2016-17	Status 2017-18 Trend
Weed extent	~20 ha	~ 5 ha Improving
Weed density	Moderate	Low - Improving

**Progress in 2017-18**

- Areas of high density spear thistle infestation (primarily west of the main road) received follow-up weed treatment in December 2016 and January 2017. Californian thistles were scheduled for spraying in March 2017 prior to dying back, however the timing of this was too late. Reserve assessment for 2017-18 did not identify any new weed infestations.
- The rapid regeneration of native woodland species post fire and now contributing to weed suppression efforts with low density of weeds observed in 2017-18.

**Key recommendations for future management**

- Continue follow-up weed control at known infestations, with spraying scheduled for January or February.
- Record and treat existing or any new weed infestations.