



Annual Reserve Report

The Big Punchbowl Reserve 2016-17



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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.

The Big Punchbowl Reserve was acquired by the TLC in 2015 and protects 244 hectares of ephemeral wetlands, coastal forest and saltmarsh at Freycinet Peninsula on the east coast of Tasmania. The Reserve adjoins Moulting Lagoon, which is a Ramsar listed wetland. The management of the Reserve is guided by The Big Punchbowl 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 2016-17, and is divided into three sections:

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

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.

THE BIG PUNCHBOWL RESERVE SCORECARD 2016-17

Ecological Monitoring			
Target	Indicator	Status 2014-15	Trend
Coastal woodland	Floristic diversity	7.4 species/site	Baseline data collected in 2014 Repeat data collection planned 2019
	Structural complexity	3.9 strata/site	
	Canopy recruitment	1.6 cohorts per site	
	Vertebrate fauna diversity	5.25 species / site 9 species total	
	Eagle nest productivity	No activity in 2016-17	
Moulting Lagoon Ramsar Site	Annual Bird Count	Status 2016-17 (July 2017)	Counts from 2014 – 2017 show species diversity and total numbers fluctuating
	Black swans	9032 birds	
	Waterfowl count	12894 birds	
	Waterfowl diversity	8 species	
	Wader count	601 birds	
	Wader diversity	7 species	
	All marine count	14622 birds	
	Marine diversity	27 species	
	Total Count	15307 birds	
Wetland complex	Total Sp diversity	72 species	
	Floristic diversity	5.4 species/site	
	Structural complexity	2.8 strata/site	
	Vertebrate fauna diversity	7.6 species / site 14 species total	
Management Effectiveness			
Strategy	Indicator	Status 2016-17	Trend
Weed management	Weed extent	<200m2	Improving
	Weed density	Sparse	Improving
Stock exclusion	Stock access	Yes	Flat
Feral animal control	Cat abundance	22 observations in 2014-15 56% occupancy in 2014-15	Unknown - Reassess in 2019
	Rabbit abundance	38 observations in 2014-15 33% of sites in 2014-15	Unknown - Reassess in 2019
	Deer abundance	3 records in 2014-15 22% of sites in 2014-15	Unknown - Reassess in 2019
Fire management	No of unplanned fires	0	Flat
Visitor management	# visitors the Reserve	20 P&P visitors	Increase
Community connection to landscape	# events at the Reserve	1 – Poets and Painters	Flat
	# of volunteer activities / vol days	2 activities / 83 vol days	Increase

ECOLOGICAL MONITORING SUMMARY

Wetlands Complex		Status: Very Good	
Goal The 2014 condition of the wetlands and their threatened species are maintained or improved		Outcome: On Track	
<p>Description The Big Punchbowl wetland, Barney Ward's Lagoon and several smaller wetlands on the reserve are important ecologically and form part of the more extensive Moulting Lagoon wetland complex. Many of these wetlands are ephemeral and their values can change seasonally or on a long term basis due to environmental conditions. Fauna such as Australasian bittern, green and gold bell frog and a host of waterfowl and aquatic invertebrates are known to occur there on a seasonal or intermittent basis.</p>			
Wombat swimming at Barney Wards Lagoon Oct 2016 Photo Sue Lovegrove			
Ecological indicator	Status in 2014-15	Trend	
Floristic diversity	5.4 species/site	Unknown	
Structural complexity	2.8 strata/site	Unknown	
Vertebrate fauna diversity	7.6 species / site 14 species total	Unknown	
<p>Key findings</p> <ul style="list-style-type: none"> • Rain in late 2016 and early 2017 filled the Big Punchbowl with frogs and waterbirds using the wetlands in large numbers. • Green and gold bell frog were calling at Barney Wards Lagoon in good numbers • Monitoring is next scheduled for 2019 			
<p>Recommendations</p> <ul style="list-style-type: none"> • Continue monitoring wetland values including feral species • Continue extension surveys for species such as Australasian bittern and New Holland Mouse 			

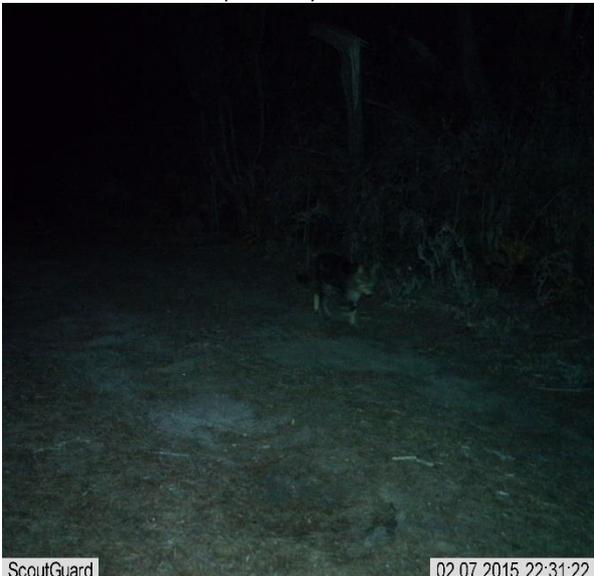
Moultng Lagoon Ramsar Site		Status: Good			
Goal: Maintain or improve 2014 conservation values of Moultng Lagoon		Outcome: On Track			
Target description: Moultng Lagoon Game Reserve is one of ten Ramsar sites (wetlands of international significance) listed in Tasmania, satisfying five of nine listing criteria and supporting a large number of waterbirds at key stages of their life cycles and several shorebird species listed on The Japan-Australia Migratory Bird Agreement (JAMBA) and the China-Australia Migratory Bird Agreement (CAMBA). The estuaries and coastal wetlands have long been recognised as essential nursery areas for a myriad of marine species.					
		Dead swans on lagoon shoreline May 2017 Photo S Bryant			
Ecological indicator	Status: July 2014-2017				Trend
Annual Moultng Lagoon Bird Count (data from PWS Freycinet)	Bird Indices	July 2014	July 2016	July 2017	Counts from 2014 – 2017 show species diversity and total numbers fluctuating widely
	Black Swan	8162 birds	4865 birds	9032 birds	
	Waterfowl count	9992 birds	6332 birds	12894 birds	
	Waterfowl diversity	7 species	9 species	8 species	
	Wader count	195 birds	86 birds	601 birds	
	Wader diversity	6 species	2 species	7 species	
	Marine count	12095 birds	8211 birds	14622 birds	
	Marine diversity	24 species	23 species	27 species	
	Total Bird Count	12599 birds	9112 birds	15307 birds	
Total diversity	63 species	49 species	72 species		
Key findings					
<ul style="list-style-type: none"> • Large numbers of dead swans identified on the Moultng Lagoon foreshore which is public land could be due to either illegal shooting or toxic algae – DPIPW were notified. • Ecological monitoring is next scheduled for 2019 					
Recommendations					
<ul style="list-style-type: none"> • Participate in the annual bird count coordinated by PWS 					

Coastal Woodland		Status: Fair
Goals The condition of the woodland flora and fauna community is improved from 2014.		Outcome: Minor issues
<p>Target description: The coastal woodlands of The Big Punchbowl Reserve contain threatened vegetation communities dominated by black peppermint and black sheoak, plus areas with Oyster Bay pine and grasstrees <i>Xanthorrhoea australis</i>. Threatened flora such as <i>Lasiopetalum micranthum</i> and <i>Acacia ulicifolia</i> are scattered throughout. <i>Phytophthora cinnamomi</i> disease is widespread in coastal forests on the Reserve and is likely to have caused local extinction of many susceptible understorey species. Two eagle nests have been recorded on the Reserve including an active nest in 2014-15.</p>		
Collapsed sea eagle nest May 2017 Photo: Sally Bryant.		
Ecological indicator	Status 2014-15	Trend
Floristic diversity (species/site)	7.4	Due to be reassessed in 2019
Structural complexity (strata/site)	3.9	Due to be reassessed in 2019
Canopy recruitment (cohorts/site)	1.6 5 of 11 sites with only one cohort	Due to be reassessed in 2019
Vertebrate fauna diversity -species/site - total species	5.25 9	Due to be reassessed in 2019
Eagle nest productivity	No nest activity in 2016-17	Flat – see notes
<p>Key findings</p> <ul style="list-style-type: none"> • <i>Phytophthora cinnamomi</i> is widespread and has had a major impact on understorey plant diversity. • Stands of Oyster Bay pine contain trees that are at least 300 years old. This species is sensitive to fire and an inappropriate fire regime will cause localised extinction. • Black sheoak forms dense stands across the property, and are sensitive to fire. The prevalence of fire sensitive species may be due to the buffering effect of Moulting Lagoon to the northwest. • Some very old stands of Banksia and grasstrees were identified. • Two eagle nests occur on the reserve. The northern nest occupied by a breeding pair of white-bellied sea eagles collapsed and was destroyed sometime between October 2016 and May 2017. No activity was noted in the southern nest. • There are a large number of sites with no recruitment of canopy species. 		
<p>Recommendations</p> <ul style="list-style-type: none"> • Develop an ecological burn plan for the Reserve to promote recruitment and protect sensitive species such as <i>Callitris rhomboidea</i> and <i>Allocasuarina littoralis</i>. • Develop protocols to ensure phytophthora is not spread locally and to other areas off-site. • Survey to detect new eagle nest building activity • Monitoring repeat is scheduled for 2019. 		

MANAGEMENT EFFECTIVENESS SUMMARY

Weed management		
Key objective(s) <ul style="list-style-type: none"> All areas of gorse have received primary treatment by 2016 Gorse and other weeds are functionally eradicated from the Reserve by 2020 		Status 2016-17 On-track
Strategy description Scattered infestations of gorse and thistles (several species) occur across the reserve, mostly at the edges of forest around Moulting Lagoon. Weeds have the potential to become much more widespread on the Reserve, as has happened on TLC's neighbouring reserve at Long Point. Weed control is therefore a management priority.		Large gorse plants have now been removed. Photo: S Bryant 
Indicator	Status 2016-17	Trend
Weed extent	<200m2	Improving
Weed density	Sparse	Improving
Progress in 2016-17 <ul style="list-style-type: none"> All known areas of gorse at the Reserve received primary treatment in 2014-15. Follow up will be required bi-annually to ensure that any germinating seedlings do not reach maturity. 		
Key recommendations for future management <ul style="list-style-type: none"> Continue bi-annual follow-up weed control at known infestations. Monitor treated weed infestations for germinating seedlings. Record and treat any new weed infestations. 		

Stock exclusion		
Key objective(s)		Status 2016-17 Minor issues
<ul style="list-style-type: none"> Access by neighbouring stock is prevented (ongoing) 		
Strategy description		Sheep accessing The Big Punchbowl Reserve via the saltmarsh. Photo: TLC
<p>The property to the south of the Reserve is grazed by sheep. Sheep grazing impacts on the condition of the wetlands and coastal woodland vegetation communities. The southern boundary of TLC's land is fenced, but sheep occasionally access the Reserve along the shore of Moulting Lagoon via unfenced land managed by the Parks and Wildlife Service. The condition of these fences range from excellent to moderate. Additional fencing is required on the PWS boundary to ensure stock are excluded from The Big Punchbowl Reserve.</p>		 <p>ScoutGuard 10.26.2014 12:56:31</p>
Indicator	Current status	Trend
No stock access the reserve	Minor issues due to stock access along the shoreline	Flat
Progress in 2016-17		
<ul style="list-style-type: none"> A fence along the southern boundary of the Reserve was installed in 2014-15. In 2016-17, this fence was checked and cleared of fallen branches; no stock had accessed the Reserve through this fence line. Sheep are still accessing the Reserve along the shore of Moulting Lagoon, via PWS managed land. 		
Key recommendations for future management		
<ul style="list-style-type: none"> Liaise with PWS to construct a new stock proof fence along the shore of Moulting Lagoon. Continue to monitor fences and repair fences when necessary. 		

Feral animal control		
Key objective(s)		Status 2016-17 Minor issues
<ul style="list-style-type: none"> Baseline data collected and threat assessment completed by Dec 2016. 		
Strategy description		Feral cat captured by remote camera. Photo: TLC.
<p>Three feral pests of most importance on the Reserve are cats, fallow deer and rabbits. A feral deer strategy is being developed in collaboration with other stakeholders on the Freycinet Peninsula - Parks and Wildlife Service, Bush Heritage Australia, conservation landholders – with a view to regional eradication.</p> <p>Feral cats are more difficult to deal with and presently no effective eradication are known for regions without physical barriers. This is particularly true for areas with a human population where cats are kept as pets. As such, the TLC's current strategy is to monitor cats using camera traps, and monitor control strategies and efforts from other stakeholders nationally and internationally to be in the best position to act when control techniques become more effective.</p>		
Indicator	Status 2014-15	Trend
Cat abundance	22 observations 56% occupancy	Due to be reassessed in 2019
Rabbit abundance	38 observations 33% of sites	Due to be reassessed in 2019
Deer abundance	3 records 22% of sites	Due to be reassessed in 2019
Progress in 2016-17		
<ul style="list-style-type: none"> Baseline data on deer, rabbit and cat abundance was collected in 2014-15 showing deer are present in low numbers; cats and rabbits are present in moderate numbers. These species are due to be reassessed in 2019 Feral animal control (especially deer and cats) has been identified as a high priority, however works have not begun as yet. TLC is monitoring the rabbit population, with the potential to release a new strain of rabbit calicivirus in partnership with DPIPWE. 		
Key recommendations for future management		
<ul style="list-style-type: none"> Continue to monitor feral animal species and be involved in joint efforts for control. Investigate options for local feral animal control on the reserve if numbers change. 		

Fire management		
Key objective(s)		Status 2016-17
<ul style="list-style-type: none"> No unauthorised fires occur on the reserve (ongoing). 		On-track
Strategy description		Fire adapted Xanthorrhoea at The Big Punchbowl Reserve. Photo: S Bryant.
<p>An inappropriate fire regime will reduce the condition of the natural values of the Big Punchbowl Reserve. The impact of fire on local communities also needs to be considered. The vegetation at The Big Punchbowl Reserve is an unusual mixture of fire sensitive and fire tolerant species, and fire management at the Reserve is therefore a balancing act. Species such as Oyster Bay Pine and Black Sheoak are fire sensitive. These species are found amongst pockets of coastal heath, which are well adapted to fire, with frequent burning promoting increased diversity of plant species. A fire risk assessment has determined that the Reserve is a low risk to local communities due to the distance from nearby built assets and residences.</p>		
Indicator	Current status	Trend
No. of unplanned fires	0 unplanned fires	Flat
Progress in 2016-17		
<ul style="list-style-type: none"> There were no unauthorised fires on the Reserve in 2015-16 A fire risk assessment was completed for all TLC reserves. A fire management policy for all TLC Reserves is being implemented. The Reserve is fuel stove only. An ecological fire management plan for the Reserve is being planned. 		
Key recommendations for future management		
<ul style="list-style-type: none"> Develop an ecological burn strategy to maintain the natural values of the Reserve. Continue to implement a fuel stove only policy for the Reserve. 		

Visitor management		
Key objective(s)		Status 2016-17
<ul style="list-style-type: none"> • Visitation and infrastructure is managed to protect the natural values of the Reserve (ongoing). 		On-track
Strategy description		
<p>Visitation to The Big Punchbowl Reserve is important for the community to connect with the TLC's values however unmanaged visitation and visitor infrastructure can impact on the values of the Reserve. <i>Phytophthora cinnamomi</i> is already widespread across the Reserve and movement of people and vehicles can exacerbate this or transport it to areas beyond the Reserve that are currently <i>Phytophthora</i> free. Visitor infrastructure, including signs, roads, walking tracks and gates need to be maintained to support visitor management.</p>		
An unknown number of visitors access the reserve on a seasonal basis. Photo: TLC security camera		
Indicator	Current status	Trend
Visitors	20 P&P participants	Increase
Progress in 2016-17		
<ul style="list-style-type: none"> • Visitation infrastructure was maintained and visitors were supported to visit the Reserve. • 20 Poets and Painters visited the Reserve to collect material for the exhibition • Hygiene protocols were provided to and implemented by visitors. 		
Key recommendations for future management		
<ul style="list-style-type: none"> • Finalise visitor brochure to support self-guided visitors. • Continue to maintain visitor infrastructure. • Install a permanent hygiene and boot cleaning station at the Reserve entry point. 		

Community Connection to the Landscape		Status: Good
Goal: The community has opportunities to connect with the landscape through research, volunteering, education and recreation (ongoing)		Outcome: On Track
<p>Target Description: The TLC provides opportunities for the community and individuals to achieve conservation. The local community, volunteers, the indigenous community and other stakeholders are encouraged to participate in planning and land management activities. TLC Reserves provide excellent opportunities for education and scientific research. Sustainable economic development may be supported at some reserves where appropriate.</p>		<p>Poets and Painters Book Cover Oct 2017.</p> 
Community indicator	Current status	Trend
# events at the Reserve	1 – Poets and Painters	Flat
# of volunteer activities / vol days	2 activities / 83 vol days	Increase
<p>Key findings</p> <ul style="list-style-type: none"> • A collaborative arts event, “Poets and Painters” was held in October 2016, with poets and painters paired up to explore the Big Punchbowl landscape. An exhibition of works will be held in July 2017. • J Davies (expert botanist) volunteered to validate photospheres at several woodland monitoring sites visited on 10 May 2017 with 2 extra volunteers (1 activity / 3 vol days). • 20 Poets and Painters visited the Reserve over 4 days in October 2016 culminating in 1 vol activity and 80 vol days on site. This does not reflect the months of volunteers work contributed by artists to produce works showcasing this reserve 		
<p>Recommendations</p> <ul style="list-style-type: none"> • Continue to encourage community connections to the reserve by providing opportunities for research, education, recreation and volunteering • Develop and implement a system for reporting all visitors to TLC Permanent Reserves • Continue to maintain relationships with neighbours • Consider removing this target from individual reserve management plans and reporting all relevant TLC activities across Tasmania in a separate report. This approach will be easier to report, more reflective of changes over time, and is a goal of TLC’s Strategic Plan. 		