

Annual Reserve Report

The Big Punchbowl 2014-15



INTRODUCTION

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

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.

This report describes progress made towards delivery of the management plan in 2014-15, 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.

Cover image: TLC staff, volunteers and the PIRE Interns from Montana USA – collecting fire data: photo by Arwen Dywer

BIG PUNCHBOWL RESERVE SCORECARD

Monitoring				
<i>Target</i>	<i>Indicator</i>	<i>Status 2014/15</i>	<i>Trend</i>	
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		
Wetland complex	Floristic diversity	5.4 species/site	To be determined in 2016-17	
	Structural complexity	2.8 strata/site		
	Vertebrate fauna diversity	7.6 species / site 14 species total		
Moultling Lagoon Ramsar Site	Annual Moulting Lagoon Bird count undertaken by PWS Freycinet	Birds Zone 3 – 2,556 birds Total birds – 12,599 birds Diversity Zone 3 – 17 species Total diversity – 67 species Total waterfowl counted – 9,992 birds / 7 species Total waders counted – 195 birds / 6 species		
Community connection to landscape	# volunteer days on the Reserve	42		
	# visitors to the Reserve	100+		
	# research projects	3		
Community capacity	Not yet defined	No data		
Management Effectiveness				
<i>Strategy</i>	<i>Indicator</i>	<i>Status</i>		<i>Trend</i>
Weed management	Weed extent	< 200 m2	Decrease	
	Treatment extent (hectares)	150 m2	Flat	
Stock exclusion	Stock access	Yes	Flat	
Fire management	Number of unplanned fires	0	Flat	
Feral animal control	Cat abundance	22 observations 56% occupancy	Unknown	
	Rabbit abundance	38 observations 33% of sites	Unknown	
	Deer abundance	3 records 22% of sites	Unknown	
Community engagement	# events at the Reserve	3	Flat	
	# of volunteer activities at the Reserve	1	Flat	

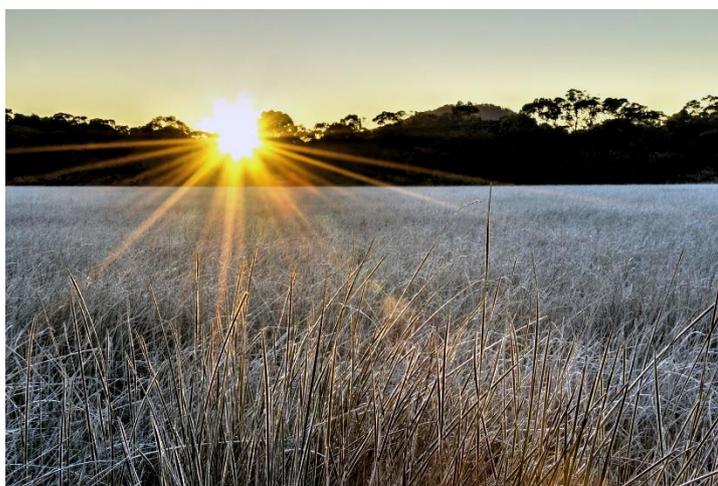
MONITORING SUMMARY

Wetlands complex

The Big Punchbowl wetland, Barney Ward's Lagoon plus 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. The Big Punchbowl wetland has a very distinctive circular form known as a deflation hollow and its bare sediment perimeter denuded of vegetation is due to its ephemeral nature. Freshwater aquatic sedgeland and rushland and succulent saline herb field comprise its main vegetation types, and 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.

Goals

- The 2014 condition of the wetlands and their threatened species are maintained or improved



Sunrise over the Big Punchbowl (Kip Nunn)

Ecological indicator	Current status	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

Key findings

- The wetlands are ephemeral and have not held water even after heavy rains. Wetland ecologists have informed TLC that the Big Punchbowl fills with water maybe every 10 years.
- Because the wetlands are dry, waterbirds and frogs were not present.
- Deer prints were observed around Barney Wards Lagoon

Recommendations

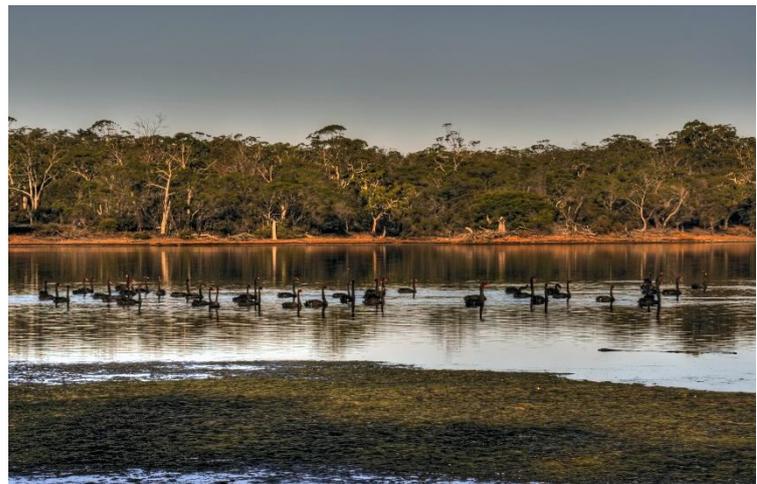
- Continue monitoring, including feral species
- Continue extension surveys for species such as Australasian bittern and green and gold frog

Moulting Lagoon Ramsar Site

Moulting 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 geomorphology of the region is significant, nine threatened plant species occur, and the estuaries and coastal wetlands have long been recognised as essential nursery areas for a myriad of marine species.

Goals

Maintain or improve 2014 conservation values of Moulting Lagoon



Succulent saline herbfield

Ecological indicator	Current status: August 2014	Trend
Annual Moulting Lagoon Bird Count (PWS Freycinet)	No birds counted in Zone 3 – 2,556 birds Total birds counted – 12,599 birds Species diversity in Zone 3 – 17 species Total species diversity – 67 species Total waterfowl counted – 9,992 / 7 species Total waders counted – 195 birds / 6 species	No trend available as yet. To be determined in 2016-17.

Key findings

- Shooting has been occurring along the Lagoon foreshore which is public land
- Swans have also been shot

Recommendations

- Participate in the annual bird count coordinated by PWS

Coastal woodland

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 (*Xanthorrhoea australis*). Some significant stands of mature and senescing white gum and threatened flora such as *Gratiola pubescens*, *Lasiopetalum micranthum* and *Acacia ulicifolia* are scattered throughout. Flora surveys have refined the mapping of vegetation communities and improved species knowledge. *Phytophthora cinnamomi* disease is widespread in coastal forests on the Reserve and is likely to have caused local extinction of many susceptible understorey species resulting in depauperate understorey vegetation. Two functional eagle nests have been recorded on the Reserve including an active nest in 2014-15

Goals

The condition of the woodland flora and fauna community is improved from 2014



Coastal forest

Ecological indicator	Current status	Trend
Floristic diversity	7.4 species/site	Unknown
Structural complexity	3.9 strata/site	Unknown
Canopy recruitment	1.6 cohorts per site	Unknown
Vertebrate fauna diversity	5.25 species / site 9 species total	Unknown
Eagle nest productivity	1 chick fledged (sea-eagle)	Unknown

Key findings

- *Phytophthora cinnamomi* 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 high fire frequencies will cause localised extinction
- Black sheoak forms dense stands across the property, and is also 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 have now been found and one nest was occupied by a breeding pair of white-bellied sea eagles which successfully raised a chick in 2014.
- Management plan was completed

Recommendations

- Develop an ecological burn plan for the Reserve
- Develop protocols to ensure phytophthora is not spread locally and to other areas off-reserve.

Community connection with the landscape

The TLC encourages connection to the landscape as an end in itself, and to ensure that reserve networks are valued and supported in the community. Access to this reserve and the ability to use it as a base to explore the region is a goal for all of our reserves, and for reserves generally. We also aim to foster a community volunteer relationship with this Reserve. Where possible the TLC will enlist the help of the community to assist with onsite reserve activities such as assessment and monitoring, weed management and preservation of indigenous sites to deepen connection with the landscape as well as to enjoy the reserve and the Moulting Lagoon region.

Goals

Community are engaged with the Reserve and region



TLC supporters at the Big Punchbowl open day

Community indicator	Current status	Trend
Volunteer days	40	Flat
Visitors	100+	Flat
Research and education	3 projects	Increase

Key findings

- Volunteers helped establish ecological monitoring sites
- The Big Punchbowl open day attracted over 100 people who went on guided walks that showcased the Reserve’s natural values.
- TLC hosted two students from the international PIRE intern program who worked on a fire ecology project focusing on Oyster Bay pines. Dr Lynda Prior (UTAS) is interested in further pursuing this project in partnership with TLC.
- Researchers from the University of Tasmania and the Australian National University collected a sediment core from the Big Punchbowl wetland to investigate the fire and climatic history of the region.
- TLC interviewed Gavin Flack, the previous owner on the environmental history of the area.
- Surveys for the endangered Chaostola Skipper completed

Recommendations

- 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 progress partnerships with UTAS for fire ecology research on the Reserve.

Local economic contribution

Through our conservation activities TLC strives to provide economic benefits to the local community. A thriving Freycinet community will enhance the TLCs long term vision to support healthy communities to underpin healthy landscapes. By annually recording expenditure by TLC and related on-reserve activities and revenue generated in the local area, we can identify our financial contribution from conservation activities to the local community.

Key objective(s)

Reserve expenditure contributes to the Freycinet community

Outcome 2015

TLC activities generated local economic activity in the Freycinet region



The Big Punchbowl open day

Progress in 2014-15

- TLC activities such as the open day, supporter trips and reserve management trips generated a significant economic input to the Freycinet community. We don't yet have methods for measuring this input.

Key recommendations for future management

- Develop a metric for measuring financial contribution of all TLC activities to local community

MANAGEMENT EFFECTIVENESS SUMMARY

Weed management

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.

Key objective(s)

All areas of gorse have received primary treatment by 2016

Gorse and other weeds are functionally eradicated from the Reserve by 2020

Outcome 2015

All known areas gorse at the Reserve received primary treatment in 2015



Progress in 2014-15

- Weeds were mapped and most areas of gorse received primary treatment

Key recommendations for future management

- Update mapping of gorse
- Continue weed control and monitoring

Stock exclusion

The property to the south of the Reserve is grazed by sheep. Most of the southern boundary is fenced, but sheep occasionally access the Reserve along the shore of Moulting Lagoon. The eastern boundary of the Reserve is mostly fenced. These fences are in variable condition, but are not required for stock exclusion at present.

Key objective(s)

Access by neighbouring stock is prevented (ongoing)

New boundary fencing not excluding sheep



Outcome 2015

Sheep have been accessing the Reserve along the shore of Moulting Lagoon

Progress in 2014-15

- A new boundary fence was installed on the southern boundary of the Reserve
- Sheep are still able to access the Reserve along the shore of Moulting Lagoon

Key recommendations for future management

- Construct a new fence along the shore of Moulting Lagoon
- Continue to monitor fences and repair fences when necessary.

Community engagement

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.

Key objective(s)

People visit the Reserve every year for recreation, education and volunteering



TLC 's Sally Bryant and PIRE interns measuring trees

Outcome 2014

TLC provided the community with opportunities to engage with the landscape through research, volunteering, education and recreation

Progress in 2014-15

- TLC organised two volunteer activities
- TLC hosted one major community event and several supporter trips
- Three research projects were supported, two have been completed and one still underway

Key recommendations for future management

- Continue to provide opportunities for people to connect with the Reserve.
- Continue to maintain relationships with neighbours

Feral animal control

The two feral pests of most importance on the Reserve are cats and deer, although rabbits are also a threat. TLC is working across all of our reserves to monitor and understand the population dynamics of feral pest species, but beyond that, management strategies are quite different.

A feral deer strategy is already 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.

Feral cats, however, are considered more difficult to deal with, and presently no effective eradication or even control techniques are known for region with no borders (i.e. anywhere but quite small islands). This is particularly true for areas with a human population that keep cats as pets. As such, our current strategy is just 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.

Key objective(s)

Baseline data collected and threat assessment completed by 2016

Fallow deer prints at Barney Wards Lagoon



Outcome 2015

Monitoring of cats, deer and rabbits has commenced

Progress in 2014-15

- Baseline data on deer, rabbit and cat abundance has been collected
- Feral animal control (especially deer and cats) has been identified as a priority

Key recommendations for future management

- Continue to monitor feral animal species
- Investigate options for feral animal control

Fire management

The vegetation at the Big Punchbowl is an unusual mixture of fire sensitive and fire tolerant species, and fire management at the Reserve is therefore a difficult balancing act. Species such as Oyster Bay Pine and Black Sheoak are fire sensitive and may have become broadly established in this part of the Freycinet Peninsula due to the protection provided by Moulting Lagoon from bushfires which are normally fanned by northerly or north-westerly winds. Amongst this fire sensitive vegetation are pockets of coastal heath, which are well adapted to fire, with frequent burning promoting increased diversity of plant species. The Reserve is relatively remote from human habitation and fuel hazards are low and therefore pose little threat to life or property.

Key objective(s)

No unauthorised fires occur on the reserve (ongoing)



Oyster Bay pines are fire sensitive

Outcome 2015

There were no unauthorised fires on the Reserve in 2014-15.

A fuel-stove only policy was implemented for the Reserve.

Progress in 2014-15

- A fire management strategy was finalised for all TLC Reserve.
- A fuel stove only policy was implemented.
- A research project involving PIRE Interns from the University of Montana investigated the fire ecology of Oyster Bay Pines. It discovered a stand of Oyster Bay pines on the Reserve contain trees that are more than 300 years old. The project also documented the fire history of the Reserve by counting banksia node counts and interviewing the previous owner Gavin Flack. It found that contrary to the initial impressions of TLC ecologists, fire has been rare on the property in the last 50 years, with the last major fire more than 30 years ago.

Key recommendations for future management

- Develop an ecological burn strategy to maintain the natural values of the Reserve.

Protect aboriginal heritage

TLC's understanding of these values is quite low, but we have good relations with key stakeholders, and shall rely on them to help us increase the understanding.

Key objective(s)

By 2017 aboriginal heritage values are protected

Outcome 2015

A good relationship with the Tasmanian aboriginal community has been maintained



Andre Skullthorpe from TAC shows supporters an aboriginal stone tool

Progress in 2014-15

- Andre Skullthorpe from the Tasmanian Aboriginal Centre was a guest speaker at the Big Punchbowl open day and discussed aboriginal heritage issues with TLC staff

Key recommendations for future management

- Seek advice from Aboriginal experts on procedures for identification of sites and artefacts, and their protection and interpretation needs.
- Consult aboriginal community if any developments are planned