TASMANIAN
LAND
CONSERVANCY

Annual Reserve Report

Lutregala Marsh Reserve 2015-16

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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. 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.

Lutregala Marsh Reserve was acquired by the TLC in 2005 and protects 41.9 hectares of saltmarsh and coastal forest on Bruny Island in southeast Tasmania. The Reserve adjoins the Neck Game Reserve and forms part of a large block of native vegetation that straddles the Bruny Island Isthmus. The management of the Reserve is guided by the Lutregala Marsh 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 2015-16, 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: Feral cat caught on TLC's monitoring camera at Lutregala Reserve

LUTREGALA MARSH RESERVE SCORECARD

Monitoring			
Target	***Indicator***	***Status 2014-15***	***Trend***
Saltmarsh	Floristic diversity Structural complexity	7 species / site 3 strata / site	Baseline data collected this year. Repeat data collection scheduled for 2020
Coastal forest	Floristic diversity Structural complexity Canopy recruitment Vertebrate fauna diversity	10 species / site 3.75 strata / site 1.5 cohorts / site 12.6 species / site 23 species in total	
Target	***Indicator***	***Status 2015-16***	***Trend***
Community connection to landscape	# volunteer days on the Reserve	11 volunteer days	Flat
	# visitors to the Reserve	6 visitors	Flat
Management Effectiveness			
Strategy	***Indicator***	***Status 2015-16***	***Trend***
Weed management	Weed extent	<1 ha	Improving
	Treatment extent (hectares)	90%	Improving
	Weed density	Sparse	Improving
Stock exclusion	Instances of stock access	0	Flat
Feral animal management	Cat abundance	27 observations /50 nights	No trend data yet
Woodland restoration	% native tree cover	<5%	Flat
Fire management	No of unplanned fires	0	Flat
Community engagement	# events at the Reserve	0	Flat
	# of volunteer activities at the Reserve	2	Flat
	# of research and education projects	4 projects	Increase

MONITORING SUMMARY

Saltmarsh	**Status: Very Good**
Goal The condition of saltmarsh is maintained	**Outcome: On Track**

Description

Saltmarsh vegetation occupies the low marsh land around the estuary of Lutregala Creek. Saltmarsh is a vegetation type of national conservation significance and is threatened by sea-level rise. The saltmarsh at Lutregala forms a complex mosaic dominated alternately be sedges shrubs or succulent herbs depending on the frequency of inundation by salt water.

Saltmarsh and Lutregala Creek. Credit: Arwen Dyer.

Ecological indicator	**Status 2014**	**Trend**
Floristic diversity	7 species / site	Unknown
Structural complexity	3 strata / site	Unknown

Key findings

- Saltmarsh vegetation is diverse and in excellent condition.
- Wetland birds are abundant and a pair of swamp-harrier was regularly observed nesting on the Reserve.

Recommendations

- Continue to monitor saltmarsh vegetation. Particular attention should be paid to the dominant species at each site, where a change may indicate that inundation is becoming more frequent.
- Explore the possibility of conserving more land at higher elevations to the south of the Reserve to provide an avenue for dispersion of saltmarsh species in anticipation of sea level rise.

Coastal woodland	**Status: Very Good**
Goal The condition of coastal woodland is maintained	**Outcome: On track**

Description

Coastal Forest occupies a relict dune system where a ridge of sandy soil has provided sufficient drainage for trees to establish. Forest dominated by black peppermint occupies the eastern side of the Reserve. The vegetation in this area is floristically diverse and in good condition. Forest dominated by black gum occupies the western side of the Reserve. This area has been partially cleared for agriculture and is in poor condition, with a modified understorey, a high proportion of exotic species and significant infestations of blackberries. The diversity of vertebrate fauna on the Reserve is high, despite a high density of feral cats.

Coastal forest. Credit: TLC

Ecological indicator	**Current status**	**Trend**
Floristic diversity	10 species / site	Unknown – repeat survey scheduled for 2020
Structural complexity	3.75 strata / site	
Canopy recruitment	1.5 cohorts / site	
Vertebrate fauna diversity	12.6 fauna species / site 23 fauna species in total	

Key findings

- The floristic diversity of coastal forests at Lutregala Marsh is relatively high, despite some sites having been partially cleared for agriculture in the past.
- Weeds such as blackberry, scotch thistle and pasture grasses are present at disturbed sites
- Recruitment of canopy species is only evident at 50% of monitoring sites
- Fauna richness is high despite a high number of feral cats

Recommendations

- Develop an ecological burn plan to encourage recruitment of canopy species and increase richness of understorey plants
- Continue to control weeds in disturbed areas
- Implement cat control measures

Community connection with the landscape	**Status: Very Good**
Goal The community has opportunities to connect with the landscape through education, recreation, research and volunteering	**Outcome: On Track**

Description

Lutregala Marsh Reserve provides the community with a range of recreational, educational, research and volunteering opportunities. Volunteers have made a fantastic contribution to TLC efforts to eradicate blackberries and other weeds on the Reserve. TLC has hosted several supporter trips and is developing visitor guides to encourage visitation.

A team of volunteers. Credit: Arwen Dyer

Community indicator	**Current status**	**Trend**
Volunteer days	11 volunteer days	Decrease
Visitors	6 visitors	Flat

Key findings

- Two volunteer activities saw 11 volunteers control weeds over two days.
- Several researchers used Lutregala Marsh as a study site to investigate cat populations,
- undertake palynological studies using sediment cores, and research saltmarsh ecology.

Recommendations

- Continue to encourage community connections to the reserve by providing opportunities for research, education, recreation and volunteering
- Consider removing this goal 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.

MANAGEMENT EFFECTIVENESS SUMMARY

Weed management

Key objective(s)

- All areas of weeds have been treated by 2017
- Weeds are eradicated by 2020

Status 2015-16
On-track

Strategy description

Blackberry (*Rubus fruticosus*) occurs in areas of regenerating cleared land on the western boundary of the property, along with several other weed species. Control of this infestation of weeds is a management priority, as directed by the Lutregala Marsh Weed Strategy. The TLC has been undertaking annual weed control since 2012. Follow-up weed control will occur for five years following initial treatment. The annual reserve assessment will include weed monitoring to ensure that any new infestations of blackberry or other weeds are identified and controlled.

Volunteers cutting and painting blackberries. Photo: Arwen Dyer

Indicator	Current status	Trend
Weed extent	<1 ha	Improving
Treatment extent	90%	Improving
Weed density	Sparse	Improving

Progress in 2015-16

- TLC staff and volunteers continued to undertake weeding activities, including cut-and-paint of blackberries in forest area along western boundary, and brush cutting large blackberry clumps in open areas along western boundary and near dam. Other weed species treated included sweet pittosporum (including hybrids with the native *Pittosporum bicolor*), watsonia and cotoneaster.

Key recommendations for future management

- Continue weed control program
- Complete follow up mapping

Stock exclusion

Key objective(s)

- Access by neighbouring stock is prevented (ongoing)

Status 2015-16
On-track

Strategy description
Livestock are grazed on neighbouring properties to the west and south of Lutregala Marsh Reserve. Livestock have the potential to reduce vegetation condition, particularly in saltmarsh areas of the reserve. Existing fences prevent stock from accessing the reserve. Fence condition will be checked during the annual reserve assessment and fences will be repaired as necessary.

Boundary fencing and signage. Photo: TLC

Indicator	Current status	Trend
No stock access the reserve	0 stock accessed the reserve	Flat

Progress in 2015-16

- Boundary fences were checked and no stock incursions have occurred.

Key recommendations for future management

- Continue to monitor fences and repair fences when necessary.

Community engagement

Key objective(s)

- TLC provides opportunities for the community to experience or benefit from the Reserve

Status 2015-16
On-track

Strategy 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.

Volunteers brush cutting blackberries. Photo: Arwen Dyer.

Indicator	Current status	Trend
# events at the Reserve	0	Flat
# of volunteer activities at the Reserve	2	Flat
# of research and education projects	4 projects	Increase

Progress in 2015-16

- TLC hosted a volunteer activity in both November and December 2015 to control weeds.
- A draft visitor guide for the Reserve was prepared by volunteer Marie Brolev.
- Three research projects have been based at Lutregala Marsh – sediment coring (Patrick Moss, University of Queensland), a University of Tasmania PhD project placed remote cameras at Lutregala Marsh Reserve to monitor for cats, and a University of Tasmania PhD project is comparing saltmarsh invertebrates at different saltmarshes across the state (John Aalders).
- A geological and geomorphology assessment of the reserve was undertaken by Keith Corbett in Nov 2015.
- TLC actively participated in Kingborough Council's Bruny Island cat management project, which was successful in securing funding to further investigate the potential for eradicating cats from Bruny Island.

Key recommendations for future management

- Continue to provide opportunities for people to connect with the Reserve.
- Continue to maintain relationships with neighbours.
- Finalise visitor guide.
- Consider removing this 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.

Feral animal control

Key objective(s)

- Help implement the Bruny Island Cat Management Plan

Status 2015-16
On-track

Strategy description

Feral cats pose a significant threat to wildlife on the Reserve and in particular to nesting shore birds. A feral cat management plan has been prepared by Kingborough Council and Bruny Island Environment Network. TLC will help implement the plan on our Reserve. Deer have also been seen at The Neck Game Reserve and are likely to be present in low numbers at Lutregala Marsh Reserve.

Potoroo and feral cat - we're just mates hanging out. Photo: TLC.

.Indicator	Current status	Trend
Cat abundance	27 observations /50 nights	Unknown

Progress in 2015-16

- TLC supported a major federal grant to undertake cat control on Bruny Island, which was successful. As a part of this project, Lutregala Marsh Reserve will be one of five trial sites on Bruny Island for cat control and monitoring.
- TLC is on the steering committee as a key stakeholder.

Key recommendations for future management

- Manage cats in accordance with the Bruny Island Cat Management Plan, and in partnership with other stakeholders
- Continue to progress cat control projects in partnership with Bruny Island Environment Network and Kingborough Council.
- Collaborate with stakeholder regarding management of other feral animals.

Fire management

Key objective(s)

- No unauthorised fires occur on the reserve (ongoing).

Status 2015-16
On-track

Strategy description
At Lutregala Marsh Reserve fire sensitive wetlands occur alongside fire adapted coastal forest vegetation communities. Fire management will only be undertaken after an ecological burn plan has been developed.

Much of Lutregala Marsh contains fire sensitive wetland vegetation communities. Photo: S Bryant

Indicator	Current status	Trend
No. of unplanned fires	0 unplanned fires	Flat

Progress in 2015-16

- 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.
- A fuel stove only policy is also being implemented.
- The use of fire to manage blackberry infestations was abandoned in favour of slashing and spraying, due to continuous high fuel loads between blackberries and saline grasslands.

Key recommendations for future management

- Continue to implement a fuel stove only policy for the Reserve.
- Conduct an annual fire risk assessment for all TLC reserves.

Woodland restoration

Key objective(s)

- Native plant species will be the dominant cover class in the revegetation zone by 2020

Status 2015-16
On-track

Strategy description

An area of regenerating cleared land on the western margin of the property has been replanted with native tree species. Ongoing weed control works in this area will make more land available for restoration, and TLC intends to establish a diverse planting of local provenance species.

Regenerating cleared land proposed for revegetation. Photo: TLC.

Indicator	Current status	Trend
% native tree cover	<5%	Flat

Progress in 2015-16

- Planning has commenced for further planting in 2016-17, and a small grant has been obtained from NRM South to support ISV volunteers to undertake planting.

Key recommendations for future management

- Seek funding for further restoration plantings.