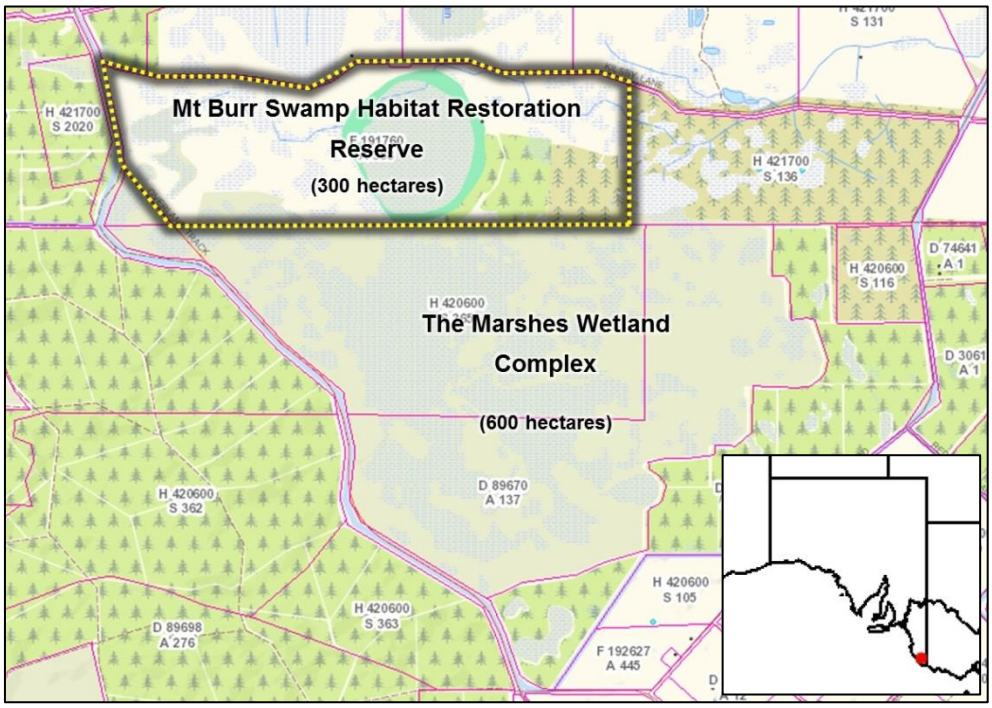
Mt Burr Swamp Supporters Update: 12th August 2017

The restoration journey begins at Mount Burr Swamp

Mark Bachmann, Nature Glenelg Trust (NGT)

Introduction

Mt Burr Swamp is a modified wetland basin of 50-60 hectares in size, and is a central feature on a larger 300 hectare parcel of land that was developed as a private mixed farming enterprise over the past 60 years. The property is located in the lower South East of South Australia, east of Millicent and north-west of Mt Gambier, and lies adjacent to Marshes Native Forest Reserve (NFR).



Location and landscape context of the Mt Burr Swamp property

The Marshes is a large freshwater wetland complex, listed in the Directory of Important Wetlands in Australia (DIWA) and is one of 13 priority groundwater dependant ecosystems identified in the South East Regional NRM Plan (SENRM Board 2010). Marshes NFR provides verified habitat for no less than six nationally threatened fauna species[1], and is one of the most floristically diverse nature reserves in South Australia. Proposals that identified the restoration potential of Mt Burr Swamp, to enable expansion of the habitat in Marshes NFR, date back to the late 1970s; but were not acted upon successfully until Nature Glenelg Trust completed the purchase of the property on the 30th of September 2016. The land purchase was predominantly funded by partnerships that NGT entered into with the Native Vegetation Council (SA) and OneFortyOne Plantations, but was also supplemented by a successful public fundraising campaign that included significant donations from other NGOs, community groups, businesses and private individuals.

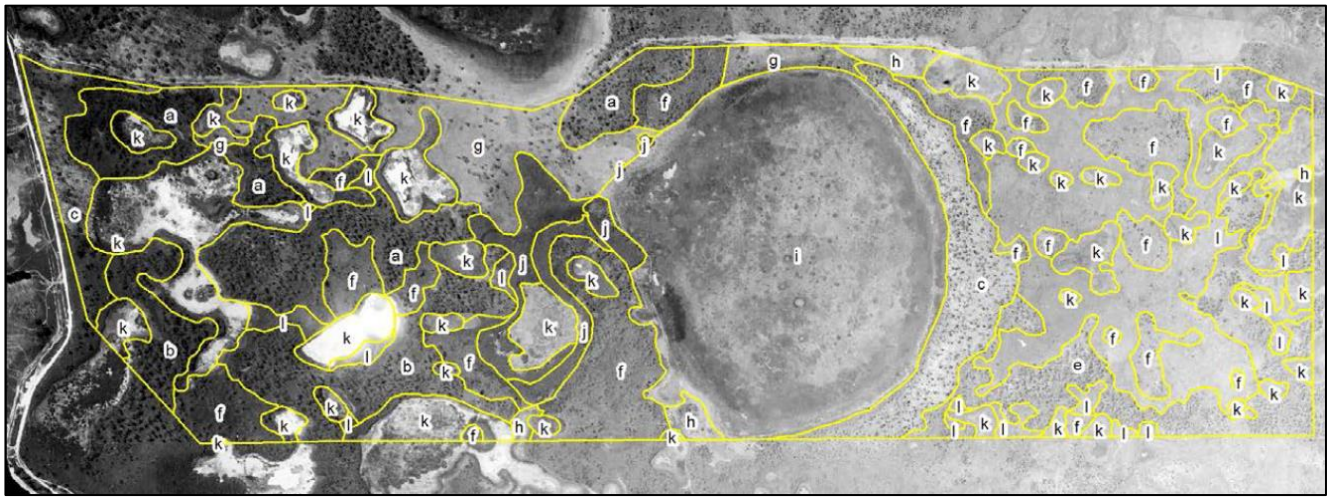
[1] *EPBC Act 1999* listed fauna species include Growling Grass Frog, Little Galaxias, Southern Brown Bandicoot, Southern Bent-wing Bat, South-eastern Red-tailed Black-cockatoo, Australasian Bittern

Working towards property-scale restoration

Although the property has now been purchased with the long-term goal of conservation and restoration in mind, the precise pathway and mechanisms employed for how that goal is fully achieved, and the timeframe over which this will occur, are still being determined. To inform this process, a property restoration and management plan is currently under development, and the timing of its implementation will be subject to:

1. the availability of grant monies, philanthropic donations or other funding sources, including income derived from economically productive portions of the property before they transition to conservation, to support future works;
2. the harvest timing of blue gum and pine plantations on parts of the property under this commercial land use, a prerequisite before restoration can begin in those areas;
3. the ultimate method determined for transitioning pasture areas back to native vegetation; and,
4. assessment of the likely post-restoration inundation extent of other drained wetland features, especially those in proximity to the plantation areas (as per point 2.) or with consideration for access requirements for other actions required (as per point 3.).

Based on a (pre-development) aerial image from 1951 (see below), it appears that almost half of the property could ultimately be restored as wetland habitat. Over 40 (now mostly modified) wetland features have been mapped across the property, noting that these wetlands were originally interspersed among areas of dense heathland and woodland – just as Marshes NFR still appears today. Map layers so far created by NGT include: pre-development vegetation, historic wetland extent, management units, fences and property boundaries.



1951 pre-development aerial image of the property, showing the mapping exercise being undertaken to inform restoration planning – see Appendix 1 (Page 5) for explanatory codes. (Mapping by Ben Taylor, NGT)

Because of the scale of the task involved, we are determined to work through the restoration process in a careful and considered fashion – which means not making major short-term changes to wider property management beyond undertaking some key early works. That means that large parts of the property will continue to operate and appear as a working farm for the foreseeable future, and wider restoration is anticipated to occur in a sequential, staged fashion in line with our restoration plans once completed.

Summarising activities over the first 12 months after purchase

Despite the restoration and management plan not yet being in place, a number of immediate priority actions have already been implemented on the property. The most prominent of these, was the restoration (from August 2016) of an interim (higher) static water level, achieved by installing a temporary regulating structure of the artificial outlet drain from Mt Burr Swamp – right.

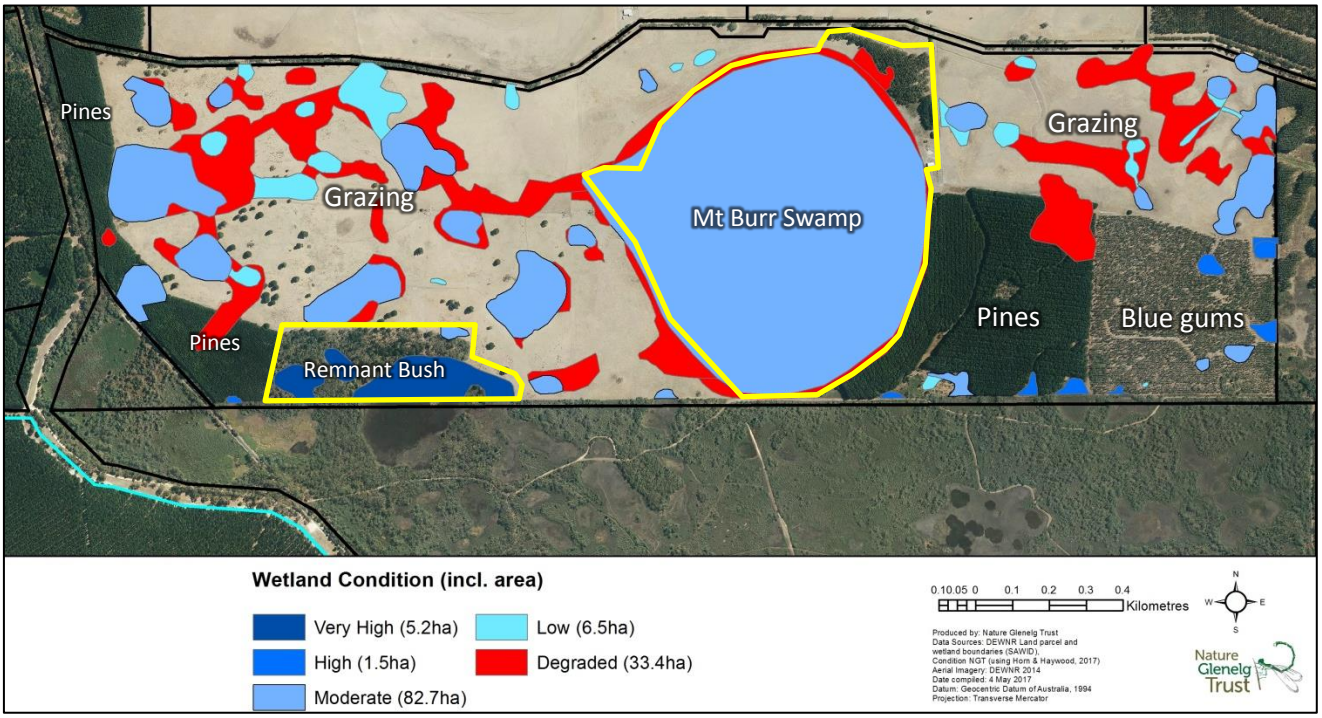
Thanks to the wet spring that followed, the results have been dramatic and highly visual; with the swamp holding water through the subsequent summer and autumn for the first time in decades:

The restoration of Mt Burr Swamp (from winter 2016)

Mt Burr Swamp (left) before drain regulation: December 2015 and (right) after drain regulation: November 2016 (courtesy of Charles Prime, LC Aerial)

Other activities undertaken by NGT, often completed with the support of our fantastic volunteers, include:

- work on the shearing shed, to convert it into a multi-purpose space;
- fencing to exclude stock from two initial priority restoration areas (see map over page);
- weed control, especially the removal of feral pines;
- pre-restoration wetland condition mapping (see over page);
- wetland vegetation transect monitoring at selected sites; and,
- successful surveys for nationally threatened species including the Little Galaxias and Growling Grass Frog (right).



Land use configuration of the property, showing areas with stock now excluded (inside the yellow lines), plantations and the extent and present condition of modified wetlands across the property. (Mapping by Bryan Haywood, NGT)

The future

We have a long and challenging, but also extremely exciting journey ahead, and look forward to involving the wider community in the story of Mt Burr Swamp as it unfolds. We're also very interested to use the property as an opportunity to test new and innovative ways of achieving long-term environmental goals in a primary production context (our starting point), in the hope that we can initiate similar projects in the future.

Finally and most of all, we thank you – our dedicated supporters – for your tremendous support so far, and are proud to unveil the permanent sign that recognises your generosity. We wouldn't be here today without you!

For more information on the future progress of the Mt Burr Swamp Restoration Project or our other work, please visit the NGT website: www.natureglenelg.org.au, or contact us by emailing info@natureglenelg.org.au.

Nature Glenelg Trust

Thank our major partner / supporting organisations:

Native Vegetation Council

ONE FORTY ONE PLANTATIONS

Natural Resources South East

Nature Conservation Society of South Australia

through the bequest of **Madeleine Boyce**

Appendix 1: explanatory codes for native vegetation in the 1951 aerial image shown on Page 2 (by Ben Taylor, NGT)

code	general description	dominant species			comment
		tree layer	shrub layer	ground layer	
a	**Swamp gum heathy woodland**	Medium to high density *Eucalypus ovata ± E. viminalis ± E. baxteri ± Acacia melanoxylon ± Acacia mearnsii*	*± Melalueca squarrosa ± Leptospermum continentale ± Gahnia radula ± Banksia marginata ± Pomaderris paniculosa ± P. racemosa ± Xanthorrhoea caespitosa ± X. australis*	*± Lepidosperma canescens ± Lepidosperma longitudinale ± Lomandra longifolia ± Lepyrodia muelleri ± Baumea juncea ± Dianella brevicaulis ± Patersonia fragilis ± Pteridium esculentum*	As described by Haywood (2016) but may have a high proportion of *E. viminalis* and *E. baxteri* in more elevated areas
b	**Manna gum, Stringybark forest to closed forest over drier heath**	Medium to high density *Eucalyptus viminalis, E. baxteri ± E. ovata ± Acacia melanoxylon*	*Xanthorrhoea australis, Banksia marginata*	*Pteridium esculentum*	
c	**Manna gum, Stringybark open to very open forest over drier heath**	Low to very low density *Eucalyptus viminalis ± E. baxteri ± E. obliqua ± Acacia melanoxylon*	*Xanthorrhoea australis, Banksia marginata*	*Pteridium esculentum*	Similar to "b" but lower tree density
e	**Swamp gum, Manna gum, Stringybark woodland to open woodland over wet heath**	Medium to high density *Eucalypus ovata, E. baxteri, E. viminalis ± E. obliqua ± Acacia melanoxylon ± A. mearnsii*	*± Leptospermum continentale ± L. myrsinoides ± Melalueca squarrosa ± Xanthorrhoea australis*	*± Lepidosperma canescens ± L. longitudinale ± Lomandra longifolia ± Lepyrodia muelleri*	Dominant tree likely to vary but general structure consistent
f	**Swamp gum, Manna gum, Stringybark open to very open woodland over wet heath**	Low to medium density *Eucalypus ovata, E. baxteri, E. viminalis ± Acacia melanoxylon ± A. mearnsii*	*± Leptospermum continentale ± L. myrsinoides ± Melalueca squarrosa ± Xanthorrhoea australis*	*± Lepidosperma canescens ± L. longitudinale ± Lomandra longifolia ± Lepyrodia muelleri*	Similar to "e" but lower tree density
g	**Tussock sedgeland with emergent Swamp Gum and Redgum**	very sparse *Eucalyptus ovata*, *E. camaldulensis*	*± Carex spp. ± Juncus spp. ± Gahnia spp*. ± Gramineae spp.	unknown	Low confidence in this vegetation description. There was only 1 Redgum on the property in the 1940s & this tree still stands near the northern boundary.
h	**Tussock sedgeland (treeless)**	absent	*± Carex spp. ± Juncus spp. ± Gahnia spp*. ± Gramineae spp.	unknown	Similar to "g" but treeless. Low confidence in this vegetation description.
i	**Swamp complex with riparian silky tea tree**	absent	Riparian band of *Leptospermum lanigerum* tall closed shrubland	emergent sedges ± aquatics	Single mapped polygon representing Mount Burr Swamp. Separated from other swamp polygons due to greater knowledge of pre-development vegetation, esp. riparian shrubs.
j	**Silky tea tree tall closed shrubland**	absent	*Leptospermum lanigerum* tall closed shrubland	unknown	
k	**Swamp complex**	absent	Riparian *± Melaleuca squarrosa ± Leptospermum lanigerum ± L. continentale ± Gahnia clarkii ± Baloskion tetraphyllum*	emergent sedges ± aquatics	
l	**Wet heath (treeless)**	absent	*± Melaleuca squamea ± M. squarrosa ± Leptospermum continentale ± L. myrsinoides ± Xanthorrhoea australis ± Allocasuarina paludosa ± Acacia oxycedrus*	*± Leptocarpus spp. ± Dillwynia glaberrima ± Epacris impressa ± Hibbertia prostrata ± Patersonia fragilis ± Cassytha glabella ± Baumea acuta*	"Heath" as described by ForestrySA (2007)