



# Gorse Eradication Strategy for Seymour Wetlands Restoration

---

Weed and Disease Management Plan (including options for hygiene management)

QUENTIN & KERRY SMITH / TODD DUDLEY / DANIEL STEINER

FIONA EVERTS

11 May 2017

Guidelines for the long term control of Gorse - *Ulex europaeus* on Crown Land at Seymour on the East Coast of Tasmania.

Version Control

Version	Date	Author	Notes
DRAFT 1	27 June 2017	F Everts	
DRAFT 2	27 July 2017	F Everts	
2017 10 UPDATE	05 October 2017	F Everts	
2018 03 UPDATE	05 April 2018	F Everts / Q Smith / D Steiner	Updating activity from July 2017 to March 2018

Distribution

Version	Recipient	Date	Notes
1	Q Smith, T Dudley, P Buchorn, A Hugo, G Stewart	27 June 2017	For final markup on draft version 1
2	S Matuszek, Q Smith, T Dudley, P Buchorn, A Hugo, G Stewart	28 July 2017	For comment

*Photographs by T Dudley & M Manton*

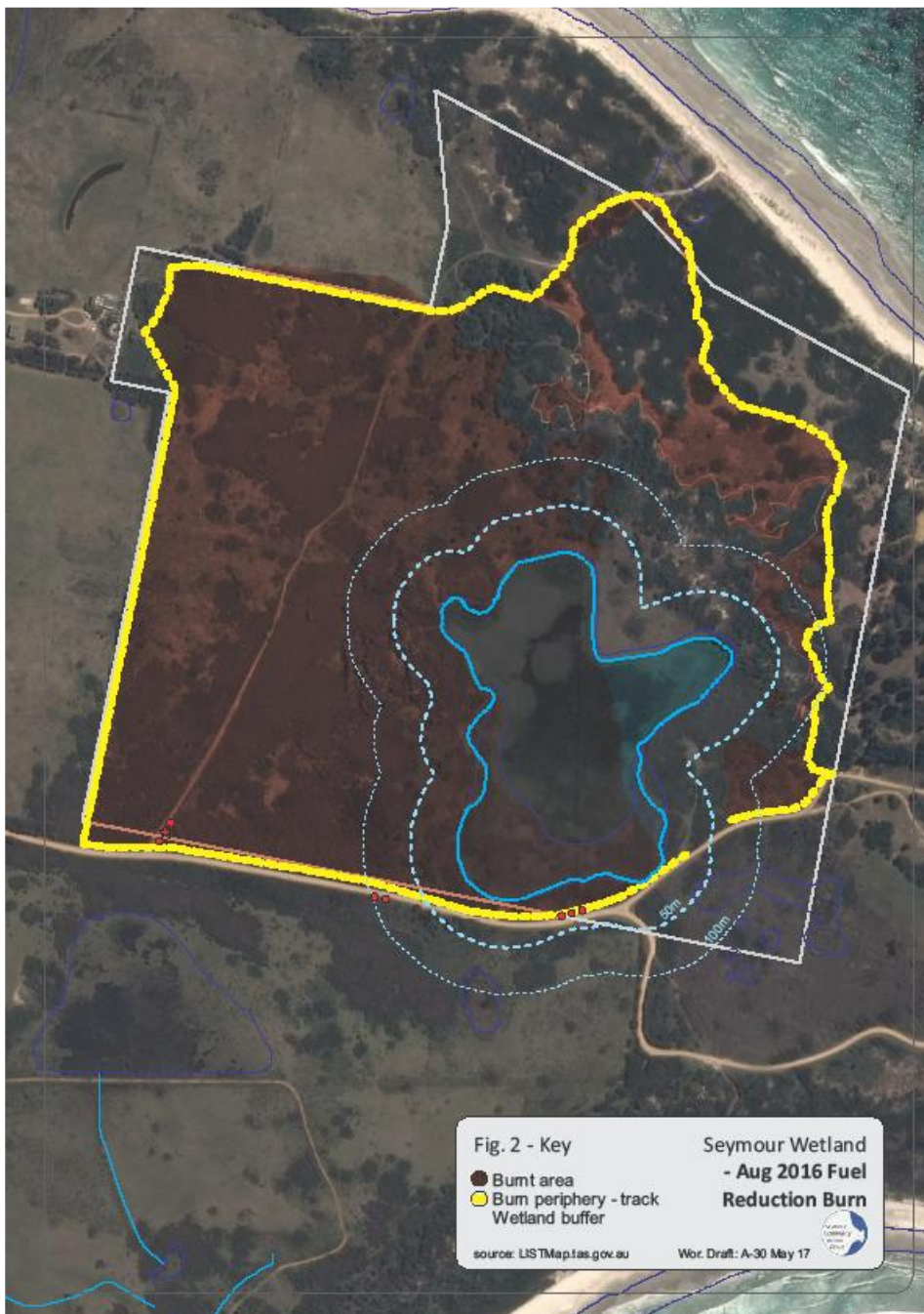
## 1. INTRODUCTION

In 2016 following a fuel reduction burn, members of the Seymour Community Action Group recognized an opportunity to revisit the enhancement efforts and to highlight the ecological significance of the Seymour Swamp as an important freshwater wetland within their local landscape. Referencing recommendations from a report “Break O Day Coastal Lagoon Assessment December 2009” North Barker Ecosystem Services, the group then incorporated to protect and restore the natural environment around Seymour. The Seymour Community Action Group Inc decided that the restoration of the Seymour Swamp would be one of their priority actions.

North Barker Ecosystem Service’s site-specific recommendation was to implement a weed control program.

The wetland is home to a diverse range of coastal species of flora and fauna.

Refer to Figure 2 below 2016 Fuel Reduction Burn



## Known Values of Seymour Swamp

- Vegetation buffer to Templestowe Beach and Templestowe Lagoon
- Spawning and feeding habitat for many fish species such as the Australian grayling *Prototroctes maraena*.
- Feeding and nesting habitat for endemic and migratory birds such as the Pacific Golden Plover *Pluvialis fulva*, Sharp-tailed Sandpiper *Calidris acuminata*, and Ruddy Turnstone *Arenaria interpres*.
- Habitat for threatened species such as the Green and Gold Frog *Litoria raniformis* and flora species such as leafy flatsedge *Cyperus lucidus*.
- Supports threatened vegetation communities of Melaleuca ericifolia swamp forest (NME) and Fresh water aquatic sedgeland and rushland (ASF)
- Habitat for the endangered listed Tasmanian Devil *Sarcophilus harrisii* and the vulnerable listed White-bellied Sea Eagle *Haliaeetus leucogaster* as well as for the Tasmanian Wombat *Vombatus ursinus tasmaniensis*.
- The swamp has important heritage values; in 1857, it was a source of clay for brickmaking for the growing coal mining area surrounding the township of Seymour.
- The Seymour area has some significant geoheritage values being situated across a rocky Granite headland with surrounding complex coastal dune systems including the only example of an active Holocene bypass dunefield system within mainland Tasmania.
- Water levels within the swamp fluctuate seasonally with differing rainfall. The presence and health of endemic vegetation in swamp systems has impact upon the acidification levels of surrounding landscapes.
- The site contains considerable infestations of Gorse *Ulex europaeus* as well as lesser infestations of other weeds such as Blackberry *Rubus fruticosus*, Spanish Heath *Erica lusitanica*, Montpellier Broom *Genista monspessulana*, Pampas Grass *Cortaderia* spp. There are also infestations of environmental weeds, which are listed later in this plan.
- The group to date has actively sought funding, in kind support and advice from a variety of sources to support the attainment of their aims and objectives. They have also participated in a number of coordinated on ground working bees with good result.

### 1.1 PURPOSE AND SCOPE

The purpose of this Weed and Disease Management Plan (WDMP) is to detail requirements for the management of weeds associated with works for the Seymour Wetlands Restoration Project. The WDMP identifies site-specific mitigation measures and environmental controls for weed management to ensure weeds and diseases are effectively managed during works and into the future. The WDMP identifies measures to control, eradicate and prevent the spread of declared weeds and environmental weeds.

The members of SCAGI are aware of the necessity for consistent follow up works for some years to ensure the success of the project. The effective lifetime of this WDMP will be for a period of ten years, with all stakeholders holding the opportunity to contribute to an annual review. It is recommended that a thorough milestone review should be undertaken at the five-year mark to test the efficacy of the plan. This document is designed to be a flexible planning tool for stakeholders and land managers to contribute details of the history of restoration works in this area as well as identifying priority works for the future. Its integrity is reliant upon the diligent reporting of works and outcomes by all stakeholders involved in this project, most especially the community back to the land manager – Crown Land Services, Department of Primary Industries, Parks, Water and Environment, Tasmania.

## 1.2 BACKGROUND, AIMS AND OBJECTIVES

The members of SCAGI aims for this project are –

- To restore the endemic native vegetation of the wetland.
- To protect and sympathetically enhance habitat for endangered fauna and flora.
- To restore the land values such that the area can be considered for reclassification to Seymour Conservation Area.
- To recreate a reserve that can be enjoyed for its natural and aesthetic values by the whole community including residents and visitors to the area.
- To reduce the need for future fuel reduction burns and thereby impacts on the local community.
- To bring a sense of pride to the local community through their involvement in this project.
- To encourage and facilitate local adjoining landowners to address their own weed management issues.

**Table 1 Activity Record**

DATE	STAKEHOLDER	ACTIVITY	FUNDING	RESULT
Pre 1995	CLD	The site was part of Crown Lands that had a grazing license held on it.		Inspection of the site by Crown Lands Officer reports that “there are few exotic weeds present and the area generally is in very good condition.”
2002	PWS	Report		Weeds in the Seymour area listed as Gorse, Blackberry, Lupin & Pampas
October 2003	Seymour Conservation Group with PWS Ranger and contractor “On Road Off Road Pty Ltd” and CVA volunteers	Gorse Munching	NHT Grant	Infestation area estimated to be 20-23Hectares. 12 Ha of Gorse was munched. Group planned to undertake follow up cutting and pasting to be completed with revegetation works.
July 2004	Seymour Conservation Group with PWS Ranger	Reveg	NHT Grant	1000 plants of local provenance planted
April 2005	PWS Ranger with contractor Rod Bowerman	Herbicide spraying	PWS	10 Hours spraying completed
2010	PWS Ranger & contractor undertake Gorse work in nearby Seymour Conservation Area	Gorse bulldozed and burnt	PWS	Gorse bulldozed and burnt



DATE	STAKEHOLDER	ACTIVITY	FUNDING	RESULT
2014	PWS Ranger has on site visit discussions with BODC & NRM Weed Management Officers	Discussions around possible community engagement.		Gorse equally spread on Public Reserve and private land not much on CA. Spanish Heath on edge on Public Reserve and road edge (sprayed)
Pre 2016	Local Community Members	Cutting and pasting Gorse	NRM & BODC	Some minor control
August 2016	Parks & Wildlife Service / Crown Land Services	Fuel reduction burn	PWS	Area of Gorse burnt - 14Ha. Germination and regrowth of Gorse seed bank – 8Ha
November 2016	Break O’Day NRM, Green Army, SCAGI	Gorse regrowth survey	NEBN, NRM, BODC, PWS	Map showing the effect of the burn on Gorse regrowth and native veg
14 – 20 February 2017	DPIPWE Crown Land Services Grant	CLS authorization for works Munching & spraying gorse	\$2000	Munching & spraying completed 3Ha
22 February 2017	Earth Ocean Network grant	Long standing partnership	\$500	Increased awareness through publicity in local publication
Applied 28 February 2017	NRM North Community grant application for funding \$5000	Munching & spraying of gorse by contractor & cutting & pasting by SCAGI	\$	Pending
20 March 2017	Todd Dudley Ecological Restoration Consultant	Consultation on methodology	NEBN	Summary of Methodology
21 March 2017	DPIPWE Crown Land Services Grant & Authorisation for works – SCAGI with Contractor	Munching & spraying of gorse by contractor	From previous grant 14/02/17	Munching & spraying completed 2.5Ha
8 May 2017	Break O Day Council Community Grant & SCAGI	Replace Wetlands Sign & restore and delineate wetlands parking area. Any remaining funds to go on gorse eradication	\$5000	Delineate & expand carpark, sign being manufactured to be installed in August 2017

DATE	STAKEHOLDER	ACTIVITY	FUNDING	RESULT
4 April 2017	BODC Weed Management Officer & Contractor Tim Reid	Herbicide spraying	BODC	Gorse sprayed on southern road verge Champ Street
4 April 2017	SCAGI Working Bee	Cut & paste Gorse amongst remnant veg	NEBN donation of tools, safety glasses, gloves, herbicide, dabbers.	North side of wetland cut and pasted
Applied 27 April 2017	Suez Community Grant	Munch & spray	\$15000	Pending
27 April 2017	SCAGI	Working Bee		Cut & paste of Gorse on edge of wetland on the North West side
30 May 2017	DPIPWE Crown Land Services Grant & Authorisation for works – SCAGI with Contractor	Munching & spraying of gorse by contractor	From previous grant 14/02/17	Munching & spraying completed 2.5Ha
16 June 2017	BODC NRM Officer & Green Army Volunteers	Cut & paste herbicide	NEBN, NRM, BODC, PWS	Herbicide application to Gorse southern side of site
Current Application	DPIPWE Crown Land Services	Munching & spraying	\$	Pending
27 July 2017	Suez Community Grant	Munch & spray	\$15000	Unsuccessful
18 August 2017	Break O Day Council Community Grant & SCAGI	Daniel Steiner installs the new Wetlands sign in the car park area	From previous grant 08/05/2017	Installation of the sign completes the carpark restoration works
20 August 2017 – 30 August 2017	Tasmania Fire Service (Bicheno Brigade)	Attend a peat fire which has escaped from private property	TFS	The fire burns private property and crown land within the project area, in the vicinity of the junction of Champ & Montagu Street but is eventually extinguished
20 August 2017	SCAGI Quentin & Kez Smith, K & A De Jonge, D Steiner & M Manton NRM A Hugo & P Buchorn PWS F Everts	SCAGI meeting with NRM & PWS to discuss ongoing funding for works	\$9000	SCAGI members contribute \$9000 to complete munching works NRM funds are secured with restriction on amount of money to be paid to contractors

DATE	STAKEHOLDER	ACTIVITY	FUNDING	RESULT
30 August 2017	TFS Fuel Reduction Unit (Sandy Wight) through PWS Fire Management Branch	Munching & spraying	\$3500	Release of grant monies for munching of regrowth
04 September 2017	NEBN Todd Dudley, SCAGI Daniel Steiner & Green Army	Cut & paste Gorse  Weed surveying & tagging	Labour	Area treated – south side of Champ St road verge  Area surveyed – West side of beach access track
04 September 2017	SCAGI Kez Smith, Daniel Steiner, NEBN Todd Dudley, PWS Fee Everts, Lucy Norton	Meeting to discuss funding and site inspection	Labour	Inspection of plan area and other impacting land management issues including potential removal of derelict caravans & dump site
06 September 2017	SCAGI Daniel Steiner & Melissa Manton	Cut & paste Gorse & Lupin	Labour	Area treated Wetland buffer to NW to Templestowe Beach
09 September 2017	SCAGI Daniel Steiner & Melissa Manton	Rubbish removal	Labour	Many bins of rubbish removed and taken to Bicheno WMC from area of crown land recently burnt by fire
11 September 2017	Green Army	Cut & paste Gorse	Labour	Area treated south side of Champ Street
03 October 2017	NRM North	Confirmation of NRM North Community grant monies	\$5K	Funds provided for mulching contractor \$1.5K, balance for fencing, Information Day, chemicals and chem handling
05 October 2017	Tas Eco Mulching Rob Selwood	Mulching / Munching Gorse	Mulching - SCAGI \$9K Donation & TFS \$3.5K grant, NRM Nth \$1.5K Accom for R Selwood provided by Q & K Smith	Final munching commenced on all dead and burnt Gorse to the north and west of the already mulched areas, he started on the eastern side of the Templestowe Beach access track
06 October 2017	Tas Eco Mulching Rob Selwood SCAGI Quentin Smith	Mulching Gorse & spot cutting & pasting Gorse	Mulching - SCAGI \$9K & TFS \$3.5K / In kind support (accom) Q & K Smith SCAGI labour	Completed mulching all areas east of the Templestowe Beach access track Spot cutting & pasting regrowth on eastern mulching perimeter in native veg zone



DATE	STAKEHOLDER	ACTIVITY	FUNDING	RESULT
07 October 2017 – 08 October 2017	Tas Eco Mulching Rob Selwood SCAGI Quentin & Kez Smith	Mulching & Rubbish removal	Mulching - SCAGI \$9K Donation & TFS \$3.5K grant Accom for R Selwood provided by Q & K Smith Mulching covered by TFS grant SCAGI labour	Areas to the west of the Templestowe Beach access track being progressively mulched Spot treatment continues in native veg areas, old tree guards & other rubbish items removed and taken to Bicheno WMC
09 October 2017	Tas Eco Mulching Rob Selwood	Mulching	Mulching - SCAGI \$9K Donation & TFS \$3.5K grant Accom for R Selwood provided by Q & K Smith	All mulching completed except for small area in NW corner of plan area where access strips were mulched to enable future spraying \$9K Donation monies expended, \$3.5K TFS grant expended, \$? Other funds?
11 October 2017	Green Army SCAGI Quentin Smith	Removal of previously treated Gorse Spot Spraying	Labour	Previously treated Gorse removed from ? site Spot Spraying of Gorse continues in native veg zone
12 October 2017	Bob Oates	Drone photography	Funding Q Smith / In kind support R Oates	Photography of entire plan site included completed mulching works
15 October 2017	Green Army SCAGI Quentin Smith	Removal of damaged fencing materials	Labour	Burnt and damaged fencing materials removed from site previously burnt by fire in August of 2017
26 October 2017	GSBC Amanda Brooks SCAGI Quentin Smith	Spraying of Gorse	Labour 8 hours	Area treated both sides of Templestowe Beach access track
04 December 2017	SCAGI David Quon	Supply of equipment	Loan of equipment	David Quon agrees to lend his sprayer unit to SCAGI for use on Crown Land

DATE	STAKEHOLDER	ACTIVITY	FUNDING	RESULT
06 December 2017	BODC Chris Hughes	Grant acquittal	SCAGI Quentin Smith	Acquittal of \$5K Grant from the BODC Community Grant refer 08/05/17. 95% of the burnt Gorse mulched, spot spraying in native veg areas, car park restoration works completed & new wetlands sign installed.
10 December – 11 December 2017	GSBC Jarrod Maclain SCAGI Quentin Smith	Spot spraying of Gorse & Blackberry	Loan of equipment D Quon Labour SCAGI & GSBC Chemical SCAGI, NRM Nth & PWS	Area treated – edges of mulched Gorse, taller regrowth areas
14 December 2017	SCAGI Melissa Manton	Spot spraying of Blackberry	Loan of equipment M Manton Labour SCAGI Chemical M Manton	Area treated – both sides of Templestowe Street where the fire burnt in August of 2017
15 December 2017	SCAGI Daniel Steiner GSBC Jarrod Maclain	Spot spraying of Gorse & Blackberry	Loan of equipment D Quon Labour SCAGI & GSBC Chemical SCAGI, NRM Nth & PWS	Area treated – edges of mulched Gorse, taller regrowth areas
21 December 2017	SCAGI Melissa Manton	Spot spraying of Blackberry	Loan of equipment M Manton Labour SCAGI Chemical M Manton	Area treated – both sides of Templestowe Street where the fire burnt in August of 2017
24 December 2017	SCAGI Melissa Manton	Spot spraying of Blackberry	Loan of equipment M Manton Labour SCAGI Chemical M Manton	Area treated – both sides of Templestowe Street where the fire burnt in August of 2017
28 December 2017	SCAGI Quentin Smith	BODC Community Grant app.	Labour SCAGI	Grant application for \$5K prepared ready for submission to council

DATE	STAKEHOLDER	ACTIVITY	FUNDING	RESULT
02 January 2018	BODC	BODC Community Grant Application	Labour SCAGI	Grant application for \$5K submitted to council
05 January 2018	All Weed Solutions Maurice Snare SCAGI Quentin Smith	Quote	Labour SCAGI	Quotation obtained from contractor for boom spray of mulched areas including spot spraying & follow up. Quote amount \$4K
7 January 2018	SCAGI Daniel Steiner & Quentin Smith	Mapping of sprayed areas	Labour SCAGI	Map prepared of sprayed areas to be provided to Boom spray contractor
23 January – 24 January 2018	All Weed Solutions – 2 people	Spot spraying & boom spraying of previously mulched Gorse & boundaries	Funding SCAGI / Chemical PWS	Areas of Gorse originally burnt, then mulched being boom & spot sprayed, areas bounded by native veg also spot sprayed.
21 February 2018	SCAGI	Renew Landcare Membership	Labour SCAGI	Membership renewed till 21/02/19. Insurance cover to 01/04/19
21 February 2018	Hydro Community Grant	Grant application \$5K	Labour SCAGI	Grant application submitted for spraying and reveg works
23 February 2018	Crown Land Services Grant and GOA (Grant of Authority)	Grant application \$5K and request for GOA	Labour SCAGI	Grant application submitted for follow up spraying, completion of mulching and reveg works including request for GOA to do so
05 March 2018	All Weed Solutions – 1 person	Continuation of works commenced 23/01/18	Funding SCAGI / Chemical PWS	Areas of Gorse originally burnt, then mulched being boom & spot sprayed, areas bounded by native veg also spot sprayed.
03 April 2018	All Weed Solutions -	Continuation of works commenced 23/01/18	Funding SCAGI / Chemical PWS	Follow up spraying finished. \$4K funds expended.

This WDMP aims to provide a detailed methodology for mitigating and managing impacts associated with the presence, emergence and spread of weeds, throughout the project.

The objectives of the Weed and Disease Management Plan are to:

Record the distribution of weeds declared under the Weed Management Act 1999.

Record the distribution of significant, non-declared, environmental and agricultural weed species.

Record the presence and distribution of pathogens.

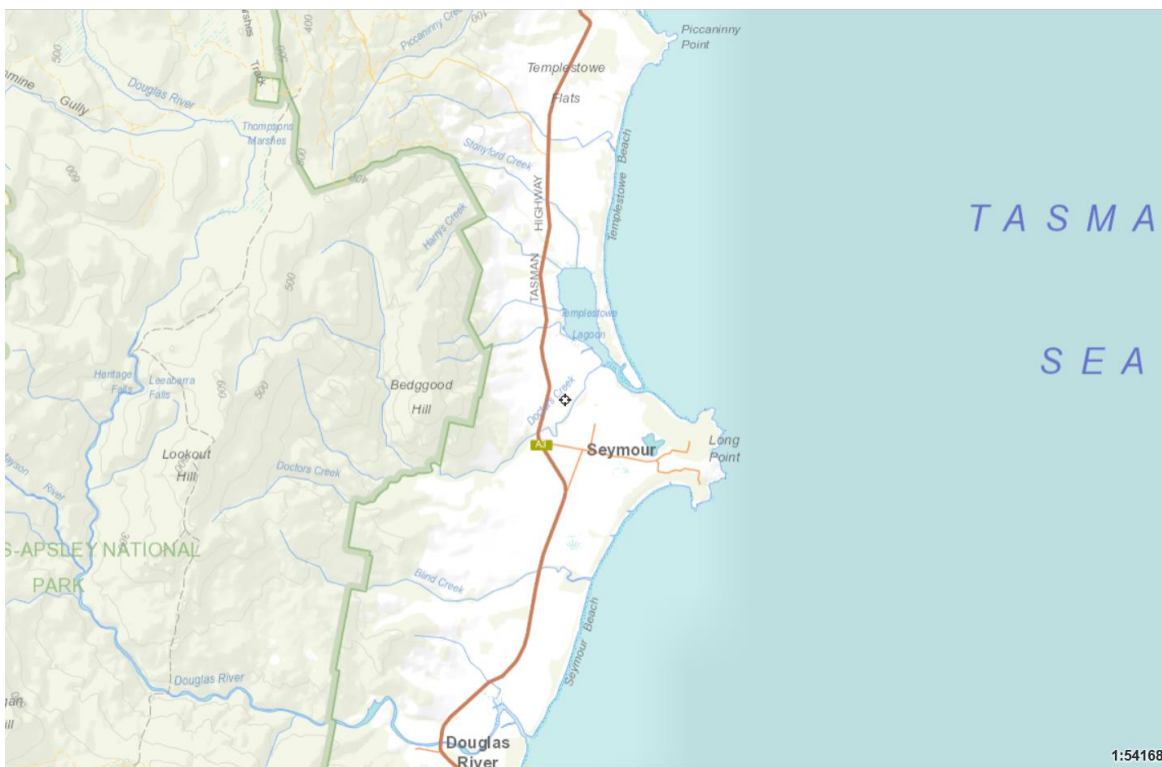
Provide control measures for identified weeds and pathogens and prevent new weeds and pathogens from establishing and spreading.

Establish an ongoing monitoring and control program for weeds and pathogens into the future for the site.

### 1.3 SITE DESCRIPTION AND LOCATION

The site is located to the West of the township of Seymour on the East Coast of Tasmania. The land tenure is Crown Land - Public Reserve. The site is abounded by a mixture of private land tenure and coastal conservation area.

List Map showing location of Seymour on Tasmania's East Coast



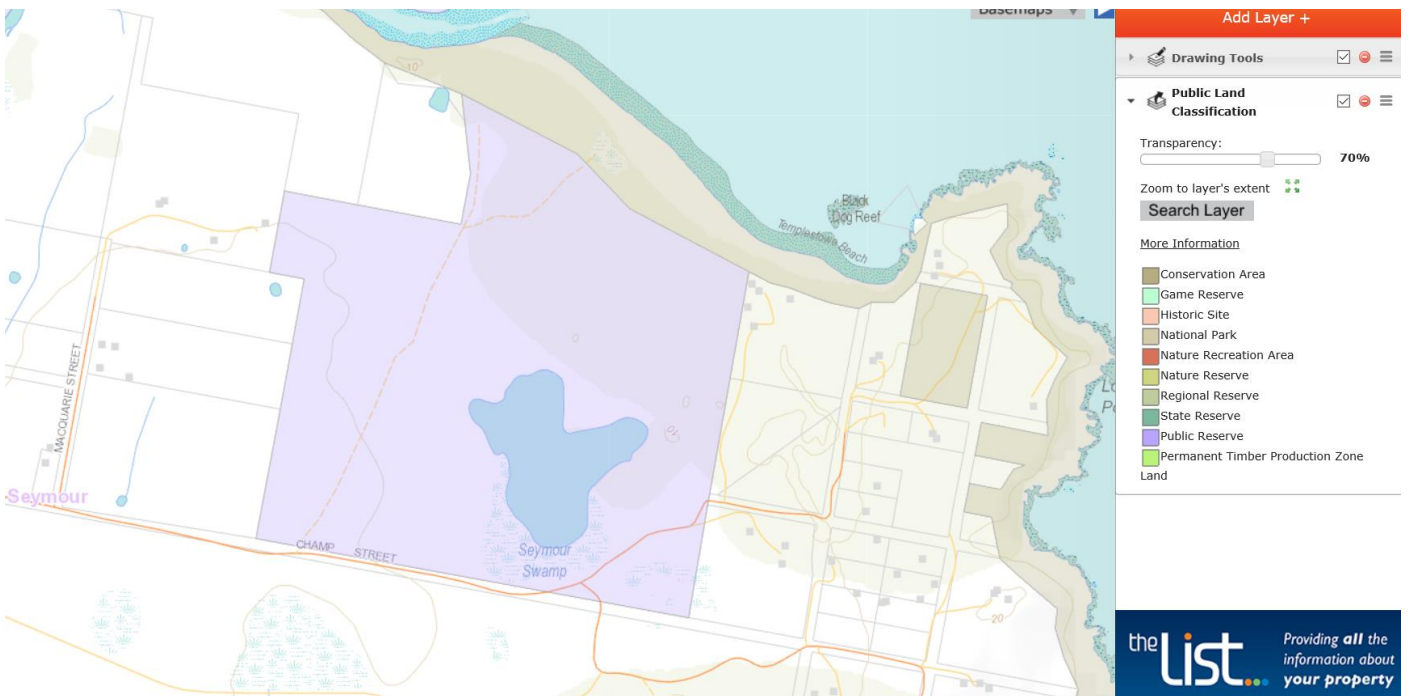
List Map of Seymour Swamp and township of Seymour



Google map showing vegetation types



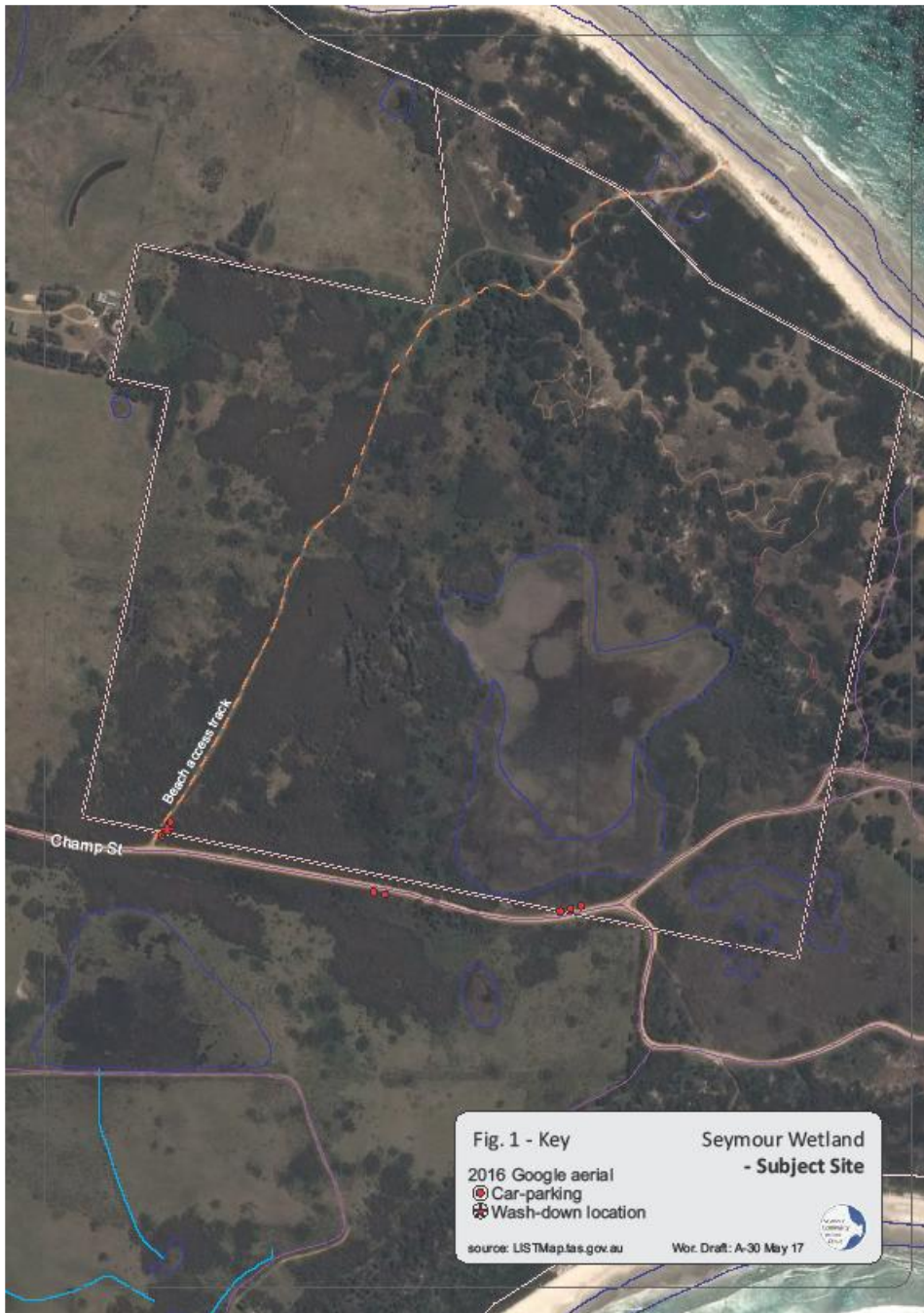
List map showing land tenure





General access to and from the site is obtained off Champ Street via the 4WD track which crosses over Conservation area closer to the coast. Parking is located in the small parking area and a phytophthora wash down area has been designated near the junction of the Beach Access Track and Champ Street.

Refer to Figure 1 below





## 1.4 SUPPORTING DOCUMENTS AND CONSULTATION

Review of the site through the Natural Values Atlas revealed below on Table 2

**Table 2 NVA Report Results**

Criteria	Results of Report
Phytophthora management zones	No features found
Tas Vegetation	Acacia longfolia and coastal scrub
Threatened Fauna	Identified nearby Wedge Tailed Eagle <i>Aquila audax</i> Endangered (unofficial) & Green and Gold Frog <i>Littoria raniformis</i> vulnerable
Threatened Vegetation Communities	Melaleuca ericafolia swamp forest (NME) & Freshwater Aquatic Sedgeland and Rushland (ASF)
Wetland Values	Low values recorded for southern end of swamp
Weeds	Gorse <i>Ulex europaeus</i> Sharp Rush <i>Juncus acutus</i> Blackberry <i>Rubus fruticosus</i> Spanish Heath <i>Erica lusitanica</i>

Other supporting documents include –

“Break O’Day Coastal Lagoon Assessment 2009” North Barker Ecosystem Services.

“Seymour Swamp Ecological Restoration Project 20 March 2017 incl Brief Summary of Methodology” Todd Dudley, Ecological Restoration Consultant, President North East Bioregional Network Inc.

“Seymour freshwater wetland reserve – gorse and fire hazard management - Gorse regrowth survey – 3 months after burn” Break O’Day NRM, NEBN, PWS, Green Army and Seymour Community Action Group volunteers.

## 1.5 GLOSSARY

**Table 3 Glossary**

Abbreviations	Definitions
BODC	Break O’Day Council
CA	Conservation Area
DPIPWE	Department of Primary Industries, Water and Environment
EON	Earth and Ocean Network
NEBN	North East Bioregional Network Inc
NRM	Natural Resource Management
NVA	DPIPWE’s Natural Values Atlas
PC	Phytophthora cinnamomi
PWS	Parks and Wildlife Service
SCAGI	Seymour Community Action Group Inc
WDMP	Weed and Disease Management Plan
WMC	Waste Management Centre

## **2. LEGISLATION, STRATEGIES AND PLANS**

Grant of Authority - Crown Land Services 14/02/2017

Break O'Day Coastal Lagoon Assessment, December 2009 – North Barker Ecosystem Services

Weed Management Act 1999, Declared Weeds

Gorse, National Best Practice Manual 2006 - Australian Government National Gorse Taskforce

Seymour Swamp Ecological Restoration Project; Brief Summary of Methodology 2017 – Todd Dudley

Draft Statewide General Management Plan 2013; Northeast Reserve Reports – Parks and Wildlife Service, DPIPW

WONS Weed Management Guides and Strategic Plans – Australian Government

Keeping it Clean – A Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens

Weed and Disease Planning and Hygiene Guidelines – Invasive Species Branch Dept. of Primary Industries, Parks, Water and Environment

## **3. EXISTING AND POTENTIAL WEED AND DISEASE ISSUES**

Weeds, diseases and other pests have the potential to establish and/or spread across the project site during works. Increased weed colonization could potentially have some impact on the ecological values of adjacent remnant vegetation through displacement of native species and degradation of fauna habitat.

Weeds may be introduced and spread by contractor's vehicles or by contaminated equipment brought into the construction area (Vehicles, machinery, equipment, clothing and boots).

Refer to Figure 1 on page 15 for details of parking and wash down area.

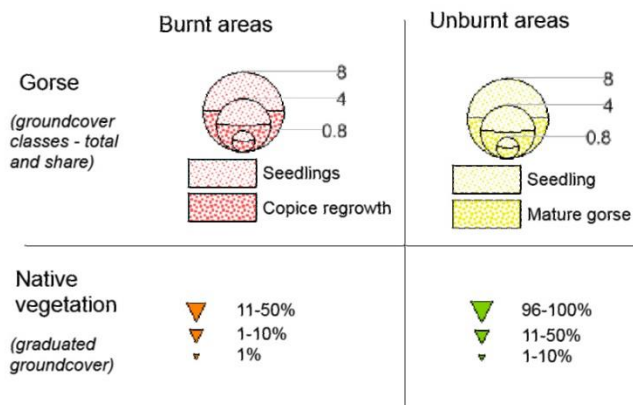
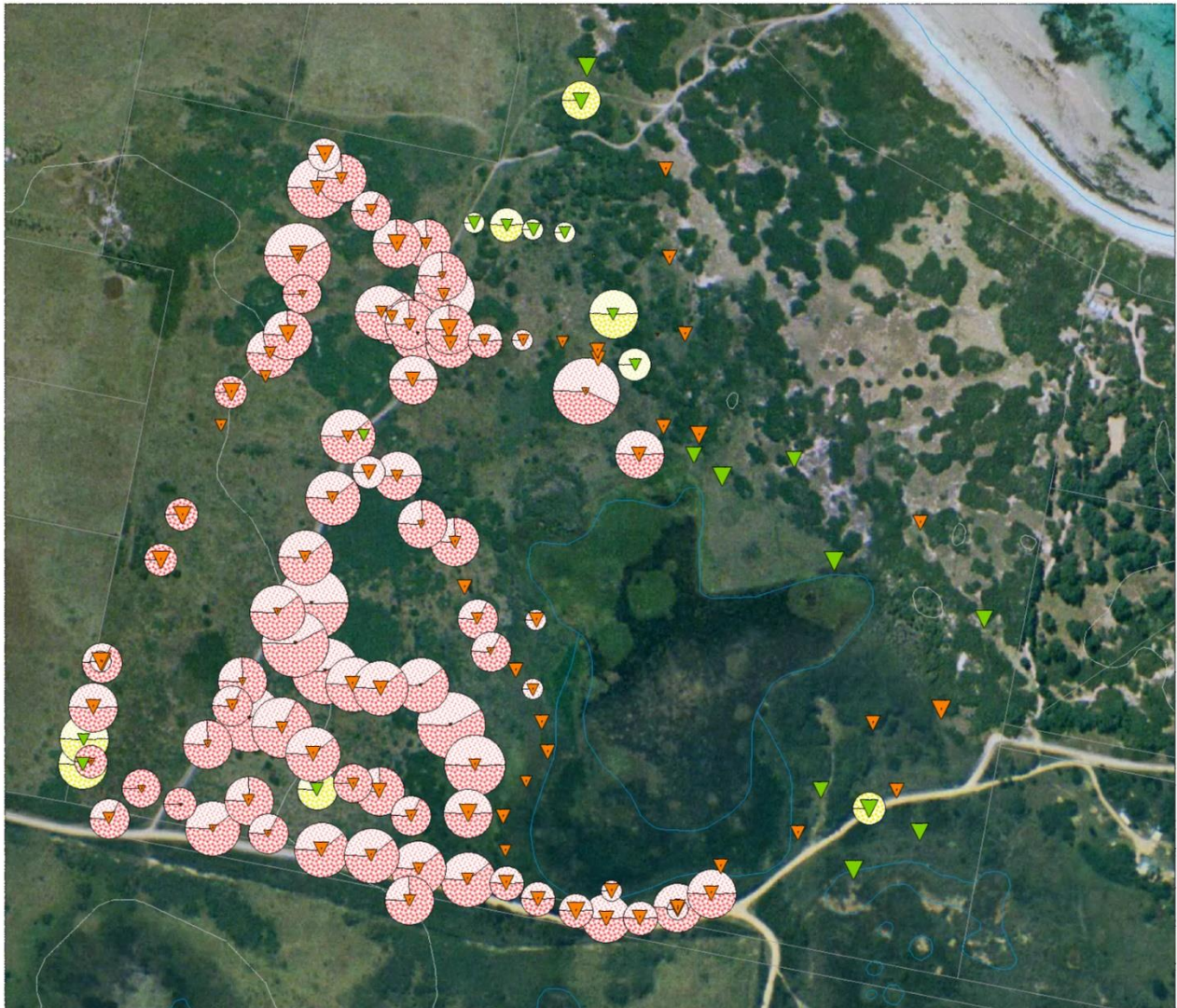
### **3.1 RECORDED WEED SPECIES**

In November 2016, Break O'Day NRM in partnership with NEBN and PWS undertook mapping of the wetland site post burn with assistance from the Green Army and volunteers from SCAGI. The map below Figure 3NRM "Seymour Freshwater Wetland Reserve – gorse and fire hazard management" identifies Gorse in line with National best practice models.

Figure 3NRM

Seymour freshwater wetland reserve - gorse and fire hazard management

*Gorse regrowth survey - 3 months after burn*



Fuel (gorse) reduction burn 25/8/16 by PWS for CLS.

Gorse mapping 29-11-16 by Break O'Day NRM, Green Army and Seymour Community Action Group volunteers and NRM North.



Base image by TASMAP ([www.tasmap.tas.gov.au](http://www.tasmap.tas.gov.au))

Base data from theLIST ([www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)),

© State of Tasmania



In May of 2017, Daniel Steiner from SCAGI undertook mapping of the entire site. Amongst the maps produced Figure 4 below identifies the densest major Gorse infestations.



Other maps produced by Daniel identify known weed species present within the site plan. Further mapping of species other than Gorse is planned by PWS in August of 2017 to coincide with monitoring reporting planned for September 2017.

**Declared Weeds:**

Gorse – *Ulex europaeus*

Blackberry – *Rubus fruticosus* aggregate

Spanish Heath – *Erica lusitanica*

Montpellier Broom – *Genista monspessulana*

Pampas Grass – *Cortaderia* spp.

Declared weeds in Tasmania are plants that have been declared under the Weed Management Act 1999. The legislation requires that these species be controlled or eradicated according to the relevant statutory management plan.

5 species of declared weeds were recorded during the survey and/or identified from other sources. Numbers and coverage of plants of some of these species require further mapping as Gorse has been the primary focus to date. Refer to Figures 3 on page 21 and Figure 3NRM on page 18.

Detailed management strategies for declared weeds are provided in the table below.

**Environmental Weeds**

Sharp Rush - *Juncus acutus*

Yorkshire Fog Grass – *Holcus lanatus*

Paspalum – *Paspalum dilatatum*

Rats Tail Grass – *Sporobolus africanus*

Although many common weeds are not listed under legislation, and are therefore not legally required to be controlled they have the potential to pose a threat to the ecological and agricultural assets present in the project area and interfere with different stages of the restoration.

4 Species of environmental weeds were recorded during the survey and/or identified from other sources. The number and coverage of these weeds is yet to be determined, as Gorse has been the priority focus to date. Further mapping by PWS planned for August of 2017 to coincide with monitoring reporting planned for September 2017 will identify the extent of these known infestations as well as any new infestations.

Detailed management strategies for environmental weeds are provided in Table 4 below on page 18.

## Situation Report as at May 2017

Figure 3 below details the extent of known weed infestations as at May 2017.



The total area to undergo Gorse control works within the site is approximately 15.5 Ha. To date the area that has been munched is approximately 4 Ha. This means that the area remaining to be controlled at April 2017 is 11 Ha. There are some areas within this 11 Ha that do not require munching. There is a remaining 9 Ha of burnt Gorse still to be munched. There is also an area of unburnt Gorse to the North of these areas that will require herbicide application and munching.



Figure 5 indicates the priority zones (Map Zones) for the treatment of Gorse long term.





**Situation Report as at March 2018**

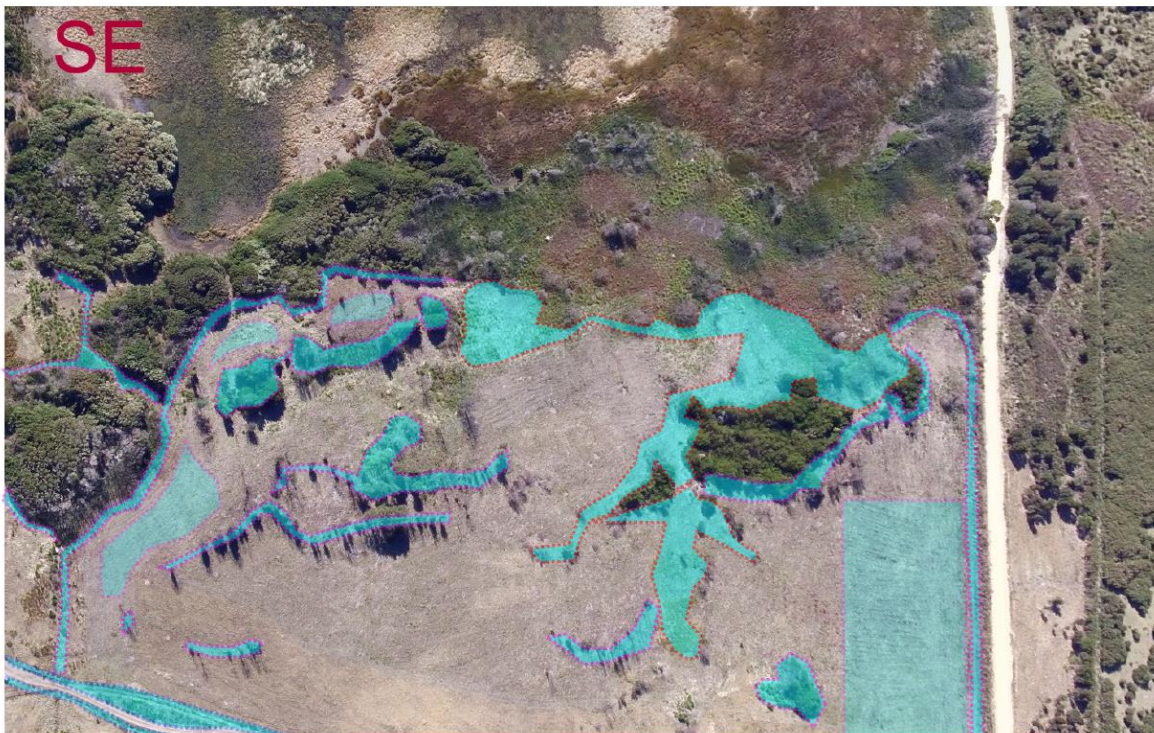
Following completion of works mainly to spray regrowth areas of Gorse, previously burnt and mulched the following maps were produced by D. Steiner and Q. Smith of SCAGI.



 Spot sprayed areas

(c) scagi7215@gmail.com - SCAGI January 2018

North East Sheet 1 of 4



South East Sheet 2 of 4





 Spot sprayed areas

(c) scagi7215@gmail.com - SCAGI January 2018

South West Sheet 3 of 4



North West Sheet 4 of 4

#### Table 4 Weed Distribution

The table below should be viewed in conjunction with Figures 3 on page 16 and Figure 3NRM on page 13 and Figure 5 on page 17 for Map zoning

Common Name	Scientific Name	Status	Municipal Zone A or B	Map Zones
Gorse	<i>Ulex europaeus</i>	Declared	B	A-E
Blackberry	<i>Rubus Fruticosis</i>	Declared	B	A B
Spanish Heath	<i>Erica lusitanica</i>	Declared	B	A
Montpellier Broom	<i>Genista monspessulana</i>	Declared	B	To be determined
Pampas Grass	<i>Cortaderia spp</i>	Declared	B	A
Sharp Rush	<i>Juncus acutus</i>	Environmental	B	A
Yorkshire Fog Grass	<i>Holcus lanatus</i>	Environmental	B	AC
Paspalum	<i>Paspalum dilatatum</i>	Environmental	B	AC
Rats Tail Grass	<i>Sporobulus africanus</i>	Environmental	B	AC
Lupin		Environmental	B	AC

### 3.2 RECORDED DISEASES OR SYMPTOMS

Due to the presence of species such as the Green and Gold Frog, *Banksia marginata* and *Xanthorrhoea* a great deal of care must be taken to ensure that appropriate site controls are in place at all times, as these species are extremely vulnerable to attack from Chytrid Frog Disease and *Phytophthora cinnamomi* (PC) respectively.

Refer to Figure 1 on page 15 for Site hygiene management.

Appropriate site controls include:

- Parking area outside of the contamination zone to reduce vehicle/machine spread of any contaminants.
- Site Induction and safety briefing of any individuals including contractors who are involved in works on site before commencement of works.
- Identification and use of a washdown station for vehicles and machinery prior to commencement of any works. Washdown station to include the use of water sourced from a potable council approved supply to reduce the risk of spread of Chytrid frog disease to protect habitat of the Green and Gold Frog.
- Identification of hot spots for the spread of any existing pathogens/disease and limiting travel through or onto those areas. For example, the 4WD track that extends from Champ Street through the swamp area to the coastline, this track is subject to water inundation during winter rainfall and becomes muddy and prone to erosion resulting in an increased risk of transference of weed seeds and other plant material.
- Reduce any disturbance of soil and vegetation on the site to reduce the spread of weeds to areas that are barren of vegetation.
- Avoid creating tracks near *Xanthorrhoea*.

- Utilise “frog friendly” herbicides wherever and whenever possible, for example Roundup Biactive<sup>®</sup>, Weedmaster Duo<sup>®</sup>.
- Site areas to burn cut weed material onto bare areas of ground such as road pull offs or turning circles rather than onto areas where vegetation is being rehabilitated to avoid fire scar.

These measures will be implemented to ensure that causing pathogens such as PC and amphibian Chytrid fungus are not introduced to the project area, and if detected, within the project area, that quarantine measures will be instigated to ensure that it is contained.

The main activities at risk of introducing or spreading Phytophthora and Chytrid include:

- Through soil, sand gravel or other materials attached to vehicles and machinery used as part of the restoration works.
- Importing water or soil, sand and gravel material for construction purposes (e.g. roading, landscaping, filling, bedding, etc.)
- Spreading the pathogen/disease from infected sites (contaminated) to uninfected (clean) sites.

#### 4. MANAGEMENT PRIORITIES

Priorities for management of weeds at the Seymour Swamp site are included in the table below

**Table 5 Options for Weed Management**

Management Zone	Weed	Control Method	Chemical	Timing	Frequency of Control
ABCDE	Gorse	Munching	N/A	Year round	1 treatment with follow up and monitor and respond in subsequent years
ABCDE	Gorse	Spray application / cut and paste	Glyphosate	Flowering July to October.  Spring to Early Summer for herbicide application	1 treatment with follow up and monitor and respond in subsequent years
AB	Blackberry	Spot spray, remove cut material and burn when dry	Roundup Bioactive near waterways / Garlon can be used on less sensitive areas	Sept to April for herbicide application burning pending fire weather conditions	1 treatment with follow up
A	Spanish Heath	Double bag any heads of flowering plants and solarize. Remove small seedlings by hand pulling following rain.	Glyphosate	Early Autumn for herbicide application	1 treatment with follow up

		Cut and paste larger plants with Glyphosate.			
A	Pampas	Double bag any heads of flowering plants and solarize. Cut back large plants, allow to reshoot effectively to carry herbicide then apply Glyphosate.	Roundup Biactive	Flowering late Summer, Autumn and Spring.  November to April for herbicide application	1 treatment with follow up
To be determined	Montpellier Broom	Cut and paste or hand pull small plants following rain events	Triclopyr (avoid use near watercourses)	Sept – Dec (Spring) for herbicide application	1 treatment with follow up
AC	Lupin	Hand pull small plants or cut and paint.	Glyphosate	Early spring for herbicide application	1 treatment with follow up
AC	Rats Tail Grass	Hand weeding or spot spraying	Roundup Biactive	Nov – Jan (Early Summer) for herbicide application	1 treatment with follow up
AC	Yorkshire Fog Grass	Hand weeding or spot spraying	Roundup Biactive	Nov – Jan (Early Summer) for herbicide application	1 treatment with follow up
AC	Paspalum	Hand weeding or spot spraying	Roundup Biactive	Nov – Jan (Early Summer) for herbicide application	1 treatment with follow up
A	Sharp Rush	To be determined after mapping assessment			

## 5. MANAGEMENT AND CONTROL OF WEEDS AND DISEASES

Priorities for the management of weeds on the site were primarily taken from the Methodology provided by Todd Dudley. Consultation with both the Natural Resources Management Weed Officer and the Break O’Day Council Weed Management Officer have been undertaken.

Following fuel reduction burning in February of 2017 the members of SCAGI formally engaged Todd Dudley, Ecological Restoration Consultant and President of the North East Bioregional Network Inc to devise a brief summary of methodology for the ongoing project. See below.

## Brief Summary of Methodology

1. Areas of good native natural regeneration identified.

Weeds in these areas will be carefully spot sprayed or cut and painted to assist natural regeneration and minimise damage to native vegetation. Weeds and natural regeneration will be monitored. Follow up weed control will be carried out where necessary. If natural regeneration is inadequate some planting or direct seeding of local provenance plants may be considered.

2. Areas that are dominated by Gorse identified. These areas will be “munched”. The purpose of the munching is to knock down the standing dead or reshooting Gorse bushes so that access for follow up weed maintenance is much easier. After munching, the area will be monitored for weed regrowth and will be sprayed at the appropriate time seeking to avoid impact to any native regrowth where possible. It is anticipated that follow up will be required for a few years afterwards to exhaust the seedbank. Once the Gorse has been satisfactorily controlled revegetation strategies include protecting any natural regeneration, encouraging the spread of natural regeneration from the good areas into the munched areas, direct seeding and planting of local provenance species.
3. There are some other areas of Blackberry infestation which are accessible and need to be sprayed.
4. Professional contractors will be employed to undertake the munching and most of the spraying.
5. Some smaller more manageable areas will be used by the Group to conduct working bees/Field Days (i.e. cut and painting small areas where there is Gorse growing in predominantly native vegetation)

Todd Dudley

Ecological Restoration Consultant

OBO Seymour Community Action Network Inc.

---



## 5.1 HYGIENE, SAFETY & OTHER CONSIDERATIONS

Refer to Figure 1 on page 15 for Site plan of key management zones

The table below identifies risks and mitigation strategies to address those risks.

<b>Risk</b>	<b>Mitigation strategies</b>	<b>Who</b>
Spread of new weeds / PC from other areas within the management zone / erosion.	Minimise vehicular travel within the management zone, particularly during the wetter months of the year as main access track is vulnerable to erosion. Careful monitoring of roadsides and turn in points. Ensure wash down procedures are adhered to. If materials (gravel, water, rocks) must be imported onto the site to undertake works ensure they are from clean sources.	All personnel on site
Spill of chemical into wetland area	Follow SDS sheets for chemicals especially disposal methods. Wherever possible utilize frog friendly chemicals.	Volunteer Leaders, participants, contractors
Injury resulting from unsafe participation in works	All participants to undertake a site-specific safety briefing and adhere to actions from Job Risk Analysis / SDS information sheet. Develop a clear communications plan (check in & check out) for each working event and always work in pairs. Have two forms of communications on hand on site.	Volunteer Leaders, participants, contractors
Reinfestation resulting from lack of access to planning documentation	Ensure good records are kept of chemical usage and other works and share this information with other stakeholders	Volunteer Leaders, stakeholders, land managers
Destruction of habitat, loss of species	Gorse that was not affected by fire during the 2016 burning represents potential habitat for native animals. Large scale removal of this burnt vegetation, especially during the bird breeding season is not best practice. It is preferable to wait for some significant increase in regrowth of standing native vegetation before any large-scale removal takes place. Interim measures such as removal of seed bearing heads and treatment with herbicide are preferable in these circumstances.	Volunteers and Volunteer Leaders
Unanticipated discovery of Aboriginal Cultural Heritage such as sites and objects	During works it is possible that contractors and workers on site may come across sites / objects of Aboriginal Cultural Heritage values. If this is the case, then works on the entire site should cease immediately. Volunteer Leaders should then follow the actions as outlined in the "Unanticipated Discovery Plan" advice from Aboriginal Heritage Tasmania that is attached to this document.	Volunteers and Volunteer Leaders



## 6. COMMUNICATION AND REPORTING

All stakeholders including contractors to have a copy of this WDMP so they are aware of their responsibilities.

Key communications are held through toolbox meetings at the start of each community working bee or contractor commencing works on site.

Strategies include posting information on the SCAGI website. Including details on proposed works as well as linking to works that have been completed previously.

Temporary signage will be installed at the car parking area to explain the project and any works that may be in progress on the site to visitors and locals. Signage will be updated as works progress. Signage will include information on how people can contribute to assist the aims of the project.

SCAGI to contribute articles to the Bicheno Forward community newsletter promoting the project and encouraging community involvement.

PWS to distribute electronic copies of this plan to all stakeholders linked with the project.

PWS to upload copy of this plan onto the electronic Asset Management System so that any future works in the area do not adversely impact on the project.

Plan to be reviewed annually by stakeholders and updated in July of each year. Updated plans to be disseminated to key stakeholders including community groups and government agencies.

## 7. MONITORING

The table below indicates the timeframe, responsibility, reporting procedure and subsequent possible actions for monitoring of the site.

**Table 6 Monitoring Schedule**

Timeframe	Responsibility	Reporting Procedure	Actions
Annually May	PWS (DPIPWE) & SCAGI	To Ranger in Charge Freycinet (delegate for Crown Land Services)	<u>Gorse</u> : Identify effectiveness of previous spraying/munching. Remap boundary of infestation. Plan control priorities / methods for June to Feb. <u>Lupin</u> : Map, plan control priorities / methods for June to Aug. <u>Blackberry</u> : Map, plan control priorities / methods for Sept to Oct.
Annually July	PWS (DPIPWE) & SCAGI	To Ranger in Charge Freycinet (delegate for Crown Land Services)	<u>Update Plan</u> – Gorse Eradication Strategy for Seymour Wetlands Restoration. Circulate to stakeholders.

Annually September	SCAGI	To Ranger in Charge Freycinet (delegate for Crown Land Services)	<u>Montpellier Broom</u> : Map, plan control priorities / methods for Sep to Dec.
Annually December	SCAGI	To Ranger in Charge Freycinet (delegate for Crown Land Services)	<u>Pampas</u> : Map, plan control priorities / methods for March to May. <u>Montpellier Broom</u> : Map, plan control priorities / methods for Jan to Feb.

**Table 7 Strategic Action Plan for July 2017 to June 2018**

Listed in order of priority

Timeframe	Management Zone	Action	Note	Cost estimates
June 2017	A	Cut and paste or spot spray Gorse around wetland and along roadside Champ Street, plus areas of good regrowth within the Gorse infested area	Commenced	
Sept 2017	ABCDE	Remove flowering heads from any known Pampas plants.	Commenced	
Aug/Sept 2017	B (Burnt & partially munched)	Refer to Figure 3 Page 21. Munch burnt Gorse and spray any regrowth in area adjacent to 4WD track on southwestern boundary indicated by two green vertical lines. (1.1Ha)	Contractor 1 day @ \$1500	\$1500
Aug/Sept 2017	C (Burnt, Sparse infestations)	C – Cut and paste	PWS Herbicide / SCAGI Labour	
Aug/Sept 2017	E (Unburnt)	Munch Gorse and spray herbicide (1Ha)	Contractor 1 day @ \$1500	\$1500
Aug/Sept 2017	D (Burnt)	Munch Gorse and spray herbicide (2.5 & 2.8Ha)	Contractor 4 day@\$1500	\$6000
Aug/Sept 2017	ABC (Burnt)	Boundary of ABC munch Gorse and spray any regrowth	Contractor 1 day @ \$1500	\$1500
2017 Early Spring	E	Northern section of 4WD track grub out or cut and paint Lupins	Labour SCAGI	
Aug/Sept 2017	ABCDE	Mapping of species other than Gorse	PWS in kind support	
Sept 2017 – Apr 2018	AC	Spot spray Blackberry infestations	PWS Herbicide / SCAGI Labour	
Dec 2017	ABCDE	Reporting schedule	All	
2018 Mar & Oct	ABCDE	Follow up from 2017 work – cut and paste Gorse regrowth In both burnt & unburnt areas, map larger Gorse infestations for contract work. In areas with good native	Supply of chemical PWS / Labour SCAGI	

		regrowth judiciously cut and paint or spot spray Gorse		
2018 Mar & Oct	ABCDE	Follow up from 2017 work – contract spray herbicide	Contractor 4 days @ \$1500	\$6000
July 2018		Review WDMP & plan, prioritise revegetation works	PWS	
Feb 2019	ABCDE	Collect seed of local providence and engage nursery to propagate seedlings for planting in Autumn of 2020	PWS	
2019 Mar & Oct	ABCDE	Follow up from 2017 work – cut and paste Gorse regrowth In both burnt & unburnt areas, map larger Gorse infestations for contract work. In areas with good native regrowth judiciously cut and paint or spot spray Gorse	Supply of chemical PWS / Labour SCAGI	
2019 Mar & Oct	ABCDE	Follow up from 2017 work – contract spray herbicide	Contractor 3 days @ \$1500	\$4500
July 2019		Review WDMP	PWS	
2020 Mar & Oct	ABCDE	Follow up from 2017 work – cut and paste Gorse regrowth In both burnt & unburnt areas, map larger Gorse infestations for contract work. In areas with good native regrowth judiciously cut and paint or spot spray Gorse	Supply of chemical PWS / Labour SCAGI	
2020 Mar & Oct	ABCDE	Follow up from 2017 work – contract spray herbicide	Contractor 2 days @ \$1500	\$3000
May 2020	ABCDE	Commence revegetation works	SCAGI / PWS	\$200
July 2020		Review WDMP	PWS	
2021 Mar & Oct	ABCDE	Follow up from 2017 work – cut and paste Gorse regrowth In both burnt & unburnt areas, map larger Gorse infestations for contract work. In areas with good native regrowth judiciously cut and paint or spot spray Gorse	Supply of chemical PWS / Labour SCAGI	
2021 Mar & Oct	ABCDE	Follow up from 2017 work – contract spray herbicide	Contractor 1 day @ \$1500	\$1500
July 2021		Review WDMP	PWS	
2022 Mar & Oct	ABCDE	Follow up from 2017 work – cut and paste Gorse regrowth In both burnt & unburnt areas, map larger Gorse infestations for contract work. In areas with good native regrowth judiciously cut and paint or spot spray Gorse	Supply of chemical PWS / Labour SCAGI	
2022 Mar & Oct	ABCDE	Follow up from 2017 work – contract spray herbicide	Contractor 1 days @ \$1500	\$1500
July 2022		Strategic Critical Plan Review	PWS	
				<b>\$27 200</b>

## 8. IMPORTANT CONTACTS

NAME	ROLE	CONTACT
Quentin Smith Kerryn Smith Daniel Steiner	SCAGI President SCAGI Secretary SCAGI Treasurer	Ph 03 6375 1410 <a href="mailto:scagi7215@gmail.com">scagi7215@gmail.com</a> scagi7215@gmail.com
Alison Hugo	Regional Landcare Facilitator	Tuesday to Thursday Ph 03 6333 7788 ahugo@nrmnorth.org.au
Polly Buchorn	BODC – NRM Officer North	Ph 0459 678 200
Greg Stewart	NRM North Weed Control Officer	Ph 0429 365 003 gstewart@nrmnorth.org.au
Todd Dudley	Ecological Restoration Consultant, President North East Bioregional Network Inc	Ph 03 6376 1049 telopea_tas@yahoo.com.au
Phillip Thompson	Regional Property Officer (North), Parks & Wildlife Service	Ph 03 6777 2165 Phillip.Thompson@parks.tas.gov.au
Fiona Everts	Ranger Freycinet, Parks and Wildlife Service	Ph 0457 758 2332 Fiona.Everts@parks.tas.gov.au
Tim Reid	Tim Reid Agricultural Spraying & Weed Control	Ph 0418 139 655
Heather Worby	BODC Weed Officer	Ph 0428 549 912
David Quon	Stakeholder Seymour	Ph 0407 512 582 davidquon@bigpond.com
Peter Stronach	LandCARE	support@landcaretas.org.au
Tas Echo Mulching	Rob Selwood	Ph 0439 116 472

