



Reserve Activity Plan

2013 - 2018

PILCHERS HILL BUSHLAND RESERVE

ADVICE PREPARED BY
TASFLORA FOR THE
CLARENCE CITY COUNCIL
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1 BACKGROUND

Pilchers Hill Bushland Reserve (the Reserve) is located at the western end of the Middle Meehan Range on Hobart's eastern shore. It is owned and managed by Clarence City Council (Council).

The Reserve covers an area of approximately 162 hectares of bushland, including Pilchers Hill. It is valued by locals for its bushland setting and extensive track network which is used for a range of recreational activities. The Reserve also forms part of the 'scenic rim' of vegetated hills on Hobart's eastern shore which creates an important visual landscape connection of bushland areas from the foreshore to ridges in the Clarence municipality.

The Reserve forms part of the Middle Meehan Range, for which a management plan was prepared in 1997 (Sinclair Knight Merz 1997). With the exception of fire management plans (eg AVK Environmental Management 2011a), no specific on ground activity plans have been produced for the Reserve. Tasflora has been engaged by Council to develop a Reserve Activity Plan for the Reserve, including the development of an implementation plan identifying immediate and ongoing management priorities for the Reserve to be undertaken during the period 2013-2018.¹

The recommendations contained within this *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* are intended to provide guidance for on ground activities that can be implemented by Council and/or volunteers (eg Flagstaff Gully Landcare Group, local residents). It is acknowledged that it may not be possible to undertake all recommended activities due to resource constraints; rather the intent of this plan is to provide a guide to management concepts and outcomes that could be achieved if sufficient funding can be obtained.

2 OBJECTIVES

The objectives of the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* are to:

- ensure the Reserve is sustainably managed to preserve and enhance its natural, cultural and social values;
- identify priority management activities to be undertaken within the Reserve by Council and/or volunteer groups as resources become available during the period 2013-2018; and
- encourage community engagement through raising awareness of the Reserve's values and encourage participation in activities to minimise threats to these values.

¹ The *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* falls under Council's *Clarence Bushland and Coastal Strategy*, which summarises plans and strategies relevant to Reserves within the Clarence municipality.

3 SITE DESCRIPTION

The area covered by the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* is illustrated in Figure 1.² The Reserve is predominantly zoned as Landscape and Skyline Conservation under the *Clarence Planning Scheme 2007* (Clarence City Council 2011), with a small area zoned as Special Use near Flagstaff Gully Reservoir.

The Reserve is predominantly comprised of native bushland traversed by an extensive network of unsealed tracks. There are five main Council managed entrances to the Reserve, as illustrated in Figure 1. A transmission easement runs through the Reserve between Geilston Creek Road and Flagstaff Gully Road, and there is a water tower at the top of Pilchers Hill. The Reserve is bounded by residential development to the west and south, bushland on undeveloped private lots to the north, and Flagstaff Gully Reservoir and a large quarry to the east (refer Figure 1).

4 SITE VALUES

4.1 Native flora

Typical native vegetation in the Reserve is illustrated in Figures 2-3. Six native vegetation communities occur throughout the Reserve across several geological substrates (AVK Environmental Management 2011a; DPIWE 2013; Sinclair Knight Mertz 1997). Two of these communities are of high conservation significance, as summarised at Appendix 1.

Several plants occurring in the Reserve are of high conservation value, including the Risdon peppermint (*Eucalyptus risdonii*; refer Figure 4), tall wallaby grass (*Rytidosperma indutum*), gentle rush (*Juncus amabilis*) and shade peppergrass (*Lepidium pseudotasmanicum*). Further information on these threatened species is provided at Appendix 1.

4.2 Native fauna

The native vegetation within the Reserve provides habitat for a range of native animal and bird species, including mammals, birds, reptiles and invertebrates. Local residents have reported seeing wombats, wallabies, potoroos and bettongs in recent years, and there is habitat within the Reserve to support the threatened Tasmanian devil (*Sarcophilus harrisii*) and eastern barred bandicoot (*Perameles gunnii*). Further details about these species are provided at Appendix 1.

Birds are prevalent in the Reserve, with a recent survey by a member of Birdlife Tasmania recording 44 species, including robins, bronzewing pigeons, flycatchers, cuckoos, and brown goshawks. The Reserve contains suitable habitat for the endangered swift parrot (*Lathamus discolor*) and Tasmanian masked owl (*Tyto novaehollandiae* subsp. *castanops*) (refer Appendix 1).

² The area covered by this Reserve Activity Plan differs slightly to that covered by the Reserve's Bushfire Management Plan (AVK Environmental Management 2011) as a portion of land east of Flagstaff Gully reservoir has since been sold by Council.



Figure 1: Area covered by the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018*, including Reserve entrances E1-5 (aerial photograph provided by Clarence City Council).



Figure 2: Typical native vegetation in the Reserve.



Figure 3: Typical native vegetation in the Reserve.



Figure 4: The threatened Risdon peppermint (*Eucalyptus risdonii*), which is found in the Reserve.

The Reserve contains a range of habitats which are important for supporting a diversity of native wildlife. A variety of canopy layers, dead trees and hollow logs provide nesting and foraging habitat for birds and mammals. Fallen timber and leaf litter provide important habitat for reptiles and invertebrates, which in turn provide a food source for larger animals.

The presence of wildlife in the Reserve is valued by local residents, and ongoing management of a diversity of habitats has been identified as an important management issue.

4.3 Cultural heritage

The Middle Meehan Range Management Plan (Sinclair Knight Mertz 1997) does not document any important European cultural heritage sites within the Reserve.

No important Aboriginal heritage sites have been previously recorded within the Reserve (Samuel Dix, Aboriginal Heritage Tasmania, pers. comm. 2013). However, there are a number of Aboriginal heritage sites in the area and it is likely that the Reserve was traversed by the Mumirimina band of the Oyster Bay tribe. Maynard (1997) notes that Faggs Gully Creek, which passes through the Reserve, may have been used by Aborigines as an access route to and from the Derwent River and could be a zone of high sensitivity for Aboriginal heritage sites.

Under the Tasmanian *Aboriginal Relics Act 1975* (the Aboriginal Relics Act), it is an

offence to 'destroy, damage, disfigure, conceal, uncover, expose, excavate or otherwise interfere with a relic' unless a permit has been granted. It is therefore important to ensure that no artefacts, cave/shelter sites or other cultural material are exposed or disturbed without a permit during Reserve management activities. In the event that an Aboriginal artefact or cave/shelter site is inadvertently uncovered, an Unanticipated Discovery Plan should be implemented immediately and the items reported to Aboriginal Heritage Tasmania for advice.³

4.4 Recreational values

The Reserve is used for a range of recreational activities by local residents and visitors, including walking, jogging, dog exercise, mountain biking, orienteering and rogaining. The Reserve is currently a designated off-lead dog exercise area under Council's Dog Management Policy, although dogs must remain under effective control.

4.5 Education values

There is a history of community commitment and enthusiasm for caring for the Reserve through the Flagstaff Gully Landcare Group. The activities of this group provide an opportunity to share knowledge and promote community education of the Reserve's natural values and potential threats to these.

4.6 Landscape setting and connectivity

Connectivity between areas of bushland provides an important ecological link for flora and fauna to enable gene flow between populations and to allow animals to move across the landscape for foraging, nesting and breeding. The Reserve is linked to the Meehan Range State Recreation Area, Thoona Bushland Reserve and Lindhill Bushland Reserve via native vegetation on private land which provides an important connection for the movement of flora and fauna.

The Reserve also provides a significant bushland backdrop to Geilston Bay and maintains an important visual landscape connection of bushland areas from the foreshore to ridges on Hobart's eastern shore.

This landscape setting and connectivity is important for the long term viability of Clarence's bushland areas and ongoing visual amenity in the municipality. It is important that these linkages be preserved and strengthened through strategic land use planning.

5 STAKEHOLDER CONSULTATION

A public meeting and community 'walk and talk' session was facilitated by Council and Tasflora on 10 February 2013. The purpose of the session was to seek input from local residents, the Flagstaff Gully Landcare Group and other relevant stakeholders on values and management issues associated with the Reserve. A

³ An official Unanticipated Discovery Plan is available from Aboriginal Heritage Tasmania (www.aboriginalheritage.tas.gov.au).

survey seeking comments on the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* was also provided to identified stakeholders. A summary of issues raised during this stakeholder consultation is provided at Appendix 2.

The draft *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* was released for community consultation in July 2013. A Pilchers Hill Bushland Reserve Report Card was developed as a key tool in encouraging stakeholder feedback on the draft plan and was mailed out to residents and other interested stakeholders. One submission was received during the consultation period.

Where possible, all relevant community feedback received during this process has been considered in the development of the plan. However some issues identified during the consultation process are beyond the scope of the plan or pertain to management issues outside the Reserve. These issues have been noted by Council and will be addressed through other processes where feasible.

6 WEED MANAGEMENT

6.1 Weed species present

Environmental weeds occur throughout the Reserve and are a key management issue affecting its natural values. While much primary weed control work has been undertaken by the Flagstaff Gully Landcare Group and contractors to control large weed infestations, follow-up maintenance activities will be required for many years.

A list of environmental weed species occurring in the Reserve, including their status and recommended control methods, is provided at Appendix 3.⁴ To assist with identification, a picture of each weed species is also provided. Several weed species found in the Reserve are classified as declared weeds under the *Tasmanian Weed Management Act 1999* (the Weed Management Act) and/or Weeds of National Significance (WONS). Where possible, these weeds will be targeted as a priority to prevent their further spread. The distribution of declared and other environmental weed species is illustrated in Appendices 4-5.

6.2 Recommendations for primary weed control work

Primary weed control work within the Reserve should focus on declared weeds (to fulfil Council's obligations under the Weed Management Act) and other environmental weeds whose distribution is currently limited. It is envisaged that declared weeds could be eradicated from the Reserve if sufficient resources are available to implement an ongoing maintenance program over several years.

Initial priority should be given to controlling blackberry, Spanish heath, pampas grass and horehound due to their presently limited distribution in the Reserve. There is also limited penetration by non-declared woody weeds (refer Appendix 5) and these should also be controlled as a priority to prevent their further establishment. In particular, the isolated population of stinkwort growing in Faggs Gully Creek in gravel washed down from the neighbouring quarry should be treated

⁴ A general overview of weed control techniques is available at:
http://www.nrmsouth.org.au/uploaded/287/15130842_66weedsbookletfinalweb.pdf

to prevent its further spread within the Reserve and to neighbouring bushland areas.

Recommendation 1: Priority should be given to controlling blackberry, Spanish heath, pampas grass, horehound, stinkwort and isolated non-declared woody weeds.

Control of boneseed, gorse and Montpellier broom will require ongoing maintenance over several years due to the likely significant soil seed bank of these species. Significant primary work has previously been undertaken by the Flagstaff Gully Landcare Group and contractors to reduce infestations of gorse and boneseed in the Reserve, and ongoing annual maintenance of areas already targeted should be undertaken prior to undertaking new primary control (refer Section 6.4). Any new primary work should aim to control isolated populations of these weeds before targeting larger infestations.

Recommendation 2: Isolated patches of boneseed, gorse and Montpellier broom should be targeted prior to tackling larger infestations.

Weed control undertaken by Council workers and contractors should focus on controlling weed infestations that are beyond the capabilities of the Flagstaff Gully Landcare Group.

In addition to the above weed control priorities, the Reserve's Bushfire Management Plan (AVK Environmental Management 2011a) notes that weed control activities should be integrated with planned burning activities in the Reserve. Management Procedure 8 (MP8) in Council's bushfire Best Practice Management Guidelines (AVK Environmental Management 2011b) recommends that:

- mature woody weeds in areas to be burnt should be controlled so that rootstocks are dead prior to burning;
- any herbicide treatment (including spot spraying or cut and paste) of weeds in areas to be burnt should be completed at least three months prior to planned burns to ensure that death and desiccation of plants has occurred; and
- following burning, weed seedlings and weeds regenerating from rootstocks should be treated promptly to ensure native seedlings are not outcompeted.

Recommendation 3: Weed control should be undertaken prior to and following planned burns.

6.3 Non-priority weed species

Broadleaf weeds and exotic grasses are not considered a priority for control except in revegetation areas and where their removal is desirable as part of an ongoing general Reserve maintenance program (eg along track edges).

Recommendation 4: Control of exotic grasses and broadleaf weeds is only required in revegetation areas and where necessary as part of a general Reserve maintenance program.

6.4 Maintenance of weed control work

Regeneration of weeds in the Reserve is likely to continue for many years due to the existing seed bank in the soil and the fact that some weed species have an inherent ability to resprout following primary control. Planned burns or bushfires are also likely to encourage germination of new weeds. Weed control activities will not be successful unless a commitment is made to undertaking ongoing follow-up maintenance activities.

Maintenance of primary weed control work should be undertaken annually, preferably in spring and summer when plants are least likely to be dormant. This can be achieved by performing an annual sweep to remove all new germinants of previously targeted weeds and undertake follow-up control on any plants that may have resprouted. Ongoing annual follow-up will be required until the soil seed bank is exhausted.

Recommendation 5: An annual sweep and follow-up control of all previously targeted weeds should be undertaken.

GPS weed mapping of all environmental weeds occurring within the Reserve has been undertaken during the development of this plan. In order to monitor the success of the weed control program, follow-up GPS weed mapping should be undertaken after five years to assess progress and facilitate planning of future weed control activities. As well, GPS mapping by contractors and volunteers as they control weeds should be encouraged, with data to be provided to Council to enable its database to be updated.

Recommendation 6: Follow-up GPS mapping of all weeds in the Reserve should be undertaken after five years to monitor progress and inform future weed control priorities.

7 REGENERATION AND REVEGETATION

7.1 Regeneration

Where possible, natural regeneration should be encouraged within the Reserve as the most cost effective and natural means of maintaining the structure of vegetation communities, enhancing species diversity and restoring the Reserve's original vegetation in areas where disturbance has occurred. Apart from weed control, management activities in areas of native vegetation should be limited to encourage the natural regeneration process.

In May 2013, rehabilitation of disturbed areas was undertaken following installation of a new pipeline through the Reserve. This included revegetation with native species and laying of dead vegetation and slash to create a suitable environment for natural regeneration occur. Ongoing maintenance will be required to ensure successful regeneration of native species in these areas.

Recommendation 7: Council should liaise with TasWater to develop a five year maintenance program to ensure successful revegetation and assisted natural revegetation in areas disturbed by pipe laying activities.

7.2 Revegetation activities

The primary purpose of undertaking new revegetation activities in the Reserve is to preserve and enhance existing areas of remnant native vegetation, provide habitat for native birds and animals, and improve the visual amenity for users of the Reserve. However, revegetation activities are resource intensive, and may interrupt the natural regeneration process already occurring within the Reserve.

Revegetation activities have previously been undertaken by the Flagstaff Gully Landcare Group at an old quarry site in the middle of the Reserve. Ongoing maintenance of the site has resulted in the successful establishment of native plants in this area.

Further large scale revegetation activities are not considered necessary in the Reserve. However it may be desirable to undertake some planting along Faggs Gully Creek following control of the dense gorse infestation in this area to enhance the visual amenity of this area and reduce the risk of erosion until natural regeneration occurs. Where possible, plants should be grown from the seed or cuttings of plants local to the area to ensure local variants of plants are planted.⁵

Recommendation 8: Revegetation should be considered following control of dense gorse infestations along Faggs Gully Creek.

Native landscaping is also recommended to improve the visual amenity of several entrances (refer Section 10).

Revegetation activities will not be successful unless a commitment is made to undertake follow-up maintenance activities. In particular, it is important to ensure that sufficient resources are available for ongoing maintenance (eg weeding, watering) before establishing new sites.

Recommendation 9: New revegetation and native landscaping activities should not be committed to unless sufficient resources are available to undertake ongoing regular maintenance of newly planted areas.

8 FAUNA HABITAT MANAGEMENT

A variety of canopy layers, dead trees, hollow logs, fallen timber and leaf litter are required to provide important habitat for wildlife, including mammals, birds, reptiles and invertebrates. Leaf litter and dead wood are often viewed as a fire risk in bushland reserves located in urban areas. However, it is important that fauna habitat requirements are considered when planning future bushfire management activities in the Reserve.

⁵ An overview of best practice revegetation and regeneration techniques has been produced by Greening Australia Victoria (2003) and is available at http://live.greeningaustralia.org.au/nativevegetation/pages/pdf/Authors%20C/13_Corr.pdf

Recommendation 10: Fauna habitat requirements should be considered when planning bushfire management activities in the Reserve.

Uncontrolled domestic dogs and cats have the potential to harass or kill native wildlife. The Reserve is currently a designated off-lead exercise area (with dogs to remain under effective control) under Council's Dog Management Policy. Appropriate information should be included on signs at main entrances (refer Section 10) to inform users of their responsibilities when walking dogs within the Reserve to help prevent harassment of native wildlife. Council promotes responsible cat ownership, and will continue to encourage local residents to meet their obligations under the *Cat Management Act 2009* through having their cats microchipped, desexed and under effective control (eg indoors at night).

9 VEGETATION AND FAUNA MONITORING

A full flora species list has not been compiled for the Reserve. It would therefore be desirable to:

- undertake an in-depth botanical survey of the current species composition of the Reserve;
- update mapped locations of threatened species on DPIPWE's Natural Values Atlas; and
- use vegetation transects in conjunction with Council's planned annual aerial photography program to undertake vegetation composition and condition assessments on an annual basis.

Recommendation 11: A flora survey and annual vegetation composition and condition assessments should be undertaken to further inform on ground management activities.

Fire activity in the Reserve (both planned and unplanned) has had a significant impact on the Reserve's vegetation composition. Council proposes to install five permanent vegetation monitoring plots within the Reserve to monitor annual regrowth following prescribed burning proposed for 2016.⁶ Once established, each plot should be assessed annually for regeneration growth and the results analysed to inform ongoing adaptive fire and vegetation management activities.

Recommendation 12: Vegetation monitoring plots should be established prior to undertaking prescribed burns and monitored annually.

It is recommended that additional photo points be established at several other locations within the Reserve to facilitate monitoring of vegetation condition and annual regeneration growth.

Recommendation 13: Photo points should be established at several locations within the Reserve to facilitate monitoring of annual regeneration growth.

⁶ The permanent vegetation monitoring lots will be located within VMU7, as defined in the Reserve's Bushfire Management Plan (AVK Environmental Management 2011a).

The Reserve contains habitat for a range of wildlife species, and it is expected that species diversity could increase with appropriate vegetation management practices and effective control of cats and dogs by local residents and dog walkers. Fauna surveys (including mammal, bird, reptile and invertebrate surveys) and habitat assessments to confirm the species present in the Reserve are recommended to be undertaken now and in five years (ie 2013 and 2018) as a basis for monitoring species diversity over time. Bird surveys should be undertaken in conjunction with BirdLife Tasmania using standard BirdLife Australia monitoring techniques.

Recommendation 14: Fauna surveys of the Reserve should be undertaken in 2013 and 2018 to further inform on ground management activities.

An analysis of all completed flora surveys, vegetation composition assessments and fauna surveys should be undertaken in 2018 to determine trends and implications for ongoing vegetation management in the Reserve. This should be undertaken in conjunction with a review of the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* scheduled for 2018 (refer Section 16).

Recommendation 15: An analysis of all completed flora surveys, vegetation composition assessments and fauna surveys should be undertaken in 2018 to determine trends and inform future management activities.

10 RESERVE ENTRANCES

There are currently five entrances to the Reserve managed by Council, as illustrated in Figure 1. Reserve entrance E2 off Eurobin Street is currently undeveloped with no formal track access into the Reserve.

A survey of the use of the main entrances (E1, E3 and E4) was undertaken in late 2012 and early 2013 to obtain an understanding of the relative use of these entrances. Each entrance was surveyed over a period of seven days using a light beam counter. The survey found that all entrances are used regularly (refer Appendix 6 for full survey results).

Key management issues identified for the Reserve's entrance points are summarised in Table 1. The main entrances (E1, E3 and E4) are located adjacent to public streets and creation of formal parking areas is not considered necessary within the next five years. No closure of existing entrances is proposed.

Recommendation 16: Reserve entrances should be improved by installing signage, undertaking native landscaping and preventing unauthorised access by vehicles and trail bikes.

11 TRACKS AND TRAILS

The Reserve's track network is comprised of numerous managed fire trails, as well as a number of informal foot and mountain bike tracks which are maintained through regular usage. Existing tracks are utilised by a range of users, including fire brigade vehicles, service vehicles, mountain bikes and pedestrians.

Track signage was identified as a key management issue during the community

Table 1: Recommended management activities to be undertaken at Reserve entrances.

Issue	Description	Recommendation
Signage	Low key, clear signage is needed at each main Reserve entrance, including: <ul style="list-style-type: none"> the name of the Reserve maps of the track network information on dog walking no trail bike signs visitor interpretation (refer Section 14) 	Implement Pilchers Hill Bushland Reserve Signage Plan (refer Section 11 and Appendix 7) Develop identifying names for Reserve entrances E1, E3 and E4
Pedestrian access	No formed pedestrian access to the Reserve through E2	Create formed pedestrian access at E2 in conjunction with proposed Eurobin Track (refer Section 11)
Vehicle and trail bike access	Trail bikes have been observed gaining access through main entrances	Assess cost of installing metal post-and-rail boom gates and pedestrian gates at main entrances
Visual amenity	Most entrances would benefit from landscaping activities and/or regular maintenance of long grass and weeds to improve their visual amenity	Enhance the Reserve's existing maintenance program to ensure regular weeding and slashing is undertaken at all Reserve entrances Undertake landscaping with native plants at E1, E3 and E4 as per concept landscape plans detailed in Appendices 8-10 Develop a thematic landscaped entrance design for E2 in conjunction with construction of proposed Eurobin Track (refer Section 11)

consultation period. A Signage Plan has been developed for the Reserve which identifies key track routes and planned signage (refer Appendix 7). Installation of directional signs and arrows has been completed for the Geilston Gully Circuit Track, Quarry Track, Lindhill Track and Pilchers Hill Track. It is also proposed that a map of the track network be installed at all Reserve entrances (refer Section 10).

Several vehicle trails are considered necessary for bushfire management and require maintenance and upgrades (eg widening, installing appropriate drainage measures, repairing track surfaces etc) to meet their assigned vehicle usage class. These are identified in Table 8 of the Reserve's Bushfire Management Plan (AVK Environmental Management 2011a). Many of these upgrades will also facilitate surface stability issues that have been reported along several tracks.

Recommendation 17: Track upgrades and maintenance activities recommended in the Pilchers Hill Bushfire Management Plan should be implemented as a priority.

Mountain biking is popular on the Reserve's tracks, and there is the potential to create cross country linkages with the Meehan Range track network. The Reserve's mountain biking opportunities will be included in the development of a Meehan Range mountain bike strategy being considered by Council, Parks and Wildlife Service and Dirt Devils.

Other key management issues identified with the Reserve's tracks and trails are summarised in Table 2.

Table 2: Track management issues identified within the Reserve.

Issue	Description	Recommendation
Signage	There is no directional signage at track junctions or maps of the Reserve's track network	Continue to implement the Pilchers Hill Bushland Reserve Signage Plan (refer Appendix 7) which identifies proposed location of directional signage
	A 4-5km running loop could be identified for recreational joggers unfamiliar with the Reserve	Identify a 4-5km running loop along existing tracks (to be identified by coloured markers on existing directional signage)
Track condition	Several vehicle trails necessary for bushfire management do not meet their assigned vehicle usage class and are also causing issues for pedestrian access (eg drainage problems, erosion, surface damage)	Implement track upgrades and maintenance activities as per the Pilchers Hill Bushfire Management Plan
Reserve access	There is no formal track from Reserve entrance E2 to access the Reserve	Construct a new track from Reserve entrance E2 to the junction of the Pilchers Hill Track and Lindhill Track (refer proposed Eurobin Track at Appendix 7)
	No formal linkage from the Reserve to the Meehan Skyline Trail	Construct a new track from the Geilston Gully Circuit Track to the Meehan Skyline Trail (refer Appendix 7)
	No easy pedestrian access from the proposed new subdivision in Flagstaff Gully Road	Construct a new track from the south east corner of the Reserve to Lindhill Track (refer Appendix 7)
Track closures	The track network is confusing in some places despite new signage	<p>Close minor or overgrown tracks (using dead wood/brush) in the following locations:</p> <ul style="list-style-type: none"> • between Robin Court and Walana Street • near the Reservoir on Pilchers Hill • immediately to the east of the stone bridge along the Geilston Gully Circuit Track

Recommendation 18: The Reserve's track network should be improved by installing directional signage, constructing three new tracks and closing some minor tracks.

12 INFRASTRUCTURE

There is currently limited community infrastructure within the Reserve, and the Reserve's natural environment would be preserved through minimising additional infrastructure installation.

While it is desirable to limit the number of large signs in the Reserve, some signage is considered necessary to help direct visitors who are unfamiliar with the Reserve. As discussed in Section 11, a Pilchers Hill Bushland Reserve Signage Plan has been developed by Council (refer Appendix 7) and is already being implemented.

Recommendation 19: The Pilchers Hill Bushland Reserve Signage Plan should be implemented to facilitate visitor access and interpretation.

Trail bike and unauthorised vehicle access is an ongoing problem in the Reserve and was a key issue identified during the community consultation process. Section 10 details enhancements planned at the Reserve's entrances aimed at preventing access through these routes. However, trail bikes have also been observed accessing the Reserve through gaps in fences at various locations around the Reserve's perimeter. An assessment should be undertaken of the Reserve's entire perimeter fencing (including private fencing) and a costed and prioritised fence upgrade program developed. As well, engagement with private landowners should be undertaken where access is suspected via private land.

Recommendation 20: A costed and prioritised fence upgrade program should be developed to prevent access by trail bikes and unauthorised vehicles.

The Reserve is a popular destination for dog walkers, and installation of dog waste bins and bag dispensers is recommended at all main entrances to encourage responsible behaviour by dog owners. All dog waste bins in the Reserve should be regularly maintained.

Recommendation 21: Dog waste bag dispensers and bins should be installed at each main entrance to the Reserve.

There is currently limited seating within the Reserve for recreational walkers using the track network. It is recommended that new outdoor seats be installed at strategic positions within the Reserve to encourage contemplation of the views and natural environment. Depending on the level of funding available, the following initial locations are suggested:

- near the stone bridge along the Geilston Gully Circuit Track; and
- near the junction of the Pilchers Hill Track and Lindhill Track.

Metal seats should be set into a concrete foundation and coloured to blend in with

the environment (ie seat painted green, natural looking material for the foundation surface such as rock or coloured concrete). Alternatively, seats could be constructed from natural stone to deter vandalism.

Recommendation 22: New outdoor seats should be installed at several locations in the Reserve.

Any installation of new infrastructure will be subject to funding. With this in mind, no additional infrastructure beyond that discussed above is recommended within the next five years unless significant funding becomes available. A further review of the infrastructure requirements of the Reserve should be undertaken in 2018.

Recommendation 23: A review of the infrastructure requirements of the Reserve should be undertaken in 2018.

13 EROSION AND SEDIMENTATION

The geology of the Reserve consists mainly of highly erodable substrates such as sandstone, mudstone and siltstone (Sinclair Knight Mertz 1997). Erosion and sedimentation can be observed throughout the Reserve, particularly along some tracks and in areas void of native vegetation. Instances of erosion identified as requiring immediate management attention are summarised in Table 3.

Table 3: Erosion and sedimentation management issues identified within the Reserve.

Issue	Description	Recommendation
Track erosion	Fire trails upgraded by Tasmania Fire Service (TFS) in early 2013 (to enable Meehan range access to wildfire around Caves Hill) have poorly constructed drains, resulting in loose sediment surfaces eroding and causing sedimentation deposits in adjoining bushland	Liaise with TFS to improve drainage on recently upgraded fire trails Incorporate ongoing recommendations into future review of the Pilchers Hill Bushfire Management Plan
	Many existing tracks have erosion gullies and eroding bare surfaces	Implement track upgrades and erosion control activities as per the Pilchers Hill Bushfire Management Plan Develop management measures for any eroding tracks not covered by the Pilchers Hill Bushfire Management Plan
Off site quarry erosion	Erosion occurring in the neighbouring quarry is washing weed-infested gravel into the Reserve's drainage lines (eg Faggs Gully Creek)	Liaise with quarry management to develop and implement diversion drainage or retention ponds to prevent sediment/gravel flows into the Reserve

Recommendation 24: Erosion control measures should be implemented to address track erosion and prevent sediment/gravel flows from the neighbouring quarry.

14 COMMUNITY PARTICIPATION AND AWARENESS

Community participation and awareness has an important role to play in protecting the natural, cultural and recreational values of the Reserve. In particular, education of residents living adjacent to the Reserve is desirable to foster behavioural change and encourage community ownership and appreciation of the Reserve's values.

Recommendation 25: Community education should be undertaken to facilitate behavioural change and encourage ownership and appreciation of the values of the Reserve.

Key issues requiring community awareness are summarised in Table 4. A letterbox drop to adjacent landowners with information on each of these issues is recommended as a first step to achieving community awareness and understanding of these issues. However, engagement with individual property owners may be required in instances of ongoing inappropriate activity (eg to manage encroachment).

Table 4: Management issues requiring community education and awareness within the Reserve.

Issue	Description
Garden waste dumping	Dumping of garden waste in the Reserve encourages the spread of weeds and is visually unattractive for all users.
Removal of native vegetation	Removal of native vegetation in the Reserve (eg to improve views, reduce bushfire risk, collect fire wood) is illegal. It encourages the establishment of weeds and reduces species diversity and animal habitat. Seed collection should only be undertaken with Council approval.
Encroachment	Some properties adjacent to the Reserve have 'adopted' the area next to their properties (eg by modifying vegetation)
Environmental weeds	Weeds in adjacent gardens pose a threat to existing native vegetation within the Reserve.
Bushfire management	Local residents should take action to reduce the bushfire risk of the vegetation on their properties
Wildlife	Trapping and relocation of native wildlife is not permitted
Cats and dogs	Cats and dogs can kill native wildlife. Cats should be microchipped, desexed and kept indoors at night. Dogs should remain under effective control at all times.

Interpretation signs provide an important opportunity to display information on the Reserve's natural values and the impact inappropriate activities can have on these.⁷ Interpretation signs are proposed at the following locations:

⁷ An example of the recommended standard of interpretation sign is located at the main entrance to Cremorne Beach, where the Pipe Clay Lagoon Coastcare Group has displayed information about the Reserve and their Group's current and planned activities.

- Reserve entrance E1 – trail map (including jogging circuit route), Meehan Range, flora and fauna values; and
- the junction of the Walana Track and Lindhill Track (refer Appendix 7) – trail map (including jogging circuit route), flora and fauna values, inappropriate activities, Flagstaff Gully Landcare Group activities.

Recommendation 26: Interpretation signs should be installed at two locations to facilitate visitor interpretation.

Much of the maintenance of the Reserve, particularly weed control activities, has to date been undertaken on a voluntary basis by members of the community through the Flagstaff Gully Landcare Group. The group meets on the first Saturday each month for working bees, and welcomes assistance from members of the community for on ground work, information sharing and monitoring activities in the Reserve.⁸ The installation of interpretation signs will provide the opportunity to promote the activities of the group. As well, individuals wanting to become involved in management activities outside of this group should be encouraged to contact Council directly.

15 IMPLEMENTATION PLAN

A map illustrating the location of on ground management activities recommended within the Reserve is provided at Figure 5. This is based on the key recommendations contained within this plan, which are summarised in detail at Appendix 11.

Based on these recommendations, an Implementation Plan with associated performance measures has been developed and is provided at Table 5. It identifies three stages of management activities to be undertaken within the Reserve:

- Priority 1 - immediate (6-12 months) management activities.
- Priority 2 – medium term (1-3 years) management priorities.
- Priority 3 – long term (5 years) management priorities.

The intent of the Implementation Plan is to provide a guide to outcomes that could be achieved within the Reserve by Clarence City Council, contractors and/or volunteer groups within the period 2013-2018 if sufficient resources are available. While it would be desirable to undertake all the recommended activities, it is acknowledged that this may not be possible due to resource constraints, and implementation will ultimately be guided by what is achievable with resources as they become available. Federal, State and Local Government grants programs may provide an opportunity to obtain resources to implement many of the recommendations contained within this report.

A review of progress against all performance measures should be undertaken annually during the period 2013-2018 to help prioritise available resources.

⁸ Details about the Flagstaff Gully Landcare Group's activities can be obtained by phoning Peter McGlone on 0406 380 545.

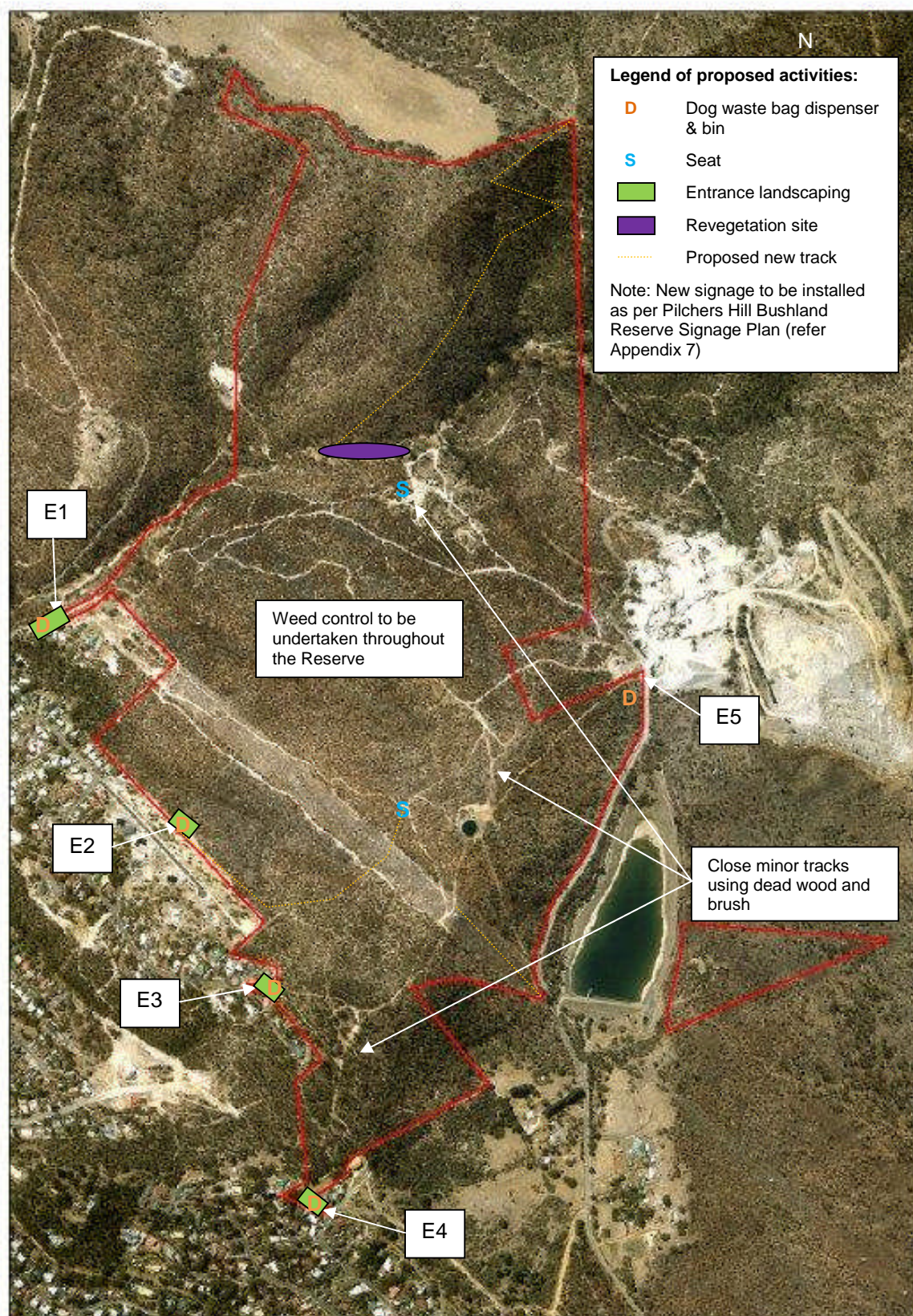


Figure 5: Overview of key proposed on ground management activities (base image provided by Clarence City Council)

Table 5: Implementation Plan for undertaking recommended management activities within the Reserve.

Priority	Rec. No.	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding ⁹
Weed control						
1	R1	Undertake primary control of blackberry, pampas grass, Spanish heath, horehound and stinkwort	Spring – summer for spot spraying; all year round for other techniques	Primary control of blackberry, pampas grass, Spanish heath, horehound and stinkwort completed	Council, contractor and/or volunteer groups	\$5,000
1	R1	Undertake primary control of isolated non-declared woody weeds	Spring – summer for spot spraying; all year round for other techniques	Primary control of non-declared woody weeds completed	Council, contractor and/or volunteer groups	
2&3	R2	Undertake primary control of Montpellier broom and gorse (target isolated patches first)	Spring – summer for spot spraying; all year round for other techniques	Primary control of Montpellier broom and gorse completed	Council, contractor and/or volunteer groups	\$6,000
3	R3	Control environmental weeds before and after planned burns	Spring – summer for spot spraying; all year round for other techniques	Areas of planned burns remain weed free following burning	Council, contractor and/or volunteer groups	\$600
1,2&3	R5	Undertake annual sweep and follow-up control of boneseed and all other targeted weeds, including boneseed	Ongoing on an annual basis	All targeted weeds are eradicated from the Reserve	Council, contractor and/or volunteer groups	\$3,000 per annum
3	R6	Undertake follow-up GPS mapping of all weeds	Spring - summer	Weed maps and Council database are updated within five years	Council, contractor and/or volunteer groups	\$1,000

⁹ Funding estimate is based on total costs required to undertake all recommended activities over the period 2013-14 to 2017-18.

Priority	Rec. No.	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding ⁹
Regeneration and revegetation						
1	R7	Liaise with TasWater to develop a five year maintenance program to ensure successful revegetation and assisted natural revegetation in areas disturbed by pipe laying activities	N/A	Maintenance program agreed upon and implemented	Council & TasWater	N/A
3	R8	Undertake revegetation (if deemed necessary) following gorse control in Faggs Gully Creek	Autumn – winter	Revegetation site established and maintained for 5 years	Council, contractor or volunteers	\$3,000
Fauna habitat management						
1,2&3	R10	Consider fauna habitat requirements when planning bushfire management activities in the Reserve.	N/A	Review of Pilchers Hill Bushfire Management Plan includes discussion of fauna habitat requirements	Council	N/A
Vegetation and fauna monitoring						
2	R11 R14	Undertake surveys to update the flora and fauna record of the Reserve	To coincide with peak flowering periods / threatened bird nesting seasons	Flora survey completed in 2013 & 2018 Fauna surveys completed 2013 & 2018 Bird surveys completed in 2013 & 2018 Annual vegetation condition assessment using aerial imagery completed	Council, contractor and/or BirdLife Tasmania and/or University of Tasmania	\$12,000
3	R12	Formalise vegetation monitoring plots prior to undertaking planned burns	N/A	Vegetation monitoring plots established and photos taken on an annual basis	Council	N/A

Priority	Rec. No.	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding ⁹
1	R13	Establish photo points at several locations within the Reserve	N/A	Photo points established and annual photos taken	Council, contractor or volunteers	\$600
Reserve entrances						
1	R16	Develop identifying names for E1, E3 & E4	N/A	Identifying names developed for E1, E3 & E4	Council	N/A
2	R16	Undertake native landscaping at Reserve entrances E1, E3 & E4 (as per Appendices 8-10)	Autumn - winter	Landscaping completed at Reserve entrances E1, E3 & E4	Council, contractor or volunteers	Up to \$3,000 per entrance
2	R16	Assess cost of installing new metal post-and-rail gates and fences at main entrances	N/A	Budget and timetable developed	Council	N/A
3	R16	Develop and implement concept landscape plan for Reserve entrance E2	Undertake planting in autumn/winter	Concept design completed and implemented at E2	Council	\$3,000
2&3	R16	Undertake regular maintenance of all landscaped sites	Ongoing	Maintenance of all existing landscaped sites undertaken within the last six months	Council, contractor and/or volunteers	\$1,000 per annum
Tracks and trails						
1,2 &3	R17 R24	Undertake track maintenance and upgrades as identified in the Pilchers Hill Bushfire Management Plan	N/A	All tracks upgraded to standard specified in Pilchers Hill Bushfire Management Plan	Council or contractor	\$10,000
1,2	R18 R19	Implement Pilchers Hill Bushland Reserve Signage Plan	N/A	Signs erected as per Signage Plan	Council or contractor	TBA
1	R18	Identify a 4-5km running loop along existing tracks (to be identified by coloured markers on existing directional signage)	N/A	Jogging route established	Council or contractor	\$1,000

Priority	Rec. No.	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding ⁹
2	R18	Construct a new track from Reserve entrance E2 to the junction of the Pilchers Hill Track and Lindhill Track (refer proposed Eurobin Track in Signage Plan at Appendix 7)	N/A	Eurobin Track completed	Council or contractor	\$20,000
3	R18	Construct a new track from the Geilston Gully Circuit Track to the Meehan Skyline Trail (refer Appendix 7)	N/A	Meehan Range Trail completed	Council or contractor	\$60,000
3	R18	Construct a new track from the south east corner of the Reserve to Lindhill Track	N/A	Flagstaff Gully Trail completed	Council	\$20,000
1	R18	Close (using dead wood/brush) minor or overgrown tracks in the following locations: <ul style="list-style-type: none"> between Robin Court and Walana Street near the Reservoir on Pilchers Hill immediately to the east of the stone bridge along the Geilston Gully Circuit Track 	N/A	Targeted tracks remain closed	Council	\$2,000
Infrastructure						
1	R21	Install dog waste bag dispensers and bins at main Reserve entrances	N/A	Dog waste bag dispensers and bins installed at main Reserve entrances	Council or contractor	\$3,000
2	R20	Develop a costed and prioritised perimeter fence upgrade program	N/A	Perimeter fence upgrade program developed	Council or contractor	\$5,000
2	R22	Install two seats at various location in the Reserve	N/A	Two seats installed	Council or contractor	\$4,000
3	R23	Review the infrastructure requirements of the Reserve in 2018	N/A	Infrastructure review completed in 2018	Council	N/A

Priority	Rec. No.	Action	Seasonal timing	Performance measure	Responsibility	Estimated funding ⁹
Erosion and sedimentation						
1	R24	Liaise with TFS to improve drainage on recently upgraded fire trails	N/A	Drainage measures identified and implemented	Council & TFS	N/A
2	R24	Liaise with quarry management to develop and implement diversion drainage or retention ponds to prevent sediment/gravel flows into the Reserve	N/A	No new gravel/ or sedimentation entering the Reserve from the quarry	Council	N/A
2	R24	Develop management measures for eroding tracks not covered by the Bushfire Management Plan	N/A	Drainage measures identified and prioritised	Council	N/A
Community participation and awareness						
1	R25	Undertake letterbox drops to local residents with information on inappropriate Reserve activities	N/A	No garden dumpings, encroachment or illegal vegetation removal reported	Council	N/A
1	R26	Install interpretation signs at two locations to facilitate visitor interpretation	N/A	Two interpretation signs installed	Council or contractor	\$2,000
Implementation plan						
1,2&3	R27	Undertake annual review against all performance measures	N/A	Review of all performance measures completed annually	Council	N/A
3	R28	Undertake a full review of the <i>Pilchers Hill Bushland Reserve Activity Plan 2013-2018</i>	N/A	<i>Pilchers Hill Reserve Bushland Reserve Activity Plan 2013-2018</i> reviewed within five years	Council and/or contractor	\$10,000

Recommendation 27: Progress against all performance measures identified in the Implementation Plan should be reviewed annually.

16 FUTURE PRIORITIES

A review of the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* should be undertaken in 2018. The purpose of this review should be to:

- assess progress towards achieving the objectives of the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018*;
- assess progress against all performance measures;
- analyse all completed flora surveys, vegetation composition assessments and fauna surveys to determine trends and implications for ongoing vegetation management; and
- determine ongoing management priorities for the Reserve for the next five years.

Recommendation 28: The Pilchers Hill Bushland Reserve Activity Plan 2013-2018 should be reviewed in 2018 to assess progress and determine ongoing management priorities for the Reserve.

17 REFERENCES

AVK Environmental Management (2011). *Bushfire Management Plan: Pilchers Hill Reserve*. Unpublished report for Clarence City Council.

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Clarence City Council (2011). *Clarence Planning Scheme 2007*. Clarence City Council, Tasmania.

Department of Primary Industries, Parks, Water and Environment (2013). *Natural values report 57575*. Unpublished report for Tasflora.

Greening Australia Victoria (2003). *Revegetation techniques*. Greening Australia Victoria, Horsham.

Maynard, L. (1997). *A survey for Aboriginal sites and values within the Meehan Range State Recreation Area*. Unpublished report for the Department of Environment and Land Management, Parks and Wildlife Service and the Tasmanian Aboriginal Land Council Inc.

NRM South and the Southern Tasmanian Councils Authority (2010). *Weeds of southern Tasmania: a guide to environmental and agricultural weeds of southern Tasmania*. NRM South and the Southern Tasmanian Councils Authority, Tasmania.

Sinclair Knight Mertz (1997). *Middle Meehan Range Management Plan*. Unpublished report for Clarence City Council, Parks and Wildlife Service and Pioneer Concrete.

APPENDIX 1: CONSERVATION SIGNIFICANCE OF THE RESERVE'S NATIVE FLORA AND FAUNA

Pilchers Hill Bushland Reserve contains six native vegetation communities (AVK Environmental Management 2011; DPIPWE 2013), two of which are listed as threatened vegetation communities under the Tasmanian *Nature Conservation Act 2005*. These are summarised in Table A1.1.

Table A1.1: Conservation status of native vegetation communities occurring within the Reserve.

Community name	TASVEG code	Conservation status
<i>Eucalyptus globulus</i> dry forest and woodland	DGL	Vulnerable
<i>Eucalyptus tenuiramis</i> forest and woodland on sediments	DTO	Vulnerable
<i>Eucalyptus amygdalina</i> forest and woodland on mudstone	DAM	Not threatened
<i>Eucalyptus pulchella</i> forest and woodland	DPU	Not threatened
<i>Eucalyptus viminalis</i> grassy forest and woodland	DVG	Not threatened
Lowland grassland complex	GCL	Not threatened

Several flora species occurring in the Reserve are listed as threatened species under the Tasmanian *Threatened Species Protection Act 1995* (the TSP Act) and/or Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). These are detailed in AVK Environmental Management (2011) and DPIPWE (2013), and are summarised in Table A1.2.

Table A1.2: Flora species of conservation significance recorded within the Reserve.

Flora species	Common name	Conservation status		Habitat / Comments
		TSP Act	EPBC Act	
<i>Eucalyptus risdonii</i>	Risdon peppermint	Rare	-	Two localised stands
<i>Juncus amabilis</i>	gentle rush	Rare	-	Localised population in the south-west of the Reserve
<i>Lepidium pseudotasmanicum</i>	shade peppergrass	Rare	-	Localised population in the south-west of the Reserve
<i>Rytidosperma indutum</i>	tall wallaby grass	Rare	-	Occurs along the transmission line easement and in some areas of grassy forest

The Reserve contains suitable habitat also for several threatened fauna species listed under the TSP and/or EPBC Acts, including several endangered species (refer Table A1.3).

Table A1.3: Fauna species of conservation significance for which suitable habitat exists within the Reserve.

Fauna species	Common name	Conservation status		Habitat / Comments
		TSP Act	EPBC Act	
<i>Lathamus discolor</i>	swift parrot	Endangered	Endangered	Nesting habitat is hollows in mature eucalypts with stem diameter >70cm at breast height. Forages in mature <i>Eucalyptus globulus</i> and <i>E. ovata</i> trees. Known to breed in the neighbouring Meehan Range.
<i>Sarcophilus harrisii</i>	Tasmanian devil	Endangered	Endangered	Nests in hollow logs, caves, dense vegetation, dens or burrows. Wide ranging and requires extensive forested areas.
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i>	masked owl (Tasmanian)	Endangered	-	Inhabits dry eucalypt forest and woodland with old growth eucalypts containing hollows.
<i>Perameles gunnii</i>	eastern barred bandicoot	-	Vulnerable	Inhabits grassy woodlands, native grasslands and mosaics of pasture and shrubby ground cover.

APPENDIX 2: SUMMARY OF STAKEHOLDER CONSULTATION

During February 2013, identified stakeholders were invited to provide comments relevant to the development of the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018*.

A public meeting and community 'walk and talk' session was facilitated by Council and Tasflora on 10 February 2013. The purpose of the session was to seek input from local residents, the Flagstaff Gully Landcare Group and other relevant stakeholders on values and management issues associated with the Reserve. Ten stakeholders attended the meeting, including members of the Flagstaff Gully Landcare Group.

Key issues raised during the walk and talk included:

- lack of track signage;
- illegal access by trail bikes and vehicles;
- weed management;
- connectivity of the Reserve to other areas; and
- possible creation of a running circuit.




A feedback form seeking input to the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018* was also mailed to stakeholders. Written responses were received from five stakeholders, which are summarised in Table A4.1.




Where possible, all relevant community feedback has been considered in the development of the *Pilchers Hill Bushland Reserve Activity Plan 2013-2018*. However some issues identified during the consultation process are beyond the scope of this plan or pertain to management issues outside the Reserve. These issues have been noted by Council and will be addressed through other processes where feasible.




Table A4.1: Summary of written responses received during stakeholder consultation on the Pilchers Hill Bushland Reserve



Management issue	Number of respondents
Reserve entrances	
Photo displays of local fauna and flora	2
Maps and signs at all entrance points	1
Parking area at Reserve entrance E4 (Robins Court)	1
Parking area at Reserve entrance E5 (Flagstaff Gully Rd)	1
Tidy up open area near Reserve entrance E4 (Robins Court)	1
Tracks and trails	
Signage is needed on main tracks	2
Identify a 4-5km running loop accessible from each entrance	1
Signage needed to indicate track to Lindhill Reserve	1
Specify a path suitable for trail bikes	1
Create a new track from proposed new subdivision in Flagstaff Gully Rd to existing track network	1
Close extra tracks between Robin Court and Walana Street	1
Mark water pipe route below transmission lines as a track	1
Infrastructure	
Provide seating	2
Install picnic facilities	1
Install no parking sign at entrance E1 (Geilston Creek Road)	1
Unfenced boundaries allow illegal vehicle and trail bike access	2
Consider establishing a viewing point	1
Other Reserve management issues	
Increased access to the Reserve may frighten wildlife	1
Address illegal access by vehicles / trail bikes	5
Address illegal firewood collection	2
Pipe laying and fire trail work has created a terrible mess	1
Retain the road reserve from Flagstaff Gully to Geilston Bay	1

APPENDIX 3: WEED SPECIES PRESENT AND RECOMMENDED CONTROL TECHNIQUES

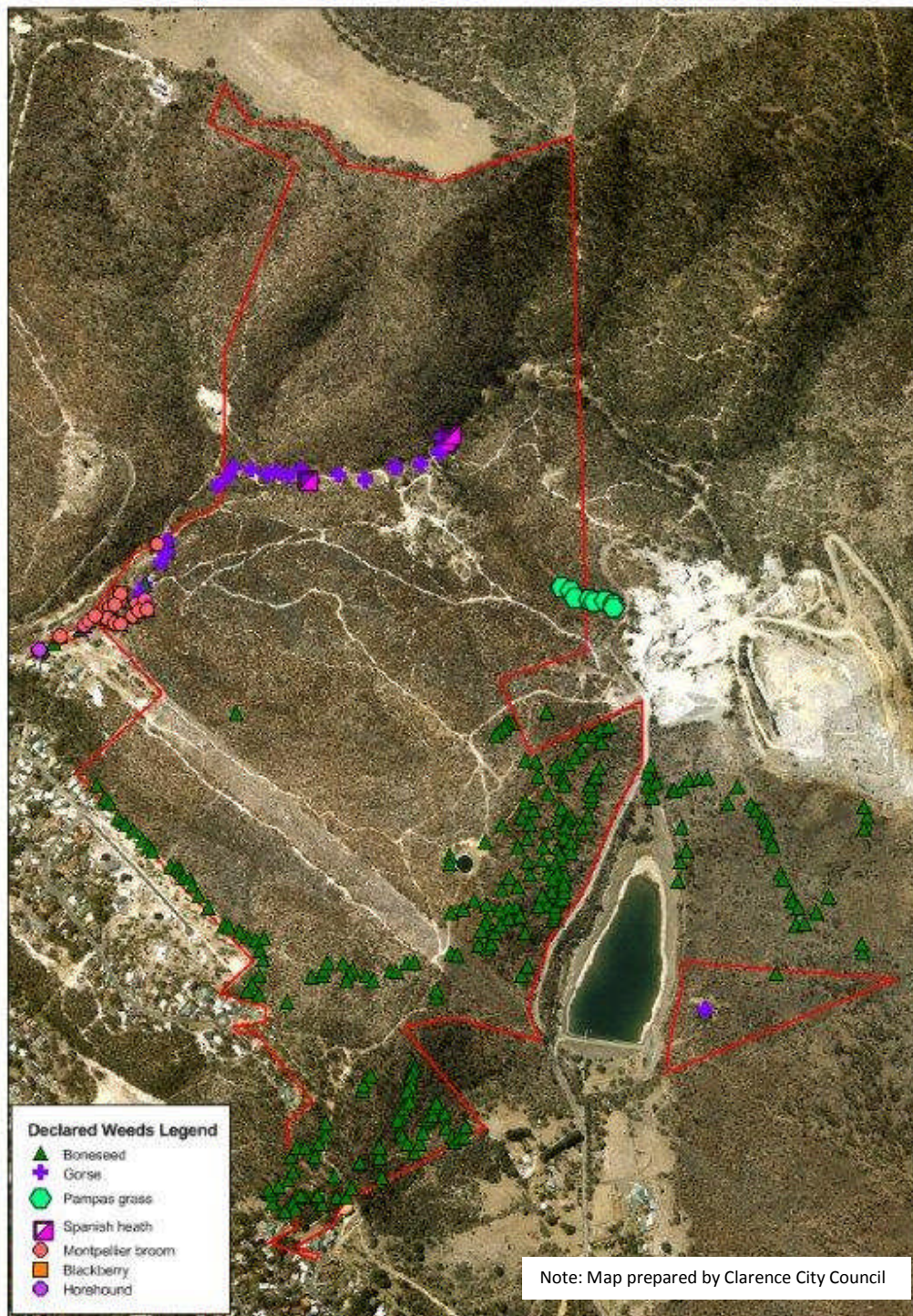
Common name	Species	Status	Picture	Recommended control technique
<u>DECLARED WEEDS</u>				
Blackberry	<i>Rubus fruticosus</i> aggregate	Declared WONS		Large stands - spot spray larger using an appropriate herbicide (as per the DPIPWE Control Guide) in non-fruiting periods Isolated patches - spot spray or cut and paste
Boneseed	<i>Chrysanthemoides monilifera</i>	Declared WONS		Hand pull seedlings. Cut and paste larger plants. Fruit should be bagged and disposed of responsibly.
Gorse	<i>Ulex europaeus</i>	Declared WONS		Hand pull small plants. Cut and paste larger plants. Spot spraying may be appropriate for larger infestations.

Common name	Species	Status	Picture	Recommended control technique
Montpellier broom	<i>Genista monspessulana</i>	Declared WONS		Hand pull seedlings. Cut and paste larger plants. Spot spraying may be appropriate for larger infestations.
Horehound	<i>Marrubium vulgare</i>	Declared		Hand pull/dig or spot spray.
Pampas grass	<i>Cortaderia</i> sp.	Declared		Spot spray in spring, ensuring complete coverage of foliage with herbicide

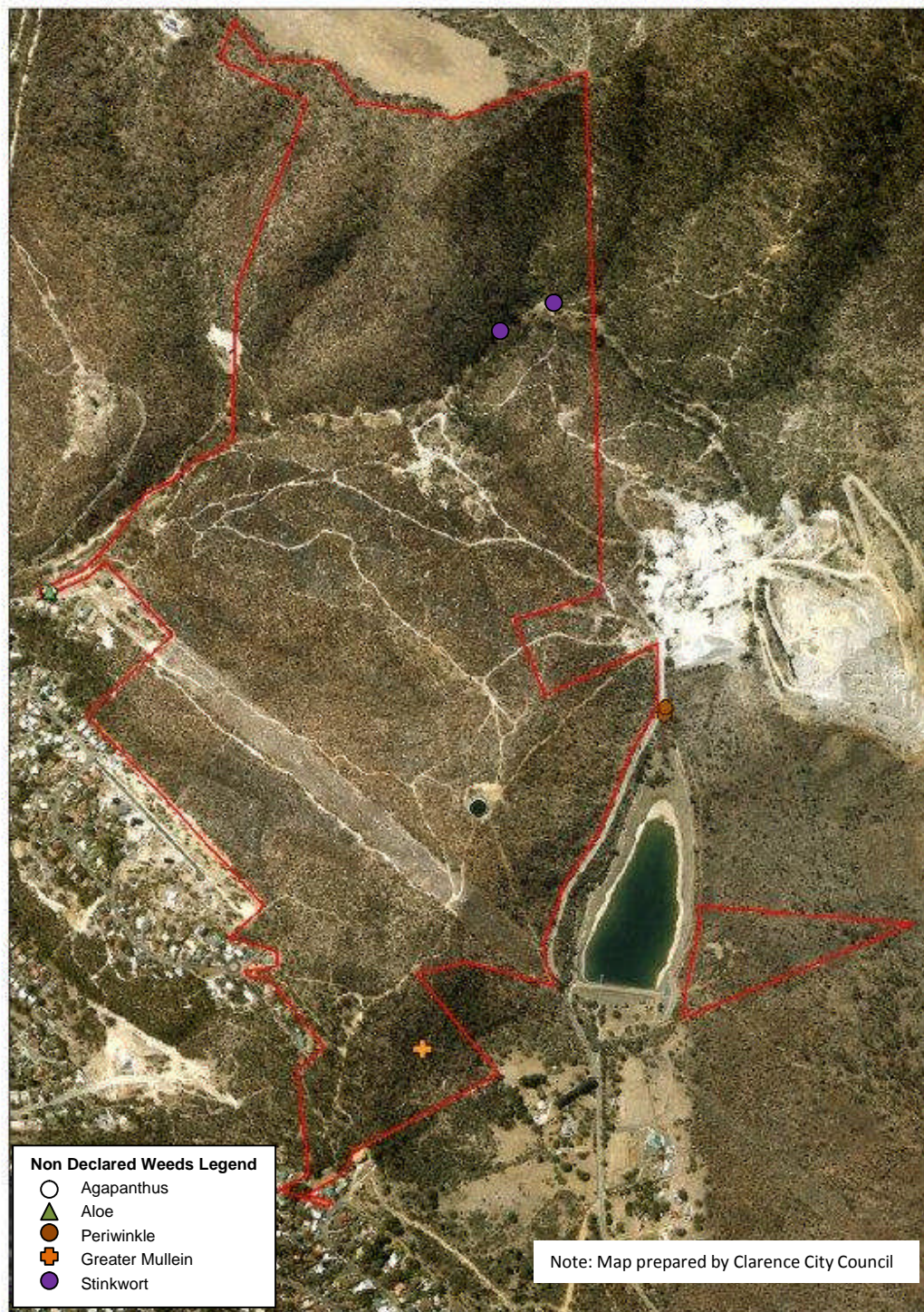
Common name	Species	Status	Picture	Recommended control technique
Spanish heath	<i>Erica lusitanica</i>	Declared		Hand pull, cut and paste or spot spray
<u>OTHER ENVIRONMENTAL WEEDS</u>				
Agapanthus	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>			Hand dig clumps and roots. Dispose of flower heads before they set seed.
Blue periwinkle	<i>Vinca major</i>			Brushcut followed by spot spraying. Repeated follow-up spot spraying required.

Common name	Species	Status	Picture	Recommended control technique
Greater mullein	<i>Verbascum thapsus</i>			Hand dig/chip or spot spray
Stinkwort	<i>Dittrichia graveolens</i>			Hand pull or spot spray. Gloves should be worn when handling this weed as it can cause contact dermatitis.

APPENDIX 4: LOCATION OF DECLARED WEEDS



APPENDIX 5: LOCATION OF NON-DECLARED ENVIRONMENTAL WEEDS

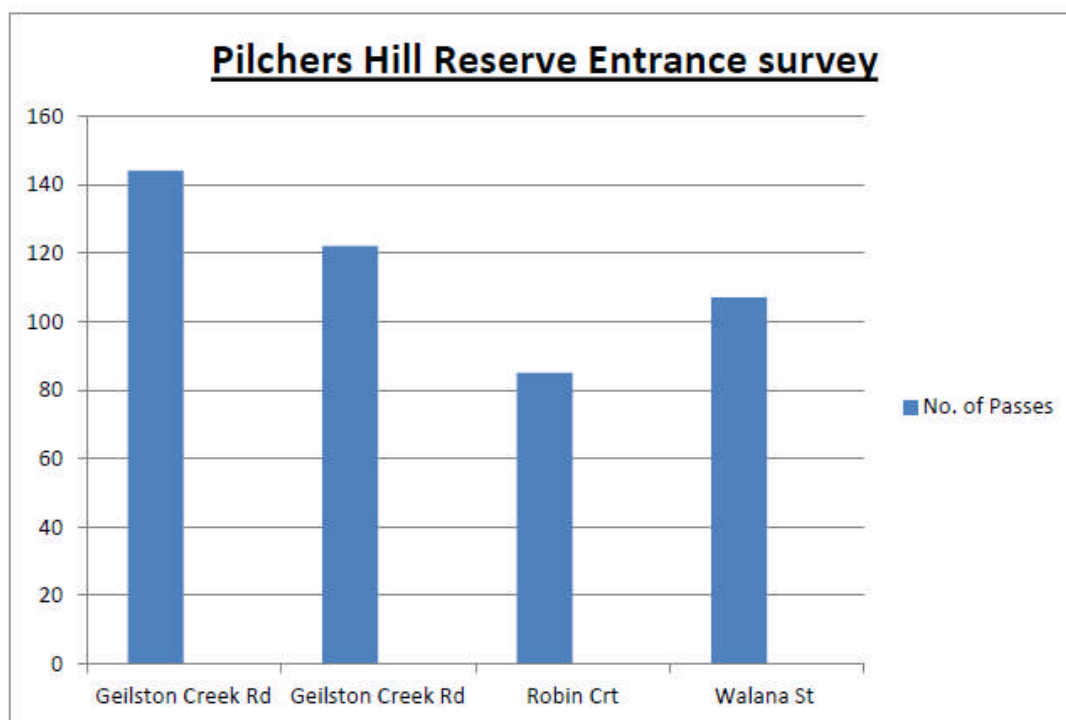


APPENDIX 6: ENTRANCE SURVEY RESULTS

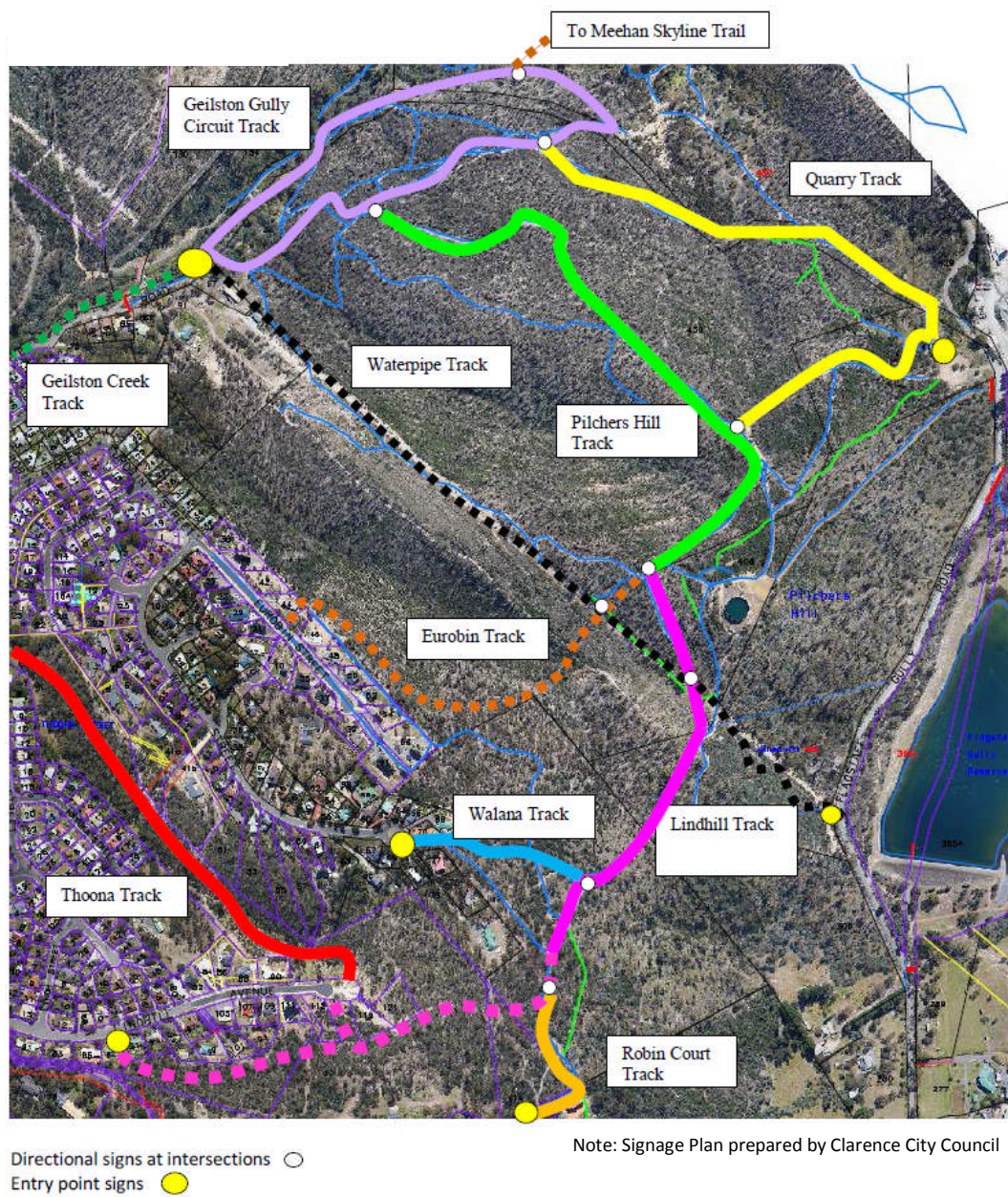
Pilchers Hill Reserve Entrance survey

Surveys were done over one full seven day period.
the dates and locations are as follows.

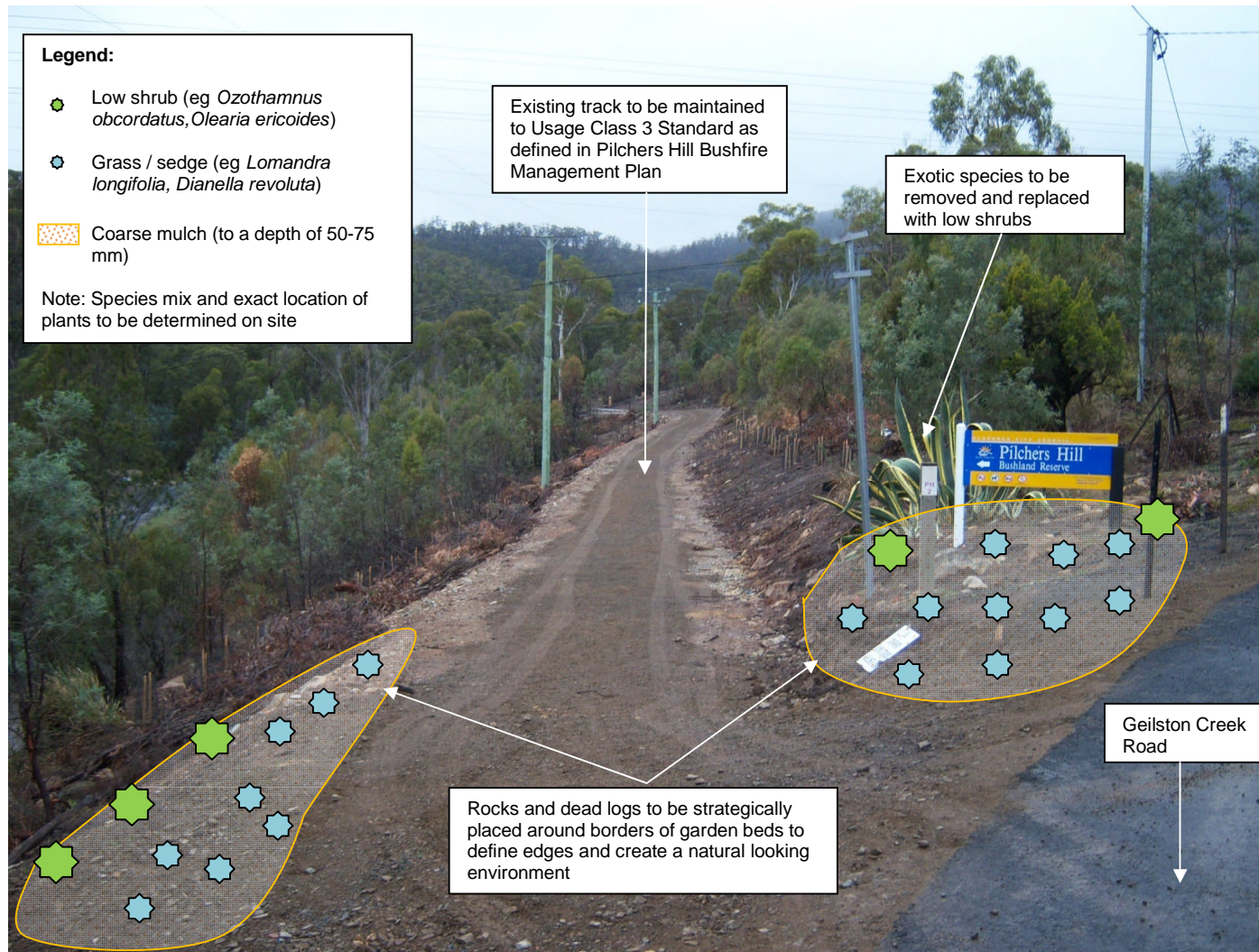
Entrance	Survey Period	No. of Passes
Geilston Creek Rd	26/10 - 2/11/2012	144
Geilston Creek Rd	05/03 - 12/03/2013	122
Robin Crt	15/02 - 22/02/2013	85
Walana St	22/03 - 29/03/2013	107



APPENDIX 7: SIGNAGE PLAN

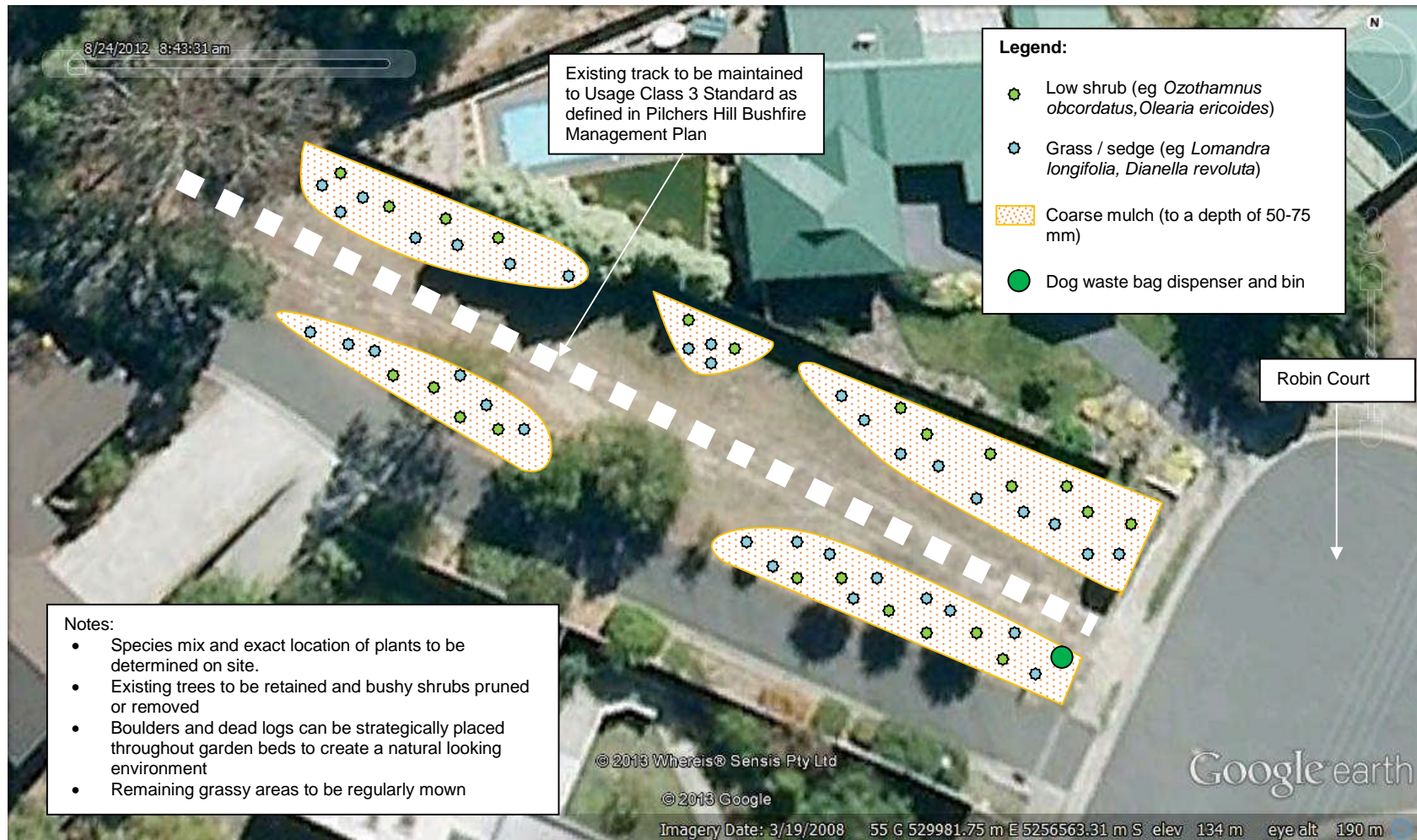


APPENDIX 8: CONCEPT LANDSCAPE PLAN FOR RESERVE ENTRANCE E1



APPENDIX 9: CONCEPT LANDSCAPE PLAN FOR RESERVE ENTRANCE E3

APPENDIX 10: CONCEPT LANDSCAPE PLAN FOR RESERVE ENTRANCE E4



APPENDIX 11: SUMMARY OF ON GROUND MANAGEMENT RECOMMENDATIONS

Weed management	
R1	Priority should be given to controlling blackberry, Spanish heath, pampas grass, horehound, stinkwort and isolated non-declared woody weeds.
R2	Isolated patches of boneseed, gorse and Montpellier broom should be targeted prior to tackling larger infestations.
R3	Weed control should be undertaken prior to and following planned burns.
R4	Control of exotic grasses and broadleaf weeds is only required in revegetation areas and where necessary as part of a general Reserve maintenance program.
R5	An annual sweep and follow-up control of all targeted weeds should be undertaken.
R6	Follow-up GPS mapping of all weeds in the Reserve should be undertaken after five years to monitor progress and inform future weed control priorities.
Revegetation and regeneration	
R7	Council should liaise with TasWater to develop a five year maintenance program to ensure successful revegetation and assisted natural revegetation in areas disturbed by pipe laying activities.
R8	Revegetation should be considered following control of dense gorse infestations along Faggs Gully Creek.
R9	New revegetation and native landscaping activities should not be committed to unless sufficient resources are available to undertake ongoing regular maintenance of newly planted areas.
Fauna habitat management	
R10	Fauna habitat requirements should be considered when planning bushfire management activities in the Reserve.
Vegetation and fauna monitoring	
R11	A flora survey and annual vegetation composition and condition assessments should be undertaken to further inform on ground management activities.
R12	Vegetation monitoring plots should be established prior to undertaking prescribed burns and monitored annually.
R13	Photo points should be established at several locations within the Reserve to facilitate monitoring of annual regeneration growth.
R14	Fauna surveys of the Reserve should be undertaken in 2013 and 2018 to further inform on ground management activities.
R15	An analysis of all completed flora surveys, vegetation composition assessments and fauna surveys should be undertaken in 2018 to determine trends and inform future management activities.
Reserve Entrances	
R16	Reserve entrances should be improved by installing signage, undertaking native landscaping and preventing unauthorised access by vehicles and trail bikes

Tracks and trails	
R17	Track upgrades and maintenance activities recommended in the Reserve's Bushfire Management Plan should be implemented as a priority.
R18	The Reserve's track network should be improved by installing directional signage, constructing three new tracks and closing some minor tracks.
Infrastructure	
R19	The Pilchers Hill Bushland Reserve Signage Plan should be implemented to facilitate visitor access and interpretation.
R20	A costed and prioritised fence upgrade program should be developed to prevent access by trail bikes and unauthorised vehicles.
R21	Dog waste bag dispensers and bins should be installed at each main entrance to the Reserve.
R22	New outdoor seats should be installed at several locations in the Reserve.
R23	A review of the infrastructure requirements of the Reserve should be undertaken in 2018
Erosion and sedimentation	
R24	Erosion control measures should be implemented to address track erosion and prevent sediment/gravel flows from the neighbouring quarry.
Community participation and awareness	
R25	Community education should be undertaken to facilitate behavioural change and encourage ownership and appreciation of the values of the Reserve.
R26	Interpretation signs should be installed at two locations to facilitate visitor interpretation.
Implementation Plan	
R27	Progress against all performance measures identified in the Implementation Plan should be reviewed annually.
R28	The <i>Pilchers Hill Bushland Reserve Activity Plan 2013-2018</i> should be reviewed in 2018 to assess progress and determine ongoing management priorities for the Reserve.