

ECotas...providing options in environmental consultingPriority flora species recorded from the study area

No plant species, listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, were detected from the study area.

Three plant species, listed as threatened on the Tasmanian *Threatened Species Protection Act 1995*, were detected from the study area (Figure 7, Table 3, Appendix C for annotated images):

- *Haloragis heterophylla* (variable raspwort): small patch in weed-infested drain on northern side of Illawarra Road;
- *Arthropodium strictum* (chocolate lily): scattered on southern slopes of "reservoir hill"; and
- *Caesia calliantha* (blue grasslily): as above.

One additional plant species, listed as threatened on the Tasmanian *Threatened Species Protection Act 1995*, is known from database records from the study area (Figure 7, Table 3, and Table D1 in Appendix D for a full discussion).

- *Pilularia novaehollandiae* (austral pillwort): 27 Nov. 1988, B. Robinson, ± 100 m 512412mE 5397083mN.

These findings are in contrast to those of DIER (2014) for the northern section of the project area, which detected numerous threatened species and found several of these to be widespread. The difference is probably due to the highly disturbed nature of the study area (essentially large swathes of well-developed pasture), although even localised prospective sites (e.g. poorly-drained sections in paddocks) did not support threatened flora.

Table 3. Details of threatened flora recorded from study area

[site = as per numbered points in Figure 7]

Site	Easting	Northing	Location	Abundance & extent
<i>Pilularia novaehollandiae</i> (austral pillwort) [EPBCA: -; TSPA: r]				
1	512412	539708	"South side of Illawarra Road, near Perth"	unknown
<i>Haloragis heterophylla</i> (variable raspwort) [EPBCA: -; TSPA: r]				
1	513021	5397069	Illawarra Road (north side)	continuous patch (10s to 100s?) between grid references
2	513031	5397058		
<i>Arthropodium strictum</i> (chocolate lily) [EPBCA: -; TSPA: r]				
3	512842	5397829	hill (Oakmount) north of Illawarra Road, west of Perth	1 at each site
4	512835	5397828		
5	512849	5397823		
6	512850	5397813		
7	512855	5397816		
8	512864	5397802		
<i>Caesia calliantha</i> (blue grasslily) [EPBCA: -; TSPA: r]				
9	512838	5397824	hill (Oakmount) north of Illawarra Road, west of Perth	2 at each site
10	512835	5397788		

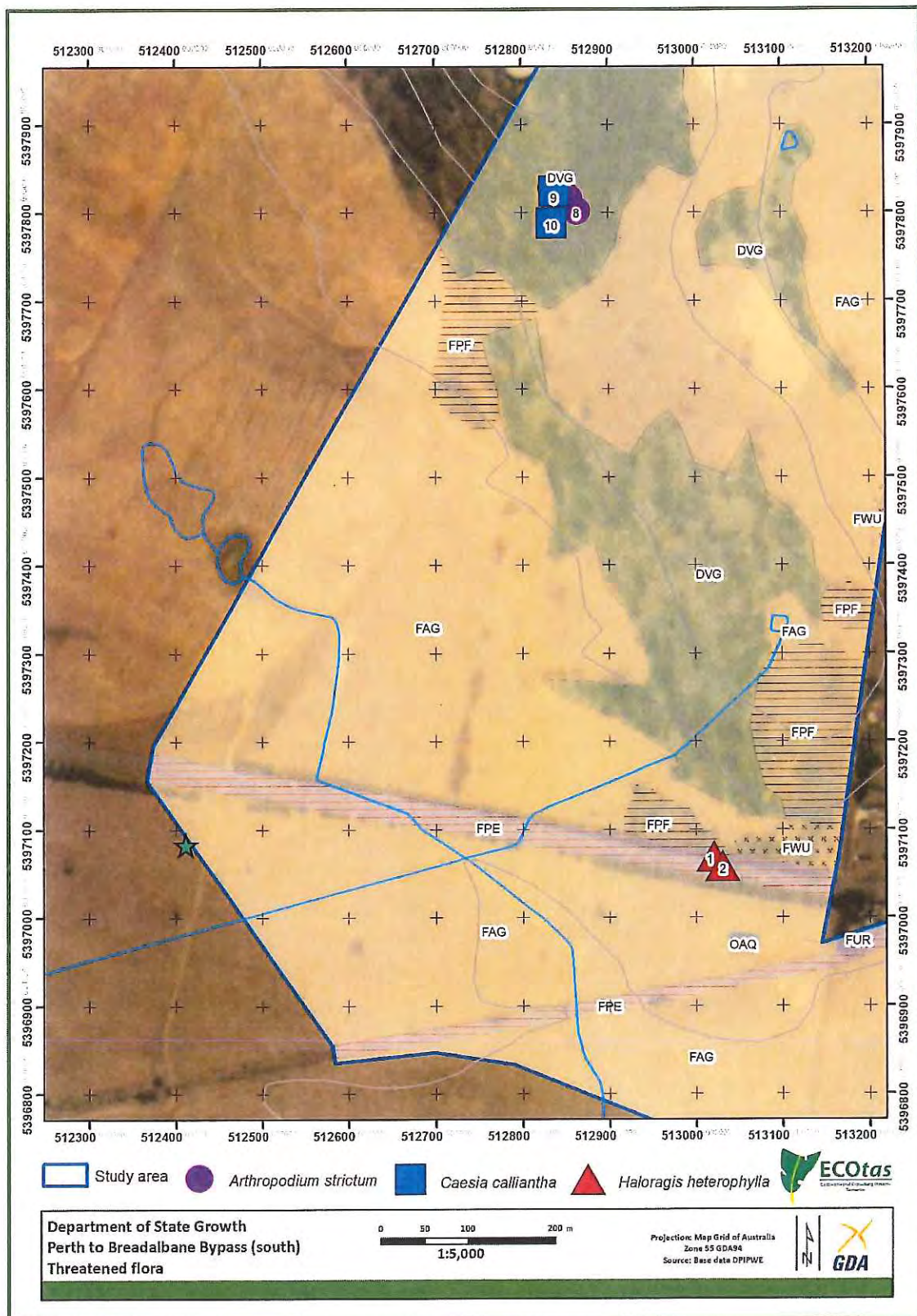


Figure 7. Distribution of threatened flora from study area (green star = *Pilularia novaehollandiae*)

None of the species are likely to constrain the project as they are all listed on the Tasmanian *Threatened Species Protection Act 1995* but not the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (and there is limited potential habitat for species on the latter Act). A permit under the TSPA will be required if sites will be disturbed but the conservation status and management requirements of the species means that complex management is unlikely to be applied. For example, the small population of *Haloragis heterophylla* occurs in a highly modified highway table drain (not unusual for the species to occur in such a modified habitat) and applying project-level protection would be nonsensical in the context of the Statewide population. *Arthropodium strictum* has been recommended for removal from the TSPA, and this is likely to happen prior to project commencement. Until this occurs, however, it needs to be treated as threatened species but application of project-level management is unlikely to be warranted (unlikely that the section of Oakmount supporting the population will be disturbed). *Caesia calliantha* is more restricted than *Arthropodium strictum* and it is likely to remain on schedules of the TSPA. However, it is unlikely to constrain project design because disturbance of the slopes south of the reservoir is unlikely.

The older record of *Pilularia novaehollandiae* presents a more difficult to manage issue. Re-finding the species is likely to be serendipitous at best because appropriate seasonal conditions combined with removing vegetation from the table drain along Illawarra Road would be needed. Technically, the latter in itself may need a permit, but until the species is re-found, determining the potential impact of land use activities may be difficult. However, at a Statewide scale, disturbance to a single roadside population that does not represent a population outlier is not considered as unacceptable, and it may be possible to issue a conditioned permit without further survey. It is possible that follow-up surveys, if conducted for species such as the green and golden frog, will result in re-detection of the previous population or detection of a new population. If this occurs, site-specific management actions may be possible to develop, although it is noted that the species is unlikely to significantly constrain project design.

The findings of DIER (2014) for the northern section are more interesting, although still considered relatively simple from a management perspective as all species are relatively widespread and most respond to disturbance positively. That said, I concur with the recommendation to consider careful management of the occurrences of threatened flora on the rocky cutting north of Perth as some of the occurrences at this site represent species at the limit of their range (e.g. *Austrostipa scabra*, *Vittadinia burbridgeae*).

Priority flora species potentially present (database analysis)

Table D1 (Appendix D) provides a listing of priority flora from within the study area, and from 500 m and 5000 m of the study area (nominal buffer widths usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded. Some species not listed on databases but considered by the authors to have potential to occur in the survey area are also discussed.

Note that the field assessment was not restricted to the species listed in Table D1 but considered any threatened flora with the potential to be present. While the database analysis utilises a nominal buffer of 5000 m, the author's own experience of the vegetation and flora of greater northern Midlands area, combined with database interrogation, meant that the specific potential for numerous other species previously recorded from the wider area were taken into account.

Fauna species

Priority fauna species and potential habitat recorded from the study area

Below are discussed the key priority fauna species that may be affected by the project. Refer to Appendix E for a full analysis of other species.

- *Perameles gunnii* (eastern barred bandicoot)

The northern Midlands and greater Tamar region is considered a “hotspot” for the eastern barred bandicoot (e.g. Driessen et al. 1996).

The main threats to the species are considered to be clearing of habitat, in particular loss of ground cover, and predation by feral cats (*Felis catus*), dogs (*Canis familiaris*) (e.g. Driessen et al. 1996), and now possibly the red fox (*Vulpes vulpes*) (TSSC 2008); overgrazing and urban development also represent pressure on habitat. Interestingly, weeds are probably important to the species, as sites of shelter and protection from predators – the project area supports numerous copses of dense gorse in particular (but also bracken) and exotic pasture grasses ideal for the species. Mortality from vehicles is considered a key threat (Bryant & Jackson 1999; Woinarski et al. 2014), although this is not listed in the specific conservation advice (TSSC 2008), or reflected in any suggested mitigation strategies for the species.

It is unlikely that the road upgrade will constitute a “significant impact” under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (see **DISCUSSION Legislative and policy implications** for more detail). However, some project-specific management prescriptions will need to be developed, which may include (these were also discussed in DIER (2014)):

- maximise use of the existing highway alignment to reduce the extent of habitat loss and fragmentation (but recognising that much of the southern section of the project area will be in close-cropped pasture and croplands); and
 - design and install designated fauna underpasses at various points along the alignment to enable dispersal of individuals between areas of otherwise continuous habitat either side of the new road sections (this should include complementary fencing or barrier construction either side of the underpass running parallel to the highway so as to ‘funnel’ species through at these designated points) but noting that some parts of the project area are already effectively fragmented by a major railway line and road so this is only recommended where significant additional fragmentation is anticipated.
- *Litoria raniformis* (green and golden frog)

The southern section of the proposed project area supports potential habitat as follows:

- small farm dam between Illawarra Road and rail line – high quality potential habitat, naturally vegetated, several species of frog; daytime surveys (including call-back) on warm day unsuccessful; nocturnal call-back survey in somewhat unsuitable conditions on one night unsuccessful; links through informal paddock drains to roadside ditches;
- smaller farm dam west of Midland Highway south of the new large dam – moderate quality habitat, naturally vegetation but quite open, several species of frog; daytime surveys (including call-back) on warm day unsuccessful; nocturnal call-back survey not conducted

(was going to be a cool, wet and windy night); unlinked to creeks except through open cropland but nearby creek with intermittent pools and dense vegetation; and

- creek between large dam south of Perth that runs under Illawarra Road through Perth and to the rush-grass dominated flats north of Perth – poor quality habitat (in terms of weediness, stock access, muddiness, ephemerality of pools, but better in that this species appears to utilise quite disturbed habitats, at least as connective habitat); daytime surveys (with call-back) on warm day unsuccessful (included examination of edge of large dam to south outside project area); nocturnal surveys (spotlighting and call-back) at several sites along creek and dam margin unsuccessful (but not ideal night).

On this basis, considered in isolation, works within the southern part of the proposed project area would unlikely have a significant long-term impact on known or potential sites of the green and golden frog. It is recommended that the two dams, and perhaps the creek downstream of the dam, be re-examined over 1-2 nights in better conditions, if such sites will be affected by the works. It may be possible to completely avoid the sites (recognising that the EPBCA *Significant Impact Guidelines* suggest 100s of metres as a buffer but that in practice we know that the species persists and thrives in dams immediately adjacent to major roads, it would appear practical and feasible to design around the highly localised potential habitat sites). If further survey detected the species at these sites, or the sites could not be avoided, further consideration of the potential significance of the project on the species under the EPBCA would need be made. However, at this early stage of planning, considered in isolation, the southern section of the project area is not considered likely to be significantly constrained by the potential presence of the green and golden frog.

However, it is important to consider the broader context of the project. FPA (2014) detected a small number of sites supporting the green and golden frog, indicating that the broader area is suitable for the species. That some highly prospective sites appeared to not support the species may represent a genuine absence but this could be temporary and based on seasonal conditions or some unknown factor. The species can occur 100s to 1000s of metres from standing or slow-flowing water and will travel across wet pasture and through crops and native vegetation, especially in suitable conditions. This means that the broad flats and adjacent gentle slopes supporting pasture, crops and remnant trees need to be considered as at least connecting habitat between permanently occupied (or potentially permanently occupied) sites such as farm dams. The changing suitability of some sites also needs to be considered. For example, FPA (2014) did not detect the species from the relatively new dam and this may be because there is still little vegetation within and around the dam and large areas of bare soil and rock but over time, this dam is likely to become highly suitable.

- *Tyto novaehollandiae* subsp. *castanops* (Tasmanian masked owl)

Both parts of the project area support several large hollow-bearing trees suitable for roosting and/or nesting by the masked owl. While no evidence of the species was noted by DIER (2014) or ECOtas (e.g. pellets, prey remains, etc. under hollow-bearing trees), this can be somewhat serendipitous and opportunistic (because even occupied trees do not always show evidence of use). The management of mature and large (and therefore senescent) trees in the context of a major road will be complex if the intent is to maintain such trees in a safe and healthy condition. That said, the trees are easily identified and it suggested that their presence may not significantly affect the overall design of the project if the intent is to retain as many as possible. In my opinion, unless it can be demonstrated that the loss of hollow-bearing trees will result in an actual roost and/or nest site being affected, the significant impact thresholds under the EPBCA may not be triggered. While the intent should be to retain such trees, the specific number that can be retained, and how retained trees can be effectively managed, may come down to the design phase of the project requiring project engineers and designers to assess the trees with a qualified ecologist. Undertaking surveys (e.g. call-back) at this early stage of project planning is not recommended because it would simply

represent a "snapshot in time" and birds could start using currently unused trees closer to construction time. In addition, call-back surveys in such open mosaics of farmland, urban areas and forest remnants may not be definitive as it may simply result in birds being drawn in from quite far afield. A tree-by-tree assessment (e.g. evidence under tree, spotlighting, perhaps infra-red cameras mounted on a pole) of trees that may need to be removed is considered a more prudent approach as part of the design process.

Priority fauna species potentially present (database analysis)

Appendix E provides a listing (Table E1) of priority fauna from within 500 m and 5000 m of the study area (nominal buffer widths usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Other ecological values

Matters of National Environmental Significance

The EPBCA *Protected Matters Area* report (CofA 2015) indicates that "Lowland Native Grasslands of Tasmania" (classified as Critically Endangered under the EPBCA) are likely to occur within the area. No such vegetation types were identified from within or close to the study area.

Weed species

The study area is dominated by exotic plant species. Several species, classified as "declared weeds" within the meaning of the Tasmanian *Weed Management Act 1999*, are present (refer Appendix B), as follows:

- *Ulex europaeus* (gorse): widespread and locally common (with some areas mapped as the TASVEG mapping unit "weed infestation");
- *Hypericum perforatum* subsp. *veronense* (perforated st johns-wort): localised patch in exotic grass near pine trees near Perth bridge;
- *Lycium ferocissimum* (african boxthorn): localised around farm houses and fences in far east of study area;
- *Rubus* spp. (recorded as *R. anglocandicans* and *R. leucostachys* but other taxa may be present): localised to fencelines and occasional elsewhere;
- *Carduus pycnocephalus* (slender thistle) and *C. tenuiflorus* (winged thistle): occasional in "rough" pasture; and
- *Marrubium vulgare* (white horehound): as above.

It is recommended that a project-level weed and hygiene management plan be developed as part of the broader project to minimise the risk of exacerbating weed occurrences, introducing new weeds to the site, spreading weeds from the project area to other parts of the State, and to consider ongoing monitoring and control post-works.

Rootrot pathogen, *Phytophthora cinnamomi*

Phytophthora cinnamomi (PC) is widespread in lowland areas of Tasmania, across all land tenures. However, disease will not develop when soils are too cold or too dry. For these reasons, PC is not a threat to susceptible plant species that grow at altitudes higher than about 700 metres or where annual rainfall is less than about 600 mm (e.g. Midlands and Derwent Valley). Furthermore, disease is unlikely to develop beneath a dense canopy of vegetation because shading cools the soils to below the optimum temperature for the pathogen. A continuous canopy of vegetation taller than about 2 metres is sufficient to suppress disease. Hence PC is not considered a threat to susceptible plant species growing in wet sclerophyll forests, rainforests (except disturbed rainforests on infertile soils) and scrub e.g. teatree scrub (Rudman 2005; FPA 2009).

The study area does not support vegetation types recognised as particularly susceptible to the pathogen (i.e. heathy open woodland and forest) and field assessment did not detect any obvious evidence of the pathogen (e.g. "wavefront" of poor health understorey, dead or dying individual plants) and it appears the site is presently free of the pathogen. It is likely that the majority of the study area is too dry to support the pathogen in the long-term but development of project-level weed and hygiene management to minimise the risk of introducing the pathogen is recommended.

Myrtle wilt

Myrtle wilt, caused by a wind-borne fungus (*Chalara australis*), occurs naturally in rainforest where myrtle beech (*Nothofagus cunninghamii*) is present. The fungus enters wounds in the tree, usually caused by damage from wood-boring insects, wind damage and forest clearing. The incidence of myrtle wilt often increases forest clearing events such as windthrow and wildfire.

Nothofagus cunninghamii is absent from the study area.

Myrtle rust

No evidence of myrtle rust was noted.

Chytrid fungus and other freshwater pathogens

Native freshwater species and habitat are under threat from freshwater pests and pathogens including *Phytophthora cinnamomi* (root rot), *Batrachochytrium dendrobatidis* (Chytrid frog disease), *Mucor amphibiorum* (platypus Mucor disease) and the freshwater algal pest *Didymosphenia geminata* (Didymo) (Allan & Gartenstein 2010). Freshwater pests and pathogens are spread to new areas when contaminated water, mud, gravel, soil and plant material or infected animals are moved between sites. Contaminated materials and animals are commonly transported on boots, equipment, vehicles tyres and during road construction and maintenance activities. Once a pest pathogen is present in a water system it is usually impossible to eradicate. The manual *Keeping it Clean - A Tasmanian Field Hygiene Manual to Prevent the Spread of Freshwater Pests and Pathogens* (Allan & Gartenstein 2010) provides information on how to prevent the spread of freshwater pests and pathogens in Tasmanian waterways wetlands, swamps and boggy areas.

Given the high diversity of frog species, including the listed green and golden frog (*Litoria raniformis*), within the broader project area, it is suggested that DofSG consider developing a

management strategy for minimising the risk of introducing the pathogen (or spreading it if already present).

At present, few people are technically qualified to undertake chytrid sampling. Engaging with DPIPW's Senior Veterinarian to either have surveys undertaken by DPIPW or by a consultant under a guided training session is suggested. The latter may be a longer term option more suited to the project because it would mean the department had accredited consultants it could call on for future surveys (e.g. monitoring).

In my opinion, management of chytrid risks is not a "fatal flaw" to the project but one that needs to be carefully considered.

DISCUSSION

Summary of key findings

Non-threatened flora (e.g. species of biogeographic significance)

- *Amphibromus sinuatus* (lax swampgrass) was recorded from the small dam between the railway line and Illawarra Road. This species is not reported frequently in Tasmania and is considered of some local significance. While technically not threatened, if the dam can be maintained undisturbed, the population is likely to persist. Note that this dam is also considered a potential habitat for the green and golden frog and further project design around this site is recommended.

Non-threatened fauna (e.g. species of biogeographic significance)

- The broader project area supports a relatively high diversity of frog species, including the threatened green and golden frog (*Litoria raniformis*). Management of potential habitat (still and slow-flowing waterbodies) and interconnected habitat (as dispersal corridors) and development of a chytrid disease management strategy is recommended.

Threatened flora

- No plant species, listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, were detected within the study area. The study area does not support significant potential habitat of EPBCA-listed species such that further surveys are not warranted.
- Three plant species, listed as threatened (all rare) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA), were detected within the study area, as follows:
 - *Arthropodium strictum* (chocolate lily): localised to the better condition grassy forested ridge south of the reservoir (probably outside any area likely to be disturbed);
 - *Caesia calliantha* (blue grasslily): as above; and
 - *Haloragis heterophylla* (variable raspwort): small patch in roadside drain on northern side of Illawarra Road (impractical to avoid);
- Depending on the status of *Arthropodium strictum* at the time of project commencement (currently recommended for de-listing), and the precise extent of works, a permit may be required to disturb these threatened species, but no special management prescriptions are recommended (i.e. their presence should not constrain project design in any manner).
- Note that any consideration of threatened flora should consider the whole project, not just the southern or northern sections in isolation.

Threatened fauna

- Potential habitat of the eastern barred bandicoot (*Perameles gunnii* subsp. *gunnii*), green and golden frog (*Litoria raniformis*) and masked owl (*Tyto novaehollandiae* subsp. *castanops*) and potential impacts on these species, will need to be considered under the provisions of Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and/or the Tasmanian *Threatened Species Protection Act 1995*.
- The need for a referral under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* may depend on the final project design. The key management issues requiring consideration are: (1) potential for increased roadkill; (2) habitat fragmentation; (3) introduction of chytrid disease; and (4) loss of habitat elements such as large hollow-bearing trees and aquatic features.
- Note that any consideration of threatened fauna should consider the whole project, not just the southern or northern sections in isolation.
- Further surveys of aquatic and near-aquatic habitats are likely to be required for the green and golden frog in the southern section of the project area because nocturnal play-back surveys to date have been conducted on one night only and in poor to average conditions. However, such surveys may not become necessary if the key sites can be avoided by an appropriate distance. The northern section has been well surveyed for frogs but it needs to be recognised that any survey result simply represents a snapshot in time and a site deemed negative now may be used in future. For this reason, depending on the final design of the project, further targeted surveys may become warranted.
- Further consideration of individual hollow-bearing trees may need to be given during further project design.

Vegetation types

- No vegetation types, classified as threatened on Schedule 3A of the Tasmanian *Nature Conservation Act 2002* or schedules of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, were detected within the study area.

Declared weeds

- Seven species, classified as declared weeds within the meaning of the Tasmanian *Weed Management Act 1999*, were detected from the study area. Additional species are reported from the broader project area.
- Development of a project-level weed and hygiene management plan is recommended, principally to deal with management of vegetation debris and topsoil containing propagules of "environmental weeds".

Plant and animal disease

- Management of chytrid frog disease should be considered as part of developing management prescriptions for threatened fauna.
- Hygiene prescriptions should be incorporated into a project-level weed and hygiene management plan.

Legislative and policy implications

Some commentary is provided below with respect to the key threatened species legislation. Note that there may be other relevant policy instruments in addition to those discussed.

Tasmanian Threatened Species Protection Act 1995

Three plant species, listed as threatened on the Tasmanian *Threatened Species Protection Act 1995*, were detected within the study area. If sites supporting threatened flora will be disturbed, a permit under Section 51 of the Act will need to be sought by formal application to the Policy & Conservation Assessment Branch of the Department of Primary Industries, Parks, Water & Environment, using the prescribed proforma. This document should provide sufficient details to complete the permit proforma (e.g. extent of population, number of individuals). Note that it has been recommended that no special prescriptions be applied to a permit for any of these species.

Potential habitat of threatened fauna is more complex to manage under Section 51 of the Act because unless works would result in the "taking" of a specimen, a permit under the Act is not technically possible. However, it is usual for development proposals involving the disturbance of potential habitat of threatened species listed on the Act to be referred to DPIPWE for advice. In the absence of being in a position to issue a permit under Section 51 of the Act, DPIPWE's Policy & Conservation Assessment Branch (PCAB) may make recommendations to a development proponent in regard to managing habitat of threatened species and/or may endorse or comment on proposed offset/mitigation strategies.

Commonwealth Environment Protection and Biodiversity Conservation Act 1999

No plant species, listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, were detected within the study area. There is no significant potential habitat of threatened flora listed on this Act within the study area.

Potential habitat is present for some species of fauna, listed as threatened on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, within the study area. Appendix E discusses these in detail, as well as section **RESULTS Fauna species** Priority fauna species and potential habitat recorded from the study area), which indicate that the key species requiring consideration under the Act are the eastern barred bandicoot (*Perameles gunnii* subsp. *gunnii*), green and golden frog (*Litoria raniformis*) and masked owl (*Tyto novaehollandiae* subsp. *castanops*).

The Commonwealth Department of the Environment provide a *Significant Impact Guidelines* policy statement (CofA 2013) to determine if referral to the department is required. Those guidelines are intended to be general in nature but some species-specific guidelines are also available. This is the case for the green and golden frog, *Litoria raniformis* (CofA 2009) – these guidelines are discussed after commentary on the more general guidelines below.

In relation to all Vulnerable species, the *Guidelines* indicate that the following criteria should be applied to determine if a "significant impact" is likely.

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

- lead to a long-term decrease in the size of an important population of a species
- reduce the area of occupancy of an important population
- fragment an existing important population into two or more populations
- adversely affect habitat critical to the survival of a species
- disrupt the breeding cycle of an important population
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

- result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat
- introduce disease that may cause the species to decline, or
- interfere substantially with the recovery of the species.

A key term is "important population", which is defined in the *Guidelines* as:

An 'important population' is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species range.

In my opinion, under the general significant impact guidelines, the population of the green and golden frog in and near the project area qualifies as an "important population" on the basis that it is likely to be a key source population for breeding and dispersal in the wider area.

In my opinion, the project is unlikely to trigger any of the criteria. This does depend, however, on the final design and methods used to avoid/minimise potential impacts. For example, provided that the known sites are avoided, a long-term decrease in the size of the population or a reduction in the area of occupancy is not likely. While a major road may superficially appear to fragment a population, in reality this fragmentation factor is already present (existing major road) and the species is present on either side of the road. Therefore the key question is whether such a factor would adversely affect habitat or disrupt the breeding cycle – both these seem unlikely based on existing evidence.

The "modify, destroy, remove or isolate or decrease the availability or quality of habitat" criterion is more nebulous but the phrasing "to the extent that the species is likely to decline" is important to consider. In my opinion, this is unlikely to occur as the key area of concern involves a road upgrade, not a new fragmentation factor.

The "introduce disease" criterion requires careful consideration. This relates to the chytrid pathogen. With appropriate management under the State-issued guidelines for machinery hygiene, this risk factor would appear to be mitigated to a level where the risk is negligible.

In relation to the green and golden frog, there are also species-specific significant impact guidelines (CofA 2009).

Key sections of these guidelines are copied below, with commentary beneath each point.

Important populations

Much of the habitat for the growling grass frog has been isolated or fragmented, restricting the opportunity for important population processes such dispersal and colonisation. As such, any viable population is considered to be an important population for the persistence and recovery of the growling grass frog. For this species, a viable population is one which is not isolated from other populations or water bodies, such that it has the opportunity to interact with other nearby populations or has the ability to establish new populations when water bodies fill and become available. Interaction with nearby populations and colonisation of newly available water bodies occurs via the dispersal of individual frogs across suitable movement habitat (see 'Key ecological requirements of the species'). In addition, a population of growling grass frogs could be considered an important population if it is near the limit of the species range (for example small isolated populations in South Australia), is well-studied or has a history of monitoring, and hence provides opportunity for greater understanding of the species through the collection of long-term data.

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There is little doubt that the project supports a "viable population" because it is not isolated from other populations by any significant or obvious barriers to dispersal, and there are multiple sites in which the identified populations could establish in nearby areas.

Below are copied the "significant impact thresholds" for the species with my commentary for each item.

Significant impact thresholds for the species: growling grass frog

Ecological element affected	Impact threshold	Comment
Habitat degradation in an area supporting an important population	Permanent removal or degradation of terrestrial habitat (for example between ponds, drainage lines or other temporary/permanent habitat) within 200 metres of a water body in temperate regions, or 350 metres of a water body in semi-arid regions, that results in the loss of dispersal or overwintering opportunities for an important population.	- Habitat is a connected area that supports one or more key ecological functions for this species. These functions may include, but are not limited to: foraging, breeding, dispersal, shelter. - Any action that results in the degradation of habitat such that the recruitment, survival or dispersal rates of an important population are lowered may have a significant impact on the species.
	Alteration of aquatic vegetation diversity or structure that leads to a decrease in habitat quality.	- Habitat quality increases with: - increasing wetland area, - water permanence, and - aquatic vegetation cover.
	Alteration to wetland hydrology, diversity and structure (for example any changes to timing, duration or frequency of flood events) that leads to a decrease in habitat quality.	- Habitat quality decreases with: - the degree of development in the terrestrial zone (that is, Roads, buildings etc), and - the presence of predatory fish.
	Introduction of predatory fish and/or disease agents.	
Isolation and fragmentation of populations	Net reduction in the number and/or diversity of water bodies available to an important population.	Habitat connectivity could be provided by a linear water body (for example creekline) or by suitable terrestrial habitat between waterbodies. Individuals may use a range of terrestrial and aquatic habitats as movement corridors between water bodies, including floodways or grassy fields.
	Removal or alteration of available terrestrial or aquatic habitat corridors (including alteration of connectivity during flood events).	Any isolation of water bodies, through destruction of habitat, or creation of a barrier such that movement or migration between waterbodies is less likely to have a significant impact on the species.
	Construction of physical barriers to movement between water bodies, such as roads or buildings.	

Notes:

The elements and thresholds in the table above give guidance to the level of impact that may be significant for the species at a site. They are not intended to be exhaustive or prescriptive, but rather to highlight the need to maintain the ecological function of the habitat area.

Habitat degradation in an area supporting an important population

Permanent removal or degradation of terrestrial habitat (for example between ponds, drainage lines or other temporary/permanent habitat) within 200 metres of a water body in temperate regions, or 350 metres of a water body in semi-arid regions, that results in the loss of dispersal or overwintering opportunities for an important population.

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The project has the potential to result in habitat degradation. The key question is whether the impact threshold will be exceeded. There will be alteration of "connecting habitat" although key aquatic sites are likely to be avoidable. Whether the disturbance is considered "permanent" or not is important to consider because the project will clearly disturb habitat within 200 m of important water bodies. However, in my opinion, this disturbance will not result in "the loss of dispersal or overwintering opportunities" because the species will be retained at key sites and surrounding habitat will be maintained.

Alteration of aquatic vegetation diversity or structure that leads to a decrease in habitat quality
This will be avoided.

Alteration to wetland hydrology, diversity and structure (for example any changes to timing, duration or frequency of flood events) that leads to a decrease in habitat quality
There is no proposed change to wetland hydrology.

Introduction of predatory fish and/or disease agents
Predatory fish will not be introduced. Chytrid pathogen is considered a risk but a management strategy is possible that will mitigate this risk to an acceptable level.

Isolation and fragmentation of populations
Net reduction in the number and/or diversity of water bodies available to an important population
Avoiding water bodies known to support the species will be a key part of the design of the project. If water bodies that may potentially support the species (i.e. those "available" to it) are likely to require removal, the key phrasing is "net reduction". It is unlikely that primary producers will accept the loss of water bodies as part of the project. As such, replacing any proposed loss with alternative water bodies will need to form part of the project. As such, this is not mitigation for the frog but a project-level requirement, meaning that it should be possible to demonstrate a no net loss scenario. It may be possible to actually demonstrate a net gain through negotiation with landowners to re-create water bodies of a larger size or higher number than those lost or disturbed.

Removal or alteration of available terrestrial or aquatic habitat corridors (including alteration of connectivity during flood events)
See previous criterion in relation to this.

Construction of physical barriers to movement between water bodies, such as roads or buildings
It seems unlikely that the road will be considered a physical barrier to movement. If this were the case, for the key part of the project area (northern section) the road is already present and water bodies are already separated.

Tasmanian Wildlife (General) Regulations 2010

While the assessment of the study area indicated the presence of species listed on schedules of the Regulations (i.e. "specially protected wildlife", "protected wildlife", "partly protected wildlife"), no "products" (e.g. nests, dens, etc.) of these species were detected. Any disturbance within the study area will not knowingly disturb listed species or products of such species, such that no special actions are likely to be required in relation to these *Regulations*.

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Tasmanian Weed Management Act 1999

Seven species, classified as “declared weeds” within the meaning of the *Tasmanian Weed Management Act 1999*, were detected from within the study area.

These species are subject to Statutory Weed Management Plans under the *Weed Management Act 1999* (see information on weed section of DPIPWE’s web site).

Development of a project-level weed and hygiene management plan is recommended, principally to deal with management of vegetation debris and topsoil containing propagules of “environmental weeds”.

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APPENDIX A. Vegetation community structure and composition

The table below provides a detailed description of the native vegetation mapping unit identified from the study area. The lists of species provided is representative only.

<i>Eucalyptus viminalis</i> grassy forest and woodland (TASVEG code: DVG)		
DVG occupies slopes and ridges of Oakmount. Limited areas are in relatively good condition (e.g. gentle ridge south of reservoir) and support populations of threatened flora. The majority of the eastern and northeastern part of Oakmount within the study area has an understorey of virtually impenetrable gorse and/or bracken with a very low diversity of native plants. The canopy is multi-aged, however, with several large hollow-bearing trees. The southern "ridge" of Oakmount (north of Illawarra Road) is very open and sections are barely classifiable as forest or woodland due to a very sparse canopy and very open understorey used for grazing i.e. this area is essentially open "pasture".		
 LHS. Remnant stands of DVG RHS. Bracken-dominated facies of DVG		
Stratum	Height (m) Cover (%)	Species (underline = dominant, parentheses = sparse or occasional)
Trees	25 m 30%	<u><i>Eucalyptus viminalis</i></u> , <i>E. amygdalina</i>
Secondary trees	6-12 m 5%	<i>Allocasuarina verticillata</i> , <i>Acacia melanoxylon</i> , <i>A. dealbata</i>
Small trees/tall shrubs	1-5 m 5%	<i>Banksia marginata</i> , <i>Bursaria spinosa</i> , <u><i>Ulex europaeus</i></u>
Low shrubs	<1 m +	<i>Pimelea humilis</i>
Herbs	variable	<i>Arthropodium</i> spp., <i>Caesia calliantha</i> , <i>Dichondra repens</i>
Graminoids	variable	<i>Lomandra longifolia</i>
Grasses	5-95%	<i>Austrostipa</i> spp, <i>Rytidosperma</i> spp., <i>Anthoxanthum odoratum</i> , <i>Briza</i> spp., <i>Holcus lanatus</i>
Ground ferns	<1 m variable	<u><i>Pteridium esculentum</i></u>

APPENDIX B. Vascular plant species recorded from study area

Botanical nomenclature follows *A Census of the Vascular Plants of Tasmania* (de Salas & Baker 2014), with family placement updated to reflect the nomenclatural changes recognised in the *Flora of Tasmania Online* (Duretto 2009+); common nomenclature follows Wapstra et al. (2005+, updated online at www.dpipwe.tas.gov.au). Note that some ornamental trees and shrubs are not listed below, especially where they occurred along immediate fencelines.

i = introduced/naturalised; e = endemic to Tasmania; DW – declared weed within meaning of *Tasmanian Weed Management Act 1999* (A or B – municipality zoning; wi = widespread infestations; li = localised infestations); TSPA = status on *Tasmanian Threatened Species Protection Act 1995*

Table B1. Summary of vascular species recorded from the study area

STATUS	ORDER			
	DICOTYLEDONAE	MONOCOTYLEDONAE	GYMNOSPERMAE	PTERIDOPHYTA
	38	35	-	1
e	1	1	-	-
i	91	44	3	-
Sum	130	80	3	1
TOTAL	214			

DICOTYLEDONAE**AMARANTHACEAE**

- | | | | |
|---|--|-------------------|--|
| i | <i>Amaranthus albus</i> | tumble pigweed | |
| i | <i>Amaranthus deflexus</i> | spreading pigweed | |
| | <i>Einadia nutans</i> subsp. <i>nutans</i> | climbing saltbush | |

APIACEAE

- | | | | |
|--|----------------------------|-------------------|--|
| | <i>Daucus glochidiatus</i> | australian carrot | |
|--|----------------------------|-------------------|--|

ASTERACEAE

- | | | | |
|---|--|----------------------------|------------|
| i | <i>Achillea millefolium</i> | yarrow | |
| i | <i>Arctotheca calendula</i> | capeweed | |
| i | <i>Bellis perennis</i> | english daisy | |
| i | <i>Carduus pycnocephalus</i> | slender thistle | D (B – wi) |
| i | <i>Carduus tenuiflorus</i> | winged thistle | D (B – wi) |
| | <i>Cassinia aculeata</i> subsp. <i>aculeata</i> | common dollybush | |
| i | <i>Cichorium intybus</i> | chicory | |
| i | <i>Cirsium vulgare</i> | spear thistle | |
| i | <i>Conyza bonariensis</i> | flaxleaf fleabane | |
| | <i>Euchiton involucrat</i> | star cottonleaf | |
| | <i>Euchiton japonicus</i> | common cottonleaf | |
| | <i>Euchiton sphaericus</i> | globe cottonleaf | |
| i | <i>Helminthotheca echioides</i> | bristly oxtongue | |
| i | <i>Hypochaeris glabra</i> | smooth catsear | |
| i | <i>Hypochaeris radicata</i> | rough catsear | |
| i | <i>Lactuca saligna</i> | willow lettuce | |
| | <i>Lagenophora stipitata</i> | blue bottledaisy | |
| i | <i>Matricaria chamomilla</i> | rayless mayweed | |
| | <i>Senecio glomeratus</i> subsp. <i>glomeratus</i> | shortfruit purple fireweed | |
| | <i>Senecio quadridentatus</i> | cotton fireweed | |
| i | <i>Sonchus asper</i> subsp. <i>asper</i> | prickly sowthistle | |
| i | <i>Sonchus oleraceus</i> | common sowthistle | |
| i | <i>Taraxacum officinale</i> | common dandelion | |

BORAGINACEAE

- | | | | |
|---|-------------------------------|--------------------|------------|
| | <i>Cynoglossum suaveolens</i> | sweet houndstongue | |
| i | <i>Marrubium vulgare</i> | white horehound | D (B – wi) |

BRASSICACEAE

- | | | | |
|---|----------------------|--------|--|
| i | <i>Brassica rapa</i> | turnip | |
|---|----------------------|--------|--|

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i	<i>Brassica tournefortii</i>	mediterranean turnip	
i	<i>Capsella bursa-pastoris</i>	shepherds purse	
i	<i>Cardamine hirsuta</i>	hairy bittercress	
i	<i>Raphanus raphanistrum</i>	wild radish	
i	<i>Sinapis arvensis</i>	charlock	
i	<i>Sisymbrium officinale</i>	hedge-mustard	
	CAMPANULACEAE		
	<i>Wahlenbergia stricta</i> subsp. <i>stricta</i>	tall bluebell	
	CARYOPHYLLACEAE		
i	<i>Cerastium glomeratum</i>	sticky mouse-ear	
i	<i>Cerastium vulgare</i>	common mouse-ear	
i	<i>Moenchia erecta</i>	erect chickweed	
i	<i>Petrorhagia nanteuilii</i>	proliferous pink	
i	<i>Polycarpon tetraphyllum</i>	fourleaf allseed	
i	<i>Spergularia rubra</i>	greater sandspurrey	
	CASUARINACEAE		
	<i>Allocasuarina verticillata</i>	drooping sheoak	
	CONVOLVULACEAE		
	<i>Dichondra repens</i>	kidneyweed	
	EUPHORBIACEAE		
i	<i>Euphorbia helioscopia</i>	sun spurge	
i	<i>Euphorbia peplus</i>	petty spurge	
	FABACEAE		
i	<i>Acacia baileyana</i>	cootamundra wattle	
	<i>Acacia dealbata</i> subsp. <i>dealbata</i>	silver wattle	
	<i>Acacia mearnsii</i>	black wattle	
	<i>Acacia melanoxylon</i>	blackwood	
i	<i>Lotus corniculatus</i> var. <i>tenuifolius</i>	narrow birdsfoot-trefoil	
i	<i>Lotus uliginosus</i>	greater birdsfoot-trefoil	
i	<i>Medicago polymorpha</i>	burr medick	
i	<i>Trifolium arvense</i>	haresfoot clover	
i	<i>Trifolium dubium</i>	suckling clover	
i	<i>Trifolium glomeratum</i>	cluster clover	
i	<i>Trifolium pratense</i>	red clover	
i	<i>Trifolium repens</i>	white clover	
i	<i>Trifolium subterraneum</i>	subterranean clover	
i	<i>Ulex europaeus</i>	gorse	D (b - wi)
i	<i>Vicia sativa</i> subsp. <i>nigra</i>	narrowleaf vetch	
i	<i>Vicia sativa</i> subsp. <i>sativa</i>	common vetch	
i	<i>Vicia tetrasperma</i>	smooth vetch	
	FUMARIACEAE		
i	<i>Fumaria muralis</i> subsp. <i>muralis</i>	wall fumitory	
	GENTIANACEAE		
i	<i>Centaurium erythraea</i>	common centaurry	
	GERANIACEAE		
i	<i>Erodium botrys</i>	long heronsbill	
i	<i>Erodium cicutarium</i>	common heronsbill	
i	<i>Geranium dissectum</i>	cutleaf cranesbill	
i	<i>Geranium molle</i>	soft cranesbill	
	<i>Geranium solanderi</i>	southern cranesbill	
	HALORAGACEAE		
	<i>Gonocarpus tetragynus</i>	common raspwort	
	<i>Haloragis heterophylla</i>	variable raspwort	T (rare)
	<i>Myriophyllum variifolium</i>	variable watermilfoil	
	HYPERICACEAE		
	<i>Hypericum gramineum</i>	small st johns-wort	
	<i>Hypericum japonicum</i>	matted st johns-wort	
i	<i>Hypericum perforatum</i> subsp. <i>veronense</i>	perforated st johns-wort	D (A - li)
	LAMIACEAE		
i	<i>Mentha pulegium</i>	pennyroyal	
i	<i>Prunella vulgaris</i>	selfheal	
	LINACEAE		
	<i>Linum marginale</i>	native flax	

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LYTHRACEAE	
<i>Lythrum hyssopifolia</i>	small loosestrife
MALVACEAE	
i <i>Malva neglecta</i>	dwarf mallow
i <i>Malva parviflora</i>	smallflower mallow
i <i>Malva sylvestris</i>	tall mallow
MYRSINACEAE	
i <i>Lysimachia arvensis</i>	scarlet pimpernel
MYRTACEAE	
e <i>Eucalyptus amygdalina</i>	black peppermint
i <i>Eucalyptus botryoides</i>	southern mahogany
i <i>Eucalyptus nitens</i>	shining gum
<i>Eucalyptus ovata</i> var. <i>ovata</i>	black gum
<i>Eucalyptus pauciflora</i> subsp. <i>pauciflora</i>	cabbage gum
<i>Eucalyptus viminalis</i> subsp. <i>viminalis</i>	white gum
ONAGRACEAE	
<i>Epilobium billardierianum</i> subsp. <i>billardierianum</i>	robust willowherb
<i>Epilobium hirtigerum</i>	hairy willowherb
OXALIDACEAE	
i <i>Oxalis corniculata</i> subsp. <i>corniculata</i>	yellow woodsorrel
i <i>Oxalis incarnata</i>	pale woodsorrel
i <i>Oxalis latifolia</i>	largeleaf woodsorrel
PITTOSPORACEAE	
<i>Bursaria spinosa</i> subsp. <i>spinosa</i>	prickly box
PLANTAGINACEAE	
i <i>Callitriche stagnalls</i>	mud waterstarwort
i <i>Plantago coronopus</i> subsp. <i>coronopus</i>	slender buckhorn plantain
i <i>Plantago lanceolata</i>	ribwort plantain
i <i>Plantago major</i>	great plantain
POLYGONACEAE	
i <i>Acetosella vulgaris</i>	sheep sorrel
i <i>Persicaria maculosa</i>	common knotweed
i? <i>Persicaria prostrata</i>	creeping waterpepper
i <i>Polygonum arenastrum</i>	small wireweed
i <i>Polygonum aviculare</i>	creeping wireweed
i <i>Rumex crispus</i>	curled dock
i <i>Rumex obtusifolius</i>	broadleaf dock
i <i>Rumex pulcher</i> subsp. <i>pulcher</i>	fiddle dock
PORTULACACEAE	
<i>Montia australasica</i>	white purslane
PROTEACEAE	
<i>Banksia marginata</i>	silver banksia
RANUNCULACEAE	
i <i>Ranunculus repens</i>	creeping buttercup
i <i>Ranunculus trilobus</i>	large annual buttercup
RESEDACEAE	
i <i>Reseda luteola</i>	weld
ROSACEAE	
<i>Acaena echinata</i>	spiny sheepsburr
<i>Acaena novae-zelandiae</i>	common buzzy
<i>Acaena x anserovina</i>	hybrid sheepsburr
i <i>Crataegus monogyna</i>	hawthorn
i <i>Rosa rubiginosa</i>	sweet briar
i <i>Rubus anglocandicans</i>	blackberry D (B- li)
i <i>Rubus leucostachys</i>	blackberry D (B- li)
i <i>Sanguisorba minor</i>	salad burnet
RUBIACEAE	
i <i>Galium aparine</i>	cleavers
SANTALACEAE	
<i>Exocarpos cupressiformis</i>	common native-cherry
SCROPHULARIACEAE	
i <i>Verbascum thapsus</i>	great mullein
i <i>Verbascum virgatum</i>	twiggy mullein

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SOLANACEAE		
i	<i>Lycium ferocissimum</i>	african boxthorn D (B – wi)
i	<i>Solanum nigrum</i>	blackberry nightshade
THYMELAEACEAE		
	<i>Pimelea humilis</i>	dwarf riceflower
VIOLACEAE		
	<i>Melicytus dentatus</i>	spiky violetbush
MONOCOTYLEDONAE		
AGAPANTHACEAE		
i	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	agapanthus
CENTROLEPIDACEAE		
	<i>Centrolepis strigosa</i> subsp. <i>strigosa</i>	hairy bristlewort
CYPERACEAE		
	<i>Carex appressa</i>	tall sedge
	<i>Carex breviculmis</i>	shortstem sedge
i	<i>Cyperus eragrostis</i>	drain flatsedge
	<i>Eleocharis acuta</i>	common spikesedge
	<i>Eleocharis sphacelata</i>	tall spikesedge
	<i>Isolepis cernua</i>	nodding clubsedge
i	<i>Isolepis hystrix</i>	awned clubsedge
	<i>Isolepis inundata</i>	swamp clubsedge
	<i>Isolepis marginata</i>	little clubsedge
	<i>Schoenus apogon</i>	common bogsedge
HEMEROCALLIDACEAE		
	<i>Caesia calliantha</i>	blue grasslily T (rare)
	<i>Dianella revoluta</i> var. <i>revoluta</i>	spreading flaxlily
JUNCACEAE		
i	<i>Juncus acutiflorus</i>	sharpflower rush
i	<i>Juncus articulatus</i>	jointed rush
e	<i>Juncus astreptus</i>	rigid rush
	<i>Juncus australis</i>	southern rush
	<i>Juncus holoschoenus</i>	jointleaf rush
	<i>Juncus pallidus</i>	pale rush
	<i>Juncus procerus</i>	tall rush
	<i>Luzula flaccida</i>	pale woodrush
LAXMANNIACEAE		
	<i>Arthropodium milleflorum</i>	pale vanilla-lily
	<i>Arthropodium strictum</i>	chocolate lily T (rare)
	<i>Lomandra longifolia</i>	sagg
ORCHIDACEAE		
	<i>Diuris sulphurea</i>	tiger orchid
POACEAE		
i	<i>Agrostis capillaris</i> var. <i>capillaris</i>	browntop bent
i	<i>Agrostis stolonifera</i>	creeping bent
i	<i>Aira caryophyllea</i> subsp. <i>caryophyllea</i>	silvery hairgrass
i	<i>Aira praecox</i>	early hairgrass
i	<i>Alopecurus geniculatus</i>	marsh foxtail
i	<i>Alopecurus pratensis</i> subsp. <i>pratensis</i>	meadow foxtail
	<i>Amphibromus sinuatus</i>	lax swampgrass
	<i>Anthosachne scabra</i>	rough wheatgrass
i	<i>Anthoxanthum odoratum</i>	sweet vernalgrass
i	<i>Arrhenatherum elatius</i> var. <i>bulbosum</i>	bulbous oatgrass
	<i>Austrostipa mollis</i>	soft speargrass
	<i>Austrostipa rudis</i> subsp. <i>australis</i>	southern speargrass
	<i>Austrostipa stuposia</i>	corkscrew speargrass
i	<i>Avena barbata</i>	bearded oat
i	<i>Avena sativa</i>	cereal oat
i	<i>Briza maxima</i>	greater quaking-grass
i	<i>Briza minor</i>	lesser quaking-grass
i	<i>Bromus brevis</i>	short brome
i	<i>Bromus cecadilla</i>	chilean brome
i	<i>Bromus diandrus</i>	great brome
i	<i>Bromus hordeaceus</i>	soft brome

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i	<i>Bromus lithobius</i>	american brome
i	<i>Cynodon dactylon</i> var. <i>dactylon</i>	couchgrass
i	<i>Cynosurus cristatus</i>	crested dogstail
i	<i>Cynosurus echinatus</i>	rough dogstail
i	<i>Dactylis glomerata</i>	cocksfoot
	<i>Deyeuxia quadrisetia</i>	reed bentgrass
	<i>Dichelachne rara</i>	common plumegrass
i	<i>Digitaria sanguinalis</i>	summergrass
i	<i>Ehrharta erecta</i> var. <i>erecta</i>	panic veldtgrass
i	<i>Festuca arundinacea</i>	tall fescue
i	<i>Glyceria declinata</i>	small sweetgrass
i	<i>Holcus lanatus</i>	yorkshire fog
i	<i>Hordeum glaucum</i>	bluish barleygrass
i	<i>Hordeum leporinum</i>	long-anther barleygrass
i	<i>Lolium perenne</i>	perennial ryegrass
i	<i>Lolium rigidum</i>	wimmera ryegrass
	<i>Microaena stipoides</i> var. <i>stipoides</i>	weeping grass
i	<i>Panicum hillmanii</i>	witch panic
i	<i>Paspalum dilatatum</i>	paspalum
i	<i>Phalaris aquatica</i>	toowoomba canarygrass
i	<i>Phalaris minor</i>	lesser canarygrass
i	<i>Poa annua</i>	winter grass
	<i>Poa labillardierei</i> var. <i>labillardierei</i>	silver tussockgrass
i	<i>Poa pratensis</i>	kentucky bluegrass
i	<i>Polypogon monspeliensis</i>	annual beardgrass
	<i>Rytidosperma caespitosum</i>	common wallabygrass
	<i>Rytidosperma penicillatum</i>	slender wallabygrass
	<i>Rytidosperma pilosum</i>	velvet wallabygrass
	<i>Rytidosperma racemosum</i> var. <i>racemosum</i>	striped wallabygrass
	<i>Rytidosperma setaceum</i>	bristly wallabygrass
i	<i>Vulpia bromoides</i>	squirreltail fescue
	POTAMOGETONACEAE	
	<i>Potamogeton tricarlinatus</i>	floating pondweed
	TYPHACEAE	
i	<i>Typha latifolia</i>	great reedmace
	PTERIDOPHYTA	
	DENNSTAEDTIACEAE	
	<i>Pteridium esculentum</i>	bracken
	GYMNOSPERMAE	
	CUPRESSACEAE	
	<i>Callitris rhomboidea</i>	oyster bay pine
i	<i>Hesperocyparis macrocarpa</i>	monterey cypress
	PINACEAE	
i	<i>Pinus radiata</i>	radiata pine

APPENDIX C. Annotated images of project area



LHS. Overview of creek through pasture south of Illawarra Road
 RHS. Better quality patch of habitat for *Litoria raniformis* close to residence



LHS. Gorse-infested creekline south of Illawarra Road – poor quality habitat of *Litoria raniformis* but potentially important in connectivity
 RHS. Head of dam south of study area – ideal habitat of *Litoria raniformis*



Potential habitat of *Litoria raniformis* in farm dam between railway line and Illawarra Road

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LHS. Small dam at northern end of study area likely to provide habitat for *Litoria raniformis* – this dam is “fed” by a grassed drainage depression between cropping land (RHS)



Creekline on edge of study area with ephemeral potential habitat for *Litoria raniformis*



LHS. Roadside drains such as this along Illawarra Road probably provide temporary habitat and dispersal corridors for *Litoria raniformis*

RHS. Pasture drains such as this are also likely to provide connections between more permanent water-holding sites



LHS. Habitat of *Haloragis heterophylla* on northern side of Illawarra Road – species occurs in weedy table drain

RHS. Better quality grassy *E. viminalis*/*E. amygdalina* forest on slope south of reservoir, where *Arthropodium strictum* and *Caesia calliantha* occurred



LHS. Large stag with large hollows in forest on east face of Oakmount

RHS. Large remnant paddock tree with hollows

APPENDIX D. Analysis of database records of threatened flora

Table D1 provides a listing of priority flora from within 500 m and 5000 m of the study area (nominal buffer widths usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded. Some species not listed on databases but considered by the author to have potential to occur in the survey area are also discussed.

Note that the field assessment was not restricted to the species listed in Table D1 but considered any threatened flora with the potential to be present. While the database analysis utilises a nominal buffer of 5000 m, the author's own experience of the vegetation and flora of the greater northern Midlands area combined with database interrogation, meant that the specific potential for numerous other species previously recorded from the wider area were taken into account.

Table D1. Priority flora records from within 500 m and 5000 m of boundary of study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from the DPIPWE's *Natural Values Atlas* (DPIPWE 2015a) and other sources where indicated. Habitat descriptions are taken from TSS (2003+), except where otherwise indicated.

Species	Status TSPA EPBCA	Observations	Comments
Records within the study area			
<i>Pilularia novaehollandiae</i> (austral pillwort)	r -	27 Nov. 1988, B. Robinson, ± 100 m 512412mE 5397083mN	The record falls nominally within the study area, although the veracity of the precision is brought into question by the obvious conversion from a AGD66 to GDA94 datum (i.e. easting ends in 12 and northing in 83). However, the approximate location is likely to be accurate as the supporting specimen at the Tasmanian Herbarium is labelled "South side of Illawarra Road, near Perth". The species usually occurs in seasonally inundated lagoon and lake edges but in the Midlands there are a few scattered records from table drains adjacent to major roads. The species was not detected during the present assessment (which essentially coincided with the timing of the original observation), although it is noted the table drains on both sides of Illawarra Road were densely dominated by tall grass and sedges, making detection of this diminutive annual fern virtually impossible.
Records within 500 m of study area			
<i>Arthropodium strictum</i> (chocolate lily)	r -	20 records [numerous additional records within 5000 m]	Species detected – see RESULTS Plant species <u>Priority flora species recorded from the study area.</u>
<i>Caesia calliantha</i> (blue grasslily)	r -	3 records [19 additional records within 5000 m]	Species detected – see RESULTS Plant species <u>Priority flora species recorded from the study area.</u>
<i>Hypoxis vaginata</i> (sheathing yellowstar)	r -	8 records	Potential habitat (open grassland, grassy forest and woodland and pasture) present. The species was not detected. This may represent a timing issue because the flowering of the species can be variable between seasons

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Species	Status TSPA EPBCA	Observations	Comments
		[numerous additional records within 5000 m]	and even within regions in a particular season. However, no distinctive fruiting spikes were detected suggesting that, if present, the species is not common.
<i>Juncus amabilis</i> (gentle rush)	r -	1 record	Potential habitat (poorly-drained sites such as old pasture, wetlands, roadsides drains, old paddocks, and creek margins) present (roadside ditches, low-lying area). The species was not detected, although numerous species of <i>Juncus</i> were recorded. Only widespread, common and non-threatened species of <i>Juncus</i> were detected from within and adjacent to the study area.
<i>Juncus prismatocarpus</i> (branching rush)	r -	2 records	Potential habitat (seasonally inundated grassy wetlands and riparian areas) effectively absent (atypical of known sites). Only widespread, common and non-threatened species of <i>Juncus</i> were detected from within and adjacent to the study area.
<i>Tricoryne elatior</i> (yellow rushlily)	v -	19 records [4 additional records within 5000 m]	Potential habitat (native grasslands and grassy woodlands/forest, often slightly shaded and/or marginally poorly-drained) present, although atypical of known sites. This species was not detected (would have been flowering at time of survey, also detectable from old fruiting spikes).
<i>Triptilodiscus pygmaeus</i> (dwarf sunray)	v -	4 records [24 additional records within 5000 m]	Potential habitat (native grasslands and grassy woodlands/forest, often associated with patches of bare soil such as old tracks or rock plates) marginally present, although atypical of known sites. This species was not detected (an annual but survey timed to maximise opportunity of detection).
<i>Vittadinia burbridgeae</i> (smooth new-holland-daisy)	r -	19 records	Potential habitat (native grasslands and grassy woodlands/forest, often associated with dolerite) marginally present, although atypical of known sites and dolerite outcrops are absent from this section of the project area. This species was not detected.
<i>Vittadinia cuneata</i> var. <i>cuneata</i> (fuzzy new-holland-daisy)	r -	1 record	As above but tends to be associated with more open grassland habitats. This species was not detected.
Records within 5000 m of study area [and not considered in above sections]			
<i>Alternanthera denticulata</i> (lesser joyweed)	e -	1 record	Potential habitat (flood-prone rocky riverbeds and banks as at Cataract Gorge) is absent from the study area.
<i>Aphelia gracilis</i> (slender fanwort)	r -	11 records	Potential habitat (ephemerally poorly-drained patches of bare ground such as old tracks, edges of dams and openings in heathland) present. Some localised patches of seemingly ideal habitat was searched but the species was not detected. (DIER (2014) reported is as locally abundant in the northern part of the project area).
<i>Aphelia pumilio</i> (dwarf fanwort)	r -	12 records	As above.

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<i>Species</i>	<i>Status</i> TSPA EPBCA	<i>Observations</i>	<i>Comments</i>
<i>Asperula subsessilis</i> (water woodruff)	r -	1 record	Potential habitat (seasonally inundated open grassland and sedgeland) marginally present. This species was not detected.
<i>Austrostipa nodosa</i> (knotty speargrass)	r -	2 records	Potential habitat (native grassland and grassy woodland, including road margins and "rough pasture", often associated with relatively fertile valley floors and adjacent gentle slopes) present. This species was not detected, although several other species of non-threatened, widespread and common <i>Austrostipa</i> were recorded.
<i>Austrostipa scabra</i> subsp. <i>falcata</i> (sickle speargrass)	r -	no database records	Potential habitat (as above but tends to occur in more isolated, rockier sites, often associated with dolerite outcrops and large areas of bare soil) present. The lack of database records is surprising because the species is known from the first major cutting through dolerite north of Perth (M. Wapstra pers. obs. – will check batch files submitted to <i>Natural Values Atlas</i> for reason for "gap"). The species was not detected.
<i>Brunonia australis</i> (blue pincushion)	r -	23 records	Potential habitat (grassy forests and woodlands) present but essentially restricted to the less disturbed slopes south of the reservoir on Oakmount. The species was not detected.
<i>Callitriche umbonata</i> (winged waterstarwort)	r -	2 records	Potential habitat (poorly-drained sites) present. The species was not detected. Material identified as the naturalised <i>Callitriche stagnalis</i> was recorded.
<i>Carex tasmanica</i> (curly sedge)	- VU	1 record	Potential habitat (poorly-drained paddocks, drainage depressions and ditches) present. This species was not detected.
<i>Dianella amoena</i> (grassland flaxlily)	r EN	2 records	Potential habitat (native grasslands and grassy woodlands on fertile substrates) marginally present (soils probably too sandy and infertile). The species was not detected (currently easily detected at sites in the southern Midlands).
<i>Gyrostemon thesioides</i> (broom wheelfruit)	r -	1 record	Potential habitat (disturbed rocky sites amongst forests, often on slopes) absent. The species was not detected.
<i>Haloragis heterophylla</i> (variable raspwort)	r -	12 records	Species detected – see RESULTS Plant species <u>Priority flora species recorded from the study area</u> .
<i>Isoetes elatior</i> (tall quillwort)	r -	1 record	Potential habitat (slow-flowing large rivers such as the South Esk River) absent.
<i>Discaria pubescens</i> (spiky anchorplant)	e -	2 records	Potential habitat (open grasslands and grassy woodlands on fertile substrates derived from basalt or dolerite) effectively absent (no typical outcrops of basalt or dolerite in study area). The species was not detected.
<i>Leptorhynchus elongatus</i> (lanky buttons)	e -	1 record	Potential habitat (native grasslands) effectively absent (atypical of all known sites). The species was not detected.
<i>Lobelia pratioides</i> (poison lobelia)	v -	2 records	Potential habitat (poorly-drained native and disturbed grasslands) marginally present. This species was not detected.
<i>Lythrum salicaria</i> (purple loosestrife)	v -	2 records	Potential habitat (margins of flood-prone slow-flowing rivers and creeks) marginally present. This species was not detected.

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Species	Status TSPA EPBCA	Observations	Comments
<i>Muehlenbeckia axillaris</i> (matted lignum)	r -	2 records	Potential habitat (usually fertile patches of bare soil amongst woodland and grassland) marginally present. This species was not detected.
<i>Myriophyllum integrifolium</i> (tiny watermilfoil)	v -	3 records	Potential habitat (ephemerally poorly-drained patches of bare ground such as old tracks, edges of dams and openings in heathland) present. Some localised patches of seemingly ideal habitat was searched but the species was not detected.
<i>Persicaria decipiens</i> (slender waterpepper)	v -	6 records	See under <i>Alternanthera denticulata</i> .
<i>Prostanthera cuneata</i> (alpine mintbush)	x -	2 records	Species is considered extinct. On mainland Australia, this is a species of high elevations. In Tasmania, historical records suggest the species occurred along the South Esk River but may have been washed down from higher in the catchment.
<i>Pterostylis ziegeleri</i> (grassland greenhood)	v VU	1 record	Potential habitat is native grasslands, usually on broad valley floors and adjacent slopes, often on fertile substrates, but sometimes in stabilised grassy/shrubby dune swales (Jones et al. 1999), which is entirely absent. None of the study area presents as remotely similar to any known sites and timed targeted survey is not warranted.
<i>Pultenaea prostrata</i> (silky bushpea)	v -	1 record	Potential habitat (heathy to grassy forest, woodland and open grassland) marginally present but highly atypical of known sites. The species was not detected.
<i>Ranunculus pumilio</i> var. <i>pumilio</i> (fern buttercup)	r -	1 record	Potential habitat (usually poorly-drained sites including quite intensively managed "pasture") present. The species was not detected (annually flowering species but easily detected during spring).
<i>Rumex bidens</i> (mud dock)	r -	1 record	Potential habitat (poorly-drained sites such as estuaries, dam margins and margins of slow-flowing rivers) marginally present (e.g. vegetated dams). The species was not detected.
<i>Siloxerus multiflorus</i> (small wrinklewort)	r -	9 records	See under <i>Triptilodiscus pygmaeus</i> .
<i>Stylidium despectum</i> (small triggerplant)	r -	1 record	See under <i>Aphelia gracilis</i> .
Species from Protected Matters Report (CofA 2014)			
<i>Barbarea australis</i> (riverbed wintercress)	e CR	Species or species' habitat likely to occur within area	Potential habitat (rocky flood-prone river beds and adjacent banks) is absent.
<i>Bertya tasmanica</i> subsp. <i>tasmanica</i> (tasmanian bertya)	e EN	Species or species' habitat may occur within area	Potential habitat (rocky flood-prone river beds and adjacent banks) is absent.
<i>Caladenia caudata</i> (tailed spider-orchid)	v VU	Species or species' habitat may occur within area	This is a species of grassy to shrubby woodlands and open forest, usually on highly insolated sites, but on variable substrates (Jones et al. 1999). The nearest confirmed extant population to the study area is south of George Town on dolerite under light eucalypt forest dominated by <i>Eucalyptus amygdalina</i> . The survey of the study area was undertaken marginally too late to detect the species, which finishes flowering in

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Species	Status TSPA EPBCA	Observations	Comments
			late October to early November in southern Tasmania (Wapstra et al. 2012). However, based on habitat characteristics, it is my opinion that the study area is unlikely to support <i>Caladenia caudata</i> (too highly disturbed, atypical supporting habitat).
<i>Carex tasmanica</i> (curly sedge)	- VU	Species or species' habitat likely to occur within area	See section above.
<i>Colobanthus curtisiae</i> (grassland cupflower)	r VU	Species or species' habitat likely to occur within area	Potential habitat (usually lowland grasslands and grassy woodlands, but now recognised as being widespread at various elevations, especially associated with dolerite outcrops and plates) is marginally present but the species was not detected.
<i>Dianella amoena</i> (grassland flaxlily)	r EN	Species or species' habitat likely to occur within area	See section above.
<i>Diuris lanceolata</i> (large golden moths)	e EN	Species or species' habitat likely to occur within area	The listing of this species in CofA (2015) is erroneous as the species is restricted to the northwest coast of Tasmania in near-coastal windswept heathland.
<i>Epacris exserta</i> (south esk heath)	e EN	Species or species' habitat known to occur within area	Potential habitat (flood-prone rocky riparian areas) is absent (usually dolerite-based).
<i>Glycine latrobeana</i> (clover glycine)	v VU	Species or species' habitat likely to occur within area	Potential habitat (native grasslands, grassy woodlands and occasionally extending into grassy forest) present. The survey was conducted at an appropriate time of year and the species was not detected. The most likely habitat was the gentle ridge south of the reservoir, which is likely to remain undisturbed.
<i>Lepidium hyssopifolium</i> (soft peppergrass)	e EN	Species or species' habitat likely to occur within area	Potential habitat can include highly disturbed road verges, where the species often occurs under ornamental trees (especially conifers) so is widespread in the study area. The species was not recorded.
<i>Prasophyllum apoxychilum</i> (tapered leek-orchid)	e EN	Species or species' habitat may occur within area	Potential habitat (usually dolerite-based slopes with heathy vegetation or granite- and/or Aeolian-derived sands with heathy vegetation) absent.
<i>Prasophyllum incorrectum</i> (golfers leek-orchid)	e CR	Species or species' habitat likely to occur within area	Potential habitat (native grasslands, usually on broad valley floors and adjacent slopes, often on fertile substrates) is present, although atypical of the known sites and well outside the predicted range of the species.
<i>Pterostylis commutata</i> (midlands greenhood)	e CR	Species or species' habitat likely to occur within area	As above.
<i>Pterostylis ziegeleri</i> (grassland greenhood)	v VU	Species or species' habitat likely to occur within area	See section above.
Additional species considered by the author with potential to be present but not shown in databases			
<i>Asperula scoparia</i> subsp. <i>scoparia</i> (prickly woodruff)	r -	no database records	Potential habitat (native grasslands and grassy woodlands, often on fertile substrates) present. The species was not detected.
<i>Austrostipa bigeniculata</i> (doublejointed speargrass)	r -	no database records	As above. Only widespread, common and non-threatened species of <i>Austrostipa</i> were detected from within and adjacent to the study area.

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Species	Status TSPA EPBCA	Observations	Comments
<i>Carex gunniana</i> (mountain sedge)	r -	no database records	Potential habitat is poorly understood but may be present in the study area (it occurs in poorly-drained grassy gullies at a range of elevations but also near-coastal creek outfalls and higher elevation sites). The species was not detected.
<i>Cynoglossum australe</i> (coast houndstongue)	r -	no database records	This is a perennial herb, usually of coastal cliffs and dunes (but occasionally further inland, usually on dolerite). Potential habitat is marginally present (atypical of most known sites, although it can occur on disturbed roadside verges) but the species was not detected.
<i>Deyeuxia densa</i> (heath bentgrass)	r -	no database records	This species can occur in virtually any habitat type but was not detected.
<i>Deyeuxia minor</i> (small bentgrass)	r -	no database records	As above.
<i>Lepidium pseudotasmanicum</i> (shade peppergrass)	r -	no database records	Potential habitat (usually on disturbed sites such as around buildings and under pine trees but otherwise grassy areas) present. This or other <i>Lepidium</i> species were not detected. Note that this species has been recommended for removal from schedules of the TSPA.
<i>Ranunculus sessiliflorus</i> var. <i>sessiliflorus</i> (rockplate buttercup)	r -	no database records	Potential habitat (various but grassy woodlands, rock plates, exposed areas of bare soil, etc.) marginally present. The species was not detected.
<i>Rytidosperma indutum</i> (tall wallabygrass)	r -	no database records	Potential habitat (generally dry sclerophyll forests and woodlands with a grassy understorey) is present. This distinctive grass (one of the tallest wallabygrasses but also distinctive because of leaf and floral morphology, virtually any time of the year) was not detected. Only widespread, common and non-threatened species of <i>Rytidosperma</i> were detected from within and adjacent to the study area.
<i>Scleranthus brockiei</i> (mountain knawel)	r -	no database records	Potential habitat (usually mid to higher elevations in open habitats such as native grasslands, tracks through forest and poorly-drained sites, but also occasionally in similar habitats in lowland areas) marginally present. The species was not detected.
<i>Senecio squarrosus</i> (leafy groundsel)	r -	no database records	Potential habitat (various) present. Only widespread, common and non-threatened species of <i>Senecio</i> were detected from within and adjacent to the study area.
<i>Stellaria multiflora</i> subsp. <i>multiflora</i> (rayless starwort)	r -	no database records	As above.

APPENDIX E. Analysis of database records of threatened fauna

Table E1 provides a listing of priority fauna from within the study area, and from 500 m and 5000 m of the study area (nominal buffer widths usually used to discuss the potential of a particular study area to support various species listed in databases), with comments on whether potential habitat is present for the species, and possible reasons why a species was not recorded.

Table E1. Priority fauna records from within the study area, and from 500 m and 5000 m of boundary of study area

Species listed below are listed as rare (r), vulnerable (v), endangered (e), or extinct (x) on the Tasmanian *Threatened Species Protection Act 1995* (TSPA); vulnerable (VU), endangered (EN), critically endangered (CR) or extinct (EX) on the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA). Information below is sourced from the DPIPWE's *Natural Values Atlas* (DPIPWE 2015a), Bryant & Jackson (1999) and FPA (2015); marine, wholly pelagic and littoral species such as marine mammals, fish and offshore seabirds are excluded

Species	Status TSPA EPBCA	Observations	Comments
Records from within study area			
<i>Lathamus discolor</i> (swift parrot)	e EN	1 record	Potential habitat for the swift parrot is described as comprising both potential foraging habitat and potential breeding habitat, with potential foraging habitat described as "<i>Eucalyptus globulus</i> or <i>Eucalyptus ovata</i> trees that are old enough to flower" and potential breeding habitat as "eucalypt forests that contain hollow-bearing trees" (FPA 2015). The study area supports some hollow-bearing trees but none are situated in habitat or topography remotely typical of any known nesting areas in Tasmania. The proposed works will not have a deleterious impact on this aspect of habitat of the swift parrot. The study area does not support <i>Eucalyptus globulus</i> or <i>Eucalyptus ovata</i> (limited <i>Eucalyptus ovata</i> are present close to the study area). The proposed works will not have a deleterious impact on this aspect of habitat of the swift parrot.
Records within 500 m of study area			
<i>Perameles gunnii</i> subsp. <i>gunnii</i> (eastern barred bandicoot)	- VU	1 record [5 additional records within 5000 m of study area]	Potential habitat is "open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland" (FPA 2015), habitat types present within the study area. See RESULTS Fauna species <i>Priority fauna species and potential habitat recorded from the study area</i> for more information.
<i>Sarcophilus harrisii</i> (Tasmanian devil)	e EN	3 records [12 additional records within 5000 m of study area]	Potential habitat is described as "all terrestrial native habitats, forestry plantations and pasture" (FPA 2015), habitat types present within the study area. The present survey did not detect any direct evidence of the species (e.g. live sightings, roadkill, scats, dens) but it is reasonable to assume that the species is present throughout the greater area (road verges would be used for foraging and dispersal).

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<i>Species</i>	<i>Status</i> TSPA EPBCA	<i>Observations</i>	<i>Comments</i>
Records and potential habitat within 5000 m of study area [and not considered in above sections]			
<i>Accipiter novaehollandiae</i> (grey goshawk)	e -	no database records	Potential habitat is described as "native forest with mature elements below 600 m altitude, particularly along watercourses" (FPA 2015), habitat elements absent from study area.
<i>Aquila audax</i> subsp. <i>fleayi</i> (Tasmanian wedge-tailed eagle)	e EN	no known nests within 1000 m of the boundary of the study area	Potential breeding habitat is defined as "tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest" and potential foraging habitat "includes a wide variety of forested (including areas subject to native forest silviculture) and non-forest habitats" (FPA 2015). The species is likely to utilise the broader study area as part of a broader territory and a foraging area. There are no known nests within 500 m (or 1000 m line-of-sight), usual nominal management buffers applied in production forests. The present survey did not detect any novel nest sites from the study area.
<i>Catadromus lacordairei</i> (green-lined ground beetle)	v -	no database records	Potential habitat is "open, grassy/sedgy, low altitude grasslands and woodlands associated with wetlands and low-lying plains or flats adjacent to rivers/streams...key habitat elements that need to be present include sheltering sites such as patches of stones, coarse woody debris and/or cracked soils" (FPA 2015), habitat types absent from the study area. There are some water bodies but these are associated with close-cropped pasture and crops and lack surrounding micro-habitat elements described above.
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i> (spotted-tailed quoll)	r VU	4 records	Potential habitat is described as "coastal scrub, riparian areas, rainforest, wet forest, damp forest, dry forest and blackwood swamp forest (mature and regrowth), particularly where structurally complex and steep rocky areas are present, and includes remnant patches in cleared agricultural land" (FPA 2015), habitat types technically present within the study area. The present survey did not detect any direct evidence of the species (e.g. live sightings, roadkill, scats, dens) but it is reasonable to assume that the species is present throughout the greater area (although it would restrict itself, in the main, to the more heavily forested slopes and gullies rather than the open road verges). Whether the road and junction upgrade will significantly impact on the species is considered under DISCUSSION Legislative and policy implications .
<i>Galaxias fontanus</i> (swan galaxias)	e EN	no database records	This species is included in DPIPWE (2015a) because its range now potentially includes "...other upper catchments of tributaries of the Macquarie, Blackman and Isis Rivers", but these areas are absent from the study area.
<i>Haliaeetus leucogaster</i> (white-bellied sea-eagle)	v -	no known nests within 1000 m of the boundary of the study area	See comments under wedge-tailed eagle.
<i>Hydroptila scamandra</i> (Upper Scamander River caddisfly)	r -	no database records	This is a riparian species and its potential range is "the known location with a buffer of 2 km upstream and downstream of the known site" (FPA 2015). The study area does not fall within this area.

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<i>Species</i>	<i>Status</i> TSPA EPBCA	<i>Observations</i>	<i>Comments</i>
<i>Litoria raniformis</i> (green and golden frog)	v VU	8 records	Potential habitat is "permanent and temporary waterbodies, usually with vegetation in or around them, including features such as natural lagoons, permanently or seasonally inundated swamps and wetlands, farm dams, irrigation channels, artificial water-holding sites such as old quarries, slow-flowing stretches of streams and rivers and drainage features" (FPA 2015), habitat elements present within and adjacent to the study area (only minor roadside drains are present). See RESULTS Fauna species <u>Priority fauna species and potential habitat recorded from the study area</u> for more information.
<i>Oecetis gilva</i> (South Esk River caddisfly)	r -	no database records	This is a riparian species and its potential range is "the known location with a buffer of 2 km upstream and downstream of the known site" (FPA 2015). The study area does not fall within this area.
<i>Prototroctes maraena</i> (Australian grayling)	v VU	no database records	This is a species of the "middle to lower reaches of coastal rivers" (FPA 2014), a habitat type that is absent from the study area.
<i>Pseudemoia pagenstecheri</i> (tussock skink)	v -	no database records	Potential habitat is "grassland and grassy woodland (including rough pasture with paddock trees), generally with a greater than 20% cover of native grass species, especially where medium to tall tussocks are present" (FPA 2015), habitat types absent from the study area (close-cropped pasture and cropping land, open "grassland" without significant tussock development).
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i> (Tasmanian masked owl)	e VU	10 records	Potential habitat "is all areas with trees with large hollows (15 cm entrance diameter). In terms of using mapping layers, potential habitat is considered to be all areas with at least 20% mature crown cover" (FPA 2015) but is more conservatively considered to be eucalypt-dominated forest below c. 600 m elevation, habitat elements present within the study area. See RESULTS Fauna species <u>Priority fauna species and potential habitat recorded from the study area</u> for more information.
EPBCA-listed species listed as potentially present based on Protected Matters Report (CofA 2015)			
<i>Aquila audax</i> subsp. <i>fleayi</i> (Tasmanian wedge-tailed eagle)	e EN	Breeding likely to occur within area	See section above.
<i>Apus pacificus</i> (fork-tailed swift)	Migratory Marine Species	Species or species' habitat likely to occur within area	Aerial foraging bird that rarely lands - study area presents marginal habitat only and any works in the area would not have a deleterious impact on the species.
<i>Ardea alba</i> (great egret)	Migratory Wetland/ Marine Species	Species or species' habitat known to occur within area	Potential habitat (natural and artificial wetlands and swampy habitats) marginally present. The species may occasionally utilise the small dams.
<i>Ardea ibis</i> (cattle egret)	Migratory Wetland/ Marine Species	Species or species' habitat likely to occur within area	As above.

ECotas...providing options in environmental consulting

Species	Status TSPA EPBCA	Observations	Comments
<i>Botaurus poiciloptilus</i> (Australasian bittern)	- EN	Species or species' habitat known to occur within area	As above.
<i>Ceyx azureus</i> subsp. <i>diemenensis</i> (Tasmanian azure kingfisher)	e EN	Species or species' habitat likely to occur within area	Potential habitat (tree-lined major river systems) absent.
<i>Dasyurus maculatus</i> subsp. <i>maculatus</i> (spotted-tailed quoll)	r VU	Species or species' habitat known to occur within area	See section above.
<i>Gallinago hardwickii</i> (Latham's Snipe)	Migratory Wetland Species	Species or species' habitat may occur within area	Potential habitat (natural and artificial wetlands and swampy habitats) marginally present. The species may occasionally utilise the small dams.
<i>Haliaeetus leucogaster</i> (white-bellied sea-eagle)	v -	Species or species' habitat known to occur within area	See section above.
<i>Hirundapus caudacutus</i> (white-throated needletail)	Migratory Terrestrial Species	Species or species' habitat known to occur within area	Aerial foraging bird that rarely lands - study area presents marginal habitat only and any works in the area would not have a deleterious impact on the species.
<i>Lathamus discolor</i> (swift parrot)	e EN	Species or species' habitat may occur within area	See section above.
<i>Litoria raniformis</i> (green and golden frog)	v VU	Species or species' habitat known to occur within area	See section above.
<i>Perameles gunnii</i> subsp. <i>gunnii</i> (eastern barred bandicoot)	- VU	Species or species' habitat known to occur within area	See section above.
<i>Myiagra cyanoleuca</i> (satin flycatcher)	Migratory Terrestrial Species	Species or species' habitat known to occur within area	Potential habitat marginally present (species utilises a wide range of habitats but tends to be most frequent in dry open tall woodlands and forests and associated sheltered slopes/gullies). The species was not detected by sight or call during the assessment, which was undertaken during the species' residential period in the State. Any use of the study area would be opportunistic at best.
<i>Prototroctes maraena</i> (Australian grayling)	v VU	Species or species' habitat may occur within area	See section above.
<i>Sarcophilus harrisii</i> (Tasmanian devil)	e EN	Species or species' habitat likely to occur within area	See section above.
<i>Tyto novaehollandiae</i> subsp. <i>castanops</i> (Tasmanian masked owl)	e VU	Breeding known to occur within area	See section above.

APPENDIX F. DPIPWE's *Natural Values Atlas* report for study area

Appended as pdf file.

APPENDIX G. Forest Practices Authority's *Biodiversity Values Atlas* report for study area

Appended as pdf file.

APPENDIX H. CofA's *Protected Matters* report for study area

Appended as pdf file.

OTHER ATTACHMENTS

- .shp file of point locations of threatened flora
- .shp file of vegetation mapping
- .shp file of frog call-back location

Natural Values Atlas Report

Authoritative, comprehensive information on Tasmania's natural values.

Report Number: 62561

Reference: ECOtas_DofSG_BreadalbanePerthBypass

Requested For: MWapstra

Timestamp: 01:55:28 PM Tuesday 27 January 2015

Raptors: buffers 500m and 5000m

Threatened Flora: buffers 500m and 5000m

Threatened Fauna: buffers 500m and 5000m

Tasmanian Weed Management Act Weeds: buffers 500m and 5000m

Priority Weeds: buffers 500m and 5000m

TASVEG: buffer 1000m

Threatened Communities: buffer 1000m

Geoconservation: buffer 1000m

Tasmanian Reserve Estate: buffer 1000m

Biosecurity Risks: buffer 1000m



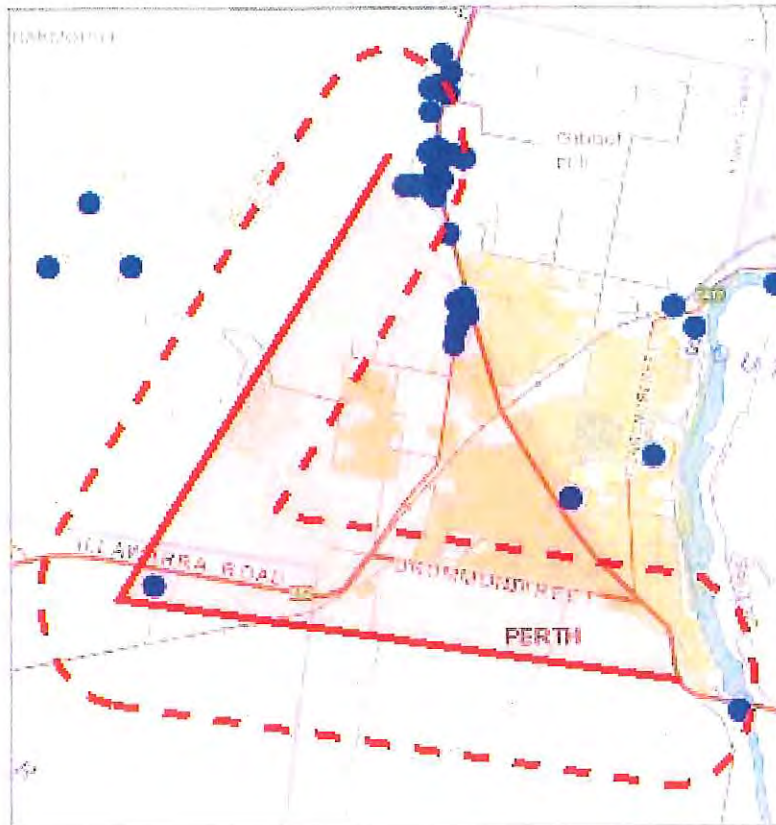
The centroid for this query GDA94: **513254.0, 5397415.0** falls within:

1:25000 Map: 5039 LONGFORD

Property: 2092666 2 CROMWELL ST PERTH TAS
7300

Threatened flora within 500 metres

515442, 5399799



511721, 5395932

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

Legend: Cadastral Parcels



Threatened flora within 500 metres

Verified Records

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
I404375	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513858, 5399486 +/- 10m
I404232	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513842, 5398730 +/- 10m
I404368	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513846, 5399391 +/- 10m
I404369	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513842, 5399384 +/- 10m
I404231	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513807, 5399402 +/- 10m
I404230	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513753, 5399415 +/- 10m
I404283	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513790, 5399130 +/- 10m
I404303	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513794, 5399119 +/- 10m
I404284	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513789, 5399120 +/- 10m
I404282	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513770, 5399127 +/- 10m
I404281	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513772, 5399116 +/- 10m
I400372	Arthropodium strictum	chocolate lily	r		Mark Wapstra (1621)	16-Oct-2013	Sighting	513769, 5399113 +/- 5m
I404373	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513772, 5399109 +/- 10m
I404295	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513774, 5399102 +/- 10m
I404280	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513769, 5399105 +/- 10m
I404155	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513667, 5398962 +/- 10m
399955	Arthropodium strictum	chocolate lily	r		J Kirkpatrick (1197)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m
I404305	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513855, 5399102 +/- 10m
I404304	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513831, 5399105 +/- 10m
I404374	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513858, 5399483 +/- 10m
I404308	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	513910, 5399089 +/- 10m
I404307	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	513832, 5399107 +/- 10m
I404306	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	513808, 5399116 +/- 10m
I404277	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513806, 5399427 +/- 10m
I404274	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513777, 5398907 +/- 10m
I404275	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513680, 5398957 +/- 10m
I404272	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513757, 5398976 +/- 10m
I404278	Hypoxis vaginata	sheathing yellowstar	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513772, 5399422 +/- 10m
I404276	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513754, 5399303 +/- 10m

Threatened flora within 500 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1404271	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513741, 5399113 +/- 10m
1404273	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513764, 5398920 +/- 10m
228312	Juncus amabilis	gentle rush	r		B. Robinson (3850)	27-Mar-1981	Sighting	515212, 5396483 +/- 100m
228313	Juncus prismatocarpus	branching rush	r		M. Cameron (5011)	07-Feb-1979	Sighting	515212, 5396483 +/- 2000m
227663	Juncus prismatocarpus	branching rush	r		B Robinson (2786)	01-Jan-1978	Sighting	515212, 5396483 +/- 3000m
227569	Pilularia novae-hollandiae	austral pillwort	r		B Robinson (3382)	27-Nov-1988	Sighting	512412, 5397083 +/- 100m
1404320	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513788, 5399108 +/- 10m
1404324	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513771, 5399128 +/- 10m
1404325	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513769, 5399118 +/- 10m
1404321	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513787, 5399136 +/- 10m
1404310	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513800, 5399118 +/- 10m
1404322	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513788, 5399127 +/- 10m
344411	Tricoryne elatior	yellow rushlily	v		- Unknown (21598)	01-Jan-0001	Sighting	513812, 5398983 +/- 100m
1404319	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513814, 5399104 +/- 10m
1404311	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513808, 5399116 +/- 10m
1404312	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513810, 5399115 +/- 10m
1404313	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513832, 5399107 +/- 10m
1404314	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513842, 5399103 +/- 10m
1404315	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513859, 5399102 +/- 10m
1404316	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513871, 5399098 +/- 10m
1404309	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513794, 5399119 +/- 10m
400877	Tricoryne elatior	yellow rushlily	v		J Kirkpatrick (1197)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m
1404317	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513905, 5399093 +/- 10m
1404318	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513925, 5399084 +/- 10m
1404323	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513787, 5399122 +/- 10m
1404279	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513622, 5398957 +/- 10m
1404199	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513801, 5399420 +/- 10m
1404200	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513801, 5399429 +/- 10m
1404228	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513801, 5399100 +/- 10m
1404338	Vittadinia burbridgeae	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513786, 5399057 +/- 10m
1404334	Vittadinia burbridgeae	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513780, 5398991 +/- 10m
1404331	Vittadinia burbridgeae	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513780, 5398999 +/- 10m
345629	Vittadinia burbridgeae	smooth new-holland-daisy	r		- Unknown (21598)	01-Jan-0001	Sighting	513812, 5398983 +/- 100m
1404335	Vittadinia burbridgeae	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513777, 5399017 +/- 10m

Threatened flora within 500 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
400006	Vittadinia burbridgeae	smooth new-holland-daisy	r		Jamie Kirkpatrick (1315)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m
1401283	Vittadinia burbridgeae	smooth new-holland-daisy	r		Mark Wapstra (1621)	16-Oct-2013	Sighting	513775, 5399019 +/- 5m
1404330	Vittadinia burbridgeae	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513778, 5399018 +/- 10m
228239	Vittadinia burbridgeae	smooth new-holland-daisy	r		Rod J. Fensham (2075)	26-Dec-1984	Sighting	513812, 5399084 +/- 200m
1401269	Vittadinia burbridgeae	smooth new-holland-daisy	r		Mark Wapstra (1621)	16-Oct-2013	Sighting	513785, 5398960 +/- 5m
1404329	Vittadinia burbridgeae	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513788, 5399095 +/- 10m
1404332	Vittadinia burbridgeae	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513784, 5398968 +/- 10m
1404333	Vittadinia burbridgeae	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513782, 5398966 +/- 10m
1404339	Vittadinia burbridgeae	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513794, 5399009 +/- 10m
1404336	Vittadinia burbridgeae	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513789, 5399120 +/- 10m
1404337	Vittadinia burbridgeae	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513785, 5399073 +/- 10m
1404326	Vittadinia burbridgeae	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513781, 5399090 +/- 10m
1404328	Vittadinia burbridgeae	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513789, 5399091 +/- 10m
1404327	Vittadinia burbridgeae	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513787, 5399095 +/- 10m
400005	Vittadinia cuneata var. cuneata	fuzzy new-holland-daisy	r		J Kirkpatrick (1197)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m

Unverified Records

No unverified records were found!

For more information about threatened species, please contact the Manager, Threatened Species and Marine Section.

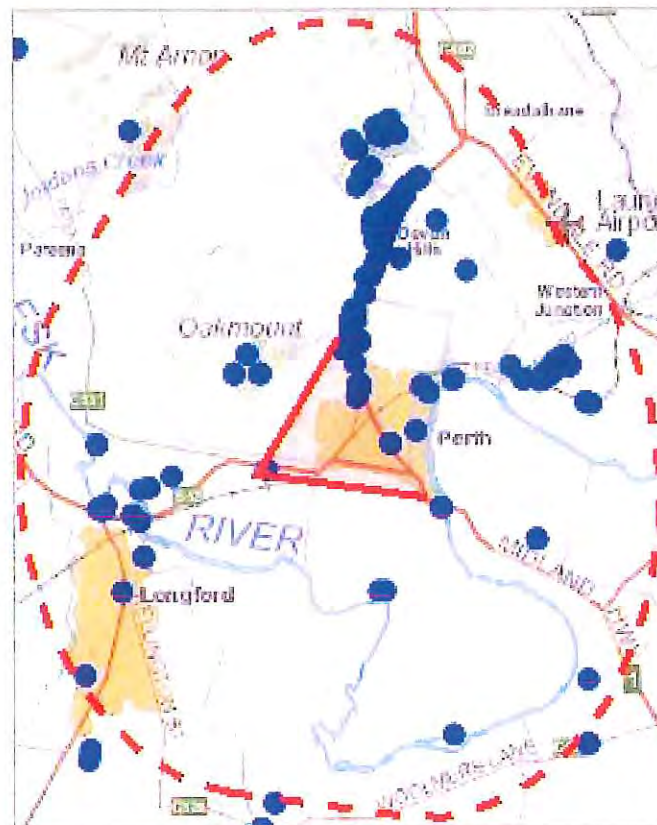
Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiwre.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Threatened flora within 5000 metres

518819, 5404283



508353, 5391443

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

Legend: Cadastral Parcels



Threatened flora within 5000 metres

1-486

Verified Records

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
228047	<i>Alternanthera denticulata</i>	lesser joyweed	e		Andrew North (2500)	05-May-2000	Sighting	509712, 5397483 +/- 100m
1423807	<i>Aphelia gracilis</i>	slender fanwort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	513848, 5402117 +/- 5m
1423782	<i>Aphelia gracilis</i>	slender fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	513903, 5402079 +/- 5m
1423785	<i>Aphelia gracilis</i>	slender fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	513888, 5401507 +/- 4m
1423766	<i>Aphelia gracilis</i>	slender fanwort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	513960, 5401673 +/- 5m
1423778	<i>Aphelia gracilis</i>	slender fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	513828, 5402124 +/- 4m
1404229	<i>Aphelia gracilis</i>	slender fanwort	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514254, 5400487 +/- 10m
1404285	<i>Aphelia gracilis</i>	slender fanwort	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514656, 5401377 +/- 10m
1423774	<i>Aphelia gracilis</i>	slender fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	514319, 5402275 +/- 6m
1404300	<i>Aphelia gracilis</i>	slender fanwort	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513874, 5398410 +/- 10m
1423776	<i>Aphelia gracilis</i>	slender fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	513846, 5402115 +/- 4m
1423797	<i>Aphelia gracilis</i>	slender fanwort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514538, 5402332 +/- 5m
1404293	<i>Aphelia pumilio</i>	dwarf fanwort	r		T Leaman (27387)	15-Oct-2013	Sighting	514189, 5400886 +/- 10m
1404294	<i>Aphelia pumilio</i>	dwarf fanwort	r		T Leaman (27387)	15-Oct-2013	Sighting	514188, 5400892 +/- 10m
1404292	<i>Aphelia pumilio</i>	dwarf fanwort	r		T Leaman (27387)	15-Oct-2013	Sighting	514210, 5400935 +/- 10m
1404290	<i>Aphelia pumilio</i>	dwarf fanwort	r		T Leaman (27387)	15-Oct-2013	Sighting	514173, 5400989 +/- 10m
1404291	<i>Aphelia pumilio</i>	dwarf fanwort	r		T Leaman (27387)	15-Oct-2013	Sighting	514225, 5400987 +/- 10m
1423803	<i>Aphelia pumilio</i>	dwarf fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	514213, 5402398 +/- 5m
1423788	<i>Aphelia pumilio</i>	dwarf fanwort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514274, 5402455 +/- 5m
1423796	<i>Aphelia pumilio</i>	dwarf fanwort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514426, 5402544 +/- 5m
1423773	<i>Aphelia pumilio</i>	dwarf fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	514322, 5402273 +/- 6m
1423783	<i>Aphelia pumilio</i>	dwarf fanwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	513975, 5401603 +/- 5m
228286	<i>Aphelia pumilio</i>	dwarf fanwort	r		F.E. Burbury (4270)	01-Jan-1900	Sighting	514412, 5397483 +/- 2500m
227540	<i>Aphelia pumilio</i>	dwarf fanwort	r		Louise Gilfedder (1499)	05-Nov-1992	Sighting	512112, 5398883 +/- 100m
1024759	<i>Arthropodium strictum</i>	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517145, 5398764 +/- 10m
1024761	<i>Arthropodium strictum</i>	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517155, 5398847 +/- 10m
1024762	<i>Arthropodium strictum</i>	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517127, 5398822 +/- 10m
1024741	<i>Arthropodium strictum</i>	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517587, 5398092 +/- 10m
1024742	<i>Arthropodium strictum</i>	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517542, 5398097 +/- 10m
1024743	<i>Arthropodium strictum</i>	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517492, 5398120 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1024753	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517042, 5398638 +/- 10m
1024765	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517069, 5398715 +/- 10m
1024754	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517042, 5398675 +/- 10m
1024763	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517058, 5398741 +/- 10m
1024764	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517019, 5398756 +/- 10m
1024750	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516925, 5398545 +/- 10m
1024751	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516935, 5398581 +/- 10m
1024752	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516919, 5398616 +/- 10m
1024749	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516885, 5398577 +/- 10m
1024748	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516864, 5398553 +/- 10m
1024744	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516829, 5398475 +/- 10m
1024745	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516825, 5398525 +/- 10m
1024746	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516794, 5398504 +/- 10m
1024747	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	516768, 5398454 +/- 10m
400092	Arthropodium strictum	chocolate lily	r		J Kirkpatrick (1197)	01-Nov-1984	Sighting	516512, 5398483 +/- 100m
941314	Arthropodium strictum	chocolate lily	r		W.F. Pataczek (5727)	31-Oct-1985	Sighting	515412, 5398483 +/- 100m
925227	Arthropodium strictum	chocolate lily	r		Andrew North (2500)	17-Nov-1994	Sighting	514912, 5398383 +/- 100m
1049838	Arthropodium strictum	chocolate lily	r		John B. Davies (4699)	27-Nov-2008	Sighting	507574, 5395991 +/- 10m
1049839	Arthropodium strictum	chocolate lily	r		John B. Davies (4699)	27-Nov-2008	Sighting	507582, 5395978 +/- 10m
462681	Arthropodium strictum	chocolate lily	r		Louise Gilfedder (1499)	01-Jan-0001	Sighting	511912, 5398583 +/- 100m
1404385	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513877, 5398317 +/- 10m
1404305	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513855, 5399102 +/- 10m
1404304	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513831, 5399105 +/- 10m
1404232	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513842, 5398730 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1404302	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513917, 5398427 +/- 10m
1404301	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513923, 5398396 +/- 10m
1404386	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513934, 5398354 +/- 10m
1404387	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513930, 5398352 +/- 10m
1404384	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513862, 5398209 +/- 10m
402733	Arthropodium strictum	chocolate lily	r		J Kirkpatrick (1197)	01-Nov-1984	Sighting	516712, 5395983 +/- 100m
925230	Arthropodium strictum	chocolate lily	r		Andrew North (2500)	08-Nov-1994	Sighting	517512, 5392783 +/- 20000m
854135	Arthropodium strictum	chocolate lily	r		Andrew North (2500)	08-Nov-1994	Sighting	517512, 5392783 +/- 20000m
346081	Arthropodium strictum	chocolate lily	r		- Unknown (21598)	01-Jan-0001	Sighting	514212, 5400383 +/- 100m
1404361	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514188, 5400315 +/- 10m
1404362	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514184, 5400304 +/- 10m
1404363	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514174, 5400282 +/- 10m
1404364	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514160, 5400243 +/- 10m
1404365	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514150, 5400214 +/- 10m
1404366	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514108, 5400098 +/- 10m
344787	Arthropodium strictum	chocolate lily	r		- Unknown (21598)	01-Jan-0001	Sighting	514012, 5400083 +/- 100m
1404367	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514010, 5399825 +/- 10m
1404340	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514889, 5401637 +/- 10m
1404341	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514882, 5401637 +/- 10m
1404342	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514865, 5401627 +/- 10m
1404344	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514860, 5401622 +/- 10m
1404343	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514860, 5401623 +/- 10m
1404345	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514840, 5401612 +/- 10m
1404346	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514838, 5401609 +/- 10m
1404201	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514662, 5401388 +/- 10m
1404347	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514705, 5401506 +/- 10m
1404348	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514672, 5401457 +/- 10m
1404165	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514664, 5401442 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
I404349	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514662, 5401448 +/- 10m
I404350	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514660, 5401444 +/- 10m
I404164	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514636, 5401389 +/- 10m
I404163	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514627, 5401387 +/- 10m
I404162	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514618, 5401369 +/- 10m
I404352	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514624, 5401392 +/- 10m
I404351	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514627, 5401402 +/- 10m
I404353	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514615, 5401377 +/- 10m
I404154	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514613, 5401375 +/- 10m
I404153	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514597, 5401353 +/- 10m
I404161	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514570, 5401292 +/- 10m
I404152	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514574, 5401316 +/- 10m
I404151	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514568, 5401302 +/- 10m
I404150	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514562, 5401292 +/- 10m
940068	Arthropodium strictum	chocolate lily	r		Rod J. Fensham (2075)	26-Dec-1984	Sighting	513812, 5399573 +/- 1000m
I404376	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513859, 5399490 +/- 10m
I404375	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513858, 5399486 +/- 10m
I404374	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513858, 5399483 +/- 10m
I404368	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513846, 5399391 +/- 10m
I404369	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513842, 5399384 +/- 10m
I404231	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513807, 5399402 +/- 10m
I404230	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513753, 5399415 +/- 10m
I404283	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513790, 5399130 +/- 10m
I404303	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513794, 5399119 +/- 10m
I404284	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513789, 5399120 +/- 10m
I404282	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513770, 5399127 +/- 10m
I404281	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513772, 5399116 +/- 10m
I400372	Arthropodium strictum	chocolate lily	r		Mark Wapstra (1621)	16-Oct-2013	Sighting	513769, 5399113 +/- 5m
I404373	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513772, 5399109 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1404295	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513774, 5399102 +/- 10m
1404280	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513769, 5399105 +/- 10m
1404155	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513667, 5398962 +/- 10m
854143	Arthropodium strictum	chocolate lily	r		Andrew North (2500)	17-Nov-1994	Sighting	514912, 5398383 +/- 100m
399955	Arthropodium strictum	chocolate lily	r		J Kirkpatrick (1197)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m
490426	Arthropodium strictum	chocolate lily	r		Louise Gilfedder (1499)	01-Jan-1995	Sighting	515012, 5398283 +/- 100m
1404211	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514568, 5400380 +/- 10m
1024755	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517259, 5398689 +/- 10m
1024756	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517237, 5398678 +/- 10m
1024757	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517232, 5398716 +/- 10m
1024758	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517179, 5398767 +/- 10m
1024760	Arthropodium strictum	chocolate lily	r		Richard W. Barnes (2707), Colin McCoull (6726)	01-Jun-2008	Sighting	517169, 5398818 +/- 10m
1404222	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514319, 5400848 +/- 10m
1404215	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514152, 5401010 +/- 10m
1404383	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514341, 5400826 +/- 10m
1404217	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514219, 5400917 +/- 10m
1404216	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514143, 5400982 +/- 10m
1404213	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514168, 5400931 +/- 10m
1404214	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514115, 5400955 +/- 10m
1404223	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514238, 5400814 +/- 10m
1404227	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514179, 5400865 +/- 10m
1404225	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514214, 5400792 +/- 10m
1404226	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514174, 5400790 +/- 10m
1404149	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514548, 5401277 +/- 10m
1404148	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514537, 5401253 +/- 10m
1404147	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514533, 5401247 +/- 10m
1404146	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514530, 5401241 +/- 10m
1404145	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514525, 5401237 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
I404144	Arthropodium strictum	chocolate lily	r		T Leaman (27387)	15-Oct-2013	Sighting	514524, 5401227 +/- 10m
I404160	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514531, 5401217 +/- 10m
I404354	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514512, 5401207 +/- 10m
I404159	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514502, 5401183 +/- 10m
I404158	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514499, 5401151 +/- 10m
I404157	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514476, 5401102 +/- 10m
I404218	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514364, 5401127 +/- 10m
I404219	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514370, 5401053 +/- 10m
I404156	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514426, 5400984 +/- 10m
I404220	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514317, 5400989 +/- 10m
I404372	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514384, 5400879 +/- 10m
I404221	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514331, 5400924 +/- 10m
I404371	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514382, 5400871 +/- 10m
I404370	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514347, 5400764 +/- 10m
I404382	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514320, 5400755 +/- 10m
I404224	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514248, 5400776 +/- 10m
I404355	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514305, 5400657 +/- 10m
I404356	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514297, 5400642 +/- 10m
I404381	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514279, 5400634 +/- 10m
I404357	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514284, 5400598 +/- 10m
I404358	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514282, 5400587 +/- 10m
I404380	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514267, 5400600 +/- 10m
I404359	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514278, 5400578 +/- 10m
I404379	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514260, 5400578 +/- 10m
I404378	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514255, 5400570 +/- 10m
I404360	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514271, 5400554 +/- 10m
I404377	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514256, 5400561 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1404212	Arthropodium strictum	chocolate lily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514168, 5400640 +/- 10m
1159478	Asperula subsimplex	water woodruff	r		Andrew North (2500)	21-Jan-2009	Sighting	509767, 5396498 +/- 10m
258419	Asperula subsimplex	water woodruff	r		Andrew North (2500)	05-May-2000	Sighting	509712, 5397483 +/- 100m
1417885	Asperula subsimplex	water woodruff	r		A J North (29028)	21-Jan-2009	Sighting	509767, 5396498 +/- 50m
479082	Austrostipa nodosa	knotty speargrass	r		Louise Gilfedder (1499)	01-Jan-1995	Sighting	515012, 5398283 +/- 100m
227641	Austrostipa nodosa	knotty speargrass	r		- Unknown (21598)	15-Dec-1968	Sighting	514612, 5401383 +/- 600m
1404173	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514557, 5401281 +/- 10m
402032	Brunonia australis	blue pincushion	r		Jamie Kirkpatrick (1315)	01-Nov-1984	Sighting	516712, 5395983 +/- 100m
1404176	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514553, 5401261 +/- 10m
1404175	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514562, 5401234 +/- 10m
1404174	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514529, 5401218 +/- 10m
1404181	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514624, 5401377 +/- 10m
1404180	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514619, 5401375 +/- 10m
1404166	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514617, 5401382 +/- 10m
1404167	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514615, 5401377 +/- 10m
1404178	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514592, 5401328 +/- 10m
1404179	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514599, 5401346 +/- 10m
1404170	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514597, 5401343 +/- 10m
1404169	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514598, 5401347 +/- 10m
1404168	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514602, 5401358 +/- 10m
930749	Brunonia australis	blue pincushion	r		Craig Hawkins (3520)	08-Dec-2000	Sighting	514612, 5401383 +/- 100m
228291	Brunonia australis	blue pincushion	r		A.M. Buchanan (3758)	30-Nov-1992	Sighting	514612, 5401383 +/- 100m
1404171	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514593, 5401339 +/- 10m
1404172	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514573, 5401312 +/- 10m
300986	Brunonia australis	blue pincushion	r		Craig Hawkins (3520)	26-Nov-2000	Sighting	514592, 5401363 +/- 100m
346082	Brunonia australis	blue pincushion	r		- Unknown (21598)	01-Jan-0001	Sighting	514512, 5401283 +/- 100m
301008	Brunonia australis	blue pincushion	r		Craig Hawkins (3520)	08-Dec-2000	Sighting	515622, 5400183 +/- 100m
300992	Brunonia australis	blue pincushion	r		Craig Hawkins (3520)	01-Oct-2001	Sighting	515157, 5400963 +/- 100m
1404177	Brunonia australis	blue pincushion	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514559, 5401276 +/- 10m
1404188	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514250, 5400847 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1404190	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514249, 5400833 +/- 10m
1404189	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514242, 5400838 +/- 10m
1404191	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514242, 5400817 +/- 10m
1404192	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514246, 5400804 +/- 10m
1404193	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514224, 5400792 +/- 10m
1404194	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514211, 5400784 +/- 10m
1404185	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514540, 5401215 +/- 10m
1404184	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514523, 5401213 +/- 10m
1404182	Caesia calliantha	blue grasslily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514502, 5401156 +/- 10m
1404186	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514394, 5401090 +/- 10m
1404187	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514383, 5401055 +/- 10m
1404195	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	514200, 5400764 +/- 10m
1404297	Caesia calliantha	blue grasslily	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514147, 5400208 +/- 10m
1404183	Caesia calliantha	blue grasslily	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	514617, 5401371 +/- 10m
1404308	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	513910, 5399089 +/- 10m
400922	Caesia calliantha	blue grasslily	r		Jamie Kirkpatrick (1315)	01-Nov-1984	Sighting	516312, 5398683 +/- 100m
400074	Caesia calliantha	blue grasslily	r		Jamie Kirkpatrick (1315)	01-Nov-1984	Sighting	516512, 5398483 +/- 100m
1049840	Caesia calliantha	blue grasslily	r		John B. Davies (4699)	27-Nov-2008	Sighting	507605, 5395936 +/- 10m
1404307	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	513832, 5399107 +/- 10m
1404306	Caesia calliantha	blue grasslily	r		T Leaman (27387)	15-Jan-2014	Sighting	513808, 5399116 +/- 10m
1404296	Caesia calliantha	blue grasslily	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513914, 5398386 +/- 10m
227564	Callitriche umbonata	winged waterstarwort	r		Rod J. Fensham (2075)	15-Feb-1985	Sighting	512312, 5398583 +/- 100m
404494	Callitriche umbonata	winged waterstarwort	r		Jamie Kirkpatrick (1315)	01-Nov-1984	Sighting	512312, 5398583 +/- 100m
1414440	Carex tasmanica	curly sedge		VU	Mark Wapstra (1621)	19-Sep-2013	Sighting	510275, 5396385 +/- 100m
404468	Dianella amoena	grassland flaxlily	r	EN	J Kirkpatrick (1197)	01-Nov-1984	Sighting	509512, 5393883 +/- 100m
227660	Dianella amoena	grassland flaxlily	r	EN	M. Cameron (5011)	03-Mar-1980	Sighting	514812, 5397683 +/- 100m
928519	Discaria pubescens	spiky anchorplant	e		Andrew North (2500), Ian Riley (6075)	14-Aug-2001	Sighting	514312, 5395184 +/- 100m
590702	Discaria pubescens	spiky anchorplant	e		Andrew North (2500)	14-Aug-2001	Sighting	514212, 5395183 +/- 50m
955357	Gyrostemon thesioides	broom wheelfruit	r		T. Doe (6419)	01-Jan-1800	Sighting	515398, 5398485 +/- 1000m
1404298	Haloragis heterophylla	variable raspwort	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513869, 5398266 +/- 10m
227617	Haloragis heterophylla	variable raspwort	r		A. Simson (3720)	01-Jan-0001	Sighting	514412, 5397483 +/- 2500m
1423779	Haloragis heterophylla	variable raspwort	r		Phil Colier (29130)	15-Nov-2014	Sighting	513847, 5402077 +/- 4m
1404196	Haloragis heterophylla	variable raspwort	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514451, 5401026 +/- 10m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1404197	Haloragis heterophylla	variable raspwort	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514455, 5401038 +/- 10m
1423806	Haloragis heterophylla	variable raspwort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	513808, 5402212 +/- 5m
1423781	Haloragis heterophylla	variable raspwort	r		Phil Collier (29130)	15-Nov-2014	Sighting	513889, 5402101 +/- 5m
929366	Haloragis heterophylla	variable raspwort	r		A Simson (2776)	01-Dec-1890	Sighting	515386, 5392934 +/- 4500m
1404198	Haloragis heterophylla	variable raspwort	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514474, 5401098 +/- 10m
1423775	Haloragis heterophylla	variable raspwort	r		Phil Collier (29130)	15-Nov-2014	Sighting	514342, 5402328 +/- 5m
963295	Haloragis heterophylla	variable raspwort	r		N Jones (1787), R Pearse (2720)	28-Jun-2006	Sighting	514120, 5401800 +/- 250m
1404299	Haloragis heterophylla	variable raspwort	r		A Woolford (21815), T Leaman (27387)	13-Nov-2013	Sighting	513872, 5398277 +/- 10m
1404242	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514175, 5400848 +/- 10m
1404257	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514231, 5400782 +/- 10m
1404248	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514159, 5400807 +/- 10m
1404247	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514149, 5400811 +/- 10m
1404246	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514138, 5400816 +/- 10m
1404267	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514443, 5401206 +/- 10m
1404268	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514426, 5401160 +/- 10m
1404269	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514416, 5401133 +/- 10m
1404270	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514379, 5401129 +/- 10m
1404263	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514402, 5401072 +/- 10m
1404264	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514371, 5401099 +/- 10m
1404265	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514367, 5401083 +/- 10m
1404266	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514352, 5401089 +/- 10m
1404262	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514374, 5401028 +/- 10m
1404233	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514285, 5401087 +/- 10m
1404234	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514277, 5401065 +/- 10m
1404235	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514263, 5401050 +/- 10m
1404236	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514263, 5401016 +/- 10m
1404237	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514242, 5400988 +/- 10m
1404238	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514214, 5401003 +/- 10m
1404239	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514223, 5400991 +/- 10m
1404256	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514232, 5400760 +/- 10m
1404255	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514217, 5400756 +/- 10m
1404249	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514168, 5400775 +/- 10m
1404254	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514190, 5400754 +/- 10m
1404253	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514188, 5400755 +/- 10m
1404251	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514172, 5400765 +/- 10m
1404250	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514164, 5400768 +/- 10m

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ID	Species	Common Name	SS	NS	Observers	Date	Obs Type	Eastings/Northings GDA94 Zone 55
1404252	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514159, 5400762 +/- 10m
1404277	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513806, 5399427 +/- 10m
1404278	Hypoxis vaginata	sheathing yellowstar	r		A Woolford (21815),T Leaman (27387)	11-Nov-2013	Sighting	513772, 5399422 +/- 10m
1404276	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513754, 5399303 +/- 10m
1404271	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513741, 5399113 +/- 10m
1404275	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513680, 5398957 +/- 10m
1404272	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513757, 5398976 +/- 10m
1404273	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513764, 5398920 +/- 10m
1404274	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	16-Oct-2013	Sighting	513777, 5398907 +/- 10m
1404245	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514177, 5400854 +/- 10m
1404243	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514190, 5400851 +/- 10m
1404258	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514284, 5400779 +/- 10m
1404244	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514195, 5400884 +/- 10m
1404259	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514258, 5400825 +/- 10m
1404260	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514279, 5400815 +/- 10m
1404241	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514203, 5400898 +/- 10m
1404261	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514321, 5400818 +/- 10m
1404240	Hypoxis vaginata	sheathing yellowstar	r		T Leaman (27387)	15-Oct-2013	Sighting	514223, 5400940 +/- 10m
1423769	Hypoxis vaginata	sheathing yellowstar	r		Phil Colier (29130)	15-Nov-2014	Sighting	514207, 5402307 +/- 4m
1423795	Hypoxis vaginata	sheathing yellowstar	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514379, 5402482 +/- 5m
1423798	Hypoxis vaginata	sheathing yellowstar	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514495, 5402353 +/- 5m
1423771	Hypoxis vaginata	sheathing yellowstar	r		Roy Skabo (6388)	15-Nov-2014	Sighting	513880, 5401509 +/- 5m
228093	Isoetes elatior	tall quillwort	r		Dennis Ivor Morris (4111)	15-Apr-1972	Sighting	510462, 5395733 +/- 250m
228092	Isoetes elatior	tall quillwort	r		Dennis Ivor Morris (4111)	15-Jul-1971	Sighting	510412, 5396783 +/- 100m
228312	Juncus amabilis	gentle rush	r		B. Robinson (3850)	27-Mar-1981	Sighting	515212, 5396483 +/- 100m
228313	Juncus prismatocarpus	branching rush	r		M. Cameron (5011)	07-Feb-1979	Sighting	515212, 5396483 +/- 2000m
227663	Juncus prismatocarpus	branching rush	r		B Robinson (2786)	01-Jan-1978	Sighting	515212, 5396483 +/- 3000m
228387	Leptorhynchus elongatus	lanky buttons	e		C. Stuart (3965)	01-Jan-0001	Sighting	517512, 5393783 +/- 500m
228287	Lobelia pratioides	poison lobelia	v		C. Stuart (3965)	01-Jan-0001	Sighting	514412, 5397483 +/- 2500m
228090	Lobelia pratioides	poison lobelia	v		H.N. Barber (4421)	19-Nov-1951	Sighting	510112, 5395183 +/- 5000m
945418	Lythrum salicaria	purple loosestrife	v		M. Allan (4997)	24-Jan-1976	Sighting	519567, 5398475 +/- 2000m
945453	Lythrum salicaria	purple loosestrife	v		Dennis Ivor Morris (4111)	06-Mar-1975	Sighting	510402, 5396283 +/- 200m
1312110	Muehlenbeckia axillaris	matted lignum	r		Ronald Campbell Gunn (5474)	08-Dec-1842	Sighting	509725, 5396478 +/- 1000m
227618	Muehlenbeckia axillaris	matted lignum	r		A. Simson (3720)	01-Dec-1890	Sighting	514412, 5397483 +/- 2500m
940077	Myriophyllum integrifolium	tiny watermilfoil	v		Rod J. Fensham (2075)	28-Jan-1984	Sighting	510552, 5396813 +/- 600m
1423777	Myriophyllum integrifolium	tiny watermilfoil	v		Phil Colier (29130)	15-Nov-2014	Sighting	513828, 5402124 +/- 4m
940076	Myriophyllum integrifolium	tiny watermilfoil	v		Rod J. Fensham (2075)	15-Feb-1985	Sighting	512312, 5398583 +/- 100m
1159476	Persicaria decipiens	slenderwaterpepper	v		Andrew North (2500)	21-Jan-2009	Sighting	509854, 5396545 +/- 10m

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ID	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1159474	Persicaria decipiens	slenderwaterpepper	v		Andrew North (2500)	21-Jan-2009	Sighting	509816, 5396470 +/- 10m
1159475	Persicaria decipiens	slenderwaterpepper	v		Andrew North (2500)	21-Jan-2009	Sighting	509834, 5396491 +/- 10m
1159477	Persicaria decipiens	slenderwaterpepper	v		Andrew North (2500)	21-Jan-2009	Sighting	509848, 5396541 +/- 10m
955287	Persicaria decipiens	slenderwaterpepper	v		Andrew North (2500)	05-May-2000	Sighting	509712, 5397483 +/- 100m
1159473	Persicaria decipiens	slenderwaterpepper	v		Andrew North (2500)	21-Jan-2009	Sighting	509795, 5396455 +/- 10m
227569	Pilularia novae-hollandiae	austral pillwort	r		B Robinson (3382)	27-Nov-1988	Sighting	512412, 5397083 +/- 100m
228288	Prostanthera cuneata	alpine mintbush	x		A. Simson (3720)	01-Dec-1890	Sighting	514412, 5397483 +/- 2500m
227619	Prostanthera cuneata	alpine mintbush	x		Leonard R. Rodway (4869)	01-Jan-0001	Sighting	514412, 5397483 +/- 2500m
566841	Pterostylis ziegeleri	grassland greenhood	v	VU	Louise Gilfedder (1499)	05-Nov-1992	Sighting	511912, 5398583 +/- 100m
227768	Pultenaea prostrata	silky bushpea	v		Andrew North (2500)	20-Nov-1995	Sighting	518012, 5400483 +/- 100m
227444	Ranunculus pumilio var. pumilio	ferny buttercup	r		Andrew North (2500)	28-Oct-1997	Sighting	509812, 5396483 +/- 100m
257387	Rumex bidens	mud dock	r		Dennis Ivor Morris (4111)	08-Nov-1978	Sighting	510912, 5396982 +/- 1000m
1423787	Siloxerus multiflorus	small wrinklewort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514274, 5402455 +/- 5m
1423802	Siloxerus multiflorus	small wrinklewort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514448, 5402318 +/- 5m
1423770	Siloxerus multiflorus	small wrinklewort	r		Phil Colier (29130)	15-Nov-2014	Sighting	514322, 5402273 +/- 6m
1423794	Siloxerus multiflorus	small wrinklewort	r		Roy Skabo (6388)	15-Nov-2014	Sighting	514359, 5402468 +/- 5m
1404289	Siloxerus multiflorus	small wrinklewort	r		T Leaman (27387)	15-Oct-2013	Sighting	514225, 5400987 +/- 10m
1423804	Siloxerus multiflorus	small wrinklewort	r		Phil Colier (29130)	15-Nov-2014	Sighting	514213, 5402398 +/- 5m
1404288	Siloxerus multiflorus	small wrinklewort	r		T Leaman (27387)	15-Oct-2013	Sighting	514195, 5401005 +/- 10m
1404287	Siloxerus multiflorus	small wrinklewort	r		T Leaman (27387)	15-Oct-2013	Sighting	514184, 5400997 +/- 10m
1404286	Siloxerus multiflorus	small wrinklewort	r		T Leaman (27387)	15-Oct-2013	Sighting	514173, 5400989 +/- 10m
1423764	Stylidium despectum	small triggerplant	r		Roy Skabo (6388)	15-Nov-2014	Sighting	513847, 5402117 +/- 5m
344411	Tricoryne elatior	yellow rushlily	v		- Unknown (21598)	01-Jan-0001	Sighting	513812, 5398983 +/- 100m
1404310	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513800, 5399118 +/- 10m
1404319	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513814, 5399104 +/- 10m
1404311	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513808, 5399116 +/- 10m
1404312	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513810, 5399115 +/- 10m
1404313	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513832, 5399107 +/- 10m
1404314	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513842, 5399103 +/- 10m
1404315	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513859, 5399102 +/- 10m
1404316	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513871, 5399098 +/- 10m
929278	Tricoryne elatior	yellow rushlily	v		A Simson (2776)	01-Jan-1892	Sighting	519567, 5398475 +/- 2000m
929277	Tricoryne elatior	yellow rushlily	v		A Simson (2776)	01-Jan-1892	Sighting	519567, 5398475 +/- 2000m
400982	Tricoryne elatior	yellow rushlily	v		J Kirkpatrick (1197)	01-Nov-1984	Sighting	516512, 5398483 +/- 100m
400877	Tricoryne elatior	yellow rushlily	v		J Kirkpatrick (1197)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m
1404317	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513905, 5399093 +/- 10m
1404318	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513925, 5399084 +/- 10m
1316740	Tricoryne elatior	yellow rushlily	v		A. Povey (23511)	09-Jan-2001	Sighting	513896, 5398321 +/- 1000m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
I404325	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513769, 5399118 +/- 10m
I404320	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513788, 5399108 +/- 10m
I404324	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513771, 5399128 +/- 10m
I404323	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513787, 5399122 +/- 10m
I404309	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513794, 5399119 +/- 10m
I404322	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513788, 5399127 +/- 10m
I404321	Tricoryne elatior	yellow rushlily	v		T Leaman (27387)	15-Jan-2014	Sighting	513787, 5399136 +/- 10m
I404200	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513801, 5399429 +/- 10m
I404199	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513801, 5399420 +/- 10m
I404279	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513622, 5398957 +/- 10m
I404228	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513801, 5399100 +/- 10m
I404204	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514369, 5401092 +/- 10m
I404202	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514150, 5400925 +/- 10m
I404203	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514264, 5400830 +/- 10m
I404210	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514153, 5401019 +/- 10m
I404209	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514156, 5401019 +/- 10m
I404206	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514182, 5400996 +/- 10m
I404207	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514161, 5401017 +/- 10m
I404208	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514159, 5401019 +/- 10m
I404205	Triptilodiscus pygmaeus	dwarf sunray	v		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	514198, 5401012 +/- 10m
I423799	Triptilodiscus pygmaeus	dwarf sunray	v		Phil Colier (29130)	15-Nov-2014	Sighting	514178, 5402426 +/- 5m
I423768	Triptilodiscus pygmaeus	dwarf sunray	v		Phil Colier (29130)	15-Nov-2014	Sighting	514204, 5402310 +/- 7m
I423786	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514274, 5402455 +/- 5m
I423789	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514295, 5402460 +/- 5m
I423790	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514305, 5402459 +/- 5m
I423792	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514319, 5402480 +/- 5m
I423791	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514320, 5402446 +/- 5m
I423793	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514338, 5402455 +/- 5m
I423800	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514447, 5402325 +/- 5m
I423801	Triptilodiscus pygmaeus	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514448, 5402318 +/- 5m
I423780	Triptilodiscus pygmaeus	dwarf sunray	v		Phil Colier (29130)	15-Nov-2014	Sighting	513878, 5402115 +/- 5m
I423784	Triptilodiscus pygmaeus	dwarf sunray	v		Phil Colier (29130)	15-Nov-2014	Sighting	513888, 5401507 +/- 4m

Threatened flora within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1423765	<i>Triptilodiscus pygmaeus</i>	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	513960, 5401673 +/- 5m
1075120	<i>Triptilodiscus pygmaeus</i>	dwarf sunray	v		Alan M. Gray (1473)	20-Dec-2005	Sighting	510262, 5402383 +/- 100m
1423772	<i>Triptilodiscus pygmaeus</i>	dwarf sunray	v		Roy Skabo (6388)	15-Nov-2014	Sighting	514046, 5401767 +/- 5m
1404336	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513789, 5399120 +/- 10m
1401269	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		Mark Wapstra (1621)	16-Oct-2013	Sighting	513785, 5398960 +/- 5m
1404327	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513787, 5399095 +/- 10m
1404328	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513789, 5399091 +/- 10m
1404326	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513781, 5399090 +/- 10m
1404337	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513785, 5399073 +/- 10m
400006	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		Jamie Kirkpatrick (1315)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m
1404329	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513788, 5399095 +/- 10m
228239	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		Rod J. Fensham (2075)	26-Dec-1984	Sighting	513812, 5399084 +/- 200m
1404338	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513786, 5399057 +/- 10m
1404339	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	12-Nov-2013	Sighting	513794, 5399009 +/- 10m
1404330	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513778, 5399018 +/- 10m
1401283	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		Mark Wapstra (1621)	16-Oct-2013	Sighting	513775, 5399019 +/- 5m
1404335	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513777, 5399017 +/- 10m
345629	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		- Unknown (21598)	01-Jan-0001	Sighting	513812, 5398983 +/- 100m
1404331	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513780, 5398999 +/- 10m
1404334	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513780, 5398991 +/- 10m
1404332	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		T Leaman (27387)	16-Oct-2013	Sighting	513784, 5398968 +/- 10m
1404333	<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	r		A Woolford (21815), T Leaman (27387)	11-Nov-2013	Sighting	513782, 5398966 +/- 10m
400005	<i>Vittadinia cuneata</i> var. <i>cuneata</i>	fuzzy new-holland-daisy	r		J Kirkpatrick (1197)	01-Nov-1984	Sighting	513912, 5399083 +/- 100m

Unverified Records

No unverified records were found!

For more information about threatened species, please contact the Manager, Threatened Species and Marine Section.

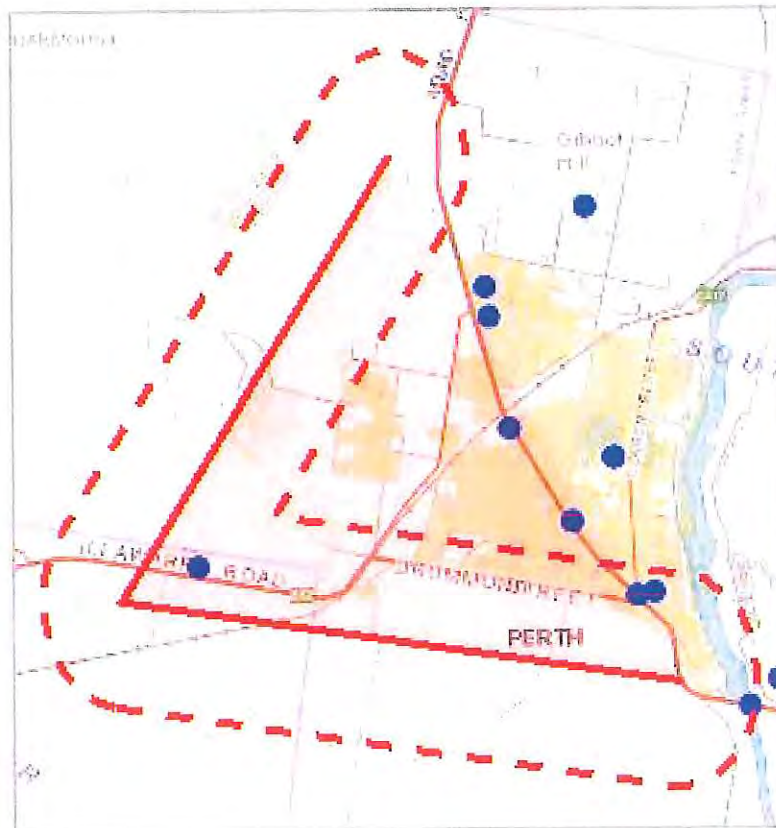
Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiw.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Threatened fauna within 500 metres

515442, 5399799



511721, 5395932

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- / Line Verified
- / Line Unverified
- Polygon Verified
- Polygon Unverified

Legend: Cadastral Parcels



Threatened fauna within 500 metres

Verified Records

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
877423	<i>Lathamus discolor</i>	swift parrot	e	EN	P Marmion (1959)	05-Oct-1988	Sighting	512612, 5397183 +/- 3000m
895199	<i>Perameles gunnii</i>	eastern barred bandicoot		VU	K Harmon (1394)	25-Oct-1975	Sighting	515393, 5396635 +/- 1850m
1073296	<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	Bill Lawrence (19705)	21-Mar-2007	Sighting	514800, 5397050 +/- 4000m
740247	<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	Greg Hocking (7572)	24-Jan-1992	Sighting	515250, 5396511 +/- 931m
1202025	<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	James Harris (21691)	05-Dec-2010	Sighting	514719, 5397035 +/- 300m

Unverified Records

No unverified records were found!

Threatened fauna within 500 metres (based on Range Boundaries)

Species	Common Name	SS	NS	Potential	Known	Core
<i>Catadromus lacordairei</i>	Green-lined ground beetle	v		I	0	0
<i>Aquila audax</i>	wedge-tailed eagle	pe	PEN	I	0	0
<i>Perameles gunnii</i>	eastern barred bandicoot		VU	I	0	I
<i>Dasyurus maculatus</i>	spotted-tailed quoll	r	VU	I	0	0
<i>Litoria raniformis</i>	green and gold frog	v	VU	I	0	I
<i>Pseudemoia pagenstecheri</i>	tussock skink	v		I	0	0
<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	I	0	0
<i>Aquila audax subsp. fleayi</i>	tasmanian wedge-tailed eagle	e	EN	I	0	0
<i>Galaxias fontanus</i>	swan galaxias	e	EN	I	0	0
<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	I	0	I
<i>Prototroctes maraena</i>	australian grayling	v	VU	I	0	0
<i>Accipiter novaehollandiae</i>	grey goshawk	e		I	0	0
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		I	0	0

For more information about threatened species, please contact the Manager, Threatened Species and Marine Section.

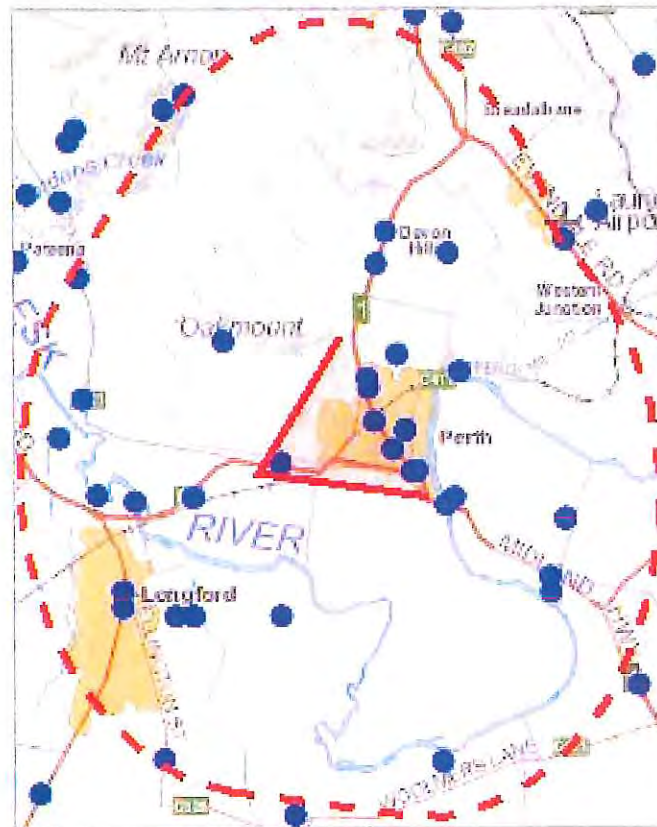
Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dipwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Threatened fauna within 5000 metres

518819, 5404283



508353, 5391443

Legend: Verified and Unverified observations

- Point Verified
- Polygon Verified
- Point Unverified
- Polygon Unverified
- Line Verified
- Line Unverified

Legend: Cadastral Parcels



Threatened fauna within 5000 metres

1-302

Verified Records

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
1257447	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	Sandy Gibson (6938)	14-Oct-2004	Nest	517177, 5396287 +/- 10m
1257448	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	Bill Brown (3537)	28-Jun-2002	Nest	517177, 5396287 +/- 10m
1257449	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	Bill Brown (3537)	22-Oct-2001	Nest	517177, 5396287 +/- 10m
1257446	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	Sandy Gibson (6938)	01-Jan-1985	Nest	517177, 5396287 +/- 10m
1257450	Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	Nick Mooney (16443)	28-Jun-2002	Nest	517177, 5396287 +/- 10m
1367276	Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	Rod Knight (3238)	11-Jul-2006	Carcass	515486, 5398592 +/- 100m
895939	Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	K Little (1403)	07-May-1976	Sighting	508451, 5400346 +/- 1850m
358805	Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	Menna Jones (8901)	23-May-1996	Sighting	514312, 5400783 +/- 100m
895699	Dasyurus maculatus subsp. maculatus	spotted-tailed quoll	r	VU	K Little (1403)	20-Feb-1975	Sighting	519561, 5396624 +/- 1850m
877423	Lathamus discolor	swift parrot	e	EN	P Marmion (1959)	05-Oct-1988	Sighting	512612, 5397183 +/- 3000m
304639	Litoria raniformis	green and gold frog	v	VU	Peter Brown (1919)	02-Jan-1994	Sighting	509712, 5396683 +/- 1000m
305692	Litoria raniformis	green and gold frog	v	VU	Peter Brown (1919)	02-Jan-1994	Sighting	509112, 5397583 +/- 1000m
302546	Litoria raniformis	green and gold frog	v	VU	P Swatowski (1883)	01-Jan-0001	Sighting	510112, 5395183 +/- 1000m
305697	Litoria raniformis	green and gold frog	v	VU	Peter Brown (1919)	02-Jan-1994	Sighting	510312, 5396583 +/- 1000m
549457	Litoria raniformis	green and gold frog	v	VU	- Unknown (21598)	07-Nov-1960	Sighting	511223, 5394792 +/- 670m
303600	Litoria raniformis	green and gold frog	v	VU	P Swatowski (1883)	01-Jan-0001	Sighting	514412, 5397383 +/- 1000m
533172	Litoria raniformis	green and gold frog	v	VU	- Unknown (21598)	01-Jan-0001	Sighting	517712, 5401083 +/- 100m
302062	Litoria raniformis	green and gold frog	v	VU	P Swiatkowski (2705)	14-Jan-1992	Sighting	519612, 5397683 +/- 1000m
895450	Perameles gunnii	eastern barred bandicoot		VU	K Little (1403)	26-Aug-1973	Sighting	512612, 5394789 +/- 1850m
895198	Perameles gunnii	eastern barred bandicoot		VU	K Little (1403)	26-Aug-1973	Sighting	511223, 5394792 +/- 1850m
895429	Perameles gunnii	eastern barred bandicoot		VU	K Little (1403)	03-Mar-1976	Sighting	514008, 5398488 +/- 1850m
1216012	Perameles gunnii	eastern barred bandicoot		VU	Anna Povey (3310)	31-Dec-2010	Carcass	509417, 5400083 +/- 100m
895449	Perameles gunnii	eastern barred bandicoot		VU	K Little (1403)	01-Jan-0001	Sighting	511226, 5396642 +/- 1850m
895199	Perameles gunnii	eastern barred bandicoot		VU	K Harmon (1394)	25-Oct-1975	Sighting	515393, 5396635 +/- 1850m
1274034	Sarcophilus harrisii	tasmanian devil	e	EN	- Anonymous (16453)	09-Sep-2012	Sighting	510756, 5392563 +/- 1000m
1152999	Sarcophilus harrisii	tasmanian devil	e	EN	Janine Wise (20829)	25-May-2009	Sighting	514026, 5398347 +/- 50m
1075948	Sarcophilus harrisii	tasmanian devil	e	EN	Paula Bayes (20611)	30-Sep-2004	Sighting	515307, 5400442 +/- 1000m
747972	Sarcophilus harrisii	tasmanian devil	e	EN	Greg Hocking (7572)	24-Jan-1992	Sighting	514156, 5400280 +/- 923m
1294892	Sarcophilus harrisii	tasmanian devil	e	EN	Amanda ? (24154)	10-Nov-2012	Sighting	507967, 5397906 +/- 8000m
1154413	Sarcophilus harrisii	tasmanian devil	e	EN	Christie O'Halloran (21097)	19-Apr-2010	Sighting	507396, 5395979 +/- 200m
883274	Sarcophilus harrisii	tasmanian devil	e	EN	P Survey (1989)	18-Oct-1990	Sighting	518312, 5393683 +/- 500m
740248	Sarcophilus harrisii	tasmanian devil	e	EN	Greg Hocking (7572)	25-May-1992	Sighting	516917, 5395379 +/- 586m
952981	Sarcophilus harrisii	tasmanian devil	e	EN	Daniel Gilmore (11301)	22-Feb-2006	Sighting	516937, 5395139 +/- 50m
1382106	Sarcophilus harrisii	tasmanian devil	e	EN	Julie Hopkins (28559)	19-Aug-2013	Sighting	517187, 5400637 +/- 1000m
1202025	Sarcophilus harrisii	tasmanian devil	e	EN	James Harris (21691)	05-Dec-2010	Sighting	514719, 5397035 +/- 300m
1073296	Sarcophilus harrisii	tasmanian devil	e	EN	Bill Lawrence (19705)	21-Mar-2007	Sighting	514800, 5397050 +/- 4000m
1066357	Sarcophilus harrisii	tasmanian devil	e	EN	Dean Boyd (19850)	29-Jul-2006	Sighting	514117, 5397822 +/- 2000m
1092625	Sarcophilus harrisii	tasmanian devil	e	EN	Shelly Kerr (21130)	06-Aug-2009	Sighting	514487, 5398862 +/- 50m

Threatened fauna within 5000 metres

Id	Species	Common Name	SS	NS	Observers	Date	Obs Type	Easting/Northing GDA94 Zone 55
740247	<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	Greg Hocking (7572)	24-Jan-1992	Sighting	515250, 5396511 +/- 931m
1335713	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	Penelope McCartney (27973)	31-May-1987	Sighting	515179, 5392511 +/- 5000m
359210	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	A Sayer (2682)	17-Sep-1963	Sighting	510945, 5394792 +/- 9000m
1201191	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	Threatened Species Section Staff Unknown (21723)	01-Jan-1950	Sighting	5111712, 5399083 +/- 100m
352373	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	- Unknown (21598)	04-Sep-1973	Sighting	510112, 5394933 +/- 1000m
608017	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	- Unknown (21598)	25-Jan-1982	Sighting	509148, 5401271 +/- 2000m
352266	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	Phil Bell (1915)	25-May-1996	Sighting	509487, 5398184 +/- 100m
360528	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	P Andrews (1907)	06-Aug-1989	Sighting	514612, 5397683 +/- 5000m
1256571	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	Nick Mooney (16443)	01-Jan-1985	Nest	511113, 5402934 +/- 1000m
359205	<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	B Borkhoff (3526)	01-Jan-1977	Sighting	514612, 5397683 +/- 5000m
1280002	<i>Tyto novaehollandiae</i> subsp. <i>castanops</i>	masked owl (tasmanian)	e	VU	Rob De Cesare (24080)	19-Sep-2012	Sighting	510785, 5402698 +/- 100m

Unverified Records

No unverified records were found!

Threatened fauna within 5000 metres (based on Range Boundaries)

Species	Common Name	SS	NS	Potential	Known	Core
<i>Catadromus lacordairei</i>	Green-lined ground beetle	v		I	0	0
<i>Aquila audax</i>	wedge-tailed eagle	pe	PEN	I	0	0
<i>Perameles gunnii</i>	eastern barred bandicoot		VU	I	0	I
<i>Dasyurus maculatus</i>	spotted-tailed quoll	r	VU	I	0	0
<i>Litoria raniformis</i>	green and gold frog	v	VU	I	0	I
<i>Pseudemoia pagenstecheri</i>	tussock skink	v		I	0	0
<i>Sarcophilus harrisii</i>	tasmanian devil	e	EN	I	0	0
<i>Aquila audax</i> subsp. <i>fleayi</i>	tasmanian wedge-tailed eagle	e	EN	I	0	0
<i>Galaxias fontanus</i>	swan galaxias	e	EN	I	0	0
<i>Oecetis gilva</i>	caddis fly (south esk river)	r		I	0	0
<i>Tyto novaehollandiae</i>	masked owl	pe	PVU	I	0	I
<i>Prototroctes maraena</i>	australian grayling	v	VU	I	0	0
<i>Hydroptila scamandra</i>	caddis fly (upper scamander river)	r		I	0	0
<i>Accipiter novaehollandiae</i>	grey goshawk	e		I	0	0
<i>Haliaeetus leucogaster</i>	white-bellied sea-eagle	v		I	0	0

For more information about threatened species, please contact the Manager, Threatened Species and Marine Section.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dpiwre.tas.gov.au

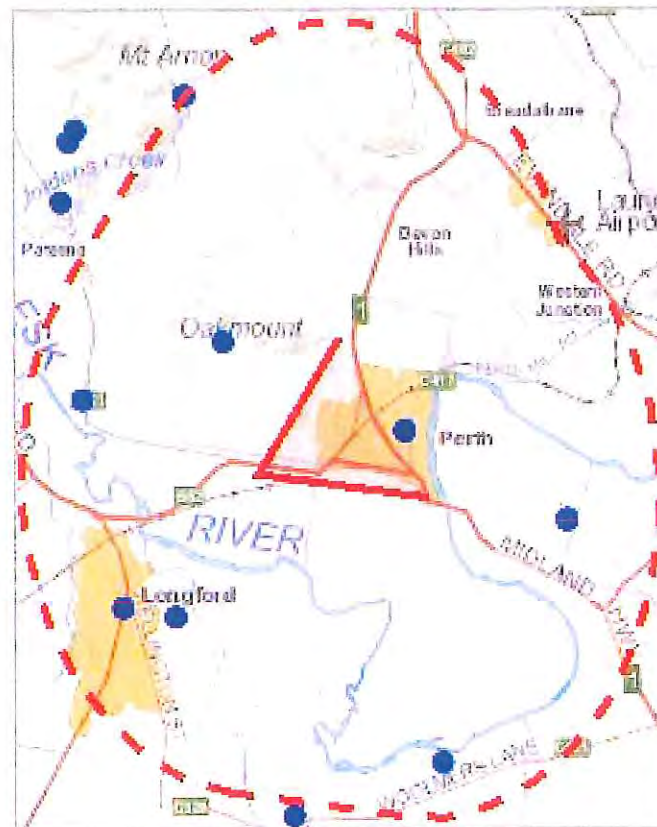
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Raptor nests and sightings within 500 metres

*** No Raptor nests or sightings found within 500 metres. ***

Raptor nests and sightings within 5000 metres

518819, 5404283



508353, 5391443

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

Legend: Cadastral Parcels



Raptor nests and sightings within 5000 metres

Please Note:

Note that inactive, damaged and/or lost eagle nests may be reinstated or replaced in following seasons (possibly even years later) and it should not be assumed that these locations will remain inactive in the long term.

Where there is no data in the Nest Productivity and Nest Occupancy fields it is likely that the productivity and occupancy of these nests has not been assessed and the absence of this data does not imply that the nests are un-occupied or un-productive.

Approaching a nest on foot during the breeding season (June to February inclusive) is highly disruptive for breeding eagles. Therefore eagle nests should not be approached during this time unless approved by a relevant DPIWE specialist or their delegate.

Verified Records

Nest Id/Location Foreign Id	Species Name	Observer	Obs Date	Obs Type	Easting/Northing GDA94 Zone 55	Season	Nest Productivity	Nest Occupancy
600	Tyto novaehollandiae	Nick Mooney (16443)	01-Jan-1985	Nest	511113, 5402934 +/- 1000m			
969	Aquila audax subsp. fleayi	Sandy Gibson (6938)	01-Jan-1985	Nest	517177, 5396287 +/- 10m			
969	Aquila audax subsp. fleayi	Bill Brown (3537)	28-Jun-2002	Nest	517177, 5396287 +/- 10m	2001	1	
969	Aquila audax subsp. fleayi	Sandy Gibson (6938)	14-Oct-2004	Nest	517177, 5396287 +/- 10m	2004		
969	Aquila audax subsp. fleayi	Nick Mooney (16443)	28-Jun-2002	Nest	517177, 5396287 +/- 10m	2002	1	
969	Aquila audax subsp. fleayi	Bill Brown (3537)	22-Oct-2001	Nest	517177, 5396287 +/- 10m	2001		
	Tyto novaehollandiae	Phil Bell (1915)	25-May-1996	Sighting	509487, 5398184 +/- 100m			
	Tyto novaehollandiae	- Unknown (21598)	25-Jan-1982	Sighting	509148, 5401271 +/- 2000m			
	Tyto novaehollandiae	- Unknown (21598)	04-Sep-1973	Sighting	510112, 5394933 +/- 1000m			
	Tyto novaehollandiae	P Andrews (1907)	06-Aug-1989	Sighting	514612, 5397683 +/- 5000m			
	Tyto novaehollandiae	A Sayer (2682)	17-Sep-1963	Sighting	510945, 5394792 +/- 9000m			
	Tyto novaehollandiae	Penelope McCartney (27973)	31-May-1987	Sighting	515179, 5392511 +/- 5000m			
	Tyto novaehollandiae	B Borkhoff (3526)	01-Jan-1977	Sighting	514612, 5397683 +/- 5000m			
	Tyto novaehollandiae	Threatened Species Section Staff Unknown (21723)	01-Jan-1950	Sighting	511712, 5399083 +/- 100m			

Unverified Records

No unverified records were found!

Raptor nests and sightings within 5000 metres (based on Range Boundaries)

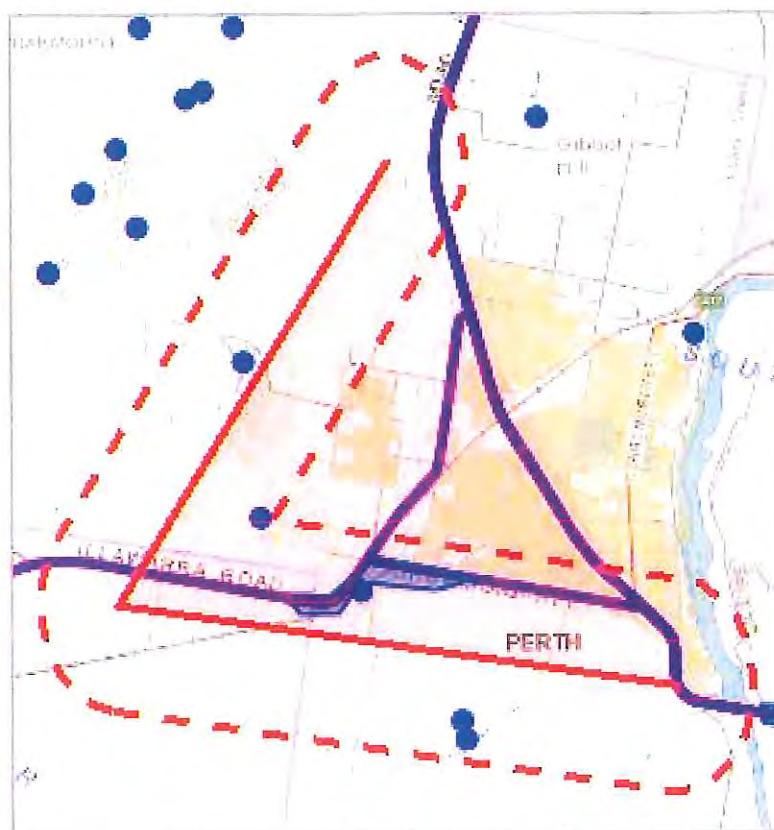
Species	Common Name	SS	NS	Potential	Known	Core
Aquila audax	wedge-tailed eagle	pe	PEN	1	0	0
Aquila audax subsp. fleayi	tasmanian wedge-tailed eagle	e	EN	1	0	0
Tyto novaehollandiae	masked owl	pe	PVU	1	0	1
Accipiter novaehollandiae	grey goshawk	e		1	0	0
Haliaeetus leucogaster	white-bellied sea-eagle	v		1	0	0

For more information about raptor nests, please contact the Manager, Threatened Species and Marine Section.

Telephone: (03) 6165 4340

Email: ThreatenedSpecies.Enquiries@dipwe.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



511721, 5395932

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

Legend: Cadastral Parcels



Tas Management Act Weeds within 500 m

1-508

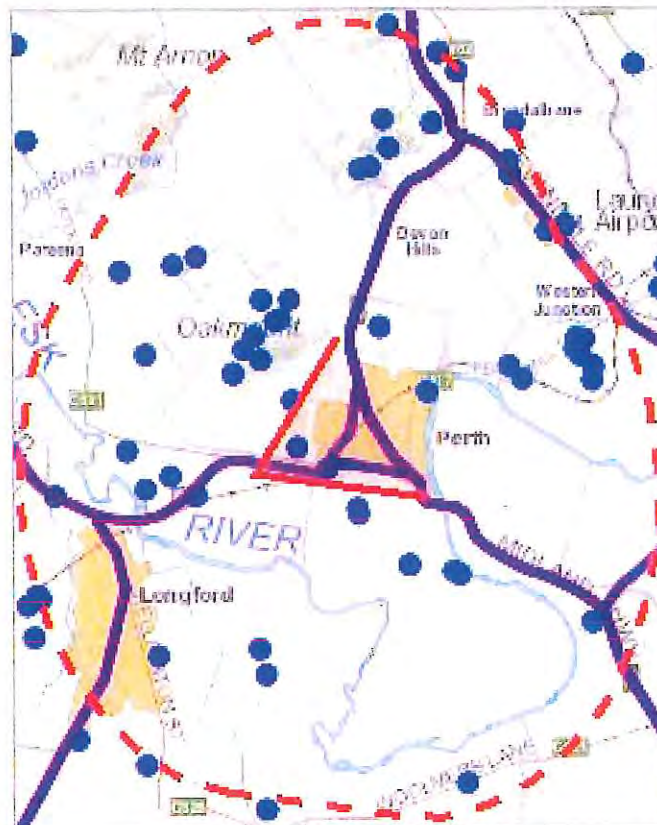
Verified Records

Id	Species	Common Name	Observers	Date	Easting/Northing GDA94 Zone 55	Location Description	WMA	Wons Density	Data Source
1228829	Echium plantagineum	patersons curse	- Unknown (21598)	01-Jan-0001	Polygon		Present	Yes	Not known (or uncertain)
1227096	Erica lusitanica	spanish heath	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
1228830	Hypericum perforatum subsp. veronense	perforated st johns-wort	- Unknown (21598)	01-Jan-0001	Polygon		Present	Yes	Less than 1%
1178448	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	513912, 5396383 +/- 100m		Present	Yes	Not known (or uncertain)
1178218	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	513412, 5397084 +/- 100m		Present	Yes	Not known (or uncertain)
1226176	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
1226242	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
938068	Salix matsudana	sallow willow	Matthew Baker (6602)	01-Nov-2003	513893, 5396471 +/- 1000m		Present	Yes	
1226736	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
910095	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	512850, 5398161 +/- 153m		Present	Yes	
910094	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	512928, 5397429 +/- 262m		Present	Yes	
1226576	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
1226600	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	

Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area.

<http://www.dpipwe.tas.gov.au/inter.nsf/WebPages/TPRY-52J8Z3?open>



508353, 5391443

Legend: Verified and Unverified observations

- Point Verified
- Point Unverified
- Line Verified
- Line Unverified
- Polygon Verified
- Polygon Unverified

Legend: Cadastral Parcels



Tas Management Act 1992 Weeds within 5000 m

Verified Records

Id	Species	Common Name	Observers	Date	Easting/Northing GDA94 Zone 55	Location Description	WMA	Wons Density	Data Source
289130	Anthemis cotula	stinking chamomile	Dennis Ivor Morris (4111)	26-Feb-1985	510912, 5396982 +/- 2000m	Gilbertsons Abbatoirs, Longford	Present	Yes	
909263	Asparagus asparagoides	bridal creeper	Stephen Welsh (3206)	03-Nov-1999	515512, 5395433 +/- 100m		Present	Yes	
590458	Carduus pycnocephalus	slender thistle	Karen Ziegler (3104)	20-Oct-2004	516340, 5401679 +/- 500m		Present	Yes	
1178195	Carthamus lanatus	saffron thistle	K. Graham (4790)	01-Jan-1993	514712, 5395583 +/- 100m		Present	Yes	Not known (or uncertain)
1178184	Carthamus lanatus	saffron thistle	K. Graham (4790)	01-Jan-1993	518913, 5397383 +/- 100m		Present	Yes	Not known (or uncertain)
1178191	Carthamus lanatus	saffron thistle	K. Graham (4790)	01-Jan-1993	515212, 5403584 +/- 100m		Present	Yes	Not known (or uncertain)
1178189	Carthamus lanatus	saffron thistle	K. Graham (4790)	01-Jan-1993	517612, 5394683 +/- 100m		Present	Yes	Not known (or uncertain)
911800	Cytisus scoparius	english broom	Tim Rudman (22437)	24-Oct-2001	509045, 5396688 +/- 25m		Present	Yes	
1228829	Echium plantagineum	patersons curse	- Unknown (21598)	01-Jan-0001	Polygon		Present	Yes	Not known (or uncertain)
1227082	Erica lusitanica	spanish heath	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
1227067	Erica lusitanica	spanish heath	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
1227096	Erica lusitanica	spanish heath	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
1228830	Hypericum perforatum subsp. veronense	perforated st johns-wort	- Unknown (21598)	01-Jan-0001	Polygon		Present	Yes	Less than 1%
854138	Lycium ferocissimum	african boxthorn	Andrew North (2500)	08-Nov-1994	515612, 5392183 +/- 20000m		Present	Yes	
1178453	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	511313, 5396683 +/- 100m		Present	Yes	Not known (or uncertain)
1178454	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	510212, 5397383 +/- 100m		Present	Yes	Not known (or uncertain)
1178449	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	510512, 5396783 +/- 100m		Present	Yes	Not known (or uncertain)
1178216	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	510512, 5392483 +/- 100m		Present	Yes	Not known (or uncertain)
1178456	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	510712, 5394183 +/- 100m		Present	Yes	Not known (or uncertain)
1178218	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	513412, 5397084 +/- 100m		Present	Yes	Not known (or uncertain)
1178415	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	515412, 5395483 +/- 100m		Present	Yes	Not known (or uncertain)
1178194	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	514712, 5395583 +/- 100m		Present	Yes	Not known (or uncertain)
1178448	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	513912, 5396383 +/- 100m		Present	Yes	Not known (or uncertain)
1178469	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	512412, 5393884 +/- 100m		Present	Yes	Not known (or uncertain)
1178444	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	512312, 5394283 +/- 100m		Present	Yes	Not known (or uncertain)
1178459	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	508612, 5394984 +/- 100m		Present	Yes	Not known (or uncertain)
1178217	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	508812, 5395084 +/- 100m		Present	Yes	Not known (or uncertain)
1178413	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	508712, 5394483 +/- 100m		Present	Yes	Not known (or uncertain)
1178205	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	510512, 5398884 +/- 100m		Present	Yes	Not known (or uncertain)
1178183	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	518913, 5397383 +/- 100m		Present	Yes	Not known (or uncertain)
1178188	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	517612, 5394683 +/- 100m		Present	Yes	Not known (or uncertain)
1178669	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	518712, 5399883 +/- 100m		Present	Yes	Not known (or uncertain)
1178668	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	516312, 5401884 +/- 100m		Present	Yes	Not known (or uncertain)
1178220	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	516912, 5400783 +/- 100m		Present	Yes	Not known (or uncertain)
1178201	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	517212, 5400884 +/- 100m		Present	Yes	Not known (or uncertain)

Tas Management Act Weeds within 5000 m

Id	Species	Common Name	Observers	Date	Easting/Northing GDA94 Zone 55	Location Description	WMA	Wons Density	Data Source
290639	Onopordum acanthium	cotton thistle or scotch thistle	Leonard R. Rodway (4869)	01-Nov-1912	515112, 5402483 +/- 2000m	Breadalbane.	Present	Yes	
290597	Onopordum acanthium	cotton thistle or scotch thistle	Leonard R. Rodway (4869)	01-Nov-1916	515112, 5402483 +/- 2000m	Breadalbane.	Present	Yes	
1178208	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	515512, 5403283 +/- 100m		Present	Yes	Not known (or uncertain)
1178190	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	515212, 5403584 +/- 100m		Present	Yes	Not known (or uncertain)
1178471	Onopordum acanthium	cotton thistle or scotch thistle	K. Graham (4790)	01-Jan-1993	516412, 5402483 +/- 100m		Present	Yes	Not known (or uncertain)
1226130	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
400932	Rubus fruticosus	blackberry	Jamie Kirkpatrick (1315)	01-Nov-1984	516312, 5398683 +/- 100m		Present	Yes	
400979	Rubus fruticosus	blackberry	Jamie Kirkpatrick (1315)	01-Nov-1984	516512, 5398483 +/- 100m		Present	Yes	
1226176	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
1226359	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
584054	Rubus fruticosus	blackberry	Karen Ziegler (3104)	20-Oct-2004	516340, 5401679 +/- 500m		Present	Yes	
52509	Rubus fruticosus	blackberry	Fred Duncan (21730)	21-Nov-1980	519412, 5396983 +/- 200m		Present	Yes	
1226156	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
590153	Rubus fruticosus	blackberry	Karen Ziegler (3104)	09-Sep-2004	507400, 5396000 +/- 500m		Present	Yes	
421603	Rubus fruticosus	blackberry	Jamie Kirkpatrick (1315)	01-Nov-1984	510112, 5400183 +/- 10000m		Present	Yes	
1018786	Rubus fruticosus	blackberry	Micah Visoiu (5870)	02-Oct-2001	508762, 5395132 +/- 50m		Present	Yes	
474166	Rubus fruticosus	blackberry	Louise Gilfedder (1499)	01-Jan-0001	511912, 5398583 +/- 100m		Present	Yes	
1226287	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
1226242	Rubus fruticosus	blackberry	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
938068	Salix matsudana	sallow willow	Matthew Baker (6602)	01-Nov-2003	513893, 5396471 +/- 1000m		Present	Yes	
583938	Salix x fragilis nothovar. fragilis	crack willow	Karen Ziegler (3104)	09-Sep-2004	507450, 5395600 +/- 500m		Present	Yes	
1018787	Salix x fragilis nothovar. fragilis	crack willow	Micah Visoiu (5870)	02-Oct-2001	508762, 5395132 +/- 50m		Present	Yes	
959074	Ulex europaeus	gorse	N Jones (1787), R Pearse (2720)	28-Jun-2006	514420, 5402100 +/- 250m		Present	Yes	
1167389	Ulex europaeus	gorse	- Unknown (21598)	30-Jun-2006	514332, 5402546 +/- 1m		Present	Yes	Not known (or uncertain)
1166328	Ulex europaeus	gorse	- Unknown (21598)	26-Oct-1999	512813, 5399734 +/- 1m		Present	Yes	Not known (or uncertain)
1226545	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
490470	Ulex europaeus	gorse	Louise Gilfedder (1499)	01-Jan-1995	515012, 5398283 +/- 100m		Present	Yes	
910077	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	517627, 5398456 +/- 111m		Present	Yes	
909357	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	517646, 5398676 +/- 177m		Present	Yes	
909356	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	517443, 5398841 +/- 53m		Present	Yes	
910093	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	517501, 5399096 +/- 60m		Present	Yes	
910092	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	517356, 5398944 +/- 37m		Present	Yes	
910076	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	517382, 5399117 +/- 57m		Present	Yes	
1226576	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	MultiLineString		Present	Yes	
1166353	Ulex europaeus	gorse	- Unknown (21598)	15-Dec-1999	514262, 5399304 +/- 1m		Present	Yes	Not known (or uncertain)
1226763	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	

Tas Management Act Weeds within 5000 m

Id	Species	Common Name	Observers	Date	Easting/Northing GDA94 Zone 55	Location Description	WMA	Wons Density	Data Source
1226757	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
52510	Ulex europaeus	gorse	Fred Duncan (21730)	21-Nov-1980	519412, 5396983 +/- 200m		Present	Yes	
1226561	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
590155	Ulex europaeus	gorse	Karen Ziegler (3104)	09-Sep-2004	507400, 5396000 +/- 500m		Present	Yes	
910100	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Aug-2000	511329, 5400406 +/- 219m		Present	Yes	
1166327	Ulex europaeus	gorse	- Unknown (21598)	26-Oct-1999	510962, 5400283 +/- 1m		Present	Yes	Not known (or uncertain)
1018778	Ulex europaeus	gorse	Micah Visoiu (5870)	02-Oct-2001	508762, 5395132 +/- 50m		Present	Yes	
590160	Ulex europaeus	gorse	Karen Ziegler (3104)	09-Sep-2004	507450, 5395600 +/- 500m		Present	Yes	
462741	Ulex europaeus	gorse	Louise Gilfedder (1499)	01-Jan-0001	511912, 5398583 +/- 100m		Present	Yes	
1226690	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
1166814	Ulex europaeus	gorse	- Unknown (21598)	10-Apr-2001	512362, 5399733 +/- 1m		Present	Yes	Not known (or uncertain)
1166815	Ulex europaeus	gorse	- Unknown (21598)	20-Nov-2003	512662, 5399434 +/- 1m		Present	Yes	Not known (or uncertain)
1166816	Ulex europaeus	gorse	- Unknown (21598)	20-Nov-2003	512581, 5399399 +/- 1m		Present	Yes	Not known (or uncertain)
1166817	Ulex europaeus	gorse	- Unknown (21598)	18-Jan-2005	512243, 5399164 +/- 1m		Present	Yes	Not known (or uncertain)
909358	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	512342, 5398795 +/- 433m		Present	Yes	
1166818	Ulex europaeus	gorse	- Unknown (21598)	18-Jan-2005	512082, 5398958 +/- 1m		Present	Yes	Not known (or uncertain)
910094	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	512928, 5397429 +/- 262m		Present	Yes	
910095	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Feb-2001	512850, 5398161 +/- 153m		Present	Yes	
1226736	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
1226600	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
1167398	Ulex europaeus	gorse	- Unknown (21598)	02-Aug-2007	513948, 5401761 +/- 1m		Present	Yes	Not known (or uncertain)
959073	Ulex europaeus	gorse	N Jones (1787), R Pearse (2720)	28-Jun-2006	514120, 5401800 +/- 250m		Present	Yes	
1226729	Ulex europaeus	gorse	- Unknown (21598)	08-Jan-1995	LineString		Present	Yes	
909397	Ulex europaeus	gorse	Andrew Drenen (3354)	01-Aug-2000	514428, 5404006 +/- 142m		Present	Yes	

Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area.
<http://www.dpipwe.tas.gov.au/inter.nsf/WebPages/TPRY-52J8Z3?open>

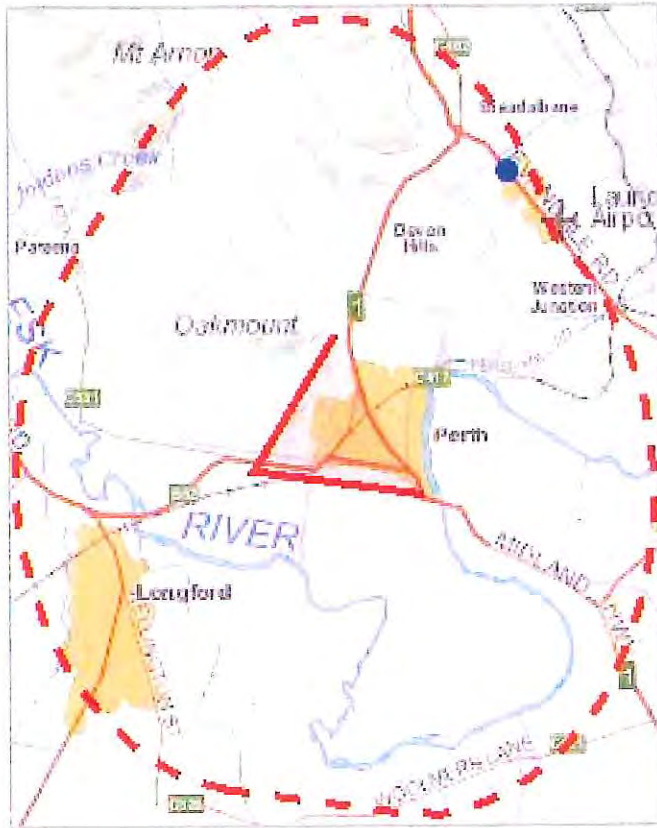
Priority Weeds within 500 m

P-513

*** No Priority Weeds found within 500 metres ***

eds with

518819, 5404283



508353, 5391443

Legend: Verified and Unverified observations

- Point Verified

● Point Unverified

Line Verified

 Line Unverified

 Polygon Verified

☐ Polygon Unverified

Legend: Cadastral Parcels



Priority Weeds within 5000 m

Verified Records

Id	Species	Common Name	Observers	Date	Easting/Northing GDA94 Zone 55	Location Description	WMA	Wons Density	Data Source
590454	Achillea millefolium	yarrow	Karen Ziegler (3104)	20-Oct-2004	516340, 5401679 +/- 500m		Present	No	
583937	Rumex obtusifolius subsp. obtusifolius	western broadleaf dock	Karen Ziegler (3104)	09-Sep-2004	507450, 5395600 +/- 500m		Present	No	

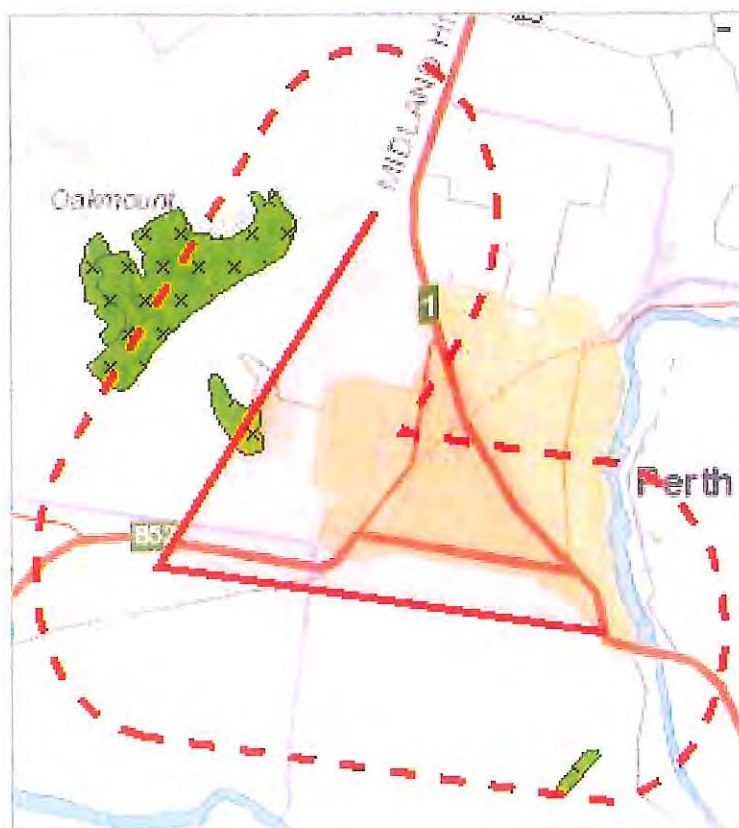
Unverified Records

For more information about introduced weed species, please visit the following URL for contact details in your area.

<http://www.dpipwe.tas.gov.au/inter.nsf/VWebPages/TPRY-52J8Z3?open>

Threatened Communities (TNVC 2.0) within 1000 metres

515817, 5400298



511347, 5395433

Legend: Threatened Communities

DAS	DAZ	DGL	DKW	DMO
DMW	DOV	DOW	DPE	DRI
DTO	DVC	DVF	WBR	WGK
WVI	RFE	RKF	RKP	RKS
RPF	RPP	RPW	NAL	NBS
NCR	NLN	NME	NNP	AWU
AHF	AHL	AHS	ASF	SBM
SCK	SCW	SHC	SMP	SMR
SRC	SRI	HCM	MSP	MGH
MDS	MAP	GPH		

Legend: Cadastral Parcels



Threatened Communities (TNC 2.0) within 1000 metres

Conservation Status: R = rare, V = vulnerable, E = endangered.

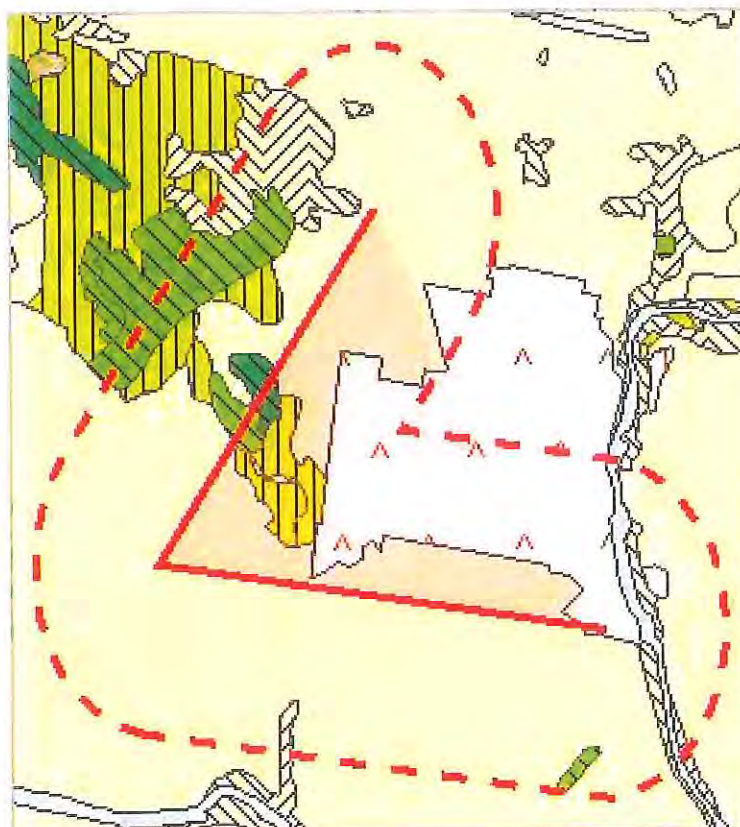
Tasveg Code	Vegetation community title	Conservation status
DAZ	Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	V
DAZ	Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	V
DAZ	Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	V

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program, Conservation Values Information Section.

Telephone: (03) 6165 4320

Email: TVMMPsupport@dpiwre.tas.gov.au

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000



511347, 5395433

Legend: TASVEG 3.0

- DAC - Eucalyptus amygdalina coastal forest and woodland
- DAD - Eucalyptus amygdalina forest and woodland on dolerite
- DAS - Eucalyptus amygdalina forest and woodland on sandstone
- DAM - Eucalyptus amygdalina forest on mudstone
- DAZ - Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits
- DSC - Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest
- DBA - Eucalyptus barberi forest and woodland
- DCO - Eucalyptus coccifera forest and woodland
- DCR - Eucalyptus cordata forest
- DDP - Eucalyptus dalrympleana - Eucalyptus pauciflora forest and woodland
- DDE - Eucalyptus delegatensis dry forest and woodland
- DGL - Eucalyptus globulus dry forest and woodland
- DGW - Eucalyptus gunnii woodland
- DMO - Eucalyptus morrisbyi forest and woodland
- DNI - Eucalyptus nitida dry forest and woodland
- DNF - Eucalyptus nitida Furneaux forest
- DOB - Eucalyptus obliqua dry forest
- DOV - Eucalyptus ovata forest and woodland
- DOW - Eucalyptus ovata heathy woodland
- DPO - Eucalyptus pauciflora forest and woodland not on dolerite
- DPD - Eucalyptus pauciflora forest and woodland on dolerite
- DPE - Eucalyptus perriniana forest and woodland
- DPU - Eucalyptus pulchella forest and woodland
- DRI - Eucalyptus risdonii forest and woodland
- DRO - Eucalyptus rodwayi forest and woodland
- DSO - Eucalyptus sieberi forest and woodland not on granite
- DSG - Eucalyptus sieberi forest and woodland on granite
- DTD - Eucalyptus tenuiramis forest and woodland on dolerite
- DTG - Eucalyptus tenuiramis forest and woodland on granite
- DTO - Eucalyptus tenuiramis forest and woodland on sediments
- DVF - Eucalyptus viminalis Furneaux forest and woodland
- DVG - Eucalyptus viminalis grassy forest and woodland

TASVEG 3.0 Communities within 1000 metres

	DVC - Eucalyptus viminalis - Eucalyptus globulus coastal forest and woodland
	DKW - King Island Eucalypt woodland
	DMW - Midlands woodland complex
	WBR - Eucalyptus brookeriana wet forest
	WDA - Eucalyptus dalrympleana forest
	WDL - Eucalyptus delegatensis forest over Leptospermum
	WDR - Eucalyptus delegatensis forest over rainforest
	WDB - Eucalyptus delegatensis forest with broad-leaf shrubs
	WDU - Eucalyptus delegatensis wet forest (undifferentiated)
	WGK - Eucalyptus globulus King Island forest
	WGL - Eucalyptus globulus wet forest
	WNL - Eucalyptus nitida forest over Leptospermum
	WNR - Eucalyptus nitida forest over rainforest
	WNU - Eucalyptus nitida wet forest (undifferentiated)
	WOL - Eucalyptus obliqua forest over Leptospermum
	WOR - Eucalyptus obliqua forest over rainforest
	WOB - Eucalyptus obliqua forest with broad-leaf shrubs
	WOU - Eucalyptus obliqua wet forest (undifferentiated)
	WRE - Eucalyptus regnans forest
	WSU - Eucalyptus subcrenulata forest and woodland
	WVI - Eucalyptus viminalis wet forest
	RPF - Athrotaxis cupressoides - Nothofagus gunnii short rainforest
	RPW - Athrotaxis cupressoides open woodland
	RPP - Athrotaxis cupressoides rainforest
	RKF - Athrotaxis selaginoides - Nothofagus gunnii short rainforest
	RKP - Athrotaxis selaginoides rainforest
	RKS - Athrotaxis selaginoides subalpine scrub
	RCO - Coastal rainforest
	RSH - Highland low rainforest and scrub
	RKX - Highland rainforest scrub with dead Athrotaxis selaginoides
	RHP - Lagarostrobos franklinii rainforest and scrub
	RMT - Nothofagus - Atherosperma rainforest
	RML - Nothofagus - Leptospermum short rainforest
	RMS - Nothofagus - Phyllocladus short rainforest
	RFS - Nothofagus gunnii rainforest and scrub
	RMU - Nothofagus rainforest (undifferentiated)
	RFE - Rainforest fernland
	NAD - Acacia dealbata forest
	NAR - Acacia melanoxylon forest on rises
	NAF - Acacia melanoxylon swamp forest
	NAL - Allocasuarina littoralis forest
	NAV - Allocasuarina verticillata forest
	NBS - Banksia serrata woodland
	NBA - Bursaria - Acacia woodland and scrub
	NCR - Callitris rhomboidea forest
	NLE - Leptospermum forest
	NLM - Leptospermum lanigerum - Melaleuca squarrosa swamp forest
	NLA - Leptospermum scoparium - Acacia mucronata forest
	NME - Melaleuca ericifolia swamp forest
	NLN - Subalpine Leptospermum nitidum woodland
	AHF - Fresh water aquatic herbland
	ASF - Freshwater aquatic sedgeland and rushland
	AHL - Lacustrine herbland
	AHS - Saline aquatic herbland
	ARS - Saline sedgeland/rushland
	AUS - Saltmarsh (undifferentiated)
	ASS - Succulent saline herbland
	AWU - Wetland (undifferentiated)
	SAL - Acacia longifolia coastal scrub
	SBM - Banksia marginata wet scrub
	SBR - Broad-leaf scrub

TASVEG 3.0 Communities within 1000 metres

	SCH - Coastal heathland
	SSC - Coastal scrub
	SCA - Coastal scrub on alkaline sands
	SRE - Eastern riparian scrub
	SED - Eastern scrub on dolerite
	SCL - Heathland on calcareous substrates
	SKA - Kunzea ambigua regrowth scrub
	SLG - Leptospermum glaucescens heathland and scrub
	SLL - Leptospermum lanigerum scrub
	SLS - Leptospermum scoparium heathland and scrub
	SLW - Leptospermum scrub
	SRF - Leptospermum with rainforest scrub
	SMP - Melaleuca pustulata scrub
	SMM - Melaleuca squamea heathland
	SMR - Melaleuca squarrosa scrub
	SRH - Rookery halophytic herbland
	SSK - Scrub complex on King Island
	SSZ - Spray zone coastal complex
	SHS - Subalpine heathland
	SWR - Western regrowth complex
	SSW - Western subalpine scrub
	SWW - Western wet scrub
	SHW - Wet heathland
	HCH - Alpine coniferous heathland
	HCM - Cushion moorland
	HHE - Eastern alpine heathland
	HSE - Eastern alpine sedgeland
	HUE - Eastern alpine vegetation (undifferentiated)
	HHW - Western alpine heathland
	HSW - Western alpine sedgeland/herbland
	MAP - Alkaline pans
	MBU - Buttongrass moorland (undifferentiated)
	MBS - Buttongrass moorland with emergent shrubs
	MBE - Eastern buttongrass moorland
	MGH - Highland grassy sedgeland
	MBP - Pure buttongrass moorland
	MRR - Restionaceae rushland
	MBR - Sparse buttongrass moorland on slopes
	MSP - Sphagnum peatland
	MDS - Subalpine Diplarrena latifolia rushland
	MBW - Western buttongrass moorland
	MSW - Western lowland sedgeland
	GHC - Coastal grass and herbfield
	GPH - Highland Poa grassland
	GCL - Lowland grassland complex
	GSL - Lowland grassy sedgeland
	GPL - Lowland Poa labillardierei grassland
	GTL - Lowland Themeda triandra grassland
	GRP - Rockplate grassland
	FAG - Agricultural land
	FUM - Extra-urban miscellaneous
	FMG - Marram grassland
	FPE - Permanent easements
	FPL - Plantations for silviculture
	FPF - Pteridium esculentum fernland
	FRG - Regenerating cleared land
	FSM - Spartina marshland
	FPU - Unverified plantations for silviculture
	FUR - Urban areas
	FWU - Weed infestation
	ORO - Lichen lithosere

TASVEG 3.0 Communities within 1000 metres

 OSM - Sand, mud

 OAQ - Water, sea

Legend: Cadastral Parcels



TASVEG 3.0 Communities within 1000 metres

Code	Community	Emergent Species
GCL	(GCL) Lowland grassland complex	EA
FUR	(FUR) Urban areas	
GCL	(GCL) Lowland grassland complex	EA
DAZ	(DAZ) Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	
OAQ	(OAQ) Water, sea	
FWU	(FWU) Weed infestation	
GCL	(GCL) Lowland grassland complex	EA
FWU	(FWU) Weed infestation	
DAZ	(DAZ) Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	
GCL	(GCL) Lowland grassland complex	EA
GCL	(GCL) Lowland grassland complex	
FWU	(FWU) Weed infestation	
FAG	(FAG) Agricultural land	EA
DVG	(DVG) Eucalyptus viminalis grassy forest and woodland	
FWU	(FWU) Weed infestation	
FAG	(FAG) Agricultural land	
FWU	(FWU) Weed infestation	
DAZ	(DAZ) Eucalyptus amygdalina inland forest and woodland on Cainozoic deposits	
FWU	(FWU) Weed infestation	
FUR	(FUR) Urban areas	
FWU	(FWU) Weed infestation	
GCL	(GCL) Lowland grassland complex	EA
FAG	(FAG) Agricultural land	

For more information contact: Coordinator, Tasmanian Vegetation Monitoring and Mapping Program, Conservation Values Information Section.

Telephone: (03) 6165 4320

Email: TVMMPsupport@dipwe.tas.gov.au

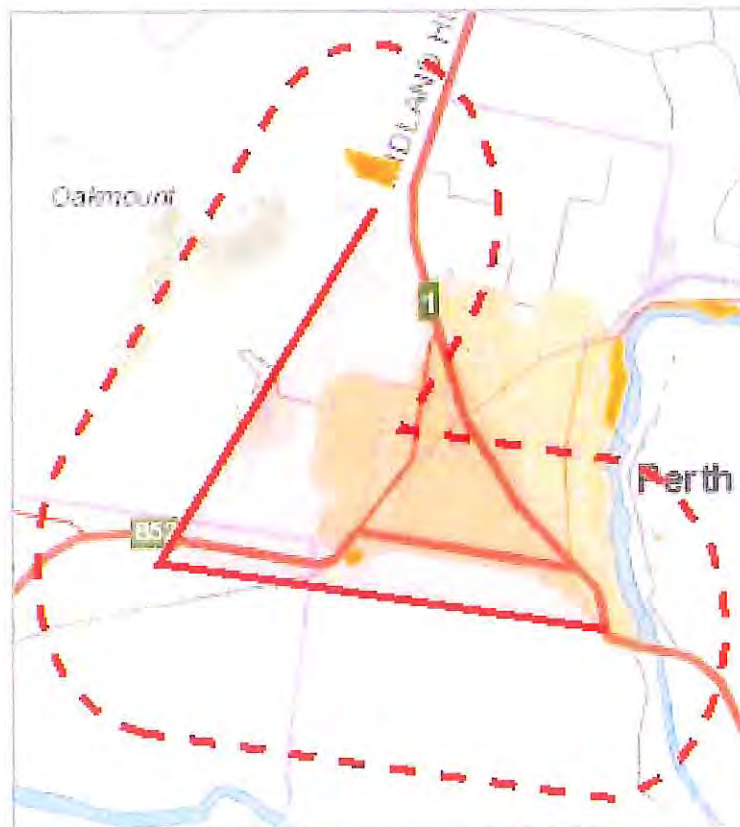
Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Geoconservation sites within 1000 metres

*** No Geoconservation sites found within 1000 metres. ***

Reserves within 1000 metres

515817, 5400298



511347, 5395433

Legend: Tasmanian Reserve Estate

- Conservation Area
- Forest Reserve
- Game Reserve
- Historic Site
- Indigenous Protected Area
- National Park
- Nature Reserve
- Nature Recreation Area
- Regional Reserve
- State Reserve
- Wellington Park
- Public authority land within WHA
- Future Reserve Land under the TFA - first proposed reserve order
- Future Reserve Land under the TFA - first proposed reserve order and Informal Reserve on State Forest
- Future Reserve Land under the TFA - second proposed reserve order
- Future Reserve Land under the TFA - second proposed reserve order and Informal Reserve on State Forest
- Informal Reserve on State Forest or Forestry Tas. managed land
- Informal Reserve on other public land
- Conservation Covenant (NCA), Private Nature Reserve and Private Sanctuary
- Private Sanctuary
- Private land within WHA
- Management Agreement
- Part 5 Agreement (Meander Dam Offset)
- Other Private Reserve

Legend: Cadastral Parcels



Reserves within 1000 metres

Name	Classification	Status
	Informal Reserve on other public land	Informal Reserve
	Informal Reserve on other public land	Informal Reserve

For more information about the Tasmanian Reserve Estate, please contact the Sustainable Land Use and Information Management Branch.

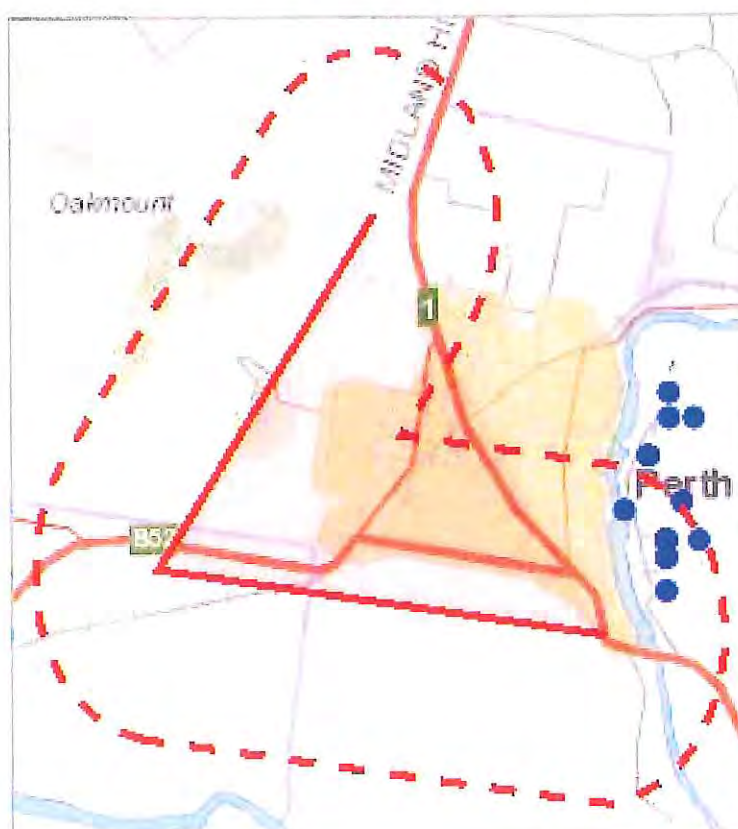
Telephone: (03) 6233 2744

Fax: (03) 6223 8603

Address: GPO Box 44, Hobart, Tasmania, Australia, 7000

Known biosecurity risks within 1000 meters

515817, 5400298



511347, 5395433

Legend: Biosecurity Risk Species

- Point Verified
- Point Unverified
- Polygon Verified
- Polygon Unverified
- Line Verified
- Line Unverified

Legend: Hygiene infrastructure

- Location Point Verified
- Location Point Unverified
- Location Line Unverified
- Location Line Verified
- Location Polygon Verified
- Location Polygon Unverified

Legend: Cadastral Parcels



Known biosecurity risks within 1000 meters

Species of biosecurity risk

Species Name	Common Name	Prescription	Observation Count
Phytophthora cinnamomi	water mould or root rot		26

Generic Biosecurity Guidelines

The level and type of hygiene protocols required will vary depending on the tenure, activity and land use of the area. In all cases adhere to the land manager's biosecurity (hygiene) protocols. As a minimum always Check / Clean / Dry (Disinfect) clothing and equipment before trips and between sites within a trip as needed <http://www.dpipwe.tas.gov.au/inter.nsf/Publications/LBUN-8896DT?open>

On Reserved land, the more remote, infrequently visited and undisturbed areas require tighter biosecurity measures.

In addition, where susceptible species and communities are known to occur, tighter biosecurity measures are required.

Apply controls relevant to the area / activity:

- Don't access sites infested with pathogen or weed species unless absolutely necessary. If it is necessary to visit, adopt high level hygiene protocols.
- Consider not accessing non-infested sites containing known susceptible species / communities. If it is necessary to visit, adopt high level hygiene protocols.
- Don't undertake activities that might spread pest / pathogen / weed species such as deliberately moving soil or water between areas.
- Modify / restrict activities to reduce the chance of spreading pest / pathogen / weed species e.g. avoid periods when weeds are seeding, avoid clothing/equipment that excessively collects soil and plant material e.g. Velcro, excessive tread on boots.
- Plan routes to visit clean (uninfested) sites prior to dirty (infested) sites. Do not travel through infested areas when moving between sites.
- Minimise the movement of soil, water, plant material and hitchhiking wildlife between areas by using the Check / Clean / Dry (Disinfect when drying is not possible) procedure for all clothing, footwear, equipment, hand tools and vehicles <http://www.dpipwe.tas.gov.au/inter.nsf/ThemeNodes/SLN-5NU68G?open>
- Neoprene and netting can take 48 hours to dry, use non-porous gear wherever possible.
- Use walking track boot wash stations where available.
- Keep a hygiene kit in the vehicle that includes a scrubbing brush, boot pick, and disinfectant <http://www.dpipwe.tas.gov.au/inter.nsf/Publications/LBUN-8896DT?open>
- Dispose of all freshwater away from natural water bodies e.g. do not empty water into streams or ponds.
- Dispose of used disinfectant ideally in town through a treatment or septic system. Always keep disinfectant well away from natural water systems.
- Securely contain any high risk pest / pathogen / weed species that must be collected and moved e.g. biological samples.

Hygiene Infrastructure

No known hygiene infrastructure found within 1000 metres

Biodiversity Values Database SearchTo browse the web map please click [HERE](#).

GDA Easting (6 digits)

513254

GDA Northing (7digits)

5397415

Search

(this may take some time)

[click here to print this report](#) (If experiencing print layout issues in internet explorer try hold down the shift key and reload the page. However the print layout functions much better in alternative browsers e.g. Firefox or Chrome.)

The coordinate falls within the following threatened species ranges

Common name	Scientific Name	range class	Habitat Description	Web Map
tussock skink	<i>Pseudemoia pagenstecheri</i>	Potential Range	Potential habitat for the Tussock Skink is grassland and grassy woodland (including rough pasture with paddock trees), generally with a greater than 20% cover of native grass species, especially where medium to tall tussocks are present.	Web map
grey goshawk	<i>Accipiter novaehollandiae</i>	Potential Range	Potential habitat for the grey goshawk is native forest with mature elements below 600 m altitude, particularly along watercourses. FPA's Fauna Technical Note 12 can be used as a guide in the identification of grey goshawk habitat. Significant habitat may be summarised as areas of wet forest, rainforest and damp forest patches in dry forest, with a relatively closed mature canopy, low stem density, and open understorey in close proximity to foraging habitat and a freshwater body (i.e. stream, river, lake, swamp, etc.). FPA's Fauna Technical Note 12 can be used as a guide in the identification of grey goshawk habitat.	Web map
eastern barred bandicoot	<i>Perameles gunnii</i>	Core Range	Potential habitat for the eastern barred bandicoot is open vegetation types including woodlands and open forests with a grassy understorey, native and exotic grasslands, particularly in landscapes with a mosaic of agricultural land and remnant bushland. Significant habitat for the Eastern Barred Bandicoot is dense tussock grass-sagg-sedge swards, piles of coarse woody debris and denser patches of low shrubs (especially those that are densely branched close to the ground providing shelter) within the core range of the species.	Web map
tasmanian devil	<i>Sarcophilus harrisii</i>	Potential Range	Potential habitat for the Tasmanian devil is all terrestrial native habitats, forestry plantations and pasture. Devils require shelter (e.g. dense vegetation, hollow logs, burrows or caves) and hunting habitat (open understorey mixed with patches of dense vegetation) within their home range (4-27 km ²). Potential denning habitat for the Tasmanian devil is areas of burrowable, well-drained soil or sheltered overhangs such as cliffs, rocky outcrops, knolls, caves and earth banks, free from risk of inundation and with at least one entrance through which a devil could pass (see Tech Note 10 for more details). Significant habitat is a patch of potential denning habitat where three or more entrances (large enough for a devil to pass through) may be found within 100 m of one another, and where no other potential denning habitat with three or more entrances may be found within a 1 km radius, being the approximate area of the smallest recorded devil home range (Pemberton 1990).	Web map
australian grayling	<i>Prototroctes maraena</i>	Potential Range	Potential habitat for the Australian Grayling is all streams and rivers in their lower to middle reaches. Areas above permanent barriers (e.g. Prosser River dam, weirs) that prevent fish migration, are not potential habitat.	Web map

Green Lined Ground	<i>Catadromus lacordairei</i>	Potential Range	Potential habitat for the Green-lined Ground Beetle is open, grassy/sedgy, low altitude grasslands and woodlands associated with wetlands and low-lying plains or flats adjacent to rivers/streams. Key habitat elements that need to be present include sheltering sites such as patches of stones, coarse woody debris and/or cracked soils. The species is a highly active and mobile flyer that often comes to ground close to water sources and is rarely found further than 250 m from such a source.	Web map
Swan galaxias	<i>Galaxias fontanus</i>	Potential Range	Potential habitat for the Swan Galaxias is slow to moderately fast flowing streams containing permanent water (even when not flowing), which have good instream cover from overhanging banks and/or logs, and shade from overhanging vegetation. A population can only be maintained where barriers have prevented establishment of trout and redfin perch. The nature of these barriers is variable and can include permanent natural structures such as waterfalls and chutes and also low flow-dependent features such as marshes, ephemeral water-losing and remnant channels, braided channel floodplain features. Significant habitat for the Swan galaxias is all potential habitat and a 30m stream-side reserve within the core range. This includes the Wildlife Priority Areas (Fauna Special Management Zones) on the upper Swan River, Tater Garden Creek and upper Blue Tier Creek, and other upper catchments of tributaries of the Macquarie, Blackman and Isis Rivers.	Web map
white-bellied sea-eagle	<i>Haliaeetus leucogaster</i>	Potential Range	Potential habitat for the White-Bellied Sea-eagle species comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is any large waterbody (including sea coasts, estuaries, wide rivers, lakes, impoundments and even large farm dams) supporting prey items (fish). Potential nesting habitat is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest within 5 km of the coast (nearest coast including shores, bays, inlets and peninsulas), large rivers (Class 1), lakes or complexes of large farm dams. Scattered trees along river banks or pasture land may also be used. Significant habitat for the white-bellied sea-eagle is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where nest tree still present).	Web map
green and golden frog	<i>Litoria raniformis</i>	Core Range	Potential habitat for the Green and Gold Frog is permanent and temporary waterbodies, usually with vegetation in or around them. Potential habitat includes features such as natural lagoons, permanently or seasonally inundated swamps and wetlands, farm dams, irrigation channels, artificial water-holding sites such as old quarries, slow-flowing stretches of streams and rivers and drainage features.	Web map
wedge-tailed eagle	<i>Aquila audax subsp. fleayi</i>	Potential Range	Potential habitat for the Wedge-tailed Eagle comprises potential nesting habitat and potential foraging habitat. Potential foraging habitat is a wide variety of forest (including areas subject to native forest silviculture) and non-forest habitats. Potential nesting habitat is tall eucalypt trees in large tracts (usually more than 10 ha) of eucalypt or mixed forest. Nest trees are usually amongst the largest in a locality. They are generally in sheltered positions on leeward slopes, between the lower and mid sections of a slope and with the top of the tree usually lower than the ground level of the top of the ridge, although in some parts of the State topographic shelter is not always a significant factor (e.g. parts of the northwest and Central Highlands). Significant habitat	Web map

			for the wedge-tailed eagle is all native forest and native non-forest vegetation within 500 m or 1 km line-of-sight of known nest sites (where the nest tree is still present).	
masked owl	<i>Tyto novaehollandiae</i>	Core Range	Potential habitat for the masked owl is all areas with trees with large hollows (>15 cm entrance diameter). In terms of using mapping layers, potential habitat is considered to be all areas with at least 20% mature eucalypt crown cover (PI-type mature density class 'a', 'b', or 'c'). From on-ground surveys this is areas with at least 8 trees per hectare over 100 cm dbh. Significant habitat for the masked owl includes native dry forest areas with trees with large hollows (>15 cm entrance diameter) that are mostly mature with no or little regrowth component. In terms of using mapping layers, significant habitat is considered to be all areas of dry forest (TASVEG dry Eucalypt forest and woodland) with at least 20% mature eucalypt crown cover (PI-type mature density class 'a', 'b', or 'c') that is classified as mature (Growth Stage class 'M'). From on-ground surveys this is areas with at least 8 trees per hectare over 100 cm dbh and more than half of the canopy cover is comprised of mature trees. Remnants and paddock trees in agricultural areas may also constitute significant habitat.	Web map
spotted-tailed quoll	<i>Dasyurus maculatus</i>	Core Range	Potential habitat for the spotted-tailed quoll is coastal scrub, riparian areas, rainforest, wet forest, damp forest, dry forest and blackwood swamp forest (mature and regrowth), particularly where structurally complex areas are present, and includes remnant patches in cleared agricultural land. Potential denning habitat for the spotted-tailed quoll includes 1) any forest remnant (>0.5ha) in a cleared landscape that is structurally complex (high canopy, with dense understorey and ground vegetation cover), free from the risk of inundation, or 2) a rock outcrop, rock crevice, rock pile, burrow with a small entrance, hollow logs, large piles of coarse woody debris and caves. (see Tech Note 10 for more details). Significant habitat for the spotted-tailed quoll is all potential denning habitat within the core range of the species.	Web map

N.V.A. threatened fauna records within 5 km

Common Name	Scientific Name	Easting	Northing	Distance (m)	Accuracy (m)	Observation Type	Observed State	NVA Observation ID
green and gold frog	<i>Litoria raniformis</i>	514412	5397383	1158	1000	Sighting	Present	303600
eastern barred bandicoot	<i>Perameles gunnii</i>	514008	5398488	1311	1850	Sighting	Present	895429
masked owl	<i>Tyto novaehollandiae</i>	514612	5397683	1384	5000	Sighting	Present	359205
masked owl	<i>Tyto novaehollandiae</i>	514612	5397683	1384	5000	Sighting	Present	360528
eastern barred bandicoot	<i>Perameles gunnii</i>	511226	5396642	2170	1850	Sighting	Present	895449
masked owl	<i>Tyto novaehollandiae</i>	511712	5399083	2272	100	Sighting	Present	1201191
eastern								

barred bandicoot	<i>Perameles gunnii</i>	515393	5396634	2277	1850	Sighting	Present	895199
eastern barred bandicoot	<i>Perameles gunnii</i>	512612	5394789	2703	1850	Sighting	Present	895450
green and gold frog	<i>Litoria raniformis</i>	510312	5396583	3057	1000	Sighting	Present	305697
eastern barred bandicoot	<i>Perameles gunnii</i>	511223	5394792	3317	1850	Sighting	Present	895198
green and gold frog	<i>Litoria raniformis</i>	511223	5394792	3317	670	Sighting	Present	549457
masked owl	<i>Tyto novaehollandiae</i>	510945	5394792	3495	9000	Sighting	Present	359210
green and gold frog	<i>Litoria raniformis</i>	509712	5396683	3617	1000	Sighting	Present	304639
masked owl	<i>Tyto novaehollandiae</i>	509487	5398183	3844	100	Sighting	Present	352266
green and gold frog	<i>Litoria raniformis</i>	510112	5395183	3854	1000	Sighting	Present	302546
masked owl	<i>Tyto novaehollandiae</i>	510112	5394933	4004	1000	Sighting	Present	352373
tasmanian wedge-tailed eagle	<i>Aquila audax subsp. fleayi</i>	517177	5396287	4082	10	Nest	Present	1257450
tasmanian wedge-tailed eagle	<i>Aquila audax subsp. fleayi</i>	517177	5396287	4082	10	Nest	Present	1257447
tasmanian wedge-tailed eagle	<i>Aquila audax subsp. fleayi</i>	517177	5396287	4082	10	Nest	Present	1257446
tasmanian wedge-tailed eagle	<i>Aquila audax subsp. fleayi</i>	517177	5396287	4082	10	Nest	Present	1257449
tasmanian wedge-tailed eagle	<i>Aquila audax subsp. fleayi</i>	517177	5396287	4082	10	Nest	Present	1257448
green and gold frog	<i>Litoria raniformis</i>	509112	5397583	4145	1000	Sighting	Present	305692
eastern barred bandicoot	<i>Perameles gunnii</i>	509417	5400083	4673	100	Carcass	Present	1216012

N.V.A. threatened flora records within 2 km

Scientific Name	Common Name	Easting	Northing	Distance (m)	Accuracy (m)	Observation Type	NVA Observation ID
<i>Pilularia novae-hollandiae</i>	austral pillwort	512412	5397083	905	100	Sighting	227569
<i>Arthropodium strictum</i>	chocolate lily	513862	5398209	1000	10	Sighting	1404384
<i>Haloragis heterophylla</i>	variable raspwort	513869	5398266	1050	10	Sighting	1404298
<i>Haloragis heterophylla</i>	variable raspwort	513872	5398277	1061	10	Sighting	1404299
<i>Arthropodium strictum</i>	chocolate lily	513877	5398317	1096	10	Sighting	1404385
<i>Tricoryne elatior</i>	yellow rushlily	513896	5398321	1111	1000	Sighting	1316740
<i>Arthropodium strictum</i>	chocolate lily	513930	5398352	1155	10	Sighting	1404387
<i>Arthropodium strictum</i>	chocolate lily	513934	5398354	1159	10	Sighting	1404386
<i>Aphelia pumilio</i>	dwarf fanwort	514412	5397483	1160	2500	Sighting	228286
<i>Prostanthera cuneata</i>	alpine mintbush	514412	5397483	1160	2500	Sighting	228288
<i>Prostanthera cuneata</i>	alpine mintbush	514412	5397483	1160	2500	Sighting	227619
<i>Lobelia pratioides</i>	poison lobelia	514412	5397483	1160	2500	Sighting	228287
<i>Muehlenbeckia axillaris</i>	matted lignum	514412	5397483	1160	2500	Sighting	227618
<i>Haloragis heterophylla</i>	variable raspwort	514412	5397483	1160	2500	Questionable	227617
<i>Aphelia gracilis</i>	slender fanwort	513874	5398409	1172	10	Sighting	1404300
<i>Caesia calliantha</i>	blue grasslily	513914	5398386	1174	10	Sighting	1404296
<i>Arthropodium strictum</i>	chocolate lily	513923	5398396	1187	10	Sighting	1404301
<i>Arthropodium strictum</i>	chocolate lily	513917	5398427	1210	10	Sighting	1404302
<i>Arthropodium strictum</i>	chocolate lily	513842	5398730	1440	10	Sighting	1404232
<i>Callitriche umbonata</i>	winged waterstarwort	512312	5398583	1501	100	Sighting	404494
<i>Myriophyllum integrifolium</i>	tiny watermilfoil	512312	5398583	1501	100	Sighting	940076
<i>Callitriche umbonata</i>	winged waterstarwort	512312	5398583	1501	100	Sighting	227564
<i>Hypoxis vaginata</i>	sheathing yellowstar	513777	5398907	1581	10	Sighting	1404274
<i>Dianella amoena</i>	grassland flaxlily	514812	5397683	1581	100	Sighting	227660

<i>Triptilodiscus pygmaeus</i>	dwarf sunray	513622	5398957	1585	10	Sighting	1404279
<i>Hypoxis vaginata</i>	sheathing yellowstar	513764	5398920	1589	10	Sighting	1404273
<i>Hypoxis vaginata</i>	sheathing yellowstar	513680	5398957	1600	10	Sighting	1404275
<i>Arthropodium strictum</i>	chocolate lily	513667	5398962	1601	10	Sighting	1404155
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513782	5398966	1638	10	Sighting	1404333
<i>Hypoxis vaginata</i>	sheathing yellowstar	513757	5398976	1640	10	Sighting	1404272
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513784	5398968	1641	10	Sighting	1404332
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513780	5398992	1662	10	Sighting	1404334
<i>Tricoryne elatior</i>	yellow rushlily	513812	5398983	1664	100	Sighting	344411
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513812	5398983	1664	100	Sighting	345629
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513780	5398999	1669	10	Sighting	1404331
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513794	5399009	1683	10	Sighting	1404339
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513777	5399017	1685	10	Sighting	1404335
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513778	5399018	1686	10	Sighting	1404330
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513786	5399057	1726	10	Sighting	1404338
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513785	5399072	1740	10	Sighting	1404337
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513781	5399090	1756	10	Sighting	1404326
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513789	5399091	1759	10	Sighting	1404328
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513812	5399083	1759	200	Sighting	228239
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513788	5399095	1763	10	Sighting	1404329
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513787	5399095	1763	10	Sighting	1404327
<i>Arthropodium strictum</i>	chocolate lily	513774	5399103	1766	10	Sighting	1404295
<i>Hypoxis vaginata</i>	sheathing yellowstar	513741	5399113	1766	10	Sighting	1404271
<i>Arthropodium</i>	chocolate lily	513769	5399105	1767	10	Sighting	1404280

<i>strictum</i>							
<i>Arthropodium strictum</i>	chocolate lily	513772	5399109	1771	10	Sighting	1404373
<i>Triptilodiscus pygmaeus</i>	dwarf sunray	513801	5399100	1772	10	Sighting	1404228
<i>Tricoryne elatior</i>	yellow rushlily	513788	5399108	1775	10	Sighting	1404320
<i>Arthropodium strictum</i>	chocolate lily	513772	5399116	1778	10	Sighting	1404281
<i>Tricoryne elatior</i>	yellow rushlily	513814	5399103	1778	10	Sighting	1404319
<i>Pterostylis ziegeleri</i>	grassland greenhood	511912	5398583	1779	100	Sighting	566841
<i>Arthropodium strictum</i>	chocolate lily	511912	5398583	1779	100	Sighting	462681
<i>Tricoryne elatior</i>	yellow rushlily	513769	5399118	1779	10	Sighting	1404325
<i>Arthropodium strictum</i>	chocolate lily	513831	5399105	1786	10	Sighting	1404304
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513789	5399120	1787	10	Sighting	1404336
<i>Arthropodium strictum</i>	chocolate lily	513789	5399120	1787	10	Sighting	1404284
<i>Tricoryne elatior</i>	yellow rushlily	513842	5399104	1788	10	Sighting	1404314
<i>Tricoryne elatior</i>	yellow rushlily	513832	5399107	1788	10	Sighting	1404313
<i>Tricoryne elatior</i>	yellow rushlily	513800	5399118	1788	10	Sighting	1404310
<i>Caesia calliantha</i>	blue grasslily	513832	5399107	1788	10	Sighting	1404307
<i>Arthropodium strictum</i>	chocolate lily	513794	5399119	1788	10	Sighting	1404303
<i>Arthropodium strictum</i>	chocolate lily	513770	5399127	1788	10	Sighting	1404282
<i>Tricoryne elatior</i>	yellow rushlily	513794	5399119	1788	10	Sighting	1404309
<i>Tricoryne elatior</i>	yellow rushlily	513787	5399122	1788	10	Sighting	1404323
<i>Tricoryne elatior</i>	yellow rushlily	513810	5399115	1789	10	Sighting	1404312
<i>Tricoryne elatior</i>	yellow rushlily	513808	5399116	1789	10	Sighting	1404311
<i>Caesia calliantha</i>	blue grasslily	513808	5399116	1789	10	Sighting	1404306
<i>Tricoryne elatior</i>	yellow rushlily	513771	5399128	1789	10	Sighting	1404324
<i>Arthropodium strictum</i>	chocolate lily	513855	5399102	1791	10	Sighting	1404305
<i>Tricoryne elatior</i>	yellow rushlily	513859	5399102	1792	10	Sighting	1404315
<i>Tricoryne elatior</i>	yellow rushlily	513871	5399098	1793	10	Sighting	1404316
<i>Arthropodium strictum</i>	chocolate lily	513912	5399083	1793	100	Sighting	399955
<i>Tricoryne elatior</i>	yellow rushlily	513788	5399127	1793	10	Sighting	1404322
<i>Tricoryne elatior</i>	yellow rushlily	513912	5399083	1793	100	Sighting	400877
<i>Vittadinia cuneata</i>	fuzzy new-						

<i>var. cuneata</i>	holland-daisy	513912	5399083	1793	100	Sighting	400005
<i>Vittadinia burbridgeae</i>	smooth new-holland-daisy	513912	5399083	1793	100	Sighting	400006
<i>Arthropodium strictum</i>	chocolate lily	513790	5399130	1797	10	Sighting	1404283
<i>Caesia calliantha</i>	blue grasslily	513910	5399089	1798	10	Sighting	1404308
<i>Tricoryne elatior</i>	yellow rushlily	513905	5399093	1800	10	Sighting	1404317
<i>Tricoryne elatior</i>	yellow rushlily	513925	5399085	1800	10	Sighting	1404318
<i>Tricoryne elatior</i>	yellow rushlily	513787	5399136	1802	10	Sighting	1404321
<i>Aphelia pumilio</i>	dwarf fanwort	512112	5398883	1860	100	Sighting	227540
<i>Arthropodium strictum</i>	chocolate lily	514912	5398383	1920	100	Sighting	854143
<i>Arthropodium strictum</i>	chocolate lily	514912	5398383	1920	100	Sighting	925227
<i>Hypoxis vaginata</i>	sheathing yellowstar	513754	5399304	1954	10	Sighting	1404276
<i>Arthropodium strictum</i>	chocolate lily	515012	5398283	1961	100	Sighting	490426
<i>Austrostipa nodosa</i>	knotty speargrass	515012	5398283	1961	100	Sighting	479082



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 27/01/15 14:07:51

[Summary](#)

[Details](#)

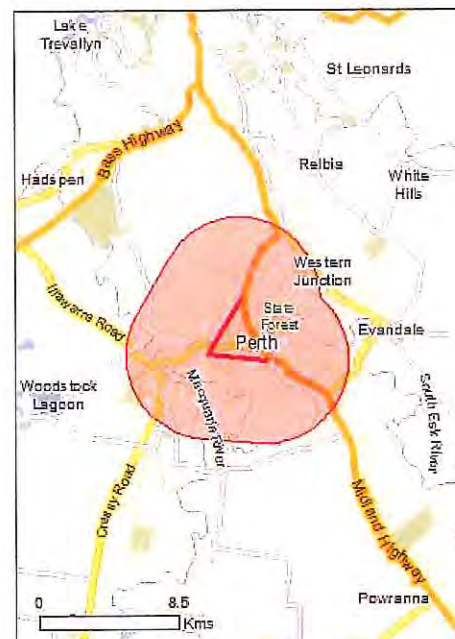
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 5.0Km



Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	2
National Heritage Places:	2
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	25
Listed Migratory Species:	7

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As [heritage values](#) of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate.

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	8
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

1-538

This part of the report provides information that may also be relevant to the area you have nominated.

Place on the RNE:	64
State and Territory Reserves:	3
Regional Forest Agreements:	1
Invasive Species:	23
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

World Heritage Properties		[Resource Information]
Name	State	Status
Australian Convict Sites (Brickendon - Woolmers Buffer Zone)	TAS	Declared property
Australian Convict Sites (Brickendon - Woolmers)	TAS	Declared property

National Heritage Properties		[Resource Information]
Name	State	Status
Historic		
Brickendon Estate	TAS	Listed place
Woolmers Estate	TAS	Listed place

Listed Threatened Ecological Communities		[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.		
Name	Status	Type of Presence
Lowland Native Grasslands of Tasmania	Critically Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Aquila audax fleayi		
Wedge-tailed Eagle (Tasmanian) [64435]	Endangered	Breeding likely to occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Ceyx azureus diemenensis		
Tasmanian Azure Kingfisher [25977]	Endangered	Species or species habitat likely to occur within area
Lathamus discolor		
Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Pterodroma leucoptera leucoptera		
Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae castanops (Tasmanian population)		
Masked Owl (Tasmanian) [67051]	Vulnerable	Breeding known to occur within area

Name	Status	Type of Presence
Fish	1-539	
<u>Prototroctes maraena</u> Australian Grayling [26179]	Vulnerable	Species or species habitat may occur within area
Frogs		
<u>Litoria raniformis</u> Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog [1828]	Vulnerable	Species or species habitat known to occur within area
Mammals		
<u>Dasyurus maculatus maculatus (Tasmanian population)</u> Spotted-tail Quoll, Spot-tailed Quoll, Tiger Quoll (Tasmanian population) [75183]	Vulnerable	Species or species habitat known to occur within area
<u>Perameles gunnii gunnii</u> Eastern Barred Bandicoot (Tasmania) [66651]	Vulnerable	Species or species habitat known to occur within area
<u>Sarcophilus harrisii</u> Tasmanian Devil [299]	Endangered	Species or species habitat likely to occur within area
Plants		
<u>Barbarea australis</u> Native Wintercress, Riverbed Wintercress [12540]	Endangered	Species or species habitat likely to occur within area
<u>Bertya tasmanica subsp. tasmanica</u> Tasmanian Bertya [78359]	Endangered	Species or species habitat may occur within area
<u>Caladenia caudata</u> Tailed Spider-orchid [17067]	Vulnerable	Species or species habitat may occur within area
<u>Carex tasmanica</u> Curly Sedge [9101]	Vulnerable	Species or species habitat likely to occur within area
<u>Colobanthus curtisiae</u> Curtis' Colobanth [23961]	Vulnerable	Species or species habitat likely to occur within area
<u>Dianella amoena</u> Matted Flax-lily [64886]	Endangered	Species or species habitat likely to occur within area
<u>Diuris lanceolata</u> Snake Orchid [10231]	Endangered	Species or species habitat likely to occur within area
<u>Epacris exserta</u> South Esk Heath [19879]	Endangered	Species or species habitat known to occur within area
<u>Glycine latrobeana</u> Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat likely to occur within area
<u>Lepidium hyssopifolium</u> Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat likely to occur within area
<u>Prasophyllum apoxychilum</u> Tapered Leek-orchid [64947]	Endangered	Species or species habitat may occur within area
<u>Prasophyllum incorrectum</u> Golfers Leek-orchid [78898]	Critically Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Pterostylis commutata Midland Greenhood [64535]	1-540 Critically Endangered	Species or species habitat likely to occur within area
Pterostylis ziegeleri Grassland Greenhood, Cape Portland Greenhood [64971]	Vulnerable	Species or species habitat likely to occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name

Commonwealth Land -

Listed Marine Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur

Name	Threatened 1-541	Type of Presence within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area

Extra Information

Places on the RNE [Resource Information]

Note that not all Indigenous sites may be listed.

Name	State	Status
Historic		
Rhodes House, Barn & Shearers Quarters	TAS	Indicative Place
Baptist Church (Original)	TAS	Registered
Baptist Manse	TAS	Registered
Baptist Tabernacle	TAS	Registered
Bellamona	TAS	Registered
Belmont	TAS	Registered
Berriedale	TAS	Registered
Beulah	TAS	Registered
Beulah	TAS	Registered
Blenheim Hotel	TAS	Registered
Brick Terrace	TAS	Registered
CWA Hall	TAS	Registered
Christ Church, Old Sunday School & Churchyard	TAS	Registered
Clairville Homestead and Lodge	TAS	Registered
Convict Station (Former)	TAS	Registered
Cottage	TAS	Registered
Cottage	TAS	Registered
Country Club Hotel	TAS	Registered
Curraghmore	TAS	Registered
Eskleigh & Outbuildings	TAS	Registered
Evandale Historic Town	TAS	Registered
Flinty Creek Viaduct	TAS	Registered
Goodlands and Outbuildings	TAS	Registered
House	TAS	Registered
House & Shop	TAS	Registered
House and Shop	TAS	Registered
House and Shop	TAS	Registered
House and Shop	TAS	Registered
Ivy Cottage	TAS	Registered
Jessiefield House and Outbuildings	TAS	Registered
Jolly Farmer Inn (Former)	TAS	Registered
Kilgour	TAS	Registered

Name	State	Status
Lass O'Gowrie Hotel (former)	TAS	Registered
London Inn (Former)	TAS	Registered
Longford Historic Town	TAS	Registered
Longford Municipal Hall	TAS	Registered
Longford Railway Bridge	TAS	Registered
Longford Railway Viaduct	TAS	Registered
Monds and Affleck Produce Store	TAS	Registered
Mountford Homestead, Outbuildings and Drive	TAS	Registered
Native Point Garden	TAS	Registered
Native Point Residence	TAS	Registered
Northbury	TAS	Registered
Old Norley	TAS	Registered
Pinefield	TAS	Registered
Queens Arms Hotel	TAS	Registered
Racecourse Hotel (Former)	TAS	Registered
Rathmolyn	TAS	Registered
Ravensworth	TAS	Registered
Ritchies Mill Complex Remnants	TAS	Registered
School House	TAS	Registered
School House (Former)	TAS	Registered
Shop & House	TAS	Registered
St Andrews Cemetery	TAS	Registered
Stonehaven	TAS	Registered
Tannery (Former) & Cottage	TAS	Registered
Tattersalls Hotel now Longford Library	TAS	Registered
The Stone House	TAS	Registered
Toll House (Former)	TAS	Registered
Tralee and Outbuildings	TAS	Registered
Uniting Church Including Iron Fence	TAS	Registered
Woodhall	TAS	Registered
Woolmers Gardens	TAS	Registered
Woolmers Homestead Complex	TAS	Registered

State and Territory Reserves

[[Resource Information](#)]

Name	State
Rathmolyn	TAS
South Esk River	TAS
Unnamed South Esk	TAS

Regional Forest Agreements

[[Resource Information](#)]

Note that all areas with completed RFAs have been included.

Name	State
Tasmania RFA	Tasmania

Invasive Species

[[Resource Information](#)]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Alauda arvensis		
Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos		
Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis		
European Goldfinch [403]		Species or species habitat likely to occur within area
Carduelis chloris		
European Greenfinch [404]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
<u>Columba livia</u> Rock Pigeon, Rock Dove, Domestic Pigeon [803]	1-543	Species or species habitat likely to occur within area
<u>Passer domesticus</u> House Sparrow [405]		Species or species habitat likely to occur within area
<u>Streptopelia chinensis</u> Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
<u>Sturnus vulgaris</u> Common Starling [389]		Species or species habitat likely to occur within area
<u>Turdus merula</u> Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
<u>Felis catus</u> Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
<u>Lepus capensis</u> Brown Hare [127]		Species or species habitat likely to occur within area
<u>Oryctolagus cuniculus</u> Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
<u>Rattus norvegicus</u> Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
<u>Rattus rattus</u> Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
<u>Vulpes vulpes</u> Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
<u>Anredera cordifolia</u> Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
<u>Asparagus asparagoides</u> Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
<u>Cytisus scoparius</u> Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
<u>Genista monspessulana</u> Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
<u>Lycium ferocissimum</u> African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
<u>Rubus fruticosus aggregate</u> Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
<u>Salix spp. except S.babylonica. S.x calodendron & S.x reichardtii</u> Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur

Name	Status	Type of Presence
Ulex europaeus	1-544	within area
Gorse, Furze [7693]		Species or species habitat likely to occur within area
Nationally Important Wetlands		
Name	[Resource Information]	
South Esk River	State	TAS