

Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

August 2011

3. Country:

Australia

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Jocks Lagoon

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ☐; or
b) Updated information on an existing Ramsar site ☒

6. For RIS updates only, changes to the site since its designation or earlier update:**a) Site boundary and area**

The Ramsar site boundary and site area are unchanged: ☒

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ☒; or
ii) the boundary has been extended ☐; or
iii) the boundary has been restricted** ☐

and/or

If the site area has changed:

- i) the area has been measured more accurately ☒; or
ii) the area has been extended ☐; or
iii) the area has been reduced** ☐

**** Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

In 2001, the boundary of the Jocks Lagoon Ramsar site was mapped more accurately and the area was been recalculated from 18.1ha to 18.58ha. The boundary of the site remains the same.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

The previous RIS described the site as meeting Ramsar Criterion 4. This was based on the presence of the dinoflagellate *Prorocentrum playfairi* at the site (Croome and Tyler 1987). The genus *Prorocentrum* was previously thought to be entirely marine and is therefore of scientific interest. Jocks Lagoon is one of only seven known sites where this species exists. However, the presence of this species at the site is not evidence of providing support for the species at a critical stage, or for providing refuge in adverse conditions. Rather, it provides further justification for the site meeting criterion three – supporting populations important for regional biodiversity. Therefore, the site is not considered to meet this criterion currently or at the time of listing.

Additions to the justification of listing criteria since the time of listing include:

- two Ramsar habitat types that had not previously been recorded at the site [Ts (intermittent sedgeland marsh) and U (peat sedgeland and teatree)]
- three more rare wetland dependent plant species: slender twigsedge (*Baumea gunnii*); zigzag bogsedge (*Schoenus brevifolius*); and yellow onion orchid (*Microtidium atratum*).

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List): ☐;
- ii) an electronic format (e.g. a JPEG or ArcView image) ☒ (Figure 1);
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables ☐.

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundary of Jocks Lagoon Ramsar site includes all of Lot 1 on Central Plan Register (CPR) 5655 from the Tasmanian Information and Land Services, Department of Primary Industries, Water and Environment (Figure 2). CPR 5655 horizontal datum is Australian Geodetic Datum (AGD66) Universal Transverse Mercator Projection Australian Map Grid (UTM AMG66) and Australian Height Datum (Tasmania) for vertical datum.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

Latitude: 41 degrees 20' 41.9" South; Longitude: 148 degrees 18' 29.4" East

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

Jocks Lagoon Ramsar Site is situated on the north-east coast of Tasmania, approximately 5 km south-east of the township of St Helens. It lies on the eastern side of a narrow strip of land that extends out to St Helens Point (Figure 2). It lies between parallel dunes and is 200 to 300 metres inland (westward) of the

east coast of Tasmania. The Site is in the Break O'Day municipality, which has a population 6,000 residents (Break O'Day Council, 2009).

10. Elevation: (in metres: average and/or maximum & minimum)

The whole area is less than 20 m ASL

11. Area: (in hectares)

18.58 hectares

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Jocks Lagoon is a small, dystrophic freshwater lagoon, lying primarily on privately owned land and partly in the St Helens Conservation Area (Figure 3). It is one of a chain of lagoons, swamps and wetlands occurring along St Helens providing a freshwater resource in an otherwise dry coastal area. Jocks Lagoon was considered to have the highest wetland values in the area. The Lagoon is a high quality representative example of this type of wetland in the region. Access to the site is possible by 2-wheel drive vehicle or on foot. It is approximately 150 metres wide and 650 metres long, with a north-south orientation. It receives water from a small inlet stream with a catchment approximately three kilometres wide and one kilometre long and also from local groundwater. Although dark from tannins the waters of the lagoon are clear, low nutrient and acidic.

The northern half of Jocks Lagoon is mostly a large area of open water with isolated patches of emergent rush and sedge. In contrast, much of the southern half of the lagoon is covered with rush and sedge emerging from the water surface. The water level of the lagoon fluctuates with rainfall and reaches a depth of two to three metres. The aquatic flora of the lagoon is diverse and includes several rare species (Section 2.4).

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 •	2 •	3 •	4 •	5 •	6 •	7	8 •	9
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region. – Jocks Lagoon is a high quality representative of a wetland with Ramsar wetland types K (coastal freshwater lagoons), E (saline water shores), Ts (freshwater lakes and pools <8ha) and U (non-forested freshwater marshes on peat soils) within the Tasmanian Drainage Division. The site is in near natural condition, with minimal disturbance. There is dense vegetation cover within the site and its surrounds, minimising erosion of the site, which is considered to be in good geomorphic condition (Dunn 2005).

Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region. Jocks Lagoon supports rare, poorly reserved and scientifically valuable species. It provides wetland habitat for five threatened flora species considered to be at risk in Tasmania. These are:

- Jointed twigsedge (*Baumea articulata*, rare, Tasmanian TSP ACT 1995). Jocks Lagoon is one of the few wetlands in Tasmania containing the jointed twigsedge and is considered a key site for the species (DPIW 2009). In Tasmania, jointed twigsedge is associated with rivers on the north-east coast (DPIW 2009);
- Slender twigsedge (*Baumea gunnii*, rare, Tasmanian TSP ACT 1995). In Tasmania, slender twigsedge inhabits wet moors, creeks and riverbanks (DPIW 2009) but was not previously known at the site until it was found in a botanical survey undertaken by Micah Visoiu (DPIPWE botanist) concurrently with a site visit for the 2011 ECD;
- Zigzag bogsedge (*Schoenus brevifolius*, rare, Tasmanian TSP ACT 1995). This species is only shown as occurring in six localities on the Tasmanian rare species database (DPIW 2009). The species was not previously known at the site but was found as part of the botanical survey undertaken by Micah Visoiu (DPIPWE botanist) concurrently with a site visit for the 2011 ECD. In Tasmania, zigzag bogsedge grows in shallow water around the fringes of lagoons in the north-east (DPIW 2009);
- Yellow onion orchid (*Microtidium atratum*, rare, Tasmanian TSP ACT 1995). The yellow onion orchid occurs in habitats subject to periodic inundation such as swamps, depressions and soaks (DPIW 2009). Similar to the zigzag bogsedge, this species was not recorded at the site but was found as part of the botanical survey undertaken by Micah Visoiu (DPIPWE botanist) concurrently with a site visit for the 2011 ECD; and
- Erect marshflower (*Villarsia exaltata*, rare, Tasmanian TSP ACT 1995). This species occurs in the north east of Tasmania and Jocks Lagoon is one of the key sites for the species. It grows in stationary or slow flowing water to a depth of 50 centimetres (DPIW 2009).

In addition, the site has several threatened native vegetation communities listed on Schedule 3 of the *Tasmanian Nature Conservation Act 2002*. These are Freshwater aquatic herbland – AHF, Freshwater aquatic sedgeland and rushland – ASF and *Melaleuca ericifolia* swamp forest – NME (following classifications in the Tasmanian Vegetation Map TASVEG (Harris and Kitchener 2005).

Based on the six rare, wetland-dependent plant species and the threatened native vegetation communities recorded at the site, it met criterion three at the time of designation and continues to do so.

Jocks Lagoon also contains the dinoflagellate *Prorocentrum playfairi* (Croome and Tyler 1987). The genus *Prorocentrum* was previously thought to be entirely marine and is therefore of scientific interest. Jocks Lagoon is one of only seven known sites where this species exists. The presence of this species at the site provides further justification for the site supporting populations important for regional biodiversity.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region: Tasmanian Drainage Basin, Australian Drainage Divisions.

b) biogeographic regionalisation scheme (include reference citation):

Commonwealth of Australia (Bureau of Meteorology), 2011, Australian Hydrological Geospatial Fabric.

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

The climate at Jocks Lagoon is generally cool to mild with temperatures having a smaller annual range compared to other parts of Tasmania. The area consists primarily of Quaternary alluvium swamp and marsh deposits and partially consolidated Tertiary deposits, comprising of conglomerates and sand (Glazik, 1999). The Quaternary sands and clays are highly erodible and longshore drift has created an extensive beach and sand dune system, which separates the lagoon from the sea (Blackhall *et al.* 2003). The dunes are of two ages, the younger series (Holocene and recent) flanks the ocean beach, while the older dunes (Pleistocene) lie inland and parallel (Harris, 1999).

Jocks Lagoon is one of a chain of lagoons, swamps and wetlands that provides a permanent freshwater resource in an otherwise dry coastal environment. The source of water appears to be groundwater and surface flow, derived from a small local catchment which enters the lagoon via a small creek (Lloyd, pers.obs 2009). The lagoon has a minimum depth of 0.5-1m and maximum water depth of between 1.5 and 2m (Blackhall *et al.* 2003). Walsh *et al.* (2002) suggest it is too shallow to stratify. The tannin staining of the lagoon supports the case for significant groundwater input through a peat layer underlying the lagoon bed sands (Polly Buchhorn, NRM Facilitator, Break O'Day Council, personal communication).

The source of the tannin colour is the polyhumic acids (Croome & Tyler 1987) from the peat and organic soils of the slopes (particularly the peat sedgeland and tea tree vegetation types) and under the lagoon bed. There are also significant surface inflows which are also tannin-stained from the inflow creek and the upstream dams; Lance Lloyd 2009 and Polly Buchhorn, NRM Facilitator, Break O'Day Council, personal communication).

There is some suggestion that the lagoon may seep underground through the younger (seaward) dunes, ultimately discharging into the sea. However, there are no data or studies to verify this. When water levels are high, the lagoon may discharge overland to the Tasman Sea through low areas to the south of the site, as well as discharging through wetlands to the north of the site, into Georges Bay (Newall *et al.* 2011).

Very few water quality assessments have been conducted at Jocks Lagoon. It is described as a dystrophic coastal lagoon, which is consistently acidic; recording a pH of between 4.6-6.28 (Blackhall *et al.* 2003, Bowling *et al.* 1993, Croome and Tyler 1987, Horwitz 1992 and Walsh *et al.* 2002). The lagoon is clear, with a very low turbidity recording of 0.6NTU by Horwitz (1992). The site can be brackish, as it ranges between 310 and 580 μScm^{-1} and is identified by Walsh *et al.* (2002) as having higher salinity levels than most west coast lagoons (Bowling *et al.* 1993, Croome and Tyler 1987 and Horwitz, 1992). Nutrient levels were sampled by Horwitz in 1992, with Oxidised Nitrogen being below the detectable limit (<0.01mg/L). Total Phosphorous was 0.03mg/L and chlorophyll *a* was recorded as 2.26 $\mu\text{g/L}$.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

The area receives an average annual rainfall of 775.1mm with major rain bearing winds arising from the south-east and north-east quarters (Dudley, unknown). Rainfall is variable, with recorded annual extremes of 374.3mm and 1258.3mm (Bureau of Meteorology, 2009).

Jocks Lagoon is part of a chain of mostly terrestrialised and ephemeral dune-barred lagoons, situated near the Peron Dunes, which contain a large mobile (transgressive) dune field, and a series of older parallel dunes inland (Watt 2001). The overall dune field contains several wetlands and dunes. The dunes occur along a narrow strip of land that extends out to St Helens Point. Extensive sand dunes dominate the eastern side of the Point with Georges Bay to the west. The coastal strip is mostly protected in the St Helens Point Conservation Area but inland of the site is highly disturbed by land clearing for agriculture and residential development.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The lagoon provides a freshwater resource in a dry coastal area. Little is known of the hydrological values of the site, however the source of water appears to be groundwater and surface flow, derived from a small local catchment which enters the lagoon via a small creek (Lloyd, pers.obs. 2009).

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar “Classification System for Wetland Type” present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

K (4.4ha), E (2.2ha), Ts (1.0ha), U (0.8ha).

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Ramsar wetland types are shown in Figure 4. Ramsar wetland types of the site include Type K – coastal freshwater lagoon (open water and rush covered); Type E - lagoon shoreline & overflow areas; Type Ts - intermittent sedge marsh; and Type U - non-forested peatland soak where a feeder drainage line meets the lagoon. There is dense vegetation cover within the site and its surrounds, minimising erosion of the site. *Melaleuca* scrub dominates the eastern side of the lagoon. On higher ground within the site, the *Melaleuca* scrub communities grade into Coastal heathland and *Acacia longifolia* coastal scrub with some areas dominated by the introduced Marram grass (*Ammophila arenaria*).

Wetland habitat type K has the largest area at the site with 4.4 hectares. This habitat type occurs in two distinct forms at the site: open water; and reed. The open water area occupies the northern half of the lagoon. The open water area contains the floating leaved macrophyte water ribbons (*Triglochin procerum*) in shallower parts of the lagoon. Within the open water, numerous *Galaxias* sp. fish were observed around the edges of the lagoon following heavy rains in November 2009. The reed section occupying the southern half of the lagoon is predominantly giant spike rush (*Eleocharis sphacelata*) emerging from water approximately one half to one metre deep. Within the western area of the reed habitat there are also stands of slender twig sedge (*Baumea gunnii*) and jointed twigsedge (*Baumea articulata*). Several species of waterbirds have been observed using the reed habitat for feeding and shelter.

Wetland habitat type U contained areas with shrubs and ferns and areas with mats of *Sphagnum* moss and sundews (*Drosera* spp.) interspersed with sedges. During a lengthy drought period this area remained a soak and was waterlogged underfoot, whereas after heavy rainfall much of the area was between 20 and 50 centimetres underwater.

Wetland habitat type Ts contained large areas of pithy sword sedge, with other sedge/rush species present. Species identified at the site include common sword sedge (*Lepidosperma filiforme*), little clubrush (*Isolepis marginate*), slender twigsedge (*Baumea gunnii*) and some species of rope rush (family Restionaceae). This area becomes inundated following large rainfall events. During a dry period, most of the vegetation was sparse (estimated 15 to 30 percent cover), tussocked, and up to approximately 30 to 40 centimetres tall.

Wetland habitat type E was mostly the exposed areas of sand around the lagoon (which were far greater in area during a prolonged drought period), as well as areas that contained the overflow from flooding events. There was little in the way of vegetation in this habitat type, apart from the occasional tussock of sedge, rush or grass, and also very isolated individuals of water ribbons.

During high water levels, these areas contain shallow waters (typically 5 to 20 centimetres deep) and large amounts of floating organic debris such as leaves, twigs, bark and florets which provide cover for juvenile fish and macroinvertebrates of the lagoon.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The site contains three vegetation communities recognised as threatened in Tasmania, which provide important bird habitat at the site, Freshwater aquatic herbland; Freshwater aquatic sedgeland and rushland; and *Melaleuca ericifolia* scrub. The site also contains a new algal species, which was previously thought to be entirely marine. A list of plant species found at the Jocks Lagoon Ramsar Site during a vegetation survey, November 2009 is provided at Appendix C.

The introduced species, Cats Ear, *Hypochoeris radicata* was found at the site during a survey in 2009. No aquatic weeds have been identified at the site to date.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Jocks Lagoon supports Macrocrustaceans; burrowing freshwater crayfish (*Engaenus laevis*), freshwater crabs, *Amarinus lacustris*, and *Austrochiltonia* sp. (an amphipod) as well as Microcrustaceans, calanoid copepods and cladocerans (Horwitz 1992). Two species of native frogs are also known to occur within the site; Brown Froglet (*Crinia signifera*) and Eastern Banjo Frog (*Lymnodynastes dumerili insularis*).

Introduction of alien species to the site has the potential to degrade the site's fauna. Brown trout (*Salmo trutta*) was introduced to the lagoon approximately 30 years ago but were reportedly 'fished out' by locals within a few years (landholder, personal communication). In around 2008, brown trout (300) were introduced again but are expected to have been washed out with the heavy rains and floods of November 2009.

Another alien species, the yabby (*Cherax destructor*) also has the potential to impact on the macroinvertebrate fauna of the site. During one site inspection a yabby claw was seen, indicating that this species is present at the site.

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

The social values of the site include;

- Recreational values; activities undertaken in the area include nature observation, beach based activities, fishing, walking and off road vehicle use such as 4WDs, trail bikes, motorbikes and quad bikes.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box ☐ and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

a) within the Ramsar site:

Most of the site is on private land (two landholders totalling 88%), with a small section at the south-east end falling within St Helens Conservation Area (Crown Land total 12%).

b) in the surrounding area:

Private land and St Helens Conservation Area (Crown Land).

25. Current land (including water) use:

a) within the Ramsar site:

Occasional recreational use., nature observation and biological surveys

b) in the surroundings/catchment:

Land use within the catchment includes livestock grazing, residential development, recreation/tourism and a Boronia plantation, operating 0.5km inland from the lagoon (Terry, 2001). In both the present and past, parts of the St. Helens Conservation Area have been used for sand extractions (Watt, 2001).

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

Key threats to the site include:

- Off-road vehicles (impacting on wetland habitat, individuals of rare species and soil structure);
- Chytrid fungus (impacting on amphibian fauna at the site);
- *Phytophthora cinnamomi* (die-back fungus) (impacting native vegetation of the site);
- Fire (loss of vegetation, promoting soil erosion, impacting hydrology of the site);
- neighbouring developments, including sand mining (spreading weeds, die-back fungus, possible toxic or nutrient-rich discharges, possible groundwater impacts); and
- Climate change (increased variability of rainfall and reduced overall quantity of rainfall; coastal recession and dune reactivation).

Other potential threats that currently appear to be minor include introduction of alien species, acid sulphate soils, and weed infestations. The only weeds identified at the site have been terrestrial. Although aquatic weeds may impact the site at some stage, they do not yet pose a significant threat to the wetland.

b) in the surrounding area:

The owners of surrounding properties have expressed interest in subdivision of their land. This could pose a possible threat, in the form of residential effluent entering the area, particularly with regard to the block south of Jocks Lagoon.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations

A small proportion of the Site (2.2 hectares) is located within St Helens Conservation Area (Figure 2), which was classified as a Conservation Area in April 1980, under the *National Parks and Reserves Management Act 2002* (Department of Primary Industries, Parks, Water and Environment, 2008). The term Conservation Area is applied to an area of land predominantly in a natural state but mining, and in some cases, hunting, may be permitted (Department of Primary Industries, Parks, Water and Environment, 2008).

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ☐; Ib ☐; II ☐; III ☐; IV ☐; V ☐; VI ☒

c) Does an officially approved management plan exist; and is it being implemented?:

Presently there is no management plan in existence nor is expected in the near future. The majority of the site is on private land. The landowner is not keen to participate in the management plan process.

While no site specific plan exists for the Ramsar site, St Helens Conservation Area is covered by a draft reserve report as part of the Parks and Wildlife Service General Management Plan (a systematic approach to planning for a large number of reserves). The reserve report provides summary information on the values, threats and uses of the St Helens Conservation Area, provides management objectives and zoning. Management provisions for the very small part of the Ramsar site in and adjacent to the CA are consistent with protection of Ramsar site values. The General Management Plan currently has the status of being a 'draft' on internal trial until 2015.

d) Describe any other current management practices:

Part of the site has been fenced to exclude recreational vehicles.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

The Australian Government Department of the Environment, and Tasmanian Government Department of Primary Industries, Parks, Water and Environment have ongoing liaison with the major landholder of the site relating to management and protection, particularly in relation to Australia's obligations under the Ramsar Convention and especially in regard to improved boundary fencing. Interpretive displays are planned for the general public to complement an existing sign explaining the significance of Ramsar wetlands. A local community group has proposed the site be enlarged to include other lagoons on the area.

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Occasional vegetation surveys (Kirkpatrick and Harwood 1983 a and b) have been conducted at the lagoon by scientists from the University of Tasmania, the Nature Conservation Branch of the Department of Primary Industries, Water and Environment; and the Tasmanian Parks and Wildlife Service. A study of the limnology of the lake (Croome and Tyler, 1987) revealed novel and scientifically interesting species.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

CEPA activities currently occurring onsite include;

- An interpretive sign containing information on the Ramsar Convention, ecological importance of the site and the names and locations of other Tasmanian Ramsar sites.
- Liaison between Australian Government Department of the Environment officials and the major landholder on several occasions to discuss issues relating to management and protection of the site, particularly in relation to Australia's obligations under the Ramsar Convention.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Jocks Lagoon and the surrounding area is utilised for nature observation, picnics, beach activities, fishing, walking and off road vehicle use such as 4WDs, trail bike, motorbike and quad bike riding (Watt, 2001). Frequency/intensity of visitors is unknown.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Territorial: Break O'Day Council

Functional: Landholders and Director, Parks and Wildlife Service, Tasmania

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Director, Parks and Wildlife Service
GPO Box 1751, Hobart, Tasmania 7001
+61 3 6233 8011
Information@dpipwe.tas.gov.au

Private Landholder
17 Homer Street, St Helens 7216

Piano Coves Pty Ltd (Landholder)
Tasman Hwy, St Helens 7216

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Blackhall, S. McEntee, A. and Rollins, E. (2003). Information Sheet on Ramsar Wetlands (RIS): Jocks Lagoon. Department of Primary Industries, Water and Environment, Hobart.

Bowling, L.C. Banks, M.R. Croome, R.L. and Tyler, P.A. (1993). Reconnaissance Limnology of Tasmania II. Limnological features of Tasmanian freshwater coastal lagoons. *Arch. Hydrobiol.* **126**(4): 385-403.

Break O'Day Council (2009) <http://www.bodc.tas.gov.au/site/page.cfm> Date accessed: 15 August 2009.

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Ramsar Site 258 - Stieglitz, Tasmania

TASMAP 25K Topographic : ST HELENS 6042.

Data Sources: LIST, DPIPWE

Map Datum: GDA 94

Map Date: 17/01/2014

Legend - Jocks Lagoon Ramsar Site

Ramsar site boundary

0 250 500 metres

map produced by the Department of Primary Industry, Parks, Water & Environment (DPIPWE) Tasmania.

Figure 1: Map of location and boundary of Jocks Lagoon Ramsar Site (Source: Tasmanian Department of Primary Industry, Parks, Water and Environment 2014).

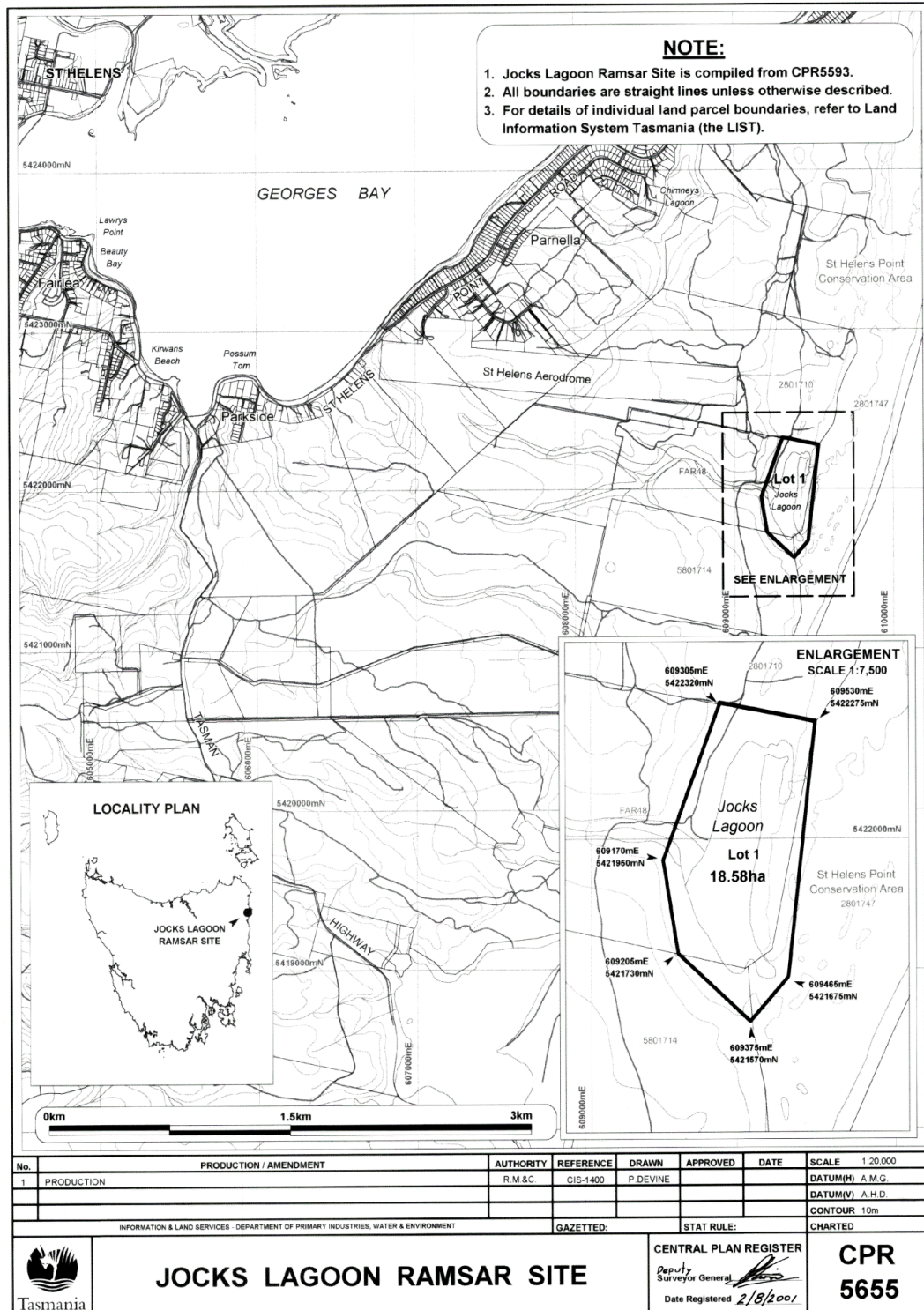


Figure 2: Central Plan Register of the boundary of Jocks Lagoon Ramsar Site (Source: Tasmanian Department of Primary Industry, Parks, Water and Environment).

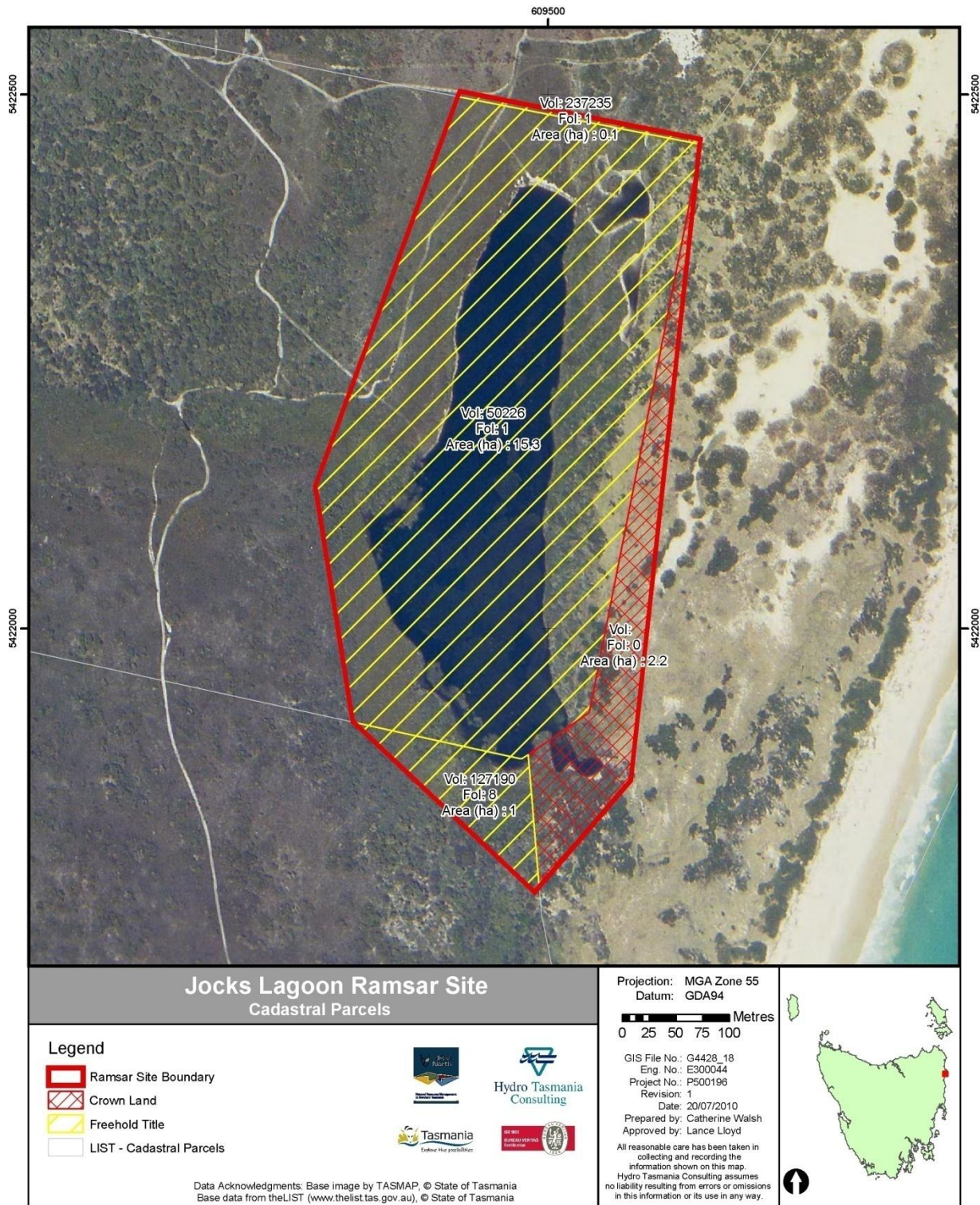


Figure 3: Land tenure of Jocks Lagoon Ramsar Site (Source: NRM North). The land with red hatching (2.2 hectares) is part of the St Helens Point Conservation Area.

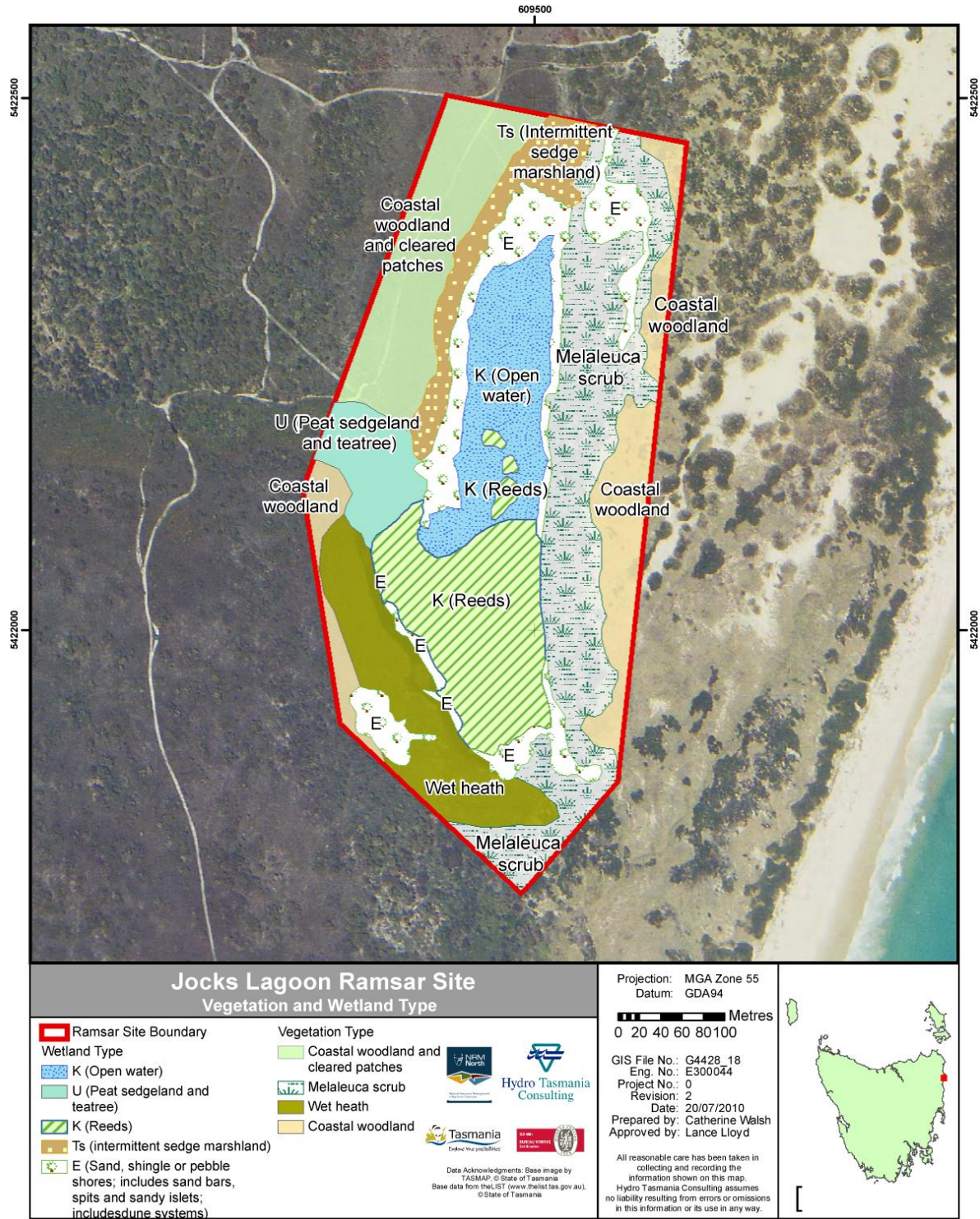


Figure 4: Vegetation and wetland types occurring at Jocks Lagoon Ramsar Site with TASVEG equivalent communities provided in the table below. (Source: NRM North and DPIPWE; Base Photo is dated 29 Nov 2003).

Appendix A: Flora of the site found at the Jocks Lagoon Ramsar Site during a vegetation survey, November 2009 (Source: Michah Visoiu, DPIPWE).

Family	Species name	Common name	TSP Act
Apiaceae	<i>Centella cordifolia</i>	swamp pennywort [†]	
	<i>Xanthosia dissecta</i>	cut-leaf xanthosia [†]	
Asteraceae	<i>Helicbrysum scorpioides</i>	button everlasting	
	<i>Hypochoeris radicata</i> *	cats ear	
Dilleniaceae	<i>Hibbertia acicularis</i>	twiggy guinea-flower	Rare
	<i>Drosera peltata</i> subsp. <i>peltata</i>	shield sundew	
Droseraceae	<i>Drosera pygmaea</i>	pygmy sundew [†]	
Epacridaceae	<i>Epacris lanuginosa</i>	woolly heath [†]	
Fabaceae	<i>Dillwynia glaberrima</i>	smooth parrot-pea	
	<i>Platylobium triangulare</i>	ivy flat-pea	
Goodeniaceae	<i>Dampiera stricta</i>	blue damperiera	
Haloragaceae	<i>Gonocarpus micranthus</i> subsp. <i>micranthus</i>	creeping raspwort	
Lamiaceae	<i>Ajuga australis</i>	Australian bugle	
Menyanthaceae	<i>Villarsia exaltata</i>	erect marshflower [†]	Rare
Mimosaceae	<i>Acacia longifolia</i> subsp. <i>sophorae</i>	coastal wattle	
Myrtaceae	<i>Eucalyptus amygdalina</i>	black peppermint	
	<i>Leptospermum scoparium</i> var. <i>scoparium</i>	manuka	
	<i>Melaleuca ericifolia</i>	swamp paperbark ^(†)	
	<i>Melaleuca squamea</i>	swamp melaleuca [†]	
Oxalidaceae	<i>Oxalis perennans</i>	grassland woodsorrel	
Proteaceae	<i>Banksia marginata</i>	silver banksia	
Rutaceae	<i>Boronia nana</i> var. <i>nana</i>	dwarf boronia	
Stackhousiaceae	<i>Stackhousia monogyna</i>	creamy candles	
Thymelaeaceae	<i>Pimelea humilis</i>	common riceflower	
Centrolepidaceae	<i>Centrolepis strigosa</i> subsp. <i>strigosa</i>	hairy centrolepis	
Cyperaceae	<i>Baumea gunnii</i>	slender twigsedge [†]	Rare
	<i>Eleocharis sphacelata</i>	giant spike-rush [†]	
	<i>Isolepis marginata</i>	little clubrush [†]	
	<i>Lepidosperma filiforme</i>	common swordsedge	
	<i>Lepidosperma longitudinale</i>	pithy swordsedge [†]	
	<i>Schoenus brevifolius</i>	zig-zag bogsedge [†]	Rare
	<i>Schoenus lepidosperma</i> subsp. <i>lepidosperma</i>	common bogrush [†]	
Iridaceae	<i>Patersonia fragilis</i>	short purpleflag [†]	
Juncaginaceae	<i>Triglochin procerum</i>	water ribbons [†]	
Liliaceae	<i>Burchardia umbellata</i>	milkmaids	
	<i>Hypoxis hygrometrica</i> var. <i>hygrometrica</i>	golden weathergrass	
Orchidaceae	<i>Microtidium atratum</i>	yellow onion orchid [†]	Rare
	<i>Thelymitra cyanea</i>	veined sun orchid [†]	
Poaceae	<i>Austrostipa flavescens</i>	coast speargrass	

Family	Species name	Common name	TSP Act
	<i>Ehrharta distichophylla</i>	hairy rice-grass	
	<i>Ehrharta stipoides</i>	weeping grass	
	<i>Notodanthonia semiannularis</i>	Tasmanian wallaby grass	
Restionaceae	<i>Eurychorda complanata</i>	flat cord rush [†]	
	<i>Hypolaena fastigiata</i>	tassel rope rush [†]	
	<i>Leptocarpus tenax</i>	slender twine rush [†]	
	<i>Lepyrodia muelleri</i>	common scale rush [†]	
Xanthorrhoeaceae	<i>Lomandra longifolia</i>	mat rush	
Xyridaceae	<i>Xyris marginata</i> [°]	emarginate yellow-eye [†]	
	<i>Xyris operculata</i>	tall yellow-eye [†]	
Dennstaedtiaceae	<i>Pteridium esculentum</i>	bracken	
Lindsaeaceae	<i>Lindsaea linearis</i>	screw fern [†]	
Selaginellaceae	<i>Selaginella uliginosa</i>	swamp selaginella [†]	

° endemic

*introduced

[†] Indicative of damp/wet habitat