

Information Sheet on Ramsar Wetlands (RIS) – 2009-2014 version

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Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

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:

December 2013

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.

Apsley Marshes

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.

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:

There is no evidence of change in character at this site. The listing criteria for Apsley Marshes have varied over each RIS revision to date depending on the understanding of the landowner and historical site managers. An ecological character description was drafted for the site in 2011. It has definitively established that the site met Criteria 1, 2, 3, 4 and 8 at the time of listing.

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) ☒;
- 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 Apsley Marshes Ramsar site contains Lot 1 on Central Plan Register (CPR) 5653 from the Tasmanian Information and Land Services, Department of Primary Industries, Water and Environment. CPR 5653 horizontal datum is Australian Geodetic Datum (AGD66) Universal Transverse Mercator Projection Australian Map Grid (UTM AMG66) and Australian Height Datum (Tasmania) for vertical datum (see Attachment A for map of site.)

The boundary of the Apsley Marshes Ramsar site includes all of the contained area defined by the following GPS coordinates; point 600555mE 5349095mN to point 600050mE 5349835mN, to point 600050mE 5350180mN, to point 599750mE 5350385mN, to point 598930mE 5350445mN, to point 599090mE 5351352mN, to point 598925mE 5351580mN, to point 598925mE 5351840mN, to point 598715mE 5352160mN, to point 598370mE 5352285mN, to point 598280mE 5353060mN, to point 598280mE 5353775mN, to point 598985mE 5354500mN, to point 599742mE 5354515mN, to point 600575mE 5354075mN, to point 600710mE 5353820, to point 600220mE 5353215mN, to 6 point 00105mE 5352285mN, to point 600710mE 5351820mN, to point 601250mE 5351060mN, to point 601600mE 5351240mN. From that point the boundary continues to the intersection of the western bank of Cusicks Creek with the southern boundary of Lot 1 on CPR 7708, then south-south east along the western bank of Cusicks Creek to the Low Water Mark (in Tasmania this is the lowest astronomical tide). It then follows the Low Water Mark to the intersection with the unnamed creek, then follows the centre of the creek to the intersection of 600320mE with the creek, then closes at point 600555mE 5349095mN. (See Attachment B for CPR Plan.)

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.

41° 58' 18.90626"S

148° 11' 57.16997"E

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.

The Apsley Marshes Ramsar site is located on the east coast of Tasmania, 14 kilometres south west of the town of Bicheno (population in 2007; 640). The site lies within the municipality of Glamorgan-Spring Bay and is contiguous with Moulting Lagoon Ramsar site (Attachment A).

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

Less than 20 metres above mean sea level (Australian Height Datum).

11. Area: (in hectares)

880 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.

The Apsley Marshes site is comprised of freshwater and intertidal marshes formed at the mouth of the Apsley River. The site is considered to contain some of the best representatives of these wetland types in Tasmania and has a very high species richness and diversity of wetland plants (Barnes and Visoiu 2002). The site is also significant for supporting waterbirds, in particular as a breeding site for black swans (*Cygnus atratus*) and for the internationally endangered Australasian bittern (*Botaurus poiciloptilus*). The site also acts as a migratory pathway for native fish between inland freshwaters and the marine environment.

The 2005 RIS for the site (DPIWE 2005) identified the following three Ramsar wetland types within the Apsley Marshes Ramsar site: F - Estuarine waters; R - Seasonal/intermittent saline/brackish/alkaline lakes and flats; and Tp - Permanent freshwater marshes and pools.

Although Apsley Marshes adjoins the estuarine waters of Moulting Lagoon, there are no open expanses of estuarine water within the site. Rather, the areas under tidal influence are covered with vegetation such as saltmarsh and melaleuca (Barnes and Visoiu 2002). As such these areas fit better into the categories of intertidal marshes and intertidal forested wetlands. Similarly, the saline areas of the site are not saline due to inland processes, but due to tidal influences and so do not readily fit into the inland wetland category of seasonal /intermittent saline/brackish/alkaline lakes and flats, but into the marine category of intertidal marshes. The exact wetland types are listed out in section 19 of this RIS.

It should be noted that the extent of many of these wetland types is variable over time. For example, following periods of high astronomical tides (such as king tides) and low rainfall (and freshwater flow in the Apsley River) the extent of intertidal marshes is greater than under periods of high river flow and greater freshwater influences.

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 checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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.

Apsley Marshes are considered to be one of the best examples of freshwater marsh and intertidal saltmarshes in the Tasmanian Drainage Division bioregion (DPIPWE 2010). The site is one of the largest wetland systems in Tasmania (Barnes and Visoiu 2002) and due to their location, size and climate, the marshes have a vital hydrological and ecological role in the region.

Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

There are two threatened species supported by the wetlands within the Apsley Marshes Ramsar site:

Common name	Scientific name	IUCN	CITES	CMS	National Status
Plants					
Swamp everlasting	<i>Xerochrysum palustre</i>	-	-	-	Vulnerable (EPBC Act, 1999)
Birds					
Australasian bittern	<i>Botaurus poiciloptilus</i>	EN	-	-	Endangered (EPBC Act, 1999)

References: John Cusick pers. comm., Barnes and Visoiu 2002.

Criterion 3: A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

Apsley Marshes supports a diverse range of flora and at least six wetland related species that are considered rare and threatened in the bioregion (Tasmania). These are listed below. Ninety-four plant species have been recorded in the marshes and it has been described as one of the most floristically rich wetlands in Tasmania (Kirkpatrick and Harwood 1981, Barnes and Visoiu 2002).

- Water woodruff (*Asperula subsimplex*)
- Drooping sedge (*Carex longibrachiata*)
- Purple loosestrife (*Lythrum salicaria*)
- Southern swampgrass (*Amphibromus neesii*)
- Gentle rush (*Juncus amabilis*)
- Swamp violet (*Viola caleyana*)

The site also supports a number of ecological communities that are considered rare in Tasmania including: *Melaleuca ericifolia* swamp forest, *Melaleuca squarrosa* scrub, Freshwater aquatic herbland and Freshwater aquatic sedgeland and rushland. In addition, the white-bellied sea-eagle (*Haliaeetus leucogaster*), which is listed as vulnerable under Tasmanian, threatened species legislation, and therefore considered rare in the bioregion, has been recorded breeding within the site (Znidersic, unpublished).

Criterion 4: A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.

The Apsley Marshes Ramsar site is important in terms of nesting of Black Swans, with up to 1,000 nests recorded in a single occasion (Blackhall 1988). The site also supports breeding of other waterbirds, including the bioregionally rare white-bellied sea-eagle (*Haliaeetus leucogaster*), with one nest recorded.

Criterion 8: A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

The Apsley Marshes provide a linkage between the inland waters of the Apsley River and the Southern Ocean, via Moulting Lagoon. The landowner reports regular migrations of short-finned eels (*Anguilla australis*) both on their seaward migration to breed as well as returning juveniles. In addition, black bream (*Acanthopagrus butcheri*) are known to travel up the drains into the Apsley Marsh Ramsar site in order to

spawn (S. Blackhall, pers. comm.). Australian grayling (*Prototroctes maraena*) have also been recorded in the river upstream and presumably would use the site as a migratory route during breeding.

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 Division, 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.

Apsley Marshes are located at the mouth of the Apsley River, where it discharges to Moulting Lagoon and ultimately Great Oyster Bay. The basins are within a graben (an area of the earth's crust that has fallen relative to surrounding faults) that formed following the separation of Antarctica and Australia (DTAE 2003). The area (including Apsley Marshes) has been listed as a site of geo-conservation significance due to the presence of this feature (State of Tasmania undated).

The Marshes themselves are characterised by low relief topography and deposited alluvial sediment. The underlying geology is almost entirely alluvium sand, gravel and talus of Holocene origin (DTAE 2003). The northern part of the Ramsar site contains the last part of the Apsley River within a defined channel. This broadwater reach is a low slope, low energy environment that formed from scour of the soft sediments (Jerie et al. 2003); and from here the river disperses across the marshy floodplain. The bottom (downstream) region of the site is characterised by a series of drains and channels. The natural (but modified) tidal channels carry marine and estuarine water into the site.

Hydrology at the Apsley Marshes Ramsar site is driven by the freshwater inflows from the Apsley River and the tidal cycles in Great Oyster Bay and Moulting Lagoon. Inflowing water from the Apsley River is fresh, neutral and of relatively low turbidity and nutrients. Flow is generally highest in winter and lowest in summer and autumn. The seasonality of rainfall and river flow, as well as evaporation results in a cyclic hydrology of the wetlands within the Ramsar site. During winter and spring months when river flow is highest, freshwater extends over much of the site and the flow of freshwater limits the intrusion of salt water in tidal cycles. In late summer and autumn, the situation is reversed, with little or no freshwater inputs, and higher evaporation resulting in a drying of marsh areas and an increase in the area affected by salt water from Moulting Lagoon.

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 Apsley Marshes are within the Swan-Apsley catchment, which covers approximately 1,400 square kilometres and contains the two sub catchments of the Swan and Apsley Rivers. The Apsley River rises in the Douglas-Apsley National Park, and flows through areas of grazing and forestry before reaching Apsley Marshes and ultimately discharging to Moulting Lagoon and Great Oyster Bay.

The general climatic pattern is cool winters and warm summers, with rainfall occurring year round. Annual average rainfall at Swansea is in the order of 560 millimetres per year, with the highest monthly average rainfall in December (60 millimetres) and lowest in September (41 millimetres). Temperatures range from cool to warm, with average summer maximum temperatures around 22 degrees Celsius and average minimum temperatures around 11 degrees Celsius. During winter average maximum temperatures are considerably cooler (13 to 14 degrees Celsius) as are average minimum temperatures

(four to five degrees Celsius). Relative humidity ranges from 60 per cent during summer to 80 per cent during winter months. Despite the relatively mild temperatures and high humidity, evaporation exceeds rainfall in ten months of the year, with rainfall marginally higher than evaporation, on average, in June and July.

18. Hydrological values:

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

Artificial drains have reduced the capacity of the site in relation to groundwater recharge, flood control and sediment trapping to some extent, whilst alleviating upstream flooding of agricultural land. Further drainage works, or potential incision of existing channels during flood events, could exacerbate these issues. The major route for water flow through the marsh has changed over time since artificial drains were constructed. Most major floods occur in late summer when easterly depressions cause heavy storms in the upper catchment.

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.

Tp, Ts, H, I, M and 9

The dominant wetland types within the Apsley Marshes Ramsar site are:

Wetland type	Approximate area (hectares)
Tp – Permanent freshwater marshes and pools	250
Ts - Seasonal/intermittent freshwater marshes and pools	190
H - Intertidal marshes	155
I - Intertidal forested wetlands	155
M – Permanent rivers / streams / creeks	unknown
9 – Canals, drainage channels, ditches	unknown

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.

Apsley Marshes provide a diversity of freshwater and marine permanent and intermittent wetlands that provide a habitat for a diversity of flora and fauna. The site contains ten wetland vegetation communities described by Barnes and Visoiu (2002) as follows:

Succulent saltmarsh – occurs in a small patch in the south of the site on the shores of moulting lagoon. Within the Ramsar site, the community is dominated by beaded glasswort (*Sarcocornia quinqueflora*). Vegetation cover is patchy, with areas of bare sediment and salt crust evident.

Saw sedge saltmarsh – occurs in a large patch on the shores of Moulting Lagoon in the lower west of the Ramsar site. It is dominated by thatch saw-sedge (*Gabnia filum*), which grows in a mosaic with areas of open water.

Sea rush rushland – occurs over large areas in the lower portions of the Ramsar site that are subject to saline inundation from tidal flows. The community is dominated by sea-rush (*Juncus kraussii*).

Saline aquatic wetland – occurs in semi-permanent saline to brackish pools in the lower to mid marsh. The community is species poor with only two species recorded: brackish water-milfoil (*Myriophyllum salsgineum*) and common widgeon grass (*Ruppia polycarpa*). The pools also support an abundance of algae.

Paperbark forest / scrub – occurs along much of the lower shores of the Ramsar site and extends up along the drainage lines. The community is dominated by swamp paperbark (*Melaleuca ericifolia*), which is commonly the only tree species present. The canopy is generally dense, with little or no understorey.

Common rush rushland – this is one of the communities that is highly dynamic and changes in extent and distribution in response to changing hydrology. In 2002 it occurred in a distinctive strip between two drainage lines in the mid portion of the Ramsar site. The community is a monoculture of the grass, common rush (*Phragmites australis*).

Typha rushland – this community is also known to expand and contract as a result of a number of factors. In 2002, there was a 30 hectare patch of cumbungi (*Typha orientalis*) and narrow cumbungi (*T. domingensis*) on the western margin of the site. However, in 2010 this had contracted to an isolated patch of < 2 hectares (but appeared to be increasing).

Twig rush sedgeland – occurs over extensive areas of the middle portion of the Ramsar site in areas that are shallowly inundated, but dry annually. The dominant species is jointed twig-rush (*Baumea arthrophylla*), which forms extensive stands.

Freshwater aquatic wetland – extends over much of the northern portion of the site and comprises a series of different communities in permanent pools and annually inundated plains. Community composition is highly variable both spatially and temporally. Common species include: water milfoil (*Myriophyllum simulans*), running marsh flower (*Villarsia reniformis*), jointed rush (*Juncus articulatus*), mud pratie (*Pratia surrepens*), and floating bog-rush (*Schoenus fluittans*).

Riparian vegetation – occurs predominantly along the Apsley River in the north of the site. Swamp gum (*Eucalyptus ovata*) form a sparse canopy with occasional crack willows (*Salix fragilis*) also present on the banks of the river.

There is limited information on fauna at the site, but 26 species of waterbirds have been recorded and the site is significant for supporting breeding of black swans. Four of the eleven Tasmanian frog species occur on the site; brown froglet (*Crinia signifera*), eastern banjo frog (*Lymnodynastes dumerili*), spotted marsh frog (*Lymnodynastes tasmaniensis*) and brown tree frog (*Litoria ewingi*).

The Apsley Marshes Ramsar site connects Moulting Lagoon (and the ocean) with inland freshwater environments acting as a migratory route for diadromous species.

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 supports a nationally threatened wetland flora species: swamp everlasting (*Xerochrysum palustre*). The swamp everlasting is an annual or perennial herb, with large, yellow, everlasting daisy flowers from spring to autumn. It grows in permanent or intermittent freshwater wetlands in water up to one metre

deep (Carter and Walsh 2010). Within the Ramsar site a single patch was observed in 2002 in the mid marshes, next to a drain (Barnes and Visoiu 2002). In addition, the site also supports six wetland flora species of bioregional significance (see section 14 above).

Invasive plant species that may pose a threat to the site include: gorse (*Ulex europaeus*), crack willow (*Salix fragilis*), and jointed rush (*Juncus articulatus*).

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.*

The site supports the internationally endangered Australasian bittern (*Botaurus poiciloptilus*), which is regularly observed by the site's owner. Although it has not been observed breeding, the habitat at the site is suitable, with ample emergent vegetation in shallow water for nest construction. It is likely that the species does breed in the site, but that its cryptic nature coupled with the low survey effort has resulted in the lack of observations.

Three waterbird species listed under international migratory agreements have been recorded within the site (JAMBA and CAMBA). However, all of these species (Caspian tern, *Hydropogone caspia*, eastern great egret, *Ardea modesta* and white-bellied sea eagle, *Haliaeetus leucogaster*) are considered resident in Australia, not undertaking international migrations.

The white-bellied sea eagle, which is bioregionally significant, is resident within the site and breeds in the riparian vegetation along the Apsley River.

Invasive fauna that may pose a threat to the site include feral cats (*Felis catus*) and rabbits (*Lepus curpaeums*).

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 Apsley Marshes have been part of a working agricultural property since 1836 and have had a long history of cattle grazing. Currently 125 head of breeding cows are run on the property and grazed in the freshwater rush and sedgeland for between six and 12 months of the year, depending on weather conditions. To increase fodder production and manage the vegetation, parts of the freshwater sedge / rushlands are burned on an annual basis, when dry. This removes old dried vegetation and initiates fresh green growth, with a return of cover within six months of burning (J. Cusick, pers comm.).

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:

The majority of the site (over 800 hectares) is private freehold, with a small area (approximately 70 hectares) within the Moulting Lagoon Game Reserve, under the management of the state government's Tasmanian Parks and Wildlife Service.

b) in the surrounding area:

The surrounding area comprises predominantly freehold land and the Moulting Lagoon Game Reserve.

25. Current land (including water) use:

a) within the Ramsar site:

Cattle and sheep grazing, recreational shooting, fishing and bird watching.

b) in the surroundings/catchment:

The surrounding areas are used for agriculture cattle and sheep grazing and nature conservation (Moulting Lagoon Game Reserve).

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:

Apsley Marshes has a number of invasive species present including rabbits, and feral cats. Eighteen invasive plants were recorded by Barnes and Visoiu (2002) with three species listed as being of particular concern, gorse (*Ulex europaeus*), crack willow (*Salix fragilis*), and jointed rush (*Juncus articulatus*). A 2013 survey also identified water buttons (*Cotula coronopifolia*) as a potential issue. These species could potentially alter the composition of vegetation communities and place pressure on waterbird breeding.

The remaining introduced species are associated with pasture and disturbed areas and were not considered to pose a significant threat to native vegetation (Barnes and Visoiu 2002). A clear understanding of the relative impacts of the invasive species within the Ramsar site on ecological character is identified as a knowledge gap in the ecological character description. However, other than predation on waterbirds, the impacts of invasive species are thought to be relatively minor and unlikely to lead to a change in ecological character.

Predictive mapping of potential acid sulphate soils (ASS) undertaken for Tasmania identifies Apsley Marshes as having a high probability of ASS. Any disturbance to soil / sediment that results in exposure to the air such as construction of additional drainage channels, has the potential to significantly impact the ecological character of the site.

Floodplain resources of the Apsley Marshes have been utilised as part of a working agricultural property since 1836. Cattle grazing has been occurring at the site for many decades, particularly in the freshwater rush and sedgelands. As grazing practices were an integral part of the site at the time of listing, and for considerable time prior to listing, grazing would only be a significant threat to the site if high stocking rates led to extensive damage of the wetland, and in particular the loss of threatened plants. However under current management this is not considered a threat to the sites ecological character, rather it has shaped the character of the site.

Duck shooting occurs on the site on an annual basis with between 30 to 50 shooters using the site each year. Lead pellets have been reported in the surface sediments of Apsley Marshes and there is some

concern over lead levels in grazing waterbirds (Smith et al. 1995), however the impact of this on the species which use the site is not monitored.

Recreational fishing may also occur within the site however this is a minor activity and not likely to pose any significant threat to the ecological character of the site.

b) in the surrounding area:

Water resource development in the catchment is low and is not considered to be a significant threat to the character of the site. Climate change, in particular rising sea levels and storm surges have been identified as a significant threat to the site (Sharples 2006). A sea-level rise relative to the land of about 14 centimetres since 1841 has been measured on the south-east Tasmanian coast (Sharples 2006). Global sea-level rise of between nine and 88 centimetres is now projected to occur by 2100 relative to 1990 sea level. The magnitude and frequency of coastal storms is also predicted to increase, which will result in increased extent of flooding (Sharples 2006). Predicted inundation mapping for 2100 conditions indicate significant areas of the southern portion of the Ramsar site vulnerable to storm surge flooding, which has the potential to affect tidal vegetation communities such as paperbark forest and saltmarsh.

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.

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?:

Yes, the 10 Year Management Action Plan for the Apsley Marshes Ramsar Site and the Apsley Catchment 2013-2023. Yes it is being implemented.

d) Describe any other current management practices:

A project to develop a 10 year management plan for the site and surrounding catchment received Australian Government funding in 2012-13.

In addition to the 10 Year Plan, other components of the project included; a preliminary assessment and survey to prioritise, schedule and plan on-ground works in consultation with the Apsley Marshes land managers, informed by the results of Aboriginal heritage, vegetation and preliminary bird surveys; engagement with 11 other landowners in the Apsley River Catchment with regard to sustainable land management practices, notably control of willow and gorse; on-ground weed (crack willow (*Salix fragilis*) and gorse (*Ulex europaeus*)) control works across 300 hectares; On-ground stock access control works; on-ground revegetation; surveys to fill knowledge gaps as identified in the ECD for the Apsley Marshes Ramsar Site.

Weeds were mapped across the whole of the site and treated across 408 hectares of the site. Re-vegetation work was undertaken, replanting native species to discourage weed regrowth and replace habitat and windbreaks. The most abundant planting was silver tussock (*Poa labillardierei*) as it provides competition for emergent gorse and is resistant to follow-up chemical spraying of the gorse. Catchment wide weed management plans have been developed in consultation with local landowners. New fences were erected to control stock access and provide alternate watering points.

28. Conservation measures proposed but not yet implemented:

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

The project described at d) above developed priorities for future on-ground works, surveys and other actions as identified in the survey reports, and a strategic approach to weed control. One of the recommendations was to implement a feral cat control program.

A clean up day is also to be organised in a period of low flow to remove rubbish that has accumulated in the site.

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.
None at the present time.

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.
None at this site. The site is an example of the "Wise Use" principle and could be used to illustrate the concept of sustainable agriculture and conservation within a Ramsar site.

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.
The site is on private land and access for recreation is at the discretion of the landholder

32. Jurisdiction:

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

Territorial: Glamorgan/Spring Bay Municipal Council coordinate Natural Resource Management in the catchment. Website: www.gsbc.tas.gov.au. Functional: Private landowner.

Managed by private landowner. Contact Information@dpiw.tas.gov.au for more information.

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.

This site is managed by a private landowner. For more information contact:
Department of Primary Industries, Parks, Water and Environment (DPIPWE)
GPO Box 44
HOBART Tasmania 7001
Australia
Phone: +61 3 6165 4390
Email: Information@dpiw.tas.gov.au

34. Bibliographical references:

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

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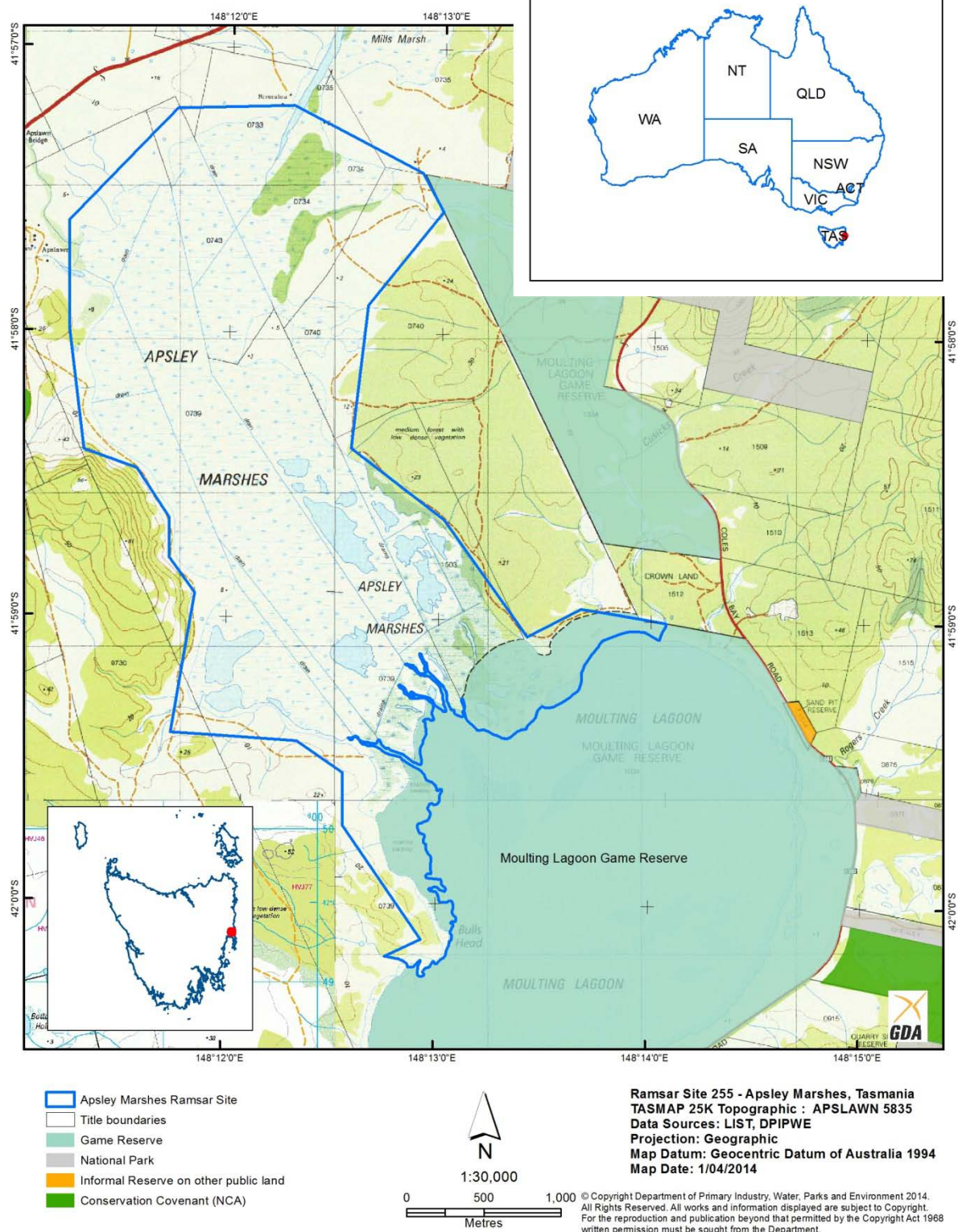
State of Tasmania (undated), theLIST (Land Information System Tasmania)

<http://www.thelist.tas.gov.au/> and TASMMap (<https://www.tasmap.tas.gov.au/>) data supplied by Information & Land Services Division (ILS) of the Department of Primary Industries, Parks, Water and Environment (DPIPWE).

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Attachment A: Map of the Apsley Marshes Ramsar site

Apsley Marshes Ramsar Site



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