

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

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

May 2012

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.

East Coast Cape Barren Island Lagoons (ECCBIL)

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**

An approximate area was given in the original nomination. In 1994 the boundary was better defined using grid reference points from a topographic map where previously the 20m contour lines of elevation had been used. At this time two headlands, Harleys Point and Tar point, were included in the site. This redefinition was submitted in the 1998 RIS. Since that time a desktop survey of the Ramsar site boundaries was undertaken in 2001. The boundaries of the Ramsar site were developed as a registered plan. This used an updated low water mark coverage that was available in 2001. The area of the site was recalculated at this time to be 4473 ha.

**** 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:

The original nomination indicated the site met Criterion 2b) and 2d) which correspond to the current Criterion 3. The 2003 and 2005 RIS indicate that the site met Criterion 1. The ECCBIL Ramsar site was reassessed against the listing Criteria when the ecological character description (ECD) was prepared in 2008. The reassessment was undertaken in the context of the Tasmanian Drainage Division and Integrated Marine and Coastal Regionalisation of Australia (IMCRA v4.0) Southeast Shelf Transition biogeographic regions as part of the preparation of this ECD. It was determined that the site meets Criterion 1 and 3.

The paucity of information on ECCBIL, particularly on changes to critical components and processes such as geomorphology, hydrology and vegetation types, makes an assessment of changes to the ecological character difficult. Little data is available either at the time of listing or more recently to be able to determine changes since listing. However, based on the remoteness and relatively undisturbed nature of the site, it is considered that the site has largely remained unchanged since the time of listing in 1982 and has retained its ecological character.

Anecdotal evidence of changes to exotic species, plant pathogens and grazing is available. It is suggested that an increase in distribution and invasion by weed species has occurred, although this is considered unlikely to be having a significant effect on individual wetlands. In addition, *Phytophthora cinnamomi* is thought to have spread to ECCBIL since listing and its affect on heathland vegetation has become apparent.

Since the listing of the site, attempts have been made to reduce the impact of cattle grazing. Natural Heritage Trust funding was provided to the lessee in 2002 to fence the areas used for grazing and prevent livestock from straying into the wetland areas (Department of Premier and Cabinet 2004). In addition, part of the lease area has been revoked but the effectiveness of these measures is currently unknown.

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) (Attachment 1);
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

b) Describe briefly the type of boundary delineation applied:

The boundary of East Coast Cape Barren Island Lagoons Ramsar site is shown as Lot 1 on Central Plan Register (CPR) 5654 from the Tasmanian Information and Land Services, Department of Primary Industries, Water and Environment. CPR 5654 horizontal datum is Australian Mapping Grid Datum AGD66-Zone 55 Transverse Mercator Projection for horizontal datum and Australian Height Datum for vertical datum (Attachment 2).

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.

The centre of the site is 40°22'42.2"S, 148°24'05.7"E

Limits of site

North: 40 18' 0.8"S

East: 148 28' 2.7"E

South: 40 26' 37.2"S

West: 148 20' 18.7"E

Datum: WGS 1984, not projected.

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.

East Coast Cape Barren Island Lagoons is located on the eastern edge of Cape Barren Island in the Furneaux Group of islands, which lie in Bass Strait to the north-east of Tasmania. The site extends from just north of Tar Point down to Jamiesons Bay, excluding Cape Barren. The nearest centre of population is the town of Lady Barren, on Flinders Island, 13.5 kilometres north-west of the site. Cape Barren Island is within the Flinders municipality, which had a population of 940 in 2001 (Australian Bureau of Statistics 2004).

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

The whole area is less than 20 m ASL.

11. Area: (in hectares)

4,473 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.

This site is composed of numerous shallow, saline lagoons within the sand dune system of the east coast of Cape Barren Island. The lagoon system is in a remote place and is largely free from anthropogenic disturbance or invasion by exotic species. The site supports a number of flora species and vegetation communities threatened on a bioregional level. Land access to the area is by off-road vehicle only and by water the ECCBIL can be accessed via boat. Information on the components, processes and services of ECCBIL, either at the time of listing or more recently, is limited.

Additional wetland types to those included in previous RIS have been extrapolated from TASVEG mapping (Harris and Kitchener 2005) of the site from aerial photo-interpretation and previous mapping (Kirkpatrick and Harwood 1981).

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

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.

The diverse complex of wetlands in the eastern section of Cape Barren Island lies in a prograding sandy plain overlaying Devonian granite. Some 100 separate wetlands, mostly of small size with variable degrees of hydration, stretch from the northern most to southernmost point of East Cape Barren Island. The main wetlands types present at ECCBIL include:

- F -- Estuarine waters; permanent water of estuaries and estuarine systems of deltas.
- H -- Intertidal marshes; includes salt marshes, salt meadows, saltings, raised salt marshes; tidal brackish and freshwater marshes.
- J -- Coastal brackish/saline lagoons; brackish to saline lagoons with at least one relatively narrow connection to the sea.
- K -- Coastal freshwater lagoons; includes freshwater delta lagoons.

This suite of wetlands is representative of the process of progradation of coasts, a process that is uncommon in southern Australia. It is the most extensive example of such a system in the Tasmanian drainage division. Over 800 ha of Ramsar wetland types are present within ECCBIL, making it a very diverse representation of wetland types within the Flinders Bioregion and Tasmanian Drainage Division. Its remoteness means that it is a largely natural system and is in near pristine condition compared to other coastal wetlands. Most other extensive wetland communities have been the subject of significant decline and large areas have been lost and most others have suffered significant alteration in some way (Harwood 1991; Kirkpatrick and Tyler 1998; Kirkpatrick and Harwood 1981.) This naturalness makes it unique within Tasmania and the South Eastern seaboard of Australia.

Whist dune barred lagoons are reasonably common (particularly on King, Flinders and Cape Barren Islands) it is now very rare to find examples of deflation basins in good condition within Tasmania, particularly with intact vegetation. Most have been cleared, drained or otherwise altered from their natural state and geomorphic processes of formation have been severely disrupted. The lagoon at the southern end of the Ramsar site near Jamiesons Bay is the best example of a deflation basin in the ECCBIL. This lagoon is of at least bioregional significance as a representative example of this landform given its good condition. Other wetlands further north are polygenetic and are a mixture of dune (or beach-ridge) barred lagoons and deflation basins. All are good representative examples because of their near natural condition (Ian Houshold pers. comm. 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.

The Cape Barren Dunes, within the site is a geoconservation site in Tasmania. Thirsty Lagoon is a hypersaline lagoon and assessed by Edgar, Barrett and Gradden (1999) as a Tasmanian estuary of critical conservation significance. Three of the lagoons within the site have been assessed as near pristine wetlands for Tasmania; Flyover Lagoon 1, Flyover Lagoon 2 and Little Thirsty Lagoon (Dunn 2005).

A large range of Tasmanian wetland vegetation types occurs within the site, including 13 wetland communities. The representation of many successional stages present in ECCBIL means that it has a high diversity of habitats and species present (including thirteen species uncommon in Tasmania). Therefore it is important for maintaining the biological diversity of the biogeographic region. At the time of this determination the biogeographic region considered was based upon the Interim Biogeographic Regionalisation for Australia v5 (IBRA).

The Natural Resource Policy and Program Committee determined that the appropriate biogeographic regionalisation scheme for aquatic ecosystems in Australia is the Australian Drainage Division system for inland and coastal ecosystems, and the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) for marine systems.

A comprehensive analysis of the importance of this wetland with respect to supporting populations of species important for maintaining biological diversity within the Tasmanian Drainage Division bioregion has not been undertaken. In the absence of such information, it is not possible to make an assessment against this criterion. However, based upon the previous assessment (RIS 2005) it is considered that this criterion is still met.

The lagoons are important habitat for a number of species listed on a statewide level (Tasmanian *Threatened Species Protection Act 1995 - TSPA*), vegetation communities recognised as threatened on a statewide level and endemic species. Thirteen flora species listed as threatened occur on the site including *Hakea ulicina* (furze hakea) and *Isopogon ceratophyllus* (horny cone bush). The Ramsar site represents the only known reserve in Tasmania for one threatened flora species *Utricularia tenella*. Four flora species endemic to Tasmania occur within the site as well as ecological communities recognised as threatened on a statewide level; *Callitris rhomboidea* forest, *Melaleuca ericifolia* forest and Freshwater aquatic hermland. *Haliaeetus leucogaster* (White-bellied sea eagle), listed as vulnerable in Tasmania (TSPA) and listed on the China - Australia Migratory Bird Agreement (CAMBA) occurs at the site (Blackhall pers. comm. 2005). One migratory shorebird, *Arenaria interpres* (Ruddy turnstone), listed on both CAMBA and the Japan - Australia Migratory Bird Agreement (JAMBA) occurs on the site. The site also supports a breeding population of *Thinornis rubricollis* (Hooded plover) which is endemic to southern Australia.

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 Division.
Southeast Shelf Transition, Integrated Marine and Coastal Regionalisation of Australia

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 Ramsar site occupies an extensive lowland sandy terrain which has largely accumulated through an accretionary coast. The broad shape of this coastline is dictated by some coastal granite outcrops and the patterns of sea currents (Stephen Harris pers. comm. 2005). The rapidly accumulating area of sandy coast, mostly of Holocene age, consists of numerous stretches of coastal dunes, beaches and impounded wetlands and shallow saline lagoons. This area may also include older sandy areas from the last interglacial period. Water flows over granite slabs to the west, straight in and under the sandy soil and emerges near the coast as wetlands, where its flow is impounded by the coastal dunes (Michael Pemberton pers. comm. 2005). Many of the lagoons are ephemeral.

The unnamed lagoon north of Jamiesons Bay is a particularly well developed deflation hollow lake, with an associated lunette on the south-east margin. As with some other lagoons further north, the lunette sands overlay the north-south trending parallel dune system, indicating active deflation and lunette building late into the Holocene (the last 10 000 years) - which is rare in south-eastern Australia (Ian Household pers. comm. 2005).

The hydrology of the wetlands has been inferred from maps, topography, geomorphological form and vegetation. As with many dune systems perched on impermeable bedrock, streams and surface flow from catchments rapidly sinks into dune sands at the contact. Water then follows subterranean flow paths, often concentrated in joints in the buried granite. Where wind has deflated the sand, the watertable is exposed in lagoons. Groundwater exits the system through beach springs, or through the estuary of Thirsty Lagoon. Some small lagoons are perched above the regional water table by peats, which effectively seal lagoon beds. Disruption of this seal by vehicles could affect its ability to hold water. The only (ephemeral) stream to traverse the dunefield is Little Creek, in the north of the site (Ian Household pers. comm. 2005).

Water quality information is available from four sampling sites in Thirsty Lagoon and three sites in Little Thirsty Lagoon taken in March 2005. This data shows a gradient of increasing salinity from the marine entrance of Thirsty Lagoon to the upper reaches of Little Thirsty Lagoon where salinities of over 60 psu (practical salinity units) were recorded (Hirst et al. 2006). This salinity gradient is compatible with the 1981 flora data collected by Kirkpatrick and Harwood (1981) adjacent to Thirsty and Little Thirsty Lagoons which suggested frequently hypersaline conditions.

Cape Barren Island has a temperate maritime climate with an estimated mean annual rainfall of 710 millimetres (Perrin 1988). Monthly rainfall ranges from an average of 38 millimetres in January to 62 millimetres in June. Maximum daily temperatures peak in February around 23° C, while the lowest daily maximum falls to around 13°C in July. The prevailing wind directions are westerly and north-easterly (Perrin 1988). Data for temperature, wind and rainfall have been derived from the closest Bureau of Meteorology (BoM) site at Swan Island (located in Bass Strait, approximately 50 kilometres south of ECCBIL) as no climatic data is available within immediate range of ECCBIL.

17. Physical features of the catchment area:

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

ECCBIL is made up of numerous stretches of coastal dunes and beaches formed by deposits of recent calcareous sands. There are deep sandy soils throughout and some areas of plain formed on Quaternary siliceous marine sands and clays. The climate is described in Section 16 above.

18. Hydrological values:

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

The hydrology of ECCBIL is closely related to its distinctive geomorphology. The duration of inundation of many of these geomorphic features remains unknown, although some of the lagoons (deflation and impounded), based on the presence of aquatic plants, retain open water for prolonged periods.

The northern area of ECCBIL has a more extensive catchment area with rainfall discharging into dendritic fresh water drainage channels that flow into a series of deflation plains that are subject to inundation, then into Little Creek and two unnamed estuarine systems. A series of impounded lagoons lies on the lee (generally westerly side) of the parallel dunes and some of these lagoons are connected to fresh water drainage channels and deflation features that are subject to inundation.

The southern area of ECCBIL incorporates Thirsty and Little Thirsty Lagoons, deflation basins and the chains of impounded lagoons located behind the parallel dune ridges. This area has fewer channels draining from Hogan's Hill, possibly indicative of lower volumes of fresh water inputs. Two deflation basins that are located on the same drainage channel intercept fresh water inputs into Little Thirsty Lagoon. The area west of Thirsty and Little Thirsty Lagoons is comprised of sand grain- sized sediment

of several metres depth. The area is low lying, subject to inundation and a mosaic of drainage channels and hummocky 'islands' (Stephen Harris pers. comm., 2007).

The area located east of an approximate line between Little Thirsty Lagoon and the rocky headland at the southwestern boundary of ECCBIL has very few drainage channels. This undulating landscape is formed from a transgressive dune field that overlays granite. There are numerous shallow deflation basins and elongated troughs located between dune ridges. A series of impounded lagoons (basins) is located behind the parallel dunes aligned north-south on the eastern shore, and another located behind the late Holocene transgressive dune on the south-east aligned shore.

Vegetation associated with the wetlands plays an important role in stabilising the highly dynamic coastal system.

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.

J and K (375ha), F (200ha), E (80.5ha), G (55ha), H (44ha), N (37.8ha), D (20.3ha). Areas are approximate.

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.

The site features a complex pattern of vegetation communities influenced by hydrology, climate, a high fire frequency and the presence of numerous geomorphic features such as lagoons, bedrock, creeks and saline flats that have acted to break the uniform sweep of fires (Stephen Harris pers. comm. 2005). ECCBIL includes vegetation communities dependent on saline conditions, periodic and episodic inundation by fresh or salt water, and more typically terrestrial communities reliant on different drainage characteristics.

Thirteen different Tasmanian wetland vegetation communities were found within ECCBIL in the Kirkpatrick and Harwood (1981) survey: *Mimulus repens* herbfield, *Selliera radicans* herbfield, *Baumea arthrophylla* sedgeland, *Eleocharis sphacelata* sedgeland, *Lepidosperma longitudinale* sedgeland, *Triglochin procerum* aquatic herbland, *Myriophyllum elatinooides* aquatic herbland, *Myriophyllum propinquum*¹ aquatic herbland, *Lamprothamnium* spp. aquatic herbland, *Lepilaena cylindrocarpa* aquatic herbland, *Juncus kraussii* rushland, *Wilsonia rotundifolia* herbfield and *Sarcocornia quinqueflora* herbfield. These communities correspond with the following six TASVEG communities: lacustrine herbland, freshwater aquatic sedgeland and rushland, freshwater aquatic herbland, saline aquatic herbland, saline sedgeland/rushland and succulent saline herbland (Harris and Kitchener 2005). All freshwater and saltmarsh TASVEG mapping units and a

¹ This taxon has been split into *Myriophyllum simulans* (amphibious watermilfoil) and *M. variifolium* (variable milfoil), (Buchanan 2009)

significant proportion of the wetland floristic vegetation communities found in Tasmania are represented at ECCBIL (Harris and Kitchener 2005).

Other communities present at ECCBIL include buttongrass moorland (undifferentiated), coastal grass and herbfield, coastal heathland, coastal scrub, lowland sedgy heathland, *Allocasuarina verticillata* forest, *Callitris rhomboidea* forest, *Melaleuca ericifolia* swamp forest, *Eucalyptus nitida* Furneaux forest, cryptogammic lithosphere and saltmarsh (undifferentiated). In addition, a tussock grassland of the exotic species, marram grass (*Ammophila arenaria*) has established on foredunes (Marram grassland), and *Acacia longifolia* coastal scrub dominated by *Acacia longifolia* subsp. *sophorae* and *Acacia verticillata* with marram grassland stabilises the hind dune (Stephen Harris pers. comm. 2005).

ECCBIL offers a range of habitats important for waterbirds, shorebirds and migratory waders (Blackhall 1986, 1988; Bryant 2002; Hirst et al. 2006). Blackhall (1986) noted that large numbers of duck (species not specified) had been seen at Flyover Lagoon. Seeds of longfruit watermat (*Lepilaena cylindrocarpa*) in the herbfields of the lagoon are an important food item for black ducks and teal (Blackhall 1986). The surrounding vegetation provides nesting sites for duck. The numerous other smaller lagoons of ECCBIL would also provide some habitat for duck and other waterfowl. A bird survey of ECCBIL was conducted in March 1996. Sixty-three species of birds were recorded of which 13 are considered wetland dependent.

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 extensive system of shallow coastal lagoons contains fourteen species that are rare or uncommon in Tasmania. While some of these species are common on mainland Australia, at ECCBIL they are at the edge of their habitat ranges and are uncommon in the rest of Tasmania. Several of these rare species (*Centrolepis strigosa* subsp. *pulvinata*, *Myriophyllum muelleri*, *Potamogeton pectinatus* and *Wilsonia rotundifolia*) occur in Flyover Lagoon, which is distinctive for its deeper, mostly permanent water and alkaline pH. The southern basin is also important for its *Eleocharis pusilla* sedgeland community.

The flora species *Centrolepis strigosa* subsp. *pulvinata* (scarce centrolepis, a Tasmanian endemic), *Chrysocephalum baxteri* (fringed everlasting), *Lachnagrostis robusta* (tall blown-grass), *Lepidosperma forsythii* (stout rapier sedge), *Potamogeton pectinatus* (fennel pondweed), *Utricularia tenella* (pink bladderwort) and *Wilsonia rotundifolia* (round-leaf wilsonia) are all rare in the region and are listed as rare on the Tasmanian *Threatened Species Protection Act 1995*. *Centrolepis aristata* (pointed bristlewort) and *Schoenoplectus pungens* (sharp clubsedge) are uncommon in the region.

The Cape Barren Island Lagoons are recognised as a key site for two of these flora species, including Flyover Lagoon 1, Flyover Lagoon 2 and Little Thirsty Lagoon for *Wilsonia rotundifolia* (round-leaf wilsonia); and Flyover Lagoon 1 for *Potamogeton pectinatus* (fennel pondweed). Four species endemic to Tasmania, occur on the site. The site is also recognised for the *Mimulus repens* aquatic community. Together with the eastern side of Clarke Island, this area sits astride a floristic break with a range of species found no further south (Stephen Harris pers. comm. 2005).

Within Tasmania, saltmarsh vegetation communities, four of which occur on the site, qualify for two of the Biodiversity Criteria developed by Joint ANZECC / MCFFA National Forest Policy Statement Implementation Sub-committee (JANIS). They are Criteria (1); as less than 3% of the pre-1750 distribution of saltmarsh vegetation is protected in the Comprehensive Adequate and Representative (CAR) reserve system and Criteria (5); as they are a habitat for migratory species which are also often rare, vulnerable or endangered. Though saltmarsh communities are not currently listed as threatened within Tasmania, these communities serve a critical ecological function and are at risk due to their low reservation status.

Kirkpatrick and Harwood (1981) reported that the area was free of weed species. Since then several exotic plant species have been reported, including thistle (*Cirsium arvense*) (Blackhall 1986), marram grass (*Ammophila arenaria*), gorse (*Ulex europaeus*) and sea spurge (*Euphorbia paralias*) (Harris and Magnus 2004). Marram grass has extensively colonised the coastal dune system. Sea spurge has been brought by tides and currents and become established. This species generates numerous seeds which are long-lived in the soil seed bank and spreads easily. Hence any attempt to eradicate it must be ongoing. Marram grass and sea spurge can also affect dune dynamics as well as displacing native species such as the dune binding beach spinifex (*Spinifex sericeus*).

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.*

Eight migratory species have been recorded at the site including the double-banded plover (*Charadrius bicinctus*), red-necked stint (*Calidris ruficollis*), curlew sandpiper (*Calidris ferruginea*), ruddy turnstone (*Arenaria interpres*), crested tern (*Sterna benghalensis*), Caspian tern (*Sterna caspia*), great egret (*Ardea modesta*) and the short-tailed shearwater (*Puffinus tenuirostris*). The hooded plover (*Thinornis rubricollis*) is also known to frequent the beaches associated with the Ramsar site.

Rabbits (*Oryctolagus cuniculus*) were thought to be absent from Cape Barren Island at the time of listing, but in recent years they have been seen close to the settlement and are believed to be extending eastwards towards ECCBIL. Feral turkeys (*Meleagris gallopavo*) are now common on Cape Barren Island. The turkeys scratch in soil and leaf litter, which has the potential to impact on litter fauna as well as the regeneration of flora species.

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:

ECCBIL is a place of spiritual and religious significance to the Tasmanian Aboriginal community. The Tasmanian Aboriginal people have a long history of traditional activities associated with lagoon environments, including gathering plant and animal resources. No formal assessment of these values within ECCBIL has been documented. The site is remote and inaccessible and rarely visited and there is little information available about these values.

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? **No**

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:

Freehold title to part of Cape Barren Island was vested in the Aboriginal Land Council of Tasmania, on behalf of the Tasmanian Aboriginal community, under the *Aboriginal Lands Act 1995* (Tasmania). The Tasmanian Aboriginal Land Council became the Tasmanian Land and Sea Council in February 2005. A second land transfer in 2005 placed most of the Island, including the ECCBIL, under Aboriginal ownership. The local Aboriginal community organisation, the Cape Barren Island Aboriginal Association (CBIAA) are the land managers for the site.

Landowners are:

Tasmanian Aboriginal Land and Sea Council of Tasmania
182 Charles Street,
Launceston
Tasmania 7250
Australia
+61 3 6331 2833

- b) in the surrounding area:

Tasmanian Aboriginal Land and Sea Council of Tasmania
182 Charles Street,
Launceston
Tasmania 7250
Australia
+61 3 6331 2833

25. Current land (including water) use:

- a) within the Ramsar site:

Primarily conservation; limited recreational activities such as shooting and some grazing.

- b) in the surroundings/catchment:

Cape Barren Island has a small town and community including infrastructure. Some cattle grazing occurs. The remainder of the island is largely in its natural state.

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:

The main threats to the ecological character of the site since the time of listing in 1982 are fire, exotic species, wind erosion, vehicle access, grazing and climate change. An increase in fire intensity and frequency on site would potentially cause a change in floristics to fire tolerant species, expose sediments to wind erosion and result in the loss of habitat for flora and fauna species. Similarly, the spread of exotic species and pathogens such as rabbits, thistle, marram grass, gorse and root rot fungus, which are already present on site or on Cape Barren Island, could result in reduced habitat and eventual loss of flora and fauna species. In turn, this influences wetland structure and dynamics.

Wind erosion threatens dune stability and habitat condition and availability for flora and fauna species, while vehicle access (particularly four wheel drives) and grazing threaten water quality (turbidity and nutrient enrichment), the integrity of geomorphological features, hydrological regimes, flora and fauna species and their habitats on site.

Alterations in temperature and rainfall associated with climate change have the potential to influence wetland physical and chemical processes, groundwater discharge, the diversity of wetland types, wetland biology, the distribution and abundance of flora and fauna and the lifecycles of fauna (e.g. waterbird breeding, macroinvertebrates).

b) in the surrounding area:

As above

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.

There has been re-negotiation of a current grazing lease at the north-east end of the site which restricts livestock access to the lagoons.

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?

No. A management plan is intended for the area, however, resources are not currently available to prepare one.

d) Describe any other current management practices:

N/A

28. Conservation measures proposed but not yet implemented:

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

As part of the above agreement, the leaseholder intended to fence off the land leased for grazing.

Funding for fencing was provided in 2002 to fence the areas used for grazing and prevent livestock from straying into the wetland areas (Department of Premier and Cabinet 2004).

29. Current scientific research and facilities:

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

Very little recent research has been completed at ECCBIL as the site is remote and difficult to access.

There have been no systematic surveys of components of the wetland ecosystems other than the survey of 24 wetlands. Information on the biota of the wetlands is limited to three studies confined to a few sites (Rolfe et al. 2001; Walsh et al. 2001, Hirst et al. 2006) and collation of bird records (DIPW 1996). Limited surveys of the flora have been completed, as well as surveys of the invertebrate fauna at Thirsty Lagoon.

There are no research facilities at the site.

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.

There is currently no public interpretation of the ECCBIL Ramsar site. This is not a priority for the site because the site is remote, inaccessible and rarely visited.

31. Current recreation and tourism:

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

The site is occasionally used for bushwalking, duck hunting, trail bike riding and off-road driving.

32. Jurisdiction:

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

Territorial: Flinders Island Council. Functional: Aboriginal Land Council of 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.

Management:

Cape Barren Island Aboriginal Association

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Cape Barren Island

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Australia

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cbiab@bigpond.com

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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