# Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

# Note for compilers:

- 1. The RIS should be completed in accordance with the attached Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands. Compilers are strongly advised to read this guidance before filling in the RIS.
- 2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Bureau. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:  FOR OFFICE USE ONLY.
Department of Primary Industries, Water and
Environment (DPIWE)
PO Box 44
HOBART, Tasmannia 7001
2. Date this sheet was completed/updated:  Designation date  Site Reference Number
June 2005
3. Country:
Australia
4. Name of the Ramsar site:
Pitt Water-Orielton Lagoon
5. Map of site included:
Refer to Annex III of the Explanatory Note and Guidelines, for detailed guidance on provision of suitable maps.
a) hard copy (required for inclusion of site in the Ramsar List): yes $\square$ -or- no $\square$
b) digital (electronic) format (optional): yes X -or- no $\square$
6. Geographical coordinates (latitude/longitude):
Latitude: 42 degrees 48' 00"; Longitude: 147 degrees 30' 00"
7. General location:
Include in which part of the country and which large administrative region(s), and the location of the nearest large town.
Pitt Water-Orielton Lagoon is located on the south-east coast of Tasmania, approximately 20
kilometres east of the city of Hobart, between the towns of Cambridge and Sorell. The site is
primarily located in the Sorell municipality which had a population of 10,941 in 2001
(Australian Bureau of Statistics 2005). The southern shoreline of Pitt Water is located in the
Clarence municipality which had a population of 48,965 in 2001 (Australian Bureau of
Statistics 2005).
8. Elevation: (average and/or max. & min.) 9. Area: (in hectares)
The whole area is less than 20 m ASL.  3334 hectares*
*Area was recalculated following availability of an updated high water mark coverage.
10. Overview:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland. The Pitt Water-Orielton Lagoon site comprises an estuarine system with a large area of saltmarsh. The lagoon system offers a diversity of habitats and is subsequently a species-rich environment. Access is possible by 2-wheel drive vehicle.

#### 11. Ramsar Criteria:

Circle or underline 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).

# <u>1</u> • 2 • <u>3</u> • <u>4</u> • 5 • 6 • 7 • <u>8</u>

# 12. Justification for the application of each Criterion listed in 11. 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** – Pitt Water-Orielton Lagoon is a representative example of a bay-head spit controlled estuarine wetland system for the South East Biogeographic Region of Tasmania.

Criterion 3 - Pitt Water-Orielton Lagoon is an important area for migratory waders that fly to the site from as far away as the arctic tundra. Twenty-six bird species that occur in and around Pitt Water/Orielton Lagoon are listed on the Japan - Australia Migratory Bird Agreement (JAMBA). Similarly, twenty-seven bird species are listed on the China - Australia Migratory Bird Agreement (CAMBA). Barren Island is a known breeding site for the JAMBA and CAMBA listed Caspian tern (*Sterna caspia*). Pitt Water is an important site for the threatened and JAMBA and CAMBA listed Eastern curlew (*Numenius madagascariensis*, endangered, *Threatened Species Protection Act 1995* (TSPA)) (Bryant 2002). Orielton Lagoon is listed as an important site for the Double-banded plover (*Charadrius bicinctus*), based on 1% of the population using the site, under the East Asian - Australasian Shorebird Site Network which links wetlands that are internationally important for shorebirds.

The wetland flora contains an array of species which are considered to be rare and at risk in Tasmania. Six plant species are of particular significance in this area because of their threatened status. The daisy, Lemon beauty-head (*Calocephalus citreus*) is endangered (TSPA) and occurs within the nature reserve at the lagoon. Four other species, Slender watermat (*Lepilaena preissii*), Silky wilsonia (*Wilsonia humilis*), Fennel pondweed (*Potamogeton pectinatus*), and Sea lavender (*Limonium australe*) are all listed under the *Threatened Species Protection Act 1995* as rare. Pitt Water Nature Reserve is the only reserve in which *Wilsonia humilis* is found and one of only two reserves in which *Lepilaena preissii* is found. *Potamogeton pectinatus* and *Limonium australe* are found in only three reserves.

The rocky shores of Pitt Water are also critical habitat for the endemic Live-bearing sea star, *Patiriella vivipara* (endangered, TSPA), which has a very restricted geographic range. The greatest concentration of this species, occurs along the Pitt Water causeway, between Pitt Water Bluff and Midway Point, and the rocky shoreline surrounding Pitt Water (Materia 1994). This seastar is of particular importance as it is one of only four seastar species worldwide known to bear live young instead of eggs.

The saltmarshes around Barilla Bay are one of the few recorded Tasmanian localities of the rare Chequered blue butterfly (*Theclinesthes serpentata*, rare, TSPA).

**Criterion 4** - It is also an extensive and diverse wetland and is considered to be a significant refuge in times of drought. It is the southern most major summer feeding ground for waterbirds in Australia. A number of resident and a few migratory waterbirds breed within the site (see Appendix 1 – Birds of the Pitt Water-Orielton Lagoon Ramsar Site). The site supports the threatened Live-bearing sea star, *Patiriella vivipara* which breed throughout the year.

**Criterion 8** - The southern part of the site is a protected shark nursery area. Upper Pitt Water is a significant nursery area for the school shark (*Galeorhinus galeus*), with the highest CPUE (catch per unit effort) for new born pups in south-east Australia (Stevens and West 1997). Pitt Water is also a nursery area for the gummy shark (*Mustetus antarcticus*) (Stevens and West 1997).

**13. 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: South East

b) biogeographic regionalisation scheme (include reference citation): Interim Biogeographical Regionalisation for Australia (IBRA) version 5.

## 14. 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.

Pitt Water is an almost land-locked body of tidal salt water with a narrow entrance to Frederick Henry Bay. The area includes estuaries of four watercourses: Coal River and Sorell Rivulet into Pitt Water, Orielton Rivulet into Orielton Lagoon and Iron Creek into Iron Creek Bay. The whole area is protected from the open sea by a large mid-bay spit and associated dunefield (Seven Mile Beach). The site has large areas of tidal mud and sand flats, and a restricted tide flow through the mouth leaves extensive areas exposed as suitable feeding areas for wading birds. These tidal flats have developed through lateral deposition by the lower Coal River. Abandoned meanders in the upper Coal River estuary (including Halfmoon Inlet) are evidence of gradual stream migration and subsequent cutoff development. At the mouth of the Coal River estuary Samphire Island and Stinking Point are part of an incipient fluvial delta (Houshold pers. comm.).

The geology of the area is complex, being dominated by Holocene river alluvium, silt, fine sand, dune and windblown sand with pockets of Triassic sandstone and shale.

Orielton Lagoon is separated from Pitt Water by a causeway originally constructed in 1868 and modified in 1906 and 1953. The natural hydrological regime of Orielton Lagoon has been severely altered by the Sorell causeway. This structure constricted broad tidal flow and created a shallow (1.25 metres deep) lagoon about 265 hectares in area. Culverts have been built under the causeway, allowing freer water flow between Orielton Lagoon and Pitt Water.

The average annual rainfall of the area is 500 - 625 mm.

## 15. Physical features of the catchment area:

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

The surrounding area was settled very early in Tasmania's history and was consequently cleared and developed for agriculture. The area has a diversity of landuses; pastureland grazing, forestry, irrigated cropland, rural residential development, residential development, recreation and some conservation (DPIWE 2003). Much of the shoreline has been covered by suburban housing developments over the years. The majority of the native vegetation on land adjacent to the Ramsar site has been cleared for agricultural or urban development. Small pockets of remnant vegetation and single trees are all that exist in most areas.

The catchment area of Pitt Water is approximately 890 square kilometres. The catchment is subject to flooding and flow rates vary considerably throughout the year. Within this area, the largest catchment entering Pitt Water is the Coal River Catchment which encompasses approximately 540 square kilometres.

## 16. Hydrological values:

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

The hydrology of the estuary is dominated by tidal processes, with Frederick Henry Bay and the mouth of Pitt Water subjected to a tidal range of approximately 1.4 m. Significant tidal channels separate extensive shallows and sandflats in the lower estuary, however flow patterns have been significantly altered by the causeway. Upstream of Billy's Island (located 500 m south-west of Stinking Point) flood flows from the Coal River may override tidal flows at times, resulting in significant scouring of the lagoon bed and deposition downstream. Whilst the majority of sediment and nutrient pulses are supplied from intensively farmed areas in the catchments of the Coal River, Sorell Rivulet, Iron Creek and Orielton Rivulet, further inputs may be expected from nearby urban areas at Midway Point and Sorell. Remnant fringing wetland and saltmarsh vegetation communities somewhat attenuate pulses from immediately adjacent agricultural land (Houshold pers. comm.).

## 17. 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.

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

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

#### 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.

F, G, H, M, Q and R

# 18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Most of the site is open water fringed by saltmarsh communities, mudflats and rocky shores. The extensive mudflats and saltmarsh areas are important habitat for wading birds and waterfowl.

The vegetation communities present on the site include Succulent saline herbland, Saline sedgeland/rushland and Coastal grassland.

The rocky shores constitute important habitat for sea stars.

# 19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. 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 region contains one of the most significant areas of saltmarsh in Tasmania (Kirkpatrick and Glasby 1981). Many of the poorly reserved saltmarsh vegetation communities in Tasmania occur within the reserve comprising a diversity of Succulent saline herbland and Saline sedgeland/rushland communities. *Sarcocornia quinqueflora* low open heath, *Sclerostegia arbuscula* open heath, *Juncus kraussii* open rushland and *Austrostipa stipoides* tussock grassland are common.

There are a number of saltmarsh communities which are significant in their own right; particularly in the north-west of the site and surrounding Barilla Bay. In the northern section,

near the mouths of the waterways entering Pitt Water including Coal River and Samphire Island, the dominant species are beaded glasswort (*Sarcocornia quinqueflora*), shrubby glasswort (*Sclerostegia arbuscula*), sea rush (*Juncus kraussii*), pale rush (*Juncus pallidus*), coast sawsedge (*Gahnia trifida*), coastal speargrass (*Austrostipa stipoides*), australian salt grass (*Distichlis distichophylla*) and creeping brookweed (*Samolus repens*).

Approximately 15 ha of saltmarsh occurs along the northern shore of Orielton Lagoon. The dominant species are beaded glasswort (*Sarcocornia. quinqueflora*), thickhead glasswort (*Sarcocornia blackiana*) and round leafed pigface (*Disphyma crassifolium* subspecies *clavellatum*).

A survey has been conducted for bryophytes in and around Orielton Lagoon which identified six moss species and one liverwort that satisfy IUCN criteria for threatened species (Tasmanian Parks and Wildlife Service 1999).

Aquatic vegetation in Pitt Water itself is primarily seagrasses; *Zostera muelleri* occurs on intertidal flats and shallow areas, *Heterozostera tasmanica* on the beds and banks of channels and the herb *Ruppia* spp. where freshwater flushing occurs. (Rees 1993).

A number of highly invasive weeds occur within the site; boneseed (*Chrysanthemoides monilifera* subsp. *moniliferai*), gorse (*Ulex europaeus*), blackberry (*Rubus fruticosus*) and African boxthorn (*Lycium ferocissimum*).

## 20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. 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.

Significant migratory species that visit the area include the Eastern curlew (Numenius madagascariensis, endangered, TSPA), Bar-tailed godwit (Limosa lapponica), Common greenshank (Tringa nebularia), Curlew sandpiper (Calidris ferruginea), Double-banded plover (Charadrius bicinctus), and Red-necked stint (Calidris ruficollis). The lagoon is one of the few spots where Great crested grebes (Podiceps cristatus, rare, TSPA) can be seen regularly. The Fairy Tern (Sterna nereis, rare, TSPA,) and Little Tern (Sterna albifrons sinensis; endangered, TSPA) are both threatened in Tasmania and have been sighted in the reserve.

The 1998-1999 Shorebird Survey for Tasmania found Orielton Lagoon to have high migratory and shorebird diversity and be a priority site for both resident and migratory species. The site provides breeding habitat for a number of beach nesting shorebirds including Caspian tern (*Sterna caspia*) and Red-capped plover (*Charadrius ruficapillus*) (Bryant 2002).

See Appendix 1 for a full bird species list.

# 21. Social and 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.

Community groups are actively involved in the rehabilitation of Orielton Lagoon. The area is valued by locals as a recreational fishing area. The site holds commercial value as it is an important area for shellfish aquaculture production. At the time of European arrival, Pitt Water was part of the territory occupied by the Oyster Bay Tribe. Twenty-one sites within close proximity to the Ramsar site have been registered on the Tasmanian Aboriginal site index. Although few surveys have specifically focused on Aboriginal sites in the area, one reasonably large midden has been located in the Ramsar site and it is highly likely that more exist.

# 22. Land tenure/ownership:

- (a) within the Ramsar site: Pitt Water Nature Reserve and unallocated Crown land
- (b) in the surrounding area: Private freehold, Seven Mile Beach Protected Area, Hobart Airport.

# 23. Current land (including water) use:

- (a) within the Ramsar site: Fishing, aquaculture, boating, bird watching and conservation.
- (b) in the surroundings/catchment: Residential, agricultural (mainly livestock grazing), conservation, recreation (including two golf courses).
- 24. 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: Decreased water exchange between Orielton Lagoon and Pitt Water due to the construction of a causeway, resulted in increased evaporation in the shallow lagoon and consequent large changes in salinity associated with this process. Altered salinity combined with nutrient input from adjacent landuses (residential, aquaculture and agriculture) led to eutrophication of areas of the lagoon which resulted in a toxic algal bloom of *Nodularia spumigena* in 1993. The creation of additional culverts to increase water exchange has helped to decrease the frequency of blooms in the area. Significant saltmarsh areas have been trampled by grazing stock. There has been a catastrophic decline (94% loss 1950-1990) in seagrass coverage throughout Pitt Water. The decline has been attributed to an increase in nutrient levels and sedimentation (Rees 1993). Introduced species concerns are primarily associated with terrestrial and aquatic plants; boneseed (Chrysanthemoides monilifera), gorse (Ulex europaeus), blackberries (Rubus fruticosus) and boxthorn (Lycium ferocissimum) have established along much of the shore Other introduced species include the toxic dinoflagellate of Orielton Lagoon. Gymnodinium catanatum, and the European Shore Crab (Carcinus meanus).
- b) in the surrounding area: Subdivision on the shore of Orielton Lagoon in the vicinity of Shark Point Road may result in increasing clearance, residential effluent, dumping of vegetative material and general disturbance from noise, pets, and human activity. Other factors with the potential to adversely affect the site include: increased aquaculture operations in Pitt Water, increased abstraction of water from the main tributary of upper Pitt Water, the Coal River and increased irrigation activities in the drainage basin. It is generally acknowledged that the construction of the Craigbourne Dam on the Coal River in 1986 has had a significant effect on the hydrology of the river entering Pitt Water. Craigbourne Dam has a capacity of 12,500 ML and captures water from the top 24,700 hectares of the Coal River (DPIWE 2003). Water flow data suggests that flood flows are generally lower and that the summer time flows, which historically were known to have ceased (except in flood events), are now greater. The Rivers and Water Supply Commission manage release of water from the dam for irrigation purposes.

# 25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

The site is listed under the Convention on Wetlands (Ramsar, Iran, 1971) and also on the Register of the National Estate. Three major areas of the estuary have been declared Nature Reserves. The site has been listed on the East Asian-Australasian Shorebird Site Network due to the use of the area by Double-banded Plover (*Charadrius bicinctus*). Culverts recently built under the causeway have increased water circulation and thereby flush excess nutrients from the lagoon and stabilise salinities. This is associated with other measures planned to reduce eutrophication problems in the lagoon, the effectiveness of which is uncertain. Landcare groups have fenced off much of the foreshore along the western side of Pitt Water and undertaken weed eradication programs. Volunteers associated with a Parks and Wildlife

program took part in a project which relocated a colony of the endangered sea star, *Patiriella vivipara*, which otherwise would have been destroyed by local roadworks. A draft Management Plan, Pitt Water-Orielton Lagoon Ramsar Site Management Plan 2001, has been written for the area.

# 26. Conservation measures proposed but not yet implemented:

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

A scheme to divert sewage effluent from the estuary to a land disposal system is underway.

# 27. Current scientific research and facilities:

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

The University of Tasmania, and several government departments are currently undertaking research into the water quality and ecology of the area. A State of the River Report for the Coal River Catchment has been completed. This project involved the collection of information on water quality, aquatic ecology, hydrology and the condition of the waterways through the (Coal River) catchment (DPWIE 2003).

## 28. Current conservation education:

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

With close proximity to the city of Hobart, there is great potential for use of the wetland for conservation education. There are plans to build bird hides on land north-west of Orielton Lagoon as part of a community education program.

## 29. Current recreation and tourism:

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

Birdwatching is conducted in the area by the group, Birds Tasmania. Other recreational activities undertaken in the area include fishing, windsurfing, boating and cycling.

## 30. Jurisdiction:

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

Territorial: Sorell Municipal Council. Functional: Director, Parks & Wildlife Service, Tasmania.

## 31. 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.

Sorell Municipality and

Director, Parks & Wildlife Service GPO Box 1751 HOBART 7001 Tasmania.

# 32. Bibliographical references:

scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

www.gisparks.tas.gov.au

http://www.anca.gov.au/environm/wetlands/tas.htm

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Appendix 1: Birds of the Pitt Water – Orielton Lagoon Ramsar Site

Family	Common name	Scientific name	Status
Podicipedidae	hoary-headed grebe	Poliocephalus poliocephalus	
Podicipedidae	great crested grebe	Podiceps cristatus	r
Pelecanidae	Australian pelican	Pelecanus conspicillatus	
Phalacrocoracidae	little pied cormorant	Phalacrocorax melanoleucos	
Phalacrocoracidae	black-faced cormorant	Phalacrocorax fuscescens	
Phalacrocoracidae	pied cormorant	Phalacrocorax varius	
Phalacrocoracidae	little black cormorant	Phalacrocorax sulcirostris	
Phalacrocoracidae	great cormorant	Phalacrocorax carbo	
Ardeidae	white-faced heron	Egretta novaehollandiae	
Ardeidae	little egret	Egretta garzetta	
Ardeidae	great egret	Ardea alba	J. C.
Ardeidae	cattle egret	Ardea ibis	J.C.
Threskiornithidae	Australian white ibis	Threskiornis molucca	
Threskiornithidae	royal spoonbill	Platelea regia	
Anatidae	blue-billed duck	Oxyura australis	
Anatidae	musk duck	Biziura lobata	B.
Anatidae	black swan	Cygnus atratus	B.
Anatidae	Australian shelduck	Tadorna tadornoides	B.
Anatidae	Pacific black duck	Anas superciliosa	Probably breeds.
Anatidae	Australasian shoveler	Anas rhynchotis	•
Anatidae	grey teal	Anas gracilis	
Anatidae	chestnut teal	Anas castanea	B.
Anatidae	hardhead	Aythya australis	
Accipitridae	white-bellied sea eagle	Haliaeetus leucogaster	v C.
Accipitridae	swamp harrier	Circus approximans	B.
Accipitridae	brown goshawk	Accipiter fasciatus	
Accipitridae	collared sparrow hawk	Accipiter cirrhocephalus	
Accipitridae	wedge-tailed eagle	Aquila audax fleayi	e EN
Falconidae	brown falcon	Falco berigora	
Falconidae	Australian hobby	Falco longipennis	
Falconidae	peregrine falcon	Falco peregrinus	
Falconidae	nankeen kestrel	Falco cenchroides	
Phasianidae	brown quail	Coturnix ypsilophora	
Rallidae	Tasmanian native-hen	Gallinula mortierii	B.
Rallidae	Eurasian coot	Fulica atra	
Haematopodidae	pied oystercatcher	Haematopus longirostris	R.B.
Haematopodidae	sooty oystercatcher	Haematopus fuliginosus	R.
Recurvirostridae	black-winged stilt	Himantopus himantopus	
Recurvirostridae	banded stilt	Cladorhynchus laucocephalus	
Charadriidae	Pacific golden plover	Pluvialis fulva	M.
Charadriidae	grey plover	Pluvialis squatarola	J.C.M.
Charadriidae	red-capped plover	Charadrius ruficapillus	R.B.
Charadriidae	double-banded plover	Charadrius bicinctus	M.
Charadriidae	lesser sand plover	Charadrius mongolus	J.C.M.

Family	Common name	Scientific name	Status
Charadriidae	greater sand plover	Charadrius leschenaultii	J.C.M.
Charadriidae	oriental plover	Charadrius veredus	J.M.
Charadriidae	black-fronted dotterel	Elseyornis melanops	R.B.
Charadriidae	banded lapwing	Vanellus tricolor	R.B
Charadriidae	masked lapwing	Vanellus miles	R.B.
Scolopacidae	Latham's snipe	Gallinago hardwickii	J.C.M.
Scolopacidae	black-tailed godwit	Limosa limosa	J.C.M.
Scolopacidae	Hudsonian godwit	Limosa haemastica	M.
Scolopacidae	bar-tailed godwit	Limosa lapponica	J. C.M.
Scolopacidae	whimbrel	Numenius phaeopus	J.C.M.
Scolopacidae	eastern curlew	Numenius madagascariensis	J.C.M. e
Scolopacidae	marsh sandpiper	Tringa stagnatilis	J.C.M.
Scolopacidae	common greenshank	Tringa nebularia	J.C.M.
Scolopacidae	common sandpiper	Actitis hypoleucos	J.C.M.
Scolopacidae	grey-tailed tattler	Heteroscelus brevipes	J.C.M.
Scolopacidae	ruddy turnstone	Arenaria interpres	J.C.M.
Scolopacidae	great knot	Calidris tenuirostris	J.C.M.
Scolopacidae	red knot	Calidris canutus	J.C.M.
Scolopacidae	little stint	Calidris minuta	M.
Scolopacidae	red-necked stint	Calidris ruficollis	J.C.M.
Scolopacidae	pectoral sandpiper	Calidris melanotos	J.M.
Scolopacidae	sharp-tailed sandpiper	Calidris acuminata	J.C.M.
Scolopacidae	curlew sandpiper	Calidris ferruginea	J.C.M.
Scolopacidae	terek sandpiper	Xenus cinereus	J.C.M.
Scolopacidae	buff-breasted sandpiper	Tryngites subruficollis	J.M.
Scolopacidae	ruff	Philomachus pugnax	J.C.M.
Laridae	Pacific gull	Larus pacificus	R. Has bred
Laridae	kelp gull	Larus dominicanus	B.
Laridae	silver gull	Larus novaehollandiae	B.
Laridae	Caspian tern	Sterna caspia	J.C.M. Has bred.
Laridae	crested tern	Sterna bergii	R. Has bred.
Laridae	little tern	Sterna albifrons	e (extant) J.C.
Laridae	fairy tern	Sterna nereis	r. M. Has bred.
Laridae	white-winged black tern	Chlidonias leucopterus	M.
Columbiformes	common bronzewing	Phaps chalcoptera	
Cacatuidae	yellow-tailed black-cockatoo	Calyptorhynchus funereus	
Cacatuidae	galah	Cacatua roseicapilla	i
Psittacidae	musk lorikeet	Glossopsitta concinna	
Psittacidae	green rosella	Platycercus caledonicus	
Psittacidae	eastern rosella	Platycercus eximius	EN 1.6
Psittacidae	swift parrot	Lathamus discolor	e EN M.
Psittacidae	blue-winged parrot	Neophema chrysostoma	
Cuculidae	pallid cuckoo	Cuculus pallidus	
Cucuilidae	Horsfield's bronze cuckoo	Chrysococcyx basalis	
Cuculidae	fan-tailed cuckoo	Cacomantis flabelliformis	
Strigidae	southern boobook	Ninox novaeseelandiae	_
Tytonidae	masked owl	Tyto novaehollandiae	e S4-4
Family	Common name	Scientific name	Status

Podargidae	tawny frogmouth	Podargus strigoides	
Apodidae	white-throated needletail	Hirundapus caudacutus	J.C.M.
Halcyonidae	laughing kookaburra	Dacelo novaeguineae	i
Alaudidae	skylark	Alauda arvensis	i B.
Hirundinidae	welcome swallow	Hirundo neoxena	B.
Hirundinidae	tree martin	Hirundo nigricans	
Motacillidae	Richard's pipit	Anthus novaeseelandiae	Probably breeds
Campephagidae	black-faced cuckoo-shrike	Coracina novaehollandiae	
Petroicidae	scarlet robin	Petroica multicolor	
Petroicidae	flame robin	Petroica phoenicea	
Petroicidae	dusky robin	Melanodryas vittata	
Pachycephalidae	grey shrike-thrush	Colluricincla harmonica	
Dicruridae	grey fantail	Rhipidura fuliginosa	
Muscicapidae	common blackbird	Turdus merula	i
Sylviidae	little grassbird	Megalurus gramineus	B.
Maluridae	superb fairy-wren	Malurus cyaneus	
Meliphagidae	yellow wattlebird	Anthocaera paradoxa	
Meliphagidae	little wattlebird	Anthocaera chrysoptera	
Meliphagidae	noisy miner	Manorina melanocephala	
Meliphagidae	yellow-throated honeyeater	Lichenostomus flavicollis	
Meliphagidae	crescent honeyeater	Phylidonyris pyrrhoptera	
Meliphagidae	New Holland honeyeater	Phylidonyris novaehollandiae	
Meliphagidae	eastern spinebill	Acanthorhynchus tenuirostris	
Meliphagidae	white-fronted chat	Ephthianura albifrons	B.
Pardalotidae	spotted pardalote	Pardalotus punctatus	
Pardalotidae	striated pardalote	Pardalotus striatus	B.
Pardalotidae	striated fieldwren	Calamanthus fuliginosus	Probably breeds
Pardalotidae	brown thornbill	Acanthiza pusilla	
Pardalotidae	yellow-rumped thornbill	Acanthiza chrysorrhoa	B.
Zosteropidae	silvereye	Zosterops lateralis	
Fringillidae	European greenfinch	Carduelis chloris	i
Fringillidae	European goldfinch	Carduelis carduelis	i
Passeridae	house sparrow	Passer domesticus	i
Sturnidae	common starling	Sturnus vulgaris	i B.
Artamidae	dusky woodswallow	Artamus cyanopterus	
Artamidae	grey butcherbird	Cracticus torquatus	
Artamidae	Australian magpie	Gymnorhina tibicen	
Artamidae	grey currawong	Strepera versicolor	
Corvidae	forest raven	Corvus tasmanicus	

(J) JAMBA, (C) CAMBA, (M) migratory, (R) resident, (B) breeds within the site (r) rare, (v) vulnerable, (e) endangered (Tasmanian *Threatened Species Protection Act 1995*) (EN) endangered (Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*)

This is a list of all birds recorded for the site and includes rare and vagrant species. This species list is adapted from: Tasmanian Parks and Wildlife Service (2001) *Draft Pitt Water-Orielton Lagoon Ramsar Site Management Plan*. Tasmanian Parks and Wildlife Service, Hobart.