Western Port

Australia

EAAF NETWORK SITE CODE FOR OFFICE USE ONLY:

E	A	A	F	0	6	6

Site Information Sheet on East Asian-Australasian Flyway Network Sites (SIS) – 2017 version

Available for download from http://www.eaaflyway.net/about/the-flyway/flyway-site-network/

Categories approved by Second Meeting of the Partners of the East Asian-Australasian Flyway Partnership in Beijing, China 13-14 November 2007 - Report (Minutes) Agenda Item 3.13

Notes for compilers:

1. The management body intending to nominate a site for inclusion in the East Asian - Australasian Flyway Site Network is requested to complete a Site Information Sheet. The Site Information Sheet will provide the basic information of the site and detail how the site meets the criteria for inclusion in the Flyway Site Network. When there is a new nomination or an SIS update, the following sections with an asterisk (*), from Questions 1-14 and Question 30, must be filled or updated at least so that it can justify the international importance of the habitat for migratory waterbirds.

2. The Site Information Sheet is based on the Ramsar Information Sheet. If the site proposed for the Flyway Site Network is an existing Ramsar site then the documentation process can be simplified.

3. Once completed, the Site Information Sheet (and accompanying map(s)) should be submitted to the Secretariat. Compilers should provide an electronic (MS Word) copy of the Information Sheet and, where possible, digital versions (e.g. shapefile) of all maps.

1. Name and contact details of the compiler of this form *:

Compiler 1

Full name:

Mark Carey

Institution/agency:

Australian Government Department of the Environment and Energy

Postal Address:

GPO Box 787, Canberra, ACT, 2601

Telephone:

+61 2 6274 1111

Fax:

+61 2 6274 1666

E-mail: (e.g. example@mail.net)

mark.carey@environment.gov.au

Compiler 2

Full name:

Katie Jackson

Institution/agency:

Victorian State Department of Environment, Land, Water, and Planning

Postal Address:

Level 11, 8 Nicholson Street, East Melbourne, VIC, 3002

Telephone:

+61 3 9637 8634

Fax:

n/a

E-mail: (e.g. example@mail.net)

katie.smith@delwp.vic.gov.au

2. Date this sheet was completed *:

DD/MM/YYYY

30/12/2019

3. Country *:

Australia

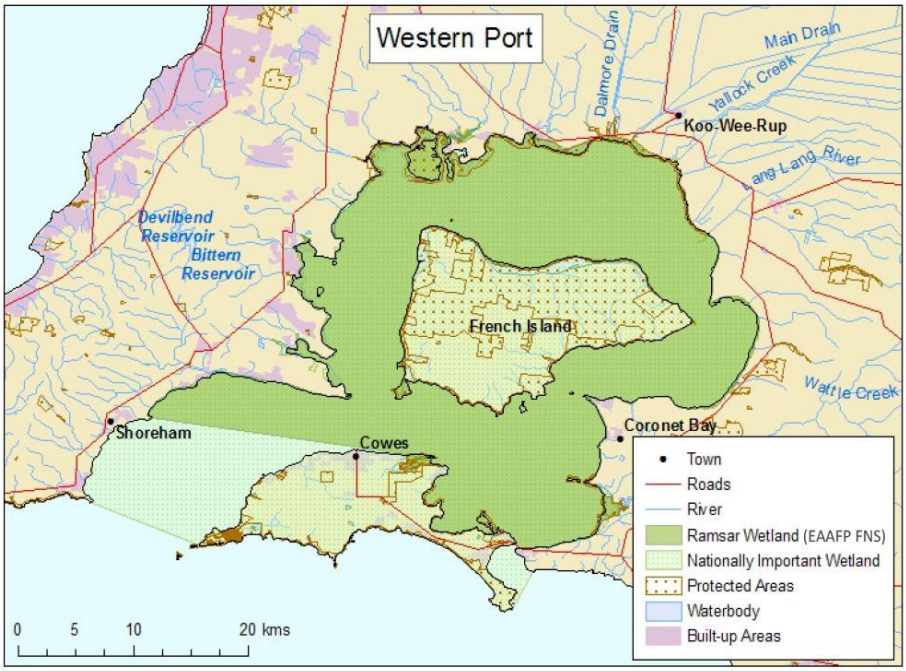
4. Name of the Flyway Network site *:

Accepted English transcription of the Site's name.

Western Port

5. Map of site *:

The most up-to-date available and suitable map of the wetland should also be appended to the SIS (only in digital format and shape file). The map must clearly show the boundary of the site. Please refer to the "Digitising Site Boundaries in Google Earth" file linked here.



6. Geographical coordinates (latitude/longitude, in decimal degrees) *:

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

Latitude: 38º12' to 38º31' S; Longitude: 145º02' to 145º32' E Southern Victoria east of Port Phillip Bay.

The southern boundary of the Ramsar site is delineated by a line running eastwest between Point Leo (145º4`42.71" and -38º25`25.4) and the western boundary of the Phillip Island Nature Park land situated at Observation Point (145º16`0.68" and -38º27`36.6") and between New Haven and San Remo (Kellogg Brown, 2010).

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

Less than 20 metres above sea level.

8. Area *:

The total area of the site, in hectares. If the areas of discrete site units are known, please also list each of these together with the names (or labels) used to identify and differentiate these units.

59,950 ha

9. General overview of the site *:

A brief (two sentences) summary of the site, mentioning principal physical and ecological functions, and its importance for migratory waterbirds.

Western Port is of national zoological significance as a foraging area and high tide roosting site for migratory shorebirds, as well as for its population of the critically endangered Orange-bellied Parrot. It is

of national botanical significance for its extensive saltmarsh communities and has a number of sites of national and international geomorphological significance.

10. Justification of Flyway Site Network criteria *:

Please provide waterbird count information (with year of latest count) that demonstrates that the site meets the criteria of the Flyway Site Network (Annex 1). That is:

- it regularly supports > 20 000 migratory waterbirds; or,
- it regularly supports > 1 % of the individuals in a population of one species or subspecies of migratory waterbird; or,
- it supports appreciable numbers of an endangered or vulnerable population of migratory waterbird
- it is a "staging site" supporting > 5 000 waterbirds, or > 0.25% of a population stage at the site.

A listing of the populations of migratory waterbirds covered by the East Asian – Australasian Flyway Partnership and the 1% thresholds is attached (Annex 3).

The "staging site" criterion is particularly difficult to apply and application of this should be discussed with the Secretariat. Also note that some species have several populations that are very difficult to distinguish in the field.

Western Port Bay is a particularly good example of a natural wetland marine embayment with extensive intertidal flats, mangroves, saltmarsh, seagrass beds within the South East Coastal Plain. Western Port is one of the three most important areas for migratory shorebirds in Victoria. Shorebird surveys indicate that Western Port supports about 10,000 shorebirds (approximately 12% of the Victorian population). Western Port has supported more than 5% of the Victorian population of the Whimbrel *Numenius phaeopus*, Grey-tailed Tattler *Tringa brevipes* and Bar-tailed Godwit *Limosa lapponica* (Australian Nature Conservation Agency 1996). Western Port has also supported internationally significant numbers of several waterfowl species (Australian Nature Conservation Agency 1996).

Data provided by BirdLife Australia and Richard Loyn (Western Port Bird Survey 1973 – 2015) indicate Western Port Ramsar site supports > 20,000 waterbirds in 80 percent of years (annual maximum count).

The Western Port Ramsar Site requlary supports >1% of the population of individuals of 11 listed migratory species (Kellogg Brown 2010):
Musk duck (*Biziura lobata*)
Black Swan (Cynus atratus)
Chestnut Teal (*Anas castanea*)
Eastern curlew (*Numenius madagascariensis*)
Red-necked Stint (*Calidris ruficollis*)
Sharp-tailed Sandpiper (Calidris acuminata)
Curlew Sandpiper (*Calidris ferruginea*)
Pied Oystercatcher (*Haematopus longirostris*)
Double-banded Plover (*Charadrius bicinctus*)
Pacific Gull (*Larus pacificus*)
Australian fairy tern (*Sternula nereis nereis*)

The site regularly supports 4 listed migratory species listed under the EPBC Act and or IUCN Red List:
• Australian fairy tern (*Sternula nereis nereis*) – vulnerable (EPBC Act)
• Bar-tailed godwit (*Limosa lapponica baueri*) –near threatened (IUCN)
• Curlew sandpiper (*Calidris ferruginea*) – critically endangered (EPBC Act) and near threatened (IUCN)
• Eastern curlew (*Numenius madagascariensis*) – critically endangered (EPBC Act) and endangered (IUCN)

11. Wetland Types *:

List the wetland types present (see Annex 2). List the wetland types in order of their area in the Flyway Network site, starting with the wetland type with the largest area.

Western Port supports four wetland types (Hale, 2016):

G- intertidal mud, sand or salt flats (27,000 Ha)
B- Marine subtidal aquatic beds (underwater vegetation) (15,000 Ha)
H- intertidal marshes (1,144 Ha)
I- intertidal forested wetlands (1,700 Ha)

12. Jurisdiction *:

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

Government of Victoria, Port Phillip and Westernport Catchment Management Authority

13. 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 and the title and/or name and email address/phone number of the person or persons in this office with direct responsibility for managing the wetland.

Managed by Parks Victoria - 59,204 ha (99.8%)
Natural Resources and Environment - 50 ha (0.1%)
Private Freehold - 43 ha (0.1%)

Contact details:

DELWP, 8 Nicholson Street, East Melbourne VIC 3104, contact: 136 186

Parks Victoria, Level 10, 535 Bourke Street, Melbourne VIC 3000, contact: info-@parks.vic.gov.au

Department of Defence, 1st Floor, 661 Bourke Street, Melbourne VIC 3001, contact: DCO.Melbourne@defence.gov.au

Phillip Island Nature Park, P.O. Box 97, Cowes VIC 3922, contact: info@penguins.org.au

Victorian Regional Channels Authority, East 1E, 13-35 Mackey Street, North Geelong VIC 3215, contact: admin@vrca.vic.gov.au

14. Bibliographical references *:

A list of key technical references relevant to the wetland, including management plans, major scientific reports, and bibliographies, if such exist. Please list Web site addresses dedicated to the site or which prominently feature the site, and include the date that the Web site was most recently updated. When a large body of published material is available about the site, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies.

Andrew, D.L., Lumsden, L.F. and Dixon, J.M. (1984). Sites of Zoological Significance in the Western Port Region. ESS No. 327, Department of Conservation, Forests and Lands, Victoria.

Department of Environment, Land, Water and Planning (2017). Western Port Ramsar Site Management Plan. Department of Environment, Land, Water and Planning, East Melbourne.

Gaughwin, D. (1981). Sites of Archaeological Significance in the Western Port Catchment. Vol. I. Report. ESS No. 367, Ministry for Conservation, Victoria.

Hale, J (2016). Ecological Character Description Addendum – Western Port Ramsar Site. Department of Environment, Land, Water and Planning. East Melbourne.

Kellogg Brown & Root, 2010, Western Port Ramsar Wetland Ecological Character Description. Report for Department of Sustainability, Environment, Water, Population and Communities, Canberra.

Loyn, R. (1975). Report on the avifauna of Western Port Bay. Ministry for Conservation, Victoria.

Opie, A. M., P. K. Gullan, S. C. van Berkel and H. van Rees. (1984). Sites of Botanical Significance in the Western Port Region. ESS No. 328, Department of Conservation, Forest and Lands, Victoria.

Rosengren, N. J. (1984). Sites of Geological and Geomorphological Significance in the Western Port Bay Catchment. ESS No. 341, Department of Conservation, Forests and Lands, Victoria.

Shapiro, M. A. (1975). Western Port Bay Environmental Study 1973-1974. ESS No. 502, Ministry for Conservation, Victoria.

15. 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.

Western Port is a large bay off Bass Strait in Southern Victoria, surrounding French Island and incorporating 270 km^2 of tidal mudflats.

Six rivers from the north and east of the catchment flow into the northern and eastern shores of Western Port and several minor rivers and creeks on the eastern slopes of the Mornington Peninsula drain into the western shores. The streams are (from west to east) Cardinia Creek, Toomuc Creek, Bunyip River, Tarago River, Lang Lang River and Bass River.

The Bay has a roughly annular water area surrounding French Island and two entrances which are substantially closed off from the sea by Phillip Island. A proportion of the water mass is circulated in a clockwise direction around French Island. In addition, some water, after completing a circuit around French Island, may recycle around the island again. Thus, some of the material entering the Bay waters may be retained for a considerable time before entering the open ocean. Because of this, biological systems, especially the supply of oxygen, are probably more delicately poised than in other bays, for example Port Phillip.

There are 2 sites of international geological/geomorphological significance, 3 of national significance, 27 of state significance, 19 of regional significance and 6 of local significance.

Sites of International Geological/Geomorphological Significance
Pioneer Bay - Quaternary Stratigraphy
This is the best documented and dated site in the Western Port region to contribute to an understanding of late Quaternary sea level changes. It therefore constitutes a site of international significance as part of the growing network of such localities on the Australian coast. These sites are of interest to Quaternary scientists attempting to elucidate the nature of sea level change on different continents.

Western Port - Tidal Watershed
This is a major tidal divide system. It is one of the most intensively investigated tidal watershed systems on the Australian coast and is of a size and complexity that warrants inclusion on an international register of such features. The dynamics of the area play a critical role in determining the nature of tidal

flow in other parts of the Bay. The sea floor sediments here are of considerable interest for the data they hold concerning the development of the on-shore swamplands, and for the history they record of late Quaternary sea level changes in the northern Bay.

Sites of National Geological/Geomorphological Significance
Bass River Delta and Floodplain
This site includes the point of largest natural sediment influx into the bay and is one of the most closely investigated quaternary sedimentological and geomorphological sites in Western Port. The delta is a feature of considerable complexity and provides opportunity for continuing research into deltaic and intertidal dynamics.

Yallock Creek - Swamp Sediments
The site includes one of the few remnants of the landscape of the great swamp areas that existed to the north-east of Western Port. It illustrates the hydrological and topographical distinctiveness of the area between the Tobin Yallock and Koo-Wee-Rup swamps. The outcrops in the coastal cliffs are of particular interest to display the phases of wetland sediment accumulation.

Lyall Inlet to Bunyip River - Coastline
The area displays the impact of the drainage of the Koo-Wee-Rup Swamp upon the adjacent coast. By comparison with records and maps dating back to 1842 the site provides a major reference point for measuring the rates and nature of coastal change. Comparison may be made with areas such as Watsons Inlet which have been less affected by drainage schemes. The distinctive low cliff between the saltmarsh and the fluvial and swamp deposits (as marked by the abandoned cliff) is an important feature in determining the Holocene sea level history of the Western Port region.

The annual rainfall is about 750 mm.

16. Physical features of the catchment area:

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

Western Port experiences a Mediterranean climate characterised by a dry and warm-to- hot summer and a wet winter-spring. The tidal regime of Western Port Ramsar site is considered an essential element of critical components such as bathymetry, sediment transport and deposition, and habitat. In particular, the tidal regime experienced by the site directly results in the exposure of intertidal mudflats, a significant attraction for migratory shorebirds. In addition, the tidal regime facilitates a number of benefits and services, including commercial shipping, recreational boating and passive recreation. Hydrodynamics and catchment inflows are also considered essential elements of critical processes within the system due to the influence they have on bathymetry and sedimentation. Catchment inflows and water circulation directly influence sediment input, resuspension and deposition. Significant negative consequences may result from changes to these processes. Tides occur twice daily within Western Port, the rise and fall resulting from gravitational interactions of the moon, sun and earth (Kellogg Brown, 2010).

17. Hydrological values:

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

Western Port has a surface area of 68,000 ha and a catchment of 3240 km^2. There are 17 inflowing streams supplying an average discharge of water into the bay of approximately 1100 megalitres a day, small in comparison to its volume.

18. General ecological features:

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

There is an unusually wide variety of habitat types in Western Port, ranging through deep channels, seagrass flats, extensive mangrove thickets and saltmarsh vegetation. Such variety is not common elsewhere in Victoria.

White Mangroves (*Avicennia marina*) line 40% of the coastline. On a world-wide basis the mangrove communities are of considerable interest since, with the exception of Corner Inlet, they are the only large community situated so far from the Equator. Seagrass beds cover some 38% of Western Port, main species are *Zostera muelleri*, *Heterozostera tasmanica* and *Amphibolis antanica*.

Site of National Botanical Significance
Western Port salt marshes are one component of a fairly uniform community found from Port Augusta to Corner Inlet. However, despite this large geographical range (approx. 2,000 km of coast) the salt marsh is restricted to relatively few areas and actually occupies less than 10% of this coastline. The Western Port salt marshes are an important component of the vegetation in this range for a number of reasons:

(1) Extent: Salt marshes extend a kilometre or more from the shoreline in many places (e.g. Quail Island, northern French Island, Tooradin) and occupies a large proportion of the coast of Western Port.

(2) It is floristically rich: Although salt marsh is floristically poor when compared to most other communities, the Western Port salt marsh is richer than most other salt marshes on the southern coast. For example, there are extensive expanses of salt marsh in Corner Inlet, Victoria, which support only *Arthrocnemum* and *Sarcocornia*, whereas most *Arthrocnemum* dominated vegetation in Western Port supports six or more species.

(3) It is relatively undisturbed: A good deal of the salt marsh around Spencer Gulf in South Australia has suffered from the heavy industrialization in that area. Similarly, salt marsh on the Victorian coast west of Melbourne, particularly that on the western shores of Port Phillip Bay, has been disturbed by industry and heavy grazing, and often supports a significant weed flora. The Western Port salt marsh, however, does not have a serious weed problem nor does it appear to have suffered greatly from grazing or heavy industry.

Thus, Western Port can be said to support one of the most significant stands of salt marsh in south-eastern Australia, and thus can be of national significance.

19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy 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 SIS.*

(Please add here the species which do not come under sec no 14)

Threatened Species Rare in Victoria:
Creeping Rush *(Jancus revolutus*)
Tiny Arrow Grass (*Triglochin minutissimum*)
Coast Ballart (*Exocarpos syticola*)

Vulnerable in Victoria:
Coastal saltmarsh – Vulnerable ecological community
Dense Leek-orchid (*Prasophyllum spicatum*)

Marsh Saltbush (*Atriplex paludosa* subsp. *paludosa*)
Salt Lawrencia (*Lawrencia spicata*)

20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 10. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the SIS.*

(Please add here the species which do not come under sec no 14)

The Bay provides habitat for numerous species listed in the Japan-Australia Migratory Birds Agreement (JAMBA), the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA) and the China-Australia Migratory Birds Agreement (CAMBA).

Western Port is one of the three most important areas for shorebirds in Victoria. Shorebird surveys indicate that Western Port supports about 10,000 shorebirds (approx. 12 per cent of the Victorian population). A total of 16,000 were recorded in 1974-75 (Loyn, 1975). It is estimated that Western Port periodically supports in excess of 10,000 ducks and Black Swans (*Cygnus atratus)*.

There are 5 sites of national zoological significance, 4 of state significance and 2 of regional significance.

Sites of National Zoological Significance

Primary Foraging Area of shorebirds in Western Port

Western Port is one of the three most important areas for migratory shorebirds in Victoria with respect to total numbers and density. A recent survey of the Victorian coast showed that Western Port supported 12.3% of the overall number of shorebirds recorded.

Thirty-seven species of shorebirds, five of which are vagrants have been recorded in Western Port. Ten species, including the Far Eastern Curlew, Whimbrel, Bar-tailed Godwit, Grey-tailed Tattler, Common Greenshank and Terek Sandpiper occur in some of their highest numbers in Western Port. The Bay is also a stronghold for the Whimbrel population in Victoria. This site includes the most important feeding areas of migratory shorebird in the bay and also some of the important roosting areas such as Tortoise Head, Rams Island, Barrallier Island, Rhyll Inlet, Blue Gum Point, Bunyip River, Long Island, Stockyard Point and Fairhaven. The rare and endangered Orange-bellied Parrot has been recorded from Barrallier Island.

Yallock Creek Mouth

Yallock Creek is a major high tide roost for migratory shorebird. It is important for the Common Greenshank, Curlew Sandpiper, Red-necked Stint, Sharp-tailed Sandpiper, Far Eastern Curlew and Masked Lapwing.

Settlement Road

This area is one of the few sites in Western Port where the critically endangered Orange-bellied Parrot has been recorded. The shore here is a major high tide roost for migratory shorebirds such as the Double-banded Plover, Curlew Sandpiper, Far Eastern Curlew, Red-necked Stint and Red Knot.

Reef Island

Reef Island is an important high tide roost for migratory shorebirds and other waterbirds. Species which regularly use this roost include the Red-necked Stint, Curlew Sandpiper, Red-capped Plover, Ruddy Turnstone and Double-banded Plover.

French Island

The main body of French Island is not included within the Ramsar boundary; however the shores of the island can be considered to be part of the wetland area and these do contribute to the listing as

nationally significant. The extensive saltmarsh areas provide valuable breeding sites for waterfowl, particularly the Australian Shelduck which in the catchment breeds almost exclusively on the northern and western coasts of the island, and the Chestnut Teal and Black Swan. One of only two regularly active Australian Pelican colonies in Victoria is in the saltmarsh on the north of the island.

Tortoise Head, on the south-western corner of the island, is one of the two most important roosts in Western Port and is the most important roost for Lesser Sand Plovers and Far Eastern Curlews. It is the site of a breeding colony of Short-tailed Shearwaters and Caspian and Fairy Terns also breed here.

Rams Island off the southern coast is an important breeding site of the Fairy Tern (vulnerable) in Victoria and is also used for breeding by Caspian Terns and Pied Oystercatchers. It is one of the most important roosting sites of shorebirds, used by Bar-tailed Godwits and Whimbrels and also three less abundant species, the Ruddy Turnstone, Lesser Sand and Greater Sand Plovers.

Elizabeth Bluff (Red Bluff), a headland on the southern coast is the only site in Western Port where the White-bellied Sea-Eagle is known to breed.

Barrallier Island, off the north western corner of French Island, is a large high tide roost where some of the highest numbers of waders for the bay, including rare species such as the Grey-tailed Tattler and Terek Sandpiper have been observed.

There are four sites of State zoological significance.

Sites of State Zoological Significance

Yaringa

This site includes native vegetation including saltmarsh and mangrove communities on the north western shore of Western Port. This is one of the few sites in the state where the New Holland Mouse has been recorded. The Southern Emu-wren, a threatened species, is locally common on the saltmarshes of this site.

Secondary Foraging Areas of Waders in Western Port

The mudflats of Hanns Inlet provide important feeding areas for the Royal Spoonbill. Those in Watsons Inlet and off the north coast of French Island are used by the Great Egret. Both species utilise mudflats in Hastings Bight and those off the north coast of French Island also provide valuable feeding areas for the Black Swan. All the intertidal mudflats included in the site provide feeding areas for the thirty-two species of migratory shorebirds which are regularly recorded from Western Port, although they may be used at lower feeding intensities or when inclement conditions restrict feeding in primary feeding areas.

Tooradin

The Mourning Skink, a species which is generally regarded as uncommon and has restricted habitat preferences has been found in high densities at this site. Many species of waterbirds roost in the saltmarshes and mangroves during high tide. The Australasian Bittern, a species which has declined in abundance since settlement is also known from this area.

Bass River Mouth

The Orange-bellied Parrot has been observed in the saltmarshes opposite Reef Island. The saltmarshes are also important for many other birds such as the Black Swan, Chestnut Teal, Australian Shelduck, Little Grassbird and Golden-headed Cisticola.

The invertebrate fauna is extremely rich and diverse, with 1,381 species recorded from 23 major groups. The invertebrate fauna of Western Port Bay contains three to four times the total number of species present in Port Phillip Bay and includes the majority of the species which occur in that bay.

The members of the amphipod family Phoxocephalidae found in the Bay exhibit a striking example of adaptive radiation of species in the marine environment. This is of considerable scientific interest.
The bay is an important nursery area for many fish.

21. Social, economic and cultural values:

a) Describe if the site has any general social, economic 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 Western Port site has three Marine National Parks within its boundaries as well as French Island National Park. Western Port Ramsar Site and adjoining areas and its surrounds have also been designated as a Biosphere Reserve under the UNESCO's Man and the Biosphere program. The site contains the commercial Port of Hastings that services around 75 ships per year and contributes around $67 million annually to the region's economy (DELWP, 2017). The site is an important source of recreational activities like fishing, sailing, boating, bird watching, and tourism (i.e. Phillip Island Penguin Parade and Koala Conservation Centre). Additionally, it is within the traditional lands of the Boonwurrung, who maintain strong connections to the land and waters and a number of sites of archaeological significance have been identified around the bay. The site supports 12 Aboriginal archaeological sites listed on the Victorian Aboriginal Heritage Register and Churchill Island, within Western Port, which is the site of Victoria's first settlement (the first planting of European crops and the earliest known substantial building) (Kellogg Brown, 2010).

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? (Double-click the checkbox to check and choose "Checked" under "Default Value" from "Check Box Form Field Options" window)

Yes, this site is a Ramsar listed wetland and also holds significant cultural values.

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:

22. Land tenure/ownership:

a) Within the Flyway Network site:

The land tenure/ownership is as follows (DELWP, 2017):

-Yaringa, French Island and Churchill Island Marine National Parks (Marine National Park, Parks Victoria)
-Waters and Sea bed (Unreserved Crown Land, DELWP)
-Waters Recreation and Navigation (Parks Victoria)
-Port Waters of the Port of Hastings – commercial shipping channels (Victorian Channel Authority managed by Patrick Ports Hastings)
-150 metres seawards of high-water mark around French Island (French Island National Park, Parks Victoria)
-Hanns Inlet (Declared naval waters, Department of Defence)
-Shoreline near Somers (Coastal Reserve/Public Purpose Reserves, Parks Victoria/DELWP/Point Leo Foreshore and Public Park Reserves Inc/Merricks Beach Foreshore Reserve Committee of Management/Balnarring Beach Foreshore and Parks Reserve Committee of Management Inc.)

-Shoreline from Stony Point to Jacks Beach (Coastal Reserve, Crib Point Stony Point Committee of Management)
-Bittern Coastal Wetlands (Coastal Reserve, Mornington Peninsula Shire Council)
-Jacks Beach to Hastings (Unreserved Crown Land, Mornington Peninsula Shire Council)
-Hastings Foreshore Reserve (Coastal Reserve, Mornington Peninsula Shire Council)
-Shoreline from east of Tyabb to Tooradin (Coastal Reserve/Nature Conservation Reserve, Parks Victoria/Mornington Peninsula Shire Council/Warneet Foreshore Reserve Committee of Management/Cannons Creek Foreshore/Reserve Committee of Management)
-Blind Bight Foreshore Reserve (Coastal Reserve, Casey City Council/Tooradin Foreshore Reserve Committee of Management)
-North-eastern Shoreline (Coastal Reserve/Nature Conservation Reserve, Parks Victoria)
-Shoreline near Corinella (Coastal Reserve, Corinella Foreshore Committee of Management)
-Shoreline near Bass River (Nature Conservation Reserve/Coastal Reserve, Parks Victoria/San Remo Foreshore Committee of Management Inc.)
-Churchill Island (Nature Park, Phillip Island Nature Parks)
-Shoreline near Rhyll (Coastal Reserve/Nature Park, Parks Victoria/Phillip Island Nature Parks)
-Elizabeth & Sandstone Islands (Freehold, Private)
-Waters adjacent to the northern shore of French Island National Park (French Island Marine National Park, Parks Victoria)
-South of Rhyll, on the eastern shore of Phillip Island (Churchill Island Marine National Park, Parks Victoria)

b) In the surrounding area:

N/A

23. Current land (including water) use:

a) Within the Flyway Network site:

Port facilities and ship movement, recreation, native conservation, commercial fishing, source of coolant for industry and receiving water for wastes.

b) In the surroundings/catchment:

Grazing, market gardening, industry and urban development.

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 Flyway Network site:

Factors affecting ecological character at selected locations within the Ramsar site include:

- long term changes in the catchment including clearing of indigenous vegetation (particularly in the lower catchment) and construction of drains and channels leading to erosion and siltation.
- impacts on intertidal areas due vehicle access and grazing of stock (leading to compaction of soil and damage to vegetation), rubbish dumping, construction of levee banks and drains and presence of *Spartina* at the mouth of the Bass River which has the potential to cover large intertidal areas.
- the risk of oil spills associated with port development and shipping.
- dredging and dredge spoil disposal.

Priority threats:

- Invasive species: Cord grass (*Spartina* spp.), new and emerging salt-tolerant weeds, foxes and cats predating on shorebirds and beach nesting birds, introduced marine pests (current and potential new invasions), pigs, goats, rabbits in intertidal areas
- Climate change: sea level rise, increased frequency and intensity of storms leading to shoreline erosion and sediments.
- Recreation: Vehicles in the intertidal zone, disturbance of shorebirds and beach nesting birds, recreational fishing
- Nutrients, sediments, and toxicants from rural, urban, and agricultural areas.

- Urban, commercial and industrial development (direct habitat removal and associated impacts)

b) In the surrounding area:

N/A

25. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Flyway Network 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.

UNESCO Biosphere Reserve
Marine National Parks (Yaringa, French Island and Churchill Islands Marine National Parks)
Important Bird Area (Western Port)

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate, see Annex 3):

Ia ; Ib ; II ; III ; IV ; V ; VI ; N/A

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

Western Port Ramsar Site Management Plan: https://www.water.vic.gov.au/waterways-and-catchments/rivers-estuaries-and-waterways/wetlands/significant-wetlands

If yes, is it being implemented?: If no, is one being planned?

Yes

d) Describe any other current management practices:

Port Phillip & Western Port Regional Catchment Strategy
Healthy Waterways Strategy (2018-2028)

26. Conservation measures proposed but not yet implemented:

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

N/A

27. Current scientific research and facilities:

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

N/A

28. 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.

The site has various education and public awareness communications activities like The Two Bays project, Western Port Welcomes Waterbirds, Dolphin Research Institute, Western Seagrass Partnership, Project BIRDS, Ranger Roo, Indigenous Wetland Wardens (Kellogg Brown, 2010)

29. Current recreation and tourism:

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

Western Port has a very high recreational fishing and boating values and is a significant tourist site.

30. Threats *:

Which of the following threats is present historically – when the threat stopped but the effects are still there (H), currently (C) or potentially (P)?

	Historically	Currently	Potentially
Residential and commercial development			
housing and urban areas			
commercial and industrial areas			
tourism and recreation areas			
Agriculture and aquaculture			
annual and perennial non-timber crops			
wood and pulp plantations			
livestock farming and ranching			
marine and freshwater aquaculture			
Energy production and mining			
oil and gas drilling			
mining and quarrying			
renewable energy			
Transportation and service corridors			
roads and railroads			
utility and service lines			
shipping lanes			
flight paths			
Biological resource use			
hunting and collecting terrestrial animals			
gathering terrestrial plants			
logging and wood harvesting			

fishing and harvesting aquatic resources

Human intrusions and disturbance

recreational activities

war, civil unrest and military exercises

work and other activities

Natural system modifications

fire and fire suppression

dams and water management/use

other ecosystem modifications

Invasive and other problematic species and genes

invasive non-native/alien species

problematic native species

introduced genetic material

Pollution

household sewage and urban waste water

industrial and military effluents

agricultural and forestry effluents

garbage and solid waste

air-borne pollutants

excess energy

Geological events

volcanoes

earthquakes/tsunamis

avalanches/landslides

Climate change and severe weather

habitat shifting and alteration

droughts

temperature extremes

storms and flooding

Please write here any additional threats and comments/queries you have on the threats.

N/A

Annex 1: Criteria for the inclusion of sites in the Flyway Site Network

(From the Partnership Text)

To be considered for inclusion in the Flyway Site Network, this Partnership adopts the following criteria:

a. Convention on Wetlands (Ramsar, Iran, 1971) criteria for internationally important sites for migratory waterbirds. That is:

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

   Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.

   Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

b. The staging criteria as applied under the Asia - Pacific Migratory Waterbird Conservation Strategy. That is:

   i. A staging site should be considered internationally important if it regularly supports 0.25% of individuals in a population of one species or subspecies of waterbirds on migration.

   ii. A staging site should be considered internationally important if it regularly supports 5,000 or more waterbirds at one time during migration.

c. Under exceptional circumstances a site can be nominated if it supports migratory waterbirds at a level or stage of their life cycle important to the maintenance of flyway populations. Justification of such nominations will be considered by the Partnership on a case by case basis.

Annex 2: Ramsar Classification System for Wetland Type

The codes are based upon the Ramsar Classification System for Wetland Type as approved by Recommendation 4.7 and amended by Resolutions VI.5 and VII.11 of the Conference of the Contracting Parties. The categories listed herein are intended to provide only a very broad framework to aid rapid identification of the main wetland habitats represented at each site.

To assist in identification of the correct Wetland Types to list in section 19 of the RIS, the Secretariat has provided below tabulations for Marine/Coastal Wetlands and Inland Wetlands of some of the characteristics of each Wetland Type.

Marine/Coastal Wetlands

A -- **Permanent shallow marine waters** in most cases less than six metres deep at low tide; includes sea bays and straits.

B -- **Marine subtidal aquatic beds**; includes kelp beds, sea-grass beds, tropical marine meadows.

C -- **Coral reefs**.

D -- **Rocky marine shores**; includes rocky offshore islands, sea cliffs.

E -- **Sand, shingle or pebble shores**; includes sand bars, spits and sandy islets; includes dune systems and humid dune slacks.

F -- **Estuarine waters**; permanent water of estuaries and estuarine systems of deltas.

G -- **Intertidal mud, sand or salt flats**.

H -- **Intertidal marshes**; includes salt marshes, salt meadows, saltings, raised salt marshes; includes tidal brackish and freshwater marshes.

I -- **Intertidal forested wetlands**; includes mangrove swamps, nipah swamps and tidal freshwater swamp forests.

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.

Zk(a) – **Karst and other subterranean hydrological systems**, marine/coastal

Inland Wetlands

L -- **Permanent inland deltas**.

M -- **Permanent rivers/streams/creeks**; includes waterfalls.

N -- **Seasonal/intermittent/irregular rivers/streams/creeks**.

O -- **Permanent freshwater lakes** (over 8 ha); includes large oxbow lakes.

P -- **Seasonal/intermittent freshwater lakes** (over 8 ha); includes floodplain lakes.

Q -- **Permanent saline/brackish/alkaline lakes**.

R -- **Seasonal/intermittent saline/brackish/alkaline lakes and flats**.

Sp -- **Permanent saline/brackish/alkaline marshes/pools**.

Ss -- **Seasonal/intermittent saline/brackish/alkaline marshes/pools**.

Tp -- **Permanent freshwater marshes/pools**; ponds (below 8 ha), marshes and swamps on inorganic soils; with emergent vegetation water-logged for at least most of the growing season.

Ts -- **Seasonal/intermittent freshwater marshes/pools on inorganic soils**; includes sloughs, potholes, seasonally flooded meadows, sedge marshes.

U -- **Non-forested peatlands**; includes shrub or open bogs, swamps, fens.

Va -- **Alpine wetlands**; includes alpine meadows, temporary waters from snowmelt.

Vt -- **Tundra wetlands**; includes tundra pools, temporary waters from snowmelt.

W -- **Shrub-dominated wetlands**; shrub swamps, shrub-dominated freshwater marshes, shrub carr, alder thicket on inorganic soils.

Xf -- **Freshwater, tree-dominated wetlands**; includes freshwater swamp forests, seasonally flooded forests, wooded swamps on inorganic soils.

Xp -- **Forested peatlands**; peatswamp forests.

Y -- **Freshwater springs; oases**.

Zg -- **Geothermal wetlands**

Zk(b) – **Karst and other subterranean hydrological systems**, inland

Note: "**floodplain**" is a broad term used to refer to one or more wetland types, which may include examples from the R, Ss, Ts, W, Xf, Xp, or other wetland types. Some examples of floodplain wetlands are seasonally inundated grassland (including natural wet meadows), shrublands, woodlands and forests. Floodplain wetlands are not listed as a specific wetland type herein.

Human-made wetlands

1 -- **Aquaculture** (e.g., fish/shrimp) **ponds**

2 -- **Ponds**; includes farm ponds, stock ponds, small tanks; (generally below 8 ha).

3 -- **Irrigated land**; includes irrigation channels and rice fields.

4 -- **Seasonally flooded agricultural land** (including intensively managed or grazed wet meadow or pasture).

5 -- **Salt exploitation sites**; salt pans, salines, etc.

6 -- **Water storage areas**; reservoirs/barrages/dams/impoundments (generally over 8 ha).

7 -- **Excavations**; gravel/brick/clay pits; borrow pits, mining pools.

8 -- **Wastewater treatment areas**; sewage farms, settling ponds, oxidation basins, etc.

9 -- **Canals and drainage channels, ditches.**

Zk(c) -- **Karst and other subterranean hydrological systems**, human-made

Annex 3: IUCN Protected Areas Categories System

IUCN protected area management categories classify protected areas according to their management objectives. The categories are recognized by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation.

Ia Strict Nature Reserve
Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values.

Ib Wilderness Area
Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

II National Park
Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.

III Natural Monument or Feature
Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.

IV Habitat/Species Management Area
Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.

V Protected Landscape/ Seascape
A protected area where the interaction of people and nature over time has produced an area of distinct charcter with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

VI Protected area with sustainable use of natural resources

Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems.