Ramsar Information Sheet

Update version, previously published on : 1 January 1998

Australia

Corner Inlet

Designation date	15 December 1982
Site number	261
Coordinates	38°44'25"S 146°28'27"E
Area	67 071,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

1.1 - Summary description

Please provide a short descriptive text summarising the key characteristics and internationally important aspects of the site.
You may prefer to complete the four following sections before returning to draft this summary.

Summary

(This field is limited to 2500 characters)

Corner Inlet is a large tide-dominated embayment located adjacent to the southernmost tip of the Australian mainland. The inlet consists of a submerged plain covered by sand or mud flats and extensive seagrass beds, and large sand islands. A radiating system of deeper channels supports efficient tidal exchange over the flats and the areas between the islands. Due to its large area and the diversity of habitats present, the Corner Inlet Ramsar site supports significant populations of a number of aquatic species and communities as well as habitats including:
Extensive seagrass beds, including the most southerly distribution of the seagrass Posidonia australis;
Large areas of coastal saltmarsh and mangrove shrubland;
Significant numbers of waterbirds, including over 30 species listed under international agreements;
Breeding habitats of waterbirds, particularly beach-nesting species; and
A diversity and abundance of fish species, including nursery habitat for recreational and commercially important species.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Janet Holmes
Institution/agency	Department of Environment, Land, Water and Planning
Postal address *(This field is limited to 254 characters)*	8 Nicholson St, East Melbourne, Victoria 3002
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Phone	+61 3 9637 9859
Fax	

Compiler 2

Name	
Institution/agency	
Postal address *(This field is limited to 254 characters)*	
E-mail	
Phone	
Fax	

2.1.2 - Period of collection of data and information used to compile the RIS

From year	1982
To year	2015

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Corner Inlet
Unofficial name (optional)	

2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes ◉ No ○
(Update) The boundary has been delineated more accurately	☑
(Update) The boundary has been extended	☐
(Update) The boundary has been restricted	☐
(Update) B. Changes to Site area	the area has decreased
(Update) The Site area has been calculated more accurately	☐
(Update) The Site has been delineated more accurately	☑
(Update) The Site area has increased because of a boundary extension	☐
(Update) The Site area has decreased because of a boundary restriction	☐

Important note: If the boundary of the designated site is being restricted/reduced, before submitting this updated RIS to the Secretariat the Contracting Party should have followed:
- the requirements in Article 2.5 of the Convention; or
- the procedures established by the Conference of the Parties in the annex to Resolution VIII.20 (2002); or
- where appropriate instead, the procedures in the annex to Resolution IX.6 (2005). Contracting Parties should also have provided to the Secretariat a report on changes prior to the submission of an updated RIS.

2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	No
(Update) Are the changes	Positive ○ Negative ○ Positive & Negative ◉

What extent of the Ramsar site is affected (%)

(Update) Positive %

(Update) Negative %

(Update) No information available ☐

(Update) Optional text box to provide further information

(This field is limited to 2000 characters)

The site was listed as meeting criteria 1, 3, 5, and 6 in the RIS published in 1999. Subsequently In 2011 an ecological character description was compiled for the site. This process included a reconsideration of the criteria with specific reference to more up to date requirements outlined in Ramsar Handbook 14 and more up to date data. It was determined that at the time of listing, the Corner Inlet Ramsar Site would have also met criteria 2, 4 and 8, but did not meet criteria 3.

Further justification for changes and revision for criteria listed is provided as an attachment to section 6.1.2.

Are changes the result of (tick each category which applies):

(Update) Changes resulting from causes operating within the existing boundaries? ☐

(Update) Changes resulting from causes operating beyond the site's boundaries? ☐

(Update) Changes consequent upon site boundary reduction alone (e.g., the exclusion of some wetland types formerly included within the site)? ☐

(Update) Changes consequent upon site boundary increase alone (e.g., the inclusion of different wetland types in the site)? ☐

(Update) Please describe any changes to the ecological character of the Ramsar Site, including in the application of the Criteria, since the previous RIS for the site.

(This field is limited to characters)

(Update) Is the change in ecological character negative, human-induced AND a significant change (above the limit of acceptable change) Yes ○ No ◉

(Update) Has an Article 3.2 report been submitted to the Secretariat? Yes ○ No ◉

2.2 - Site location

2.2.1 - Defining the Site boundaries

a) GIS boundaries *link*

Materials presented on this website, particularly maps and territorial information, are as-is and as-available based on available data and do not imply the expression of any opinion whatsoever on the part of the Secretariat of the Ramsar Convention concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

b) Digital map/image

AU261_map1606.png

Former maps

<no file available>

Boundaries description

(This field is limited to 2500 characters)

The boundary comprises:
- all of the Corner Inlet Marine and Coastal Park, gazetted on 18 April 1986
- all of the Corner Inlet Marine National Park, gazetted on 16 November 2002
- specific parts of Nooramunga Marine and Coastal Park, gazetted on 18 April 1986. The parts selected for inclusion in the Ramsar site are those that have marine influence and are consistent in character with the rest of the Ramsar site.
- crown land parcels adjacent to the above areas that contain the same marine character as those areas (e.g. shoreline subject to tidal influences)

More detailed information on the specific boundary of the site is attached in separate boundary description report at 6.1.2.vi.

Coordinates of the centre of the site, as automatically estimated from the GIS boundaries (for information only)

2.2.2 - General location

a) In which large administrative region does the site lie? Wellington and South Gippsland Shires

b) What is the nearest town or population centre? Foster, Port Albert

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes ○ No ◉

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes ○ No ◉

c) Is the site part of a formal transboundary designation with another Contracting Party? Yes ○ No ◉

d) Transboundary Ramsar Site name:

2.2.4 - Area of the Site

If you have not established an official area by other means, you can copy the area calculated from the GIS boundaries into the 'official area' box.

Official area, in hectares (ha): 67071

Area, in hectares (ha) as calculated from GIS boundaries: 67071.513

2.2.5 - Biogeography

Please provide the biogeographic region(s) encompassing the site and the biogeographic regionalization scheme applied:

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Southeast Australian Shelf

Other biogeographic regionalisation scheme

(This field is limited to 2500 characters)

Integrated Marine and Coastal Regionalisation of Australia (IMCRA) 4.0 - Corner Inlet is located in the Southeast IMCRA Transition Provincial Bioregion.

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

Tick the box against each criterion applied to the designation of the Ramsar Site. All criteria which apply should be ticked.
Please explain why you selected a criterion by filling in the relevant fields on this page, on the three other pages of this section 'Criteria & justification' and on the 'Wetland types' page of the section 'What is the site like?'. More guidance on how to justify a criterion will appear when you tick it as well as in the help box.

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

To justify this Criterion, please select at least one wetland type as representative, rare or unique in the section What is the site like? > Wetland types and provide further details in at least one of the three boxes below.

Hydrological services provided *(This field is limited to 3000 characters)*	Corner Inlet plays a substantial hydrological role in the natural functioning of a major coastal system through its protection from oceanic swells providing habitat for wetland development, receiving and channeling the flow of rivers and creeks within the South Gippsland Basin.
Other ecosystem services provided *(This field is limited to 3000 characters)*	
Other reasons *(This field is limited to 3000 characters)*	Corner Inlet is an example of a near natural wetland which continues to function in what is considered an almost natural way. Corner Inlet contains good representatives of Ramsar wetland types: B (marine sub-tidal aquatic beds); G (intertidal mud, sand or salt flats); H (intertidal marshes) and I (intertidal forested wetlands). The site contains extensive intertidal mud and sand flats that are likely to represent the most extensive in the bioregion (BMT WBM 2011, Appendix B) and the saltmarsh (wetland type H) and mangrove (wetland type I) habitats are considered to be in good condition (Boon et al. 2011). The site supports extensive Posidonia beds, which are among the largest in the bioregion.

☑ Criterion 2 : Rare species and threatened ecological communities

Justification,see: - relevant plant species in the section Criteria & justification> Plant species (3.2) - relevant animal species in the section Criteria & justification> Animal species (3.3) - relevant ecological communities in the section Criteria & justification> Ecological communities (3.4)

Optional text box to provide further information *(This field is limited to 3000 characters)*	The site was identified as meeting this criterion in 2011 when the ECD was compiled. The ECD process included a reconsideration of the criteria with specific reference to more up to date requirements outlined in Ramsar Handbook 14 and more up to date data. The Corner Inlet Ramsar Site supports seven species of threatened palaearctic migratory waders and the hooded plover as well as the Australian Grayling. There is insufficient evidence (due to insufficient recent counts) to determine if the Australian Fairy Tern continues to be regularly supported over the period since listing in 1982. Orange-bellied parrot and the growling grass frog are not considered to have met Criterion 2 at the time of listing or to meet it now as they are not regularly supported (recorded in two thirds of seasons) at the Ramsar site. The site also supports Thelymitra epipactoides (Metallic Sun-orchid) which is listed as Endangered in Australia (under the Environment Protection and Biodiversity Conservation Act) and also listed as engendered under the CITES.

☐ Criterion 3 : Biological diversity

Justification,see: - relevant plant species in the section Criteria & justification> Plant species (3.2) - relevant animal species in the section Criteria & justification> Animal species (3.3)

Justification
(This field is limited to 3000 characters)

☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions

Justification,see: - relevant plant species in the section Criteria & justification> Plant species (3.2) - relevant animal species in the section Criteria & justification> Animal species (3.3) and explain the life cycle stage or nature of adverse conditions in the accompanying 'justification' box.

Optional text box to provide further information
(This field is limited to 3000 characters)

The site was identified as meeting this criterion in 2011 when the ECD was compiled. The ECD process included a reconsideration of the criteria with specific reference to more up to date requirements outlined in Ramsar Handbook 14 and more up to date data.

The basic description of this criterion implies a number of common functions/roles that wetlands provide including supporting fauna during migration and breeding. Over 35 waterbirds listed under international migratory agreements have been recorded within the Ramsar site. This number includes species that, in Australia, are residents (e.g. eastern great egret) and vagrant seabirds for which the site does not provide significant habitat (e.g. albatross species). There are 26 species of palaearctic migratory shorebirds, 16 of which are regularly supported (in two thirds of seasons) by the Corner Inlet Ramsar Site. The extensive mudflats and intertidal marshes provide both feeding and high tide roost sites for these species.

In addition, over 20 species of wetland dependent bird species have been recorded breeding within the site. The site is specifically important for beach-nesting species: Australian pied oystercatcher (Haematopus longirostris), Australian fairy tern (Sternula nereis nereis), Caspian tern (Hydroprogne caspia), crested tern (Thalasseus bergii) and hooded plover (Thinornis rubricollis). These species use the beaches and islands within the site annually.

☑ Criterion 5 : >20,000 waterbirds

Justification,see:- the total number of waterbirds and the period of data collection - relevant waterbird species, and if possible their population size, in the section Criteria & justification> Animal species (3.3)

Overall waterbird numbers: 31416

Start year: 1981

End year: 2015

Source of data: Birdlife Australia

Optional text box to provide further information
(This field is limited to 3000 characters)

Average annual maximum shorebird count = 31416
Counts of shorebirds have been consistently > 20,000 every year since 1981, except 2015, when total maximum shorebird count was 19,000 (data from BirdLife Australia). These counts do not include the substantial numbers of other waterbird species that are supported within the site. For example, between 1987 and 1992, when comprehensive counts of waterbirds were undertaken at the site, there were between 5000 and 10,000 non-wader species, including substantial numbers of black swan (Cygnus atratus) and chestnut teal (Anas castanea).

☑ Criterion 6 : >1% waterbird population

Justification,see:Criteria & justification> Animal species (3.3)

Optional text box to provide further information
(This field is limited to 3000 characters)

☐ Criterion 7 : Significant and representative fish

Justification,see:Criteria & justification> Animal species (3.3)

Justification
(This field is limited to 3000 characters)

☑ Criterion 8 : Fish spawning grounds, etc.

To justify this Criterion, please give information in the box below. Completion of details on relevant fish species in the section Criteria & justification> Animal species (3.3) is optional.

Justification
(This field is limited to 3000 characters)

The site was identified as meeting this criterion in 2011 when the ECD was compiled. The ECD process included a reconsideration of the criteria with specific reference to more up to date requirements outlined in Ramsar Handbook 14 and more up to date data.

Corner Inlet provides important habitats, feeding areas, dispersal and migratory pathways, and spawning sites for numerous fish species of direct and indirect fisheries significance. These fish have important fisheries resource values both within and external to the site.
Key fish species of significance include King George whiting (Sillaginodes punctatus), blueweed whiting (Haletta semifasciata), Australian salmon (Arripis spp.), greenback flounder (Rhombosolea tapirina), Southern garfish (Hyporhamphus melanochir), yelloweye mullet (Aldrichetta forsteri), silver trevally (Pseudocaranx dentex), black bream (Acanthopagrus butcheri), sand flathead (Platycephalus bassensis), dusky flathead (Platycephalus fuscus), rock flathead (Leviprora laevigatus), leatherjackets (several species), Snook (Sphyraena novaehollandiae) and gummy shark (Mustelus antarcticus). Other significant species include calamari and arrow squid, whereas the sand crab fishery is highly variable and largely opportunistic (BMT WBM 2011).
Important fisheries species commonly found within the Ramsar site are not found exclusively in any one habitat type during any part of their life-cycle. Rather, these species have relatively plastic habitat requirements, and are typically found in a variety of habitat types. Many species spend their juvenile stages in shallow protected waters, particularly around seagrass and mangroves, whereas most species tend to spawn in coastal and marine waters. Adults of most species tend to utilise a variety of habitats in the site. Corner Inlet is recognized as an important pupping area for school shark (Galeorhinus galeus). Dusky flathead (Platycephalus fuscus) and river garfish (Hyporhamphus regularis) spawn in estuaries near seagrass and/or shoals and black bream (Acanthopagrus butcheri) is thought to spawn in upper estuaries near the fresh and brackish water interface.

☐ Criterion 9 : >1% non-avian animal population

To justify this Criterion, please give details on relevant non-avian species and their population size in the section Criteria & justification> Animal species (3.3)

Optional text box to provide further information
(This field is limited to 3000 characters)

3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Thelymitra epipactoides	metalic sun orhid	☑	☐	☐		☑	EN - CITES	EPBC Act - endangered

Optional text box to provide further information on plant species of international importance:

(This field is limited to 3000 characters)

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
Birds																		
CHORDATA/ AVES	*Anas castanea*	Chestnut Teal	☐	☐	☑	☐	☐	☐	☐	☐	1083	1981-2015	1.1	LC	☐	☐		endemic to SE and SW Australia. population is >1% of SE Australia biogeographic population
CHORDATA/ AVES	*Arenaria interpres*	Ruddy Turnstone	☐	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐		Foraging and roosting for international migrant
CHORDATA/ AVES	*Calidris acuminata*	Sharp-tailed Sandpiper	☐	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐		Foraging and roosting for international migrant
CHORDATA/ AVES	*Calidris alba*	Sanderling	☐	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐		Foraging and roosting for international migrant
CHORDATA/ AVES	*Calidris canutus*	Red Knot	☑	☑	☑	☐	☐	☑	☐	☐	2421	1981-2015	2.2	NT	☐	☐	National (EPBC) - Endangered	Foraging and roosting for international migrant within EAAF. Supports >2% of piersmai and rogersi biogeographic regional populations.
CHORDATA/ AVES	*Calidris ferruginea*	Curlew Sandpiper	☑	☑	☑	☐	☐	☑	☐	☐	2030	1981-2015	1.5	NT	☐	☐	National (EPBC) - Critically endangered	Foraging and roosting for international migrant within EAAF. Supports 1.5% of E, SE Asia & Australia (non-bre) biogeographic population.
CHORDATA/ AVES	*Calidris ruficollis*	Red-necked Stint	☐	☑	☑	☐	☐	☑	☐	☐	14414	1981-2015	4.6	NT	☐	☐		Foraging and roosting for international migrant within EAAF. Supports >4% of NE Siberia (bre) biogeographic population
CHORDATA/ AVES	*Calidris tenuirostris*	Great Knot	☑	☑	☐	☐	☐	☑	☐	☐				EN	☐	☐	National (EPBC) - Critically endangered	Foraging and roosting for international migrant
CHORDATA/ AVES	*Charadrius bicinctus*	Double-banded Plover	☐	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐		Foraging and roosting for international migrant
CHORDATA/ AVES	*Charadrius leschenaultii*	Greater Sand Plover; Greater Sand-Plover	☑	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐	National (EPBC) - Vulnerable	Foraging and roosting for international migrant
CHORDATA/ AVES	*Charadrius mongolus*	Lesser Sand Plover; Lesser Sand-Plover	☑	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐	National (EPBC) - Vulnerable	Foraging and roosting for international migrant
CHORDATA/ AVES	*Haematopus fuliginosus*	Sooty Oystercatcher	☐	☑	☑	☐	☐	☑	☐	☐	304	1981-2015	7.6	LC	☐	☐		Breeds regularly in the site. Supports >7% of fuliginosus biogeographic population (S Australia)
CHORDATA/ AVES	*Haematopus longirostris*	Pied Oystercatcher	☐	☑	☑	☐	☐	☑	☐	☐	939	1981-2015	8.5	LC	☐	☐		Breeds regularly in the site.Supports >8% of Australia, S New Guinea, Aru Is biogeographic population
CHORDATA/ AVES	*Hydroprogne caspia*	Caspian Tern	☐	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐		Breeds regularly in the site
CHORDATA/ AVES	*Limosa lapponica*	Bar-tailed Godwit	☑	☑	☑	☐	☐	☑	☐	☐	10346	1981-2015	3.7	NT	☐	☐	National (EPBC) - Vulnerable	Foraging and roosting for international migrant along EAAF. Supports >3% of menzbieri & (anadyrensis) and bauera biogeographic populations.

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA / AVES	*Numenius madagascariensis*	Eastern Curlew; Far Eastern Curlew	☑	☑	☑	☐	☐	☑	☐	☐	1128	1981-2015	3.5	EN	☐	☑	National (EPBC) - Critically endangered	Foraging and roosting for international migrant along EEAF. Supports >3% of C & E Asia (bre) biogeographic population.
CHORDATA / AVES	*Numenius phaeopus*	Whimbrel	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Foraging and roosting for international migrant
CHORDATA / AVES	*Philomachus pugnax*	Ruff	☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Foraging and roosting for international migrant
CHORDATA / AVES	*Sternula nereis nereis*	Australian fairy tern	☐	☑	☐	☐	☐	☑	☐	☐					☐	☐	National (EPBC) - Vulnerable	Breeds regularly in the site
CHORDATA / AVES	*Thalasseus bergii*	Great Crested Tern; Greater Crested Tern	☐	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐		Breeds regularly in the site
CHORDATA / AVES	*Thinornis rubricollis*	Hooded Plover	☑	☑	☐	☐	☐	☑	☐	☐					☐	☐	National (EPBC) - Vulnerable	Breeds regularly in the site
CHORDATA / AVES	*Tringa nebularia*	Common Greenshank	☐	☑	☐	☐	☐	☑	☐	☐				LC	☐	☐		Foraging and roosting for international migrant
Fish, Mollusc and Crustacea																		
CHORDATA / ACTINOPTERYGII	*Acanthopagrus butcheri*	Black bream; Bream; Silver bream; Blue nose bream; Southern yellowfin bream; Southern bream; Southern black bream; Golden bream; Gippsland bream	☐	☐	☐	☐	☐	☐	☐	☑				LC	☐	☐		Nursery habitat for juvenile fish
CHORDATA / ACTINOPTERYGII	*Platycephalus fuscus*	Black flathead; Mud flathead; Lizard; Frog; Flattie; River flathead; Estuary flathead; Dusky flathead; Dusky	☐	☐	☐	☐	☐	☐	☐	☑					☐	☐		Supports breeding, nursery and adult life-stages
CHORDATA / ACTINOPTERYGII	*Prototroctes maraena*	Australian Grayling	☑	☐	☐	☐	☐	☐	☐	☑				NT	☐	☐	National (EPBC) - Vulnerable	Fish migration for reproduction

1) Percentage of the total biogeographic population at the site

Optional text box to provide further information on animal species of international importance:

(This field is limited to 3000 characters)

The Corner Inlet Ramsar Site regularly supports 16 species of migratory shorebird listed under international migratory bird treaties (BirdLife Australia unpublished data).

3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Subtropical and Temperate Coastal Saltmarsh	☑	The Coastal Saltmarsh ecological community consists mainly of salt-tolerant vegetation (halophytes) including: grasses, herbs, sedges, rushes and shrubs. Succulent herbs, shrubs and grasses generally dominate.	Community is listed as vulnerable under the EPBC Act.

Optional text box to provide further information

(This field is limited to 3000 characters)

Saltmarsh typically occurs in the upper - intertidal zone as a band along the landward edge of the mangrove zone. In particular, saltmarsh communities are notable along the northern mainland shore of Ramsar site, and on most of the islands including Franklin Island and Snake Island.

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

Please summarize the ecological components, processes and services which are critical to determining the ecological character of the site. Please also summarize any natural variability in the ecological character of the site, and any known past or current change

(This field is limited to 4000 characters)

The Corner Inlet Ramsar site supports a diversity of ecological features, including 14 wetland types. Mangroves and saltmarsh are present along the tidal flats, embayments and creeks within the site, while vegetation communities on the sand islands include dune grass, scrub and woodland. The wetland habitats support a variety of fauna species, with the diversity and abundance of waterbirds particularly notable.
Two components, a process and two services are critical to the ecological character of the Ramsar site (BMT WBM 2011).
1. Marine and Estuarine Wetland Habitats (critical component) including:
- Seagrass beds which provide the basis of benthic food webs at the site, important nursery habitat for stocks of fish, regulatory services through stabilization of coastal sediments and are responsible for a significant portion of critical processes, e.g., primary production, sediment stabilization, nutrient, carbon and energy cycling.
- Saltmarsh which forms an important linkage between terrestrial and marine-based ecosystems
- Mangroves which provide habitat for juvenile fish and other marine organisms and protecting the shoreline from erosion
- Permanent shallow marine waters which supports invertebrate activity important for benthic foodwebs and nutrient cycling
- Intertidal flats are important for supporting microphytobenthos (a key driver of foodwebs), macroinvetebrates (prey resources for fish and waders and important for nutrient cycling).
2. Waterbird abundance and diversity (critical component) with 95 species recorded, including 26 species of palaearctic migratory shorebirds and a mean maximum count of 36,000 shorebirds in 2011-2015.
3. Waterbird breeding (critical process), notably of five beach nesting species
4. Threatened species (critical service) which include 8 species of Palaearctic migratory shorebird and the Australian grayling (Prototroctes maraena).
5. Fisheries resource values (critical service)) - important habitats, feeding areas, dispersal and migratory pathways, and spawning sites for numerous fish species of direct and indirect fisheries significance.

The limit of natural variability, where known, are reflected in limits of acceptable change for each of these critical components, processes and services (BMT WBM, 2011 and Hale, in prep.)
In the 2011-2015 period, the counts of curlew sandpiper, eastern curlew and red knot recorded in the Ramsar site declined by more than 50%. The populations of these three species are known to be in decline in the East Asian-Australasian Flyway, with speculation that this is a result of habitat loss in staging areas (MacKinnon et al. 2012, Murray et al. 2015, Hua et al. 2015). The decline is not related to conditions in the Corner Inlet Ramsar Site and is not considered to be a potential change in character.

4.2 - What wetland type(s) are in the site?

Please list all wetland types which occur on the site, and for each of them:
- rank the four most abundant types by area from 1 (greatest extent) to 4 (least extent) in the third column,
- if the information exists, provide the area (in ha) in the fourth column
- if this wetland type is used for justifying the application of Criterion 1, indicate if it is representative, rare or unique in the last column
- you can give the local name of the wetland type if different from the Ramsar classification system in the second column

Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
A: Permanent shallow marine waters		3	10520	
B: Marine subtidal aquatic beds (Underwater vegetation)		2	14810	Representative
D: Rocky marine shores		0	0.002	
E: Sand, shingle or pebble shores		0		
F: Estuarine waters		0	1090	
G: Intertidal mud, sand or salt flats		1	24950	Representative
H: Intertidal marshes		4	3860	Representative
I: Intertidal forested wetlands		3	3000	Representative

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks		2		
Fresh water > Marshes on inorganic soils >> Ts: Seasonal/ intermittent freshwater marshes/ pools on inorganic soils		1	160	

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
<no data available>				

What non-wetland habitats are within the site?

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Coastal woodland, scrub and grassland. Some small areas of exotic vegetation	7480

idem

(ECD) Habitat connectivity	Saltmarsh and mangroves form a link between terrestrial and marine-based ecosystems. Connectivity between various sub-tidal habitats, estuarine waters and inflowing streams is important for fish which use different habitats at different life stages

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Adriana quadripartita	bitterbush	endangered in Victoria
Asplenium obtusatum	shore spleenwort	vulnerable in Victoria
Avicennia marina	white mangrove	most southerly occurrence
Eucalyptus kitsoniana	Bog gum	near threatened in Victoria
Lepidium desvauxii	Bushy Pepper cress	rare in Victoria
Posidonia australis		Southerly extreme
Pterostylis grandiflora	Cobra greenhood	rare in Victoria
Triglochin minutissima	tiny arrow grass	near threatened in Victoria

Invasive alien plant species

Scientific name	Common name	Impacts	Changes at RIS update
Euphorbia paralias		Potentially	No change
Spartina anglica	Cord grass	Actually (minor impacts)	No change

Optional text box to provide further information

(This field is limited to 2500 characters)

The most notable weed threatening the Ramsar site is spartina (Spartina angelica as well as the hybrid Spartina x townsendii). Spartina was widespread in the Ramsar site, but a control program has been successful in reducing infestations.
The green macroalga (Codium fragile ssp tomentosoides) was first discovered in Corner Inlet in March 1995. It has reportedly formed dense populations in Corner Inlet and other locations in Victoria.

Other noteworthy flora (not found in database):
Austrofestuca littoralis (Coast Fescue) - vulnerable in Victoria
Cyathodes juniperinum (Crimson Berry) - vulnerable in Victoria
Exocarpus syrticola (Coast Ballart) - rare in Victoria
Prasophyllum paruifloum (Slender Leek-orchid) - vulnerable in Victoria
Pterostylis aciculiforris (Slender Ruddyhood) - insufficiently known in Victoria
Senecio diagchides (Erect Groundsel) - rare in Victoria
Helichrysum dealbatum (Silver Everlasting) - rare in Victoria

The most southerly occurrence of Avicennia marina (White Mangrove) is at Corner Inlet.

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
<no data available>						

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts	Changes at RIS update
ECHINODERMATA/ASTEROIDEA	*Asterias amurensis*	Northern Pacific seastar;Japanese common starfish	Potentially	No change
ARTHROPODA/MALACOSTRACA	*Carcinus maenas*	green shore crab;shore crab;common shore crab;green crab;European shore-crab	Actually (minor impacts)	No change
CHORDATA/MAMMALIA	*Oryctolagus cuniculus*	European Rabbit	Actually (minor impacts)	No change
CHORDATA/MAMMALIA	*Rattus rattus*	black rat	Actually (minor impacts)	No change
ANNELIDA/POLYCHAETA	*Sabella spallanzanii*	Mediterranean fanworm;feather duster worm;European fan worm	Potentially	No change
CHORDATA/MAMMALIA	*Vulpes vulpes*	Red Fox	Actually (minor impacts)	No change

Optional text box to provide further information

(This field is limited to 2500 characters)

Foxes cause disturbance to birds on their feeding grounds, roosts and breeding sites, and prey on birds, their chicks and eggs.
Northern Pacific seastar (Asterias amurensis) represents an invasion risk to Corner Inlet.
European shorecrab (Carcinus maenas) has been present at Corner Inlet since the late 19th century. It is an extremely tolerant and hardy species and a voracious predator. Its effects in Corner Inlet are unknown.
Mediterranean fanworm (Sabella spallanzanii) presents a potential invasion risk to Corner Inlet.

4.4 - Physical components

4.4.1 - Climate

Please indicate the prevailing climate type(s) by selecting below the climatic region(s) and subregion(s), using the Köppen-Gieger Climate Classification System.

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Csb: Mediterranean (Mild with dry, warm summer)

If changing climatic conditions are affecting the site, please indicate the nature of these changes:

(This field is limited to 1000 characters)

Corner Inlet is in the Southern Slopes (Victoria East) sub-cluster (https://www.climatechangeinaustralia.gov.au/en/climate-projections/future-climate/regional-climate- change-explorer/super-clusters/).
- Average temperatures will continue to increase in all seasons
- More hot days and warm spells are projected. Fewer frosts are projected.
- Generally less rainfall in the cool season is projected. Changes to summer and autumn rainfall are possible but less clear. For the near future, natural variability is projected to dominate any projected changes.
- Increased intensity of extreme rainfall events is projected.
- Mean sea level will continue to rise and height of extreme sea-level events will also increase.
- A harsher fire-weather climate in the future (high confidence).
- On an annual and decadal basis, natural variability in the climate system can act to either mask or enhance any long-term human induced trend, particularly in the next 20 years and for rainfall.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 0

a) Maximum elevation above sea level (in metres): 20

b) Position in landscape/river basin:

- Entire river basin ☐
- Upper part of river basin ☐
- Middle part of river basin ☐
- Lower part of river basin ☐
- More than one river basin ☐
- Not in river basin ☑
- Coastal ☑

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.
(This field is limited to 1000 characters)

An embayment connected to the Southern Ocean. The main streams in the catchment that enter Corner Inlet are the Franklin and Agnes Rivers to the west, and the Albert and Tarra Rivers and Bruthen Creek which drain into the eastern side of the inlet.

4.4.3 - Soil

Mineral ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Organic ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

No available information ☐

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ○ No ◉

Please provide further information on the soil (optional)
(This field is limited to 1000 characters)

Corner Inlet is a large submerged plain covered by sand or mud flats, some of which are exposed at low tide, and others which remain permanently covered.

4.4.4 - Water regime

Water permanence

Presence?	Changes at RIS update
Usually permanent water present	

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Marine water	☑	No change
Water inputs from surface water	☐	No change
Water inputs from groundwater	☐	No change

Water destination

Presence?	Changes at RIS update
Marine	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.
(This field is limited to 2000 characters)

Corner Inlet is a tide dominated estuary. Two high tides occur each day, generally reaching a tidal range of 2.0m which may rise to 2.5m during the equinoxes. During a typical low tide, more than 40% of the inlet is exposed (~220km2). Flow speeds in the channels of Corner Inlet are relatively high (> 1 m/s), facilitating a large exchange of water; however, most of the area drains and fills slowly due to the shallow water and large number of banks.

(ECD) Connectivity of surface waters and of groundwater: Groundwater may contribute flows to the Ramsar site either directly as a groundwater discharge into the marine embayment or indirectly via discharge to inflowing streams. (WG CMA 2013)

(ECD) Stratification and mixing regime: No current data available on this aspect of the character of the site

4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Significant accretion or deposition of sediments occurs on the site ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Significant transportation of sediments occurs on or through the site ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Sediment regime is highly variable, either seasonally or inter-annually ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Sediment regime unknown ☐

Please provide further information on sediment (optional):
(This field is limited to 1000 characters)

Corner Inlet receives input of sediments from several inflowing streams. Loads are generally higher during wetter periods with production forests contributing the highest sediment loads from the catchment.

The high rates of flushing in the inlet are a key determinant of the physio-chemical properties of waters and sediments within the site.

The Nooramunga barrier islands and sandy dune systems are highly susceptible to erosion and impacts associated with climate change related increases to sea level and increased wave energy. There is currently no data describing sediment movements and long-term shoreline changes to identify climate change impacts.

(ECD) Water turbidity and colour	Limited data: Turbidity elevated in nearshore area in NW of Corner Inlet, low in Nooramunga except at Bruthen Ck estuary
(ECD) Light - reaching wetland	No current data available on this aspect of the character of the site
(ECD) Water temperature	No current data available on this aspect of the character of the site

4.4.6 - Water pH

Acid (pH<5.5) ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Circumneutral (pH: 5.5-7.4) ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Alkaline (pH>7.4) ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

Please provide further information on pH (optional):

(This field is limited to 1000 characters)

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Euhaline/Eusaline (30-40 g/l) ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Hyperhaline/Hypersaline (>40 g/l) ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

Please provide further information on salinity (optional):

(This field is limited to 1000 characters)

The surface waters within the embayment of Corner Inlet and Nooramunga are usually of ocean water salinity, except for short periods in summer when evaporation can cause salinities to slightly exceed those of sea water.

(ECD) Dissolved gases in water

(This field is limited to 1000 characters)

Dissolved oxygen levels were well in excess of saturation during summer, indicating significant oxygen production through algae and seagrass photosynthesis.
A significant overnight oxygen sag was hypothesized due to respiration of algae and seagrass.
(Hindell et al. 2007)

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Mesotrophic ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Oligotrophic ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Dystrophic ☐

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☑

Please provide further information on dissolved or suspended nutrients (optional):

(This field is limited to 1000 characters)

(ECD) Dissolved organic carbon	No current data available on this aspect of the character of the site
(ECD) Redox potential of water and sediments	No current data available on this aspect of the character of the site
(ECD) Water conductivity	No current data available on this aspect of the character of the site

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ○ ii) significantly different ◉

If the surrounding area differs from the Ramsar Site, please indicate how: (Please tick all categories that apply)

- Surrounding area has greater urbanisation or development ☐
- Surrounding area has higher human population density ☑
- Surrounding area has more intensive agricultural use ☑
- Surrounding area has significantly different land cover or habitat types ☑

Please describe other ways in which the surrounding area is different:

(This field is limited to 2000 characters)

Agriculture is the dominant land use activity in the catchment, constituting just over 50% of total land use. Dryland grazing (beef and sheep) comprises approximately 40% of total land use, with dairying comprising 10%. During recent times there have been two important changes to land use in the Corner Inlet catchment. The first is the consolidation of dairy farms into larger enterprises. The second is the increase in smaller scale dryland grazing and growth in lifestyle-type properties.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Please select below all relevant ecosystem services/benefits currently provided by the site and indicate their relative importance in the right-hand column.

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	Medium
Climate regulation	Local climate regulation/buffering of change	Low

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	High
Recreation and tourism	Water sports and activities	Medium
Recreation and tourism	Picnics, outings, touring	Medium
Recreation and tourism	Nature observation and nature-based tourism	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High
Nutrient cycling	Carbon storage/sequestration	Medium

Optional text box to provide further information
(This field is limited to 2500 characters)

Other ecosystem service(s) not included above:
(This field is limited to 2000 characters)

No other services apply

Please make a rough estimate of the approximate number of people who directly benefit from the ecological services provided by this site (estimate at least in orders of magnitude: 10s, 100s, 1000s, 10 000s etc.):

Within the site: 100s

Outside the site: 10000s

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ◉ No ○ Unknown ○

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature):
(This field is limited to 2500 characters)

There are few economic evaluations of the Corner Inlet Ramsar site. Tourism at the site was estimated at $22.5 million annually (WG CMA 2013) and commercial fishing at over $2 million annually (Department of Primary Industries 2012). The extensive seagrass, saltmarsh and mangrove beds would have a substantial blue carbon value, but this is yet to be assessed.

4.5.2 - Social and cultural values

Is the site considered internationally important for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? If so, please describe this importance under one or more of the four following categories. You should not list here any values derived from non-sustainable exploitation or which result in detrimental ecological changes.

i) the site provides 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 ☐

Description if applicable
(This field is limited to 2500 characters)

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☐

Description if applicable
(This field is limited to 2500 characters)

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☐

Description if applicable
(This field is limited to 2500 characters)

iv) 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 ☐

Description if applicable
(This field is limited to 2500 characters)

4.6 - Ecological processes

This section is not intended for completion as part of a standard RIS, but is included for completeness as part of the agreed format of a 'full' Ecological Character Description (ECD) outlined by Resolution X.15

(ECD) Primary production	Microalgae, marshes and seagrasses are mainly responsible for primary productivity. Saltmarsh and mangroves are also highly productive but cover less area.
(ECD) Nutrient cycling	Seagrasses and microphytobenthos in permanent shallow marine waters and intertidal flats play a key role in nutrient cycling.
(ECD) Carbon cycling	Seagrasses are responsible for a significant portion of carbon cycling.
(ECD) Animal reproductive productivity	The site is specifically important for beach-nesting species: Australian pied oystercatcher, Australian fairy tern, Caspian tern, crested tern and hooded plover.
(ECD) Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	Variability occurs in the distribution and extent of seagrass meadows over time with periods of decline and regeneration.
(ECD) Notable species interactions, including grazing, predation, competition, diseases and pathogens	
(ECD) Notable aspects concerning animal and plant dispersal	
(ECD) Notable aspects concerning migration	There are 16 species of international migratory shorebirds that are regularly supported by the Corner Inlet Ramsar site.
(ECD) Pressures and trends concerning any of the above, and/or concerning ecosystem integrity	The populations of some migratory shorebird species are known to be in decline, with speculation that this is a result of habitat loss in staging areas in the East Asian-Australasian Flyway.

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Provincial/region/state government	☑	☑

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	☑	☑

Other

Category	Within the Ramsar Site	In the surrounding area
<no data available>		

Provide further information on the land tenure / ownership regime (optional):

(This field is limited to 1000 characters)

While the Corner Inlet Ramsar site has a complex tenure arrangement, most land and waters within the site (89% of the site area) are reserved as public land.
The Corner Inlet Ramsar site consists of the following areas reserved under the National Parks Act 1975 (Victoria): Corner Inlet Marine and Coastal Park, Corner Inlet Marine National Park and Nooramunga Marine and Coastal Park in addition to other public land and small areas of private land.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:
(This field is limited to 1000 characters)

Parks Victoria
Level 10/535 Bourke Street Melbourne. 3000. VIC

Provide the name and title of the person or people with responsibility for the wetland:

Peter Kemp, Environmental Programs Manager

Postal address:
(This field is limited to 1000 characters)

Parks Victoria
Level 10/535 Bourke Street Melbourne. 3000. VIC

E-mail address:

peter.kemp@parks.vic.gov.au

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
<no data available>						

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
<no data available>						

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Livestock farming and ranching	Medium impact	High impact	☐	No change	☑	unknown
Wood and pulp plantations	Medium impact	Medium impact	☐	No change	☑	No change

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
<no data available>						

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
<no data available>						

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
<no data available>						

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Low impact	High impact	☑	increase	☑	No change

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Dams and water management/use	unknown impact	Medium impact	☐	No change	☑	No change

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Medium impact	High impact	☑	No change	☐	No change

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Household sewage, urban waste water	Medium impact	Medium impact	☑	No change	☑	No change
Industrial and military effluents	Low impact	High impact	☑	No change	☐	No change

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
<no data available>						

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Habitat shifting and alteration	Low impact	High impact	☑	increase	☐	No change

Please describe any other threats (optional):

(This field is limited to 3000 characters)

The 2015 management plan, contained within the West Gippsland Waterway Strategy (West Gippsland CMA 2014) contains a comprehensive risk assessment and identification of priority threats for management. Details on threats to the site can be found in the ECD (section 5) and the management plan (Appendix 10).
The management plan identified four high risk threats to the ecological character of the site:
1. Pollutant (sediment and nutrients) inputs affecting water quality - increased inputs of sediment and nutrients from the surrounding catchment (WGCMA, 2013). Catchment land uses, particularly farming and forestry, but to a lesser extent activity in urban areas, impact on the levels of sediment and nutrient at the site. This movement of pollutants into Corner Inlet has the potential to impact on seagrass condition and extent as well as mudflat productivity, thereby disturbing the delicate balance of organisms that rely on these habitats. Over recent years, changes in local seagrass condition and distribution, and the presence of algae have been of concern.
2. Invasive animals – marine: Three key invasive marine pest animals have been identified as potential threats in the Corner Inlet Ramsar site: Northern Pacific seastar, European shore crab and Mediterranean fanworm.
3. Climate change - Sea level rise of seven to 55 centimetres is predicted across the Western coastal regions of Gippsland by 2070. Coastal retreat as a result of this could impact on the size of some islands in the Nooramunga precinct in particular. Changes in the distribution and extent of habitats due to altered water levels could also occur. In particular, the loss of saltmarsh and mangrove vegetation arising from the restriction of landward movement and long term survivability caused by levee banks, seawalls, embankments and public infrastructure. Impacts to coastal habitats and communities could also be associated with an increase in the frequency of storm surges.
4. Altered hydrology: The magnitude, timing, frequency and duration of freshwater inflows can influence water quality and water regimes in the estuaries and embayment's of Corner Inlet and Nooramunga, and therefore their dependent ecological values.

5.2.2 - Legal conservation status

Please list any other relevant conservation status, at global, regional or national level and specify the boundary relationships with the Ramsar Site:

Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
<no data available>			

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
<no data available>			

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Coastal Reserves	Port Franklin - Port Welshpool Coastal Reserve; Yanakie (Red Bluff) Coastal Reserve		partly
Marine and Coastal Parks	Corner Inlet Marine & Coastal Park	http://parkweb.vic.gov.au/explore/parks/corner-inlet-marine-and-coastal-park	whole
Marine and Coastal Parks	Corner Inlet Marine National Park	http://parkweb.vic.gov.au/explore/parks/corner-inlet-marine-nati onal-park	whole
Marine and Coastal Parks	Nooramunga Marine and Coastal Park	http://parkweb.vic.gov.au/explore/parks/nooramunga-marine-and-coastal-park	partly

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Corner Inlet	http://www.birdlife.org/datazone/sitefactsheet.php?id=23928	whole

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☐

Ib Wilderness Area: protected area managed mainly for wilderness protection ☐

II National Park: protected area managed mainly for ecosystem protection and recreation ☑

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☐

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☑

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Catchment management initiatives/controls	Implemented
Improvement of water quality	Partially implemented
Habitat manipulation/enhancement	Implemented
Hydrology management/restoration	Partially implemented
Re-vegetation	Implemented

Species

Measures	Status
Threatened/rare species management programmes	Partially implemented
Control of invasive alien plants	Implemented
Control of invasive alien animals	Implemented

Human Activities

Measures	Status
Management of water abstraction/takes	Implemented
Fisheries management/regulation	Implemented
Harvest controls/poaching enforcement	Implemented
Regulation/management of recreational activities	Implemented

Other:

(This field is limited to 3000 characters)

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Is the management plan/planning implemented? Yes ◉ No ○

The management plan covers All of Ramsar Site

Is the management plan currently subject to review and update? Yes ◉ No ○

Has a management effectiveness assessment been undertaken for the site? Yes ◉ No ○

Please give link to site-specific plan or other relevant management plan if this is available via the Internet or upload it in section 'Additional material':

(This field is limited to 500 characters)

The 2015 management plan for the site is within the West Gippsland Waterway Strategy (West Gippsland CMA 2014). http://www.wgcma.vic.gov.au/our-region/waterways/waterway-strategy

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes ○ No ◉

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

(This field is limited to 1000 characters)

The Corner Inlet Ramsar site contains no communications, educational or public awareness facilities at present.

URL of site-related webpage (if relevant):

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

Has the plan been implemented? Yes ◉ No ○

The restoration plan covers: All of Ramsar Site

Is the plan currently being reviewed and updated? Yes ○ No ◉

Where the restoration is being undertaken to mitigate or respond to a threat or threats identified in this RIS, please indicate it / them:

(This field is limited to 1000 characters)

A water quality improvement plan has been developed and is being implemented for the site. http://www.wgcma.vic.gov.au/wp-content/uploads/2015/01/corner-inlet-wqipweb.pdf.

Further information

(This field is limited to 2500 characters)

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water quality	Proposed
Plant community	Implemented
Birds	Implemented
Animal community	Implemented

Please indicate other monitoring activities:

(This field is limited to 3000 characters)

Monitoring of fish (indicated above as animal community) is via catch per unit effort.

The ECD and Management Plan for the site both list monitoring requirements. However, there is limited resources and not all monitoring needs are currently met. The Victorian Department of Environment, Land, Water and Planning is currently undertaking a project to collate monitoring requirements across all eleven Ramsar sites in Victoria and prioritise monitoring actions on a annual basis.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

(This field is limited to 3000 characters)

BMT WBM. (2011). Corner Inlet Ramsar Site Ecological Character Description. Department of Sustainability, Environment, Water, Population and Communities, Canberra.
Boon, P.I., Allen, T., Brook, J., Carr, G., Frood, D., Hoye, J., Harty, C., McMahon, A., Mathews, S., Rosengren, N.J., Sinclair, S., White, M., and Yogovic, J. (2011). Mangroves and Coastal Saltmarsh of Victoria: Distribution, Condition, Threats and Management. Victoria University, Melbourne.
Department of Primary Industries. (2012). Fisheries Victoria Commercial Fish Production Information Bulletin 2012. Fisheries Victoria, Queenscliff, Victoria.
Hindell J., Ball D., Brady B. and Hatton D. (2007) Establishment of a monitoring program to assess estuarine water quality and its effects on seagrass health in Corner Inlet. Department of Primary Industries, Queenscliff, Victoria. No. WG0506.10.28, 54pp.
Hua, N., Tan, K., Chen, Y., and Ma, Z. (2015). Key research issues concerning the conservation of migratory shorebirds in the Yellow Sea region. Bird Conservation International 25(01): 38–52.
MacKinnon, J., Verkuil, Y.I., and Murray, N. (2012). IUCN situation analysis on East and Southeast Asian intertidal habitats, with particular reference to the Yellow Sea (including the Bohai Sea). Occasional paper of the IUCN species survival commission 47.
Murray, N.J., Ma, Z., and Fuller, R.A. (2015). Tidal flats of the Yellow Sea: A review of ecosystem status and anthropogenic threats. Austral Ecology 40(4): 472–481.
West Gippsland Catchment Management Authority. (2013). Corner Inlet Water Quality Improvement Plan 2013. West Gippsland Catchment Management Authority.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)
AU261ECD.pdf

iii. a description of the site in a national or regional wetland inventory
<no file available>

iv. relevant Article 3.2 reports
<no file available>

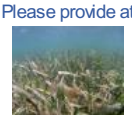
v. site management plan
AU261_mgt170830.pdf
AU261_mgt170830_1.pdf
AU261_mgt170830_2.pdf
AU261_mgt170830_3.pdf
AU261_mgt170830_4.pdf

vi. other published literature
AU261_lit170830_1.pdf
AU261_lit170830.pdf
AU261_lit190417.docx
AU261_lit190417_1__criteria_changes.docx

Please note that any documents uploaded here will be made publicly available.

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Corner Inlet seagrass (
DELWP, 2007
)

6.1.4 - Designation letter and related data

Designation letter
AU261_DesLet190604.pdf

Date of Designation: 1982-12-15