

# Information Sheet on Ramsar Wetlands

*Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.*

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**1. Date this sheet was completed/updated:**

20<sup>th</sup> July 2001

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FOR OFFICE USE ONLY.

DD	MM	YY

Designation date

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Site Reference Number

**2. Country:**

Australia

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**3. Name of wetland:**

Edithvale-Seafood Wetlands

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**4. Geographical coordinates:**

Latitude: 38deg 04min Longitude: 145deg 07min

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**5. Altitude:** 0.00 -1.0m AHD

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**6. Area:**

Edithvale Wetlands: 103 hectares.

Seafood Wetlands: 158 hectares

The areas have been calculated using a geographical information system based on coverage showing the boundaries of the Ramsar site. They are correct to the nearest hectare.

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**7. Overview:**

The Edithvale-Seafood Wetlands are the last remnants of the once extensive Carrum Carrum Swamp and support very rich biodiversity including bird species and populations of international importance. They comprise two separate wetlands: Edithvale and Seafood. Both are similar in morphology and ecological characteristics and both have been subject to an extensive program of rehabilitation and active hydrological management by Melbourne Water. They are of great significance as examples of the cost-effective management of wetlands in an urban setting to provide conservation benefits, manage stormwater, and for environmental research and education.

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**8. Wetland Type:**

**Marine-coastal:** A B C D E F G H I J K

**inland:** L M N O P Q R Sp Ss Tp Ts

U Va Vt W Xf Xp Y Zg Zk

**man-made:** 1 2 3 4 5 6 7 8 9

**Please now rank these wetland types by listing from the most to the least dominant: P; R; Q**

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**9. Ramsar Criteria:**

1     2    3            4    5             6    7            8

**Please specify the most significant criterion applicable to the site: 6**

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**10. Map of site included?** *yes.*

**11. Name and address of the compiler of this form:**

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**12. Justification of the criteria selected under point 9, on previous page.**

*Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.*

The site contains the last remaining representative examples of the Carrum Carrum Swamp, a large southern Australian freshwater wetland, largely drained in the late 19<sup>th</sup> Century.

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

The site supports State-significant populations and foraging and potential breeding habitat for the Australasian Bittern *Botaurus poiciloptilus*. The Australasian Bittern is listed as endangered in Victoria and as vulnerable on 'The 2000 IUCN Red List of Threatened Species'.

*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.*

The site regularly supports more than 1% of the flyway population of Sharp-tailed Sandpiper (*Calidris acuminata*). A waterfowl count in summer 1987 recorded 3000 Sharp-tailed Sandpipers at Seaford Swamp (Watkins 1993). Regular monthly counts at Edithvale and Seaford Wetlands, since 1990, show 2007 Sharp-tailed Sandpipers were recorded at the Edithvale Wetland in December 1991. Other data collected by experienced bird watchers at both wetlands is not readily available but discussions indicate that the 1% population estimate for Sharp-tailed Sandpiper is probably exceeded about one year in three, on average.

Sharp-tailed Sandpipers use a wide variety of coastal and inland habitats in Australia. Population fluctuations at coastal sites, such as Edithvale-Seaford, are significantly influenced by the availability of suitable inland habitat. The availability of inland habitat is marked by a high degree of rainfall variability associated with long term climatic cycles. In addition, the habitat suitability for the species at the Edithvale-Seaford Wetlands also varies, depending on rainfall. Within this context, the counts and observations outlined above indicate that the site regularly supports this species.

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### **13. General location:**

The Edithvale-Seaford Wetlands are located in the southern part of the City of Kingston and the northern part of the City of Frankston in the southern, bayside suburbs of the city of Melbourne, Victoria.

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### **14. Physical features:**

The Edithvale-Seaford Wetlands are remnants of the once extensive Carrum Carrum Swamp that occurred between Mordialloc and Frankston at the time of European Settlement. These are freshwater wetlands underlain by peat beds that limit the saline groundwater entering the wetlands. Each wetland has a small, local catchment of no more than 500ha. Additional water can be sourced for Seaford Wetlands from external catchments. The catchment is generally bounded in the east and west by low (<3m AHD) sandy rises. Generally there has been only minimal interference with the remnant bed morphology of the wetlands. Some minor drought refuges and drains have been created over the last 80 years.

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### **15. Hydrological values:**

Both wetland systems are seasonal floodplain wetland systems that derive the bulk of their water from runoff from the immediately adjacent catchments. In the case of Seaford Wetlands, additional waters can be sourced from external catchments via pumping and or flood flow side-caste facilities. Being placed in an area of former sea floor, plus having surface levels at or near the mean sea height and having local groundwater systems, there is a strong relationship between the surface and the groundwater systems. Where the peat layers have been retained in a relatively undisturbed state, the maintenance of fresh brackish water quality can be maintained. Some areas of direct interconnection between surface waters and groundwaters result in higher salinities. At Seaford a groundwater intercept and freshwater supply system has been installed to aid the lowering of salinity levels. Water level management is conducted via series of weirs.

Some Key hydrological features of the wetlands are:

- The wetlands have critical flood storage capacity that protects surrounding and downstream properties from inundation.
  - The wetlands are an essential component of the regional drainage system in receiving, retaining and diverting stormwater and other surface runoff.
  - The wetlands contribute to protecting the water quality of Port Phillip Bay by retaining and naturally “treating” stormwater and other surface runoff at limited cost.
  - Current hydrological management is aimed at enhancing natural values and controlling the ingress of saline water. The innovative approach to management is an excellent example of low cost, active, sustainable management of a remnant wetland in an urban landscape.
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### **16. Ecological features:**

The site supports a range of indigenous and introduced vegetation that has colonised opportunistically. Many of the native vegetation communities and species presently occurring in the area are considered remnants or regenerating representatives of native communities that once occupied the greater Carrum Carrum Swamp. They are of conservation value for this reason. The wetlands are a mixture of permanent, seasonal, freshwater and saline ponds, partially drying in the warmer months (December – April). The vegetation of the area reflects this diversity, creating a diverse and complex range of habitats that are important for many flora and fauna species of conservation value.

Away from the wetlands, only fragmented and highly degraded dryland vegetation still exists,

although these areas still provide useful insights into the pre-European distribution of vegetation in the area and are important habitat for a number of flora and fauna species that do not occur in the wetlands. Dryland vegetation is currently being rehabilitated.

Most of the vegetation communities recognised for the study area are artefacts of past disturbance and the current wetland ecosystem is considered largely anthropogenic. As such, it is thought impractical to assess the conservation significance of the vegetation at a vegetation community level. Rather, the overall wetland complex has been assessed as a complete unit.

The Edithvale and Seaford Wetlands possess a suite of international, national, state and regional fauna conservation values, particularly avifauna, many of which are dependent on the anthropogenic elements of the wetlands. The significance of the wetlands as foraging habitats for seasonal populations of migratory waders has been recognised for many years (e.g. Carter 1975).

These remnant habitats support a variety of native bird, mammal, frog, reptile, fish and invertebrate populations, several of which are of regional and state conservation significance. With the exception of the avifauna, other taxa remain largely undocumented.

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### **17. Noteworthy flora:**

A total of 41 significant plant taxa have been recorded for the Edithvale – Seaford Wetlands. These taxa are considered to be of Regional botanical significance (restricted distribution and populations within the greater Melbourne region).

One species, *Triglochin alcockiae* (Water Ribbons) is of particular interest because the Edithvale – Seaford Wetlands represent a significant extension to the known eastern limits of its range. The species was formerly known from areas in western Victoria.

The flora conservation significance of the Edithvale – Seaford wetlands lies in the size and diversity of habitat occurring in the area. The study area represents one of the largest freshwater/sub-saline wetland systems in the Melbourne area and provides habitat for populations of a number of regionally threatened flora species. In addition, the area occupied by Common Reed Grassland in the study area represents one of the largest examples of this community in Victoria and is therefore considered highly significant for this reason.

In addition to the wetland vegetation, the study area also contains a number of dryland communities. While severely degraded by weed invasions, River Red Gum (*Eucalyptus camaldulensis*) Dune Woodland is a community that has not been recorded elsewhere in Victoria and is of high conservation significance for this reason.

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### **18. Noteworthy fauna:**

Seaford Swamp is a site of international importance for the Sharp-tailed Sandpiper and fulfils one of the Ramsar Convention criteria for this species as it regularly supports more than 1% of the flyway population of the species (Watkins 1993).

Remnant habitats support a variety of native bird, mammal, frog, reptile, fish and invertebrate populations, several of which are of regional and state conservation significance. Since 1990, 25 species listed on the Japan and China Migratory Bird Agreements (61% of the total listed under these treaties) have been recorded. The Sharp-tailed Sandpiper is recorded in most years, in greatest numbers at Edithvale South and Seaford Wetlands.

Five species listed under the Victorian *Flora and Fauna Guarantee Act* 1988 (Great Egret *Ardea alba*, Australasian Bittern, Baillon's Crake *Porzana pusilla*, Lewin's Rail *Rallus pectoralis* and

White-bellied Sea Eagle *Haliaeetus leucogaster*) have been recorded. State-significant populations and foraging and breeding habitat for the Australasian Bittern and Baillon's Crake, and regionally significant populations and habitat for 19 other species occur.

#### **19. Social and cultural values:**

- The wetlands are a significant regional resource for **passive and nature-based recreation** in a highly urbanised setting.
- The wetlands are the focus of a very active, locally based community group (Friends of Edithvale – Seaford Wetlands Inc.) that is involved in a range of both management (eg. revegetation) and interpretation activities (eg. bird hide).
- The wetlands offer unparalleled **environmental education opportunities** for local schools, tertiary institutions and the wider community.
- The wetlands are of great significance for **environmental research**, in fields relevant to both the water industry and ecology.

All these activities are undertaken in a manner consistent with the maintenance of natural wetland processes and ecological character.

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#### **20. Land tenure/ownership:**

##### **a) Site**

The Edithvale Wetland is owned by Melbourne Water. The core wetland areas of Seaford Wetland are owned by Melbourne Water and the dryland areas are owned by Melbourne Water and Frankston City Council.

##### **b) Surrounding area**

The land surrounding Edithvale Wetland is a mixture of freehold urban development on the northern, eastern and southern sides, with the western boundary abutting Chelsea Public Golf Course, the Edithvale Common and Rossdale Golf Club. The Seaford Wetland is surrounded by freehold urban development on its western, southern and part of its eastern edges, with City of Frankston and or Melbourne Water owned or managed land abutting the site to the north and east. Part of the north-western boundary of the site abuts the Seaford North Primary School. Private freehold land to the north east of the Seaford site is in the process of being investigated for potential acquisition by the City of Frankston.

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#### **21. Current land use:**

##### **a) Site**

Conservation area, recreational use, drainage management.

##### **b) Surroundings/catchment**

Urban residential development, golf courses and playing fields, and non-urban.

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#### **22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:**

##### **a) Site**

Both wetlands remained after the draining of the Carrum Carrum Swamp in the 1860's. However, localised additional draining in the early 20<sup>th</sup> century were followed by farming (both cropping and grazing) until the early 1970's. At this time, the wetlands were actively flooded through management intervention and a wetland ecosystem regenerated. Significant works to expand the wetlands in the early 1980's resulted in breaking of the underlying peat layer and the ingress of saline groundwater. Works since then have gradually resolved this problem, although the artificial components of the wetlands are brackish, rather than freshwater. Pumping of freshwater from

Eumemmering Creek, together with occasional flushed of freshwater from Eel Race drain to the north have ensured that at last the ecosystem is becoming a fully freshwater one again.

#### **b) Around the site**

Principal changes in land use and management involve urban development since the early 1960's. Urban development was confined to the western and southern edges of the wetlands until the 1980's. Thereafter, new development occurred around the northern and eastern edges of the wetlands, with the exception of the north-eastern edge of the Seaford Wetland.

Stormwater impacts have been a significant issue with the advent of more recent and extensive urban development in the immediate wetland catchments. Stormwater interception and treatment wetlands have been established to take this stormwater. In addition, the management plan for the wetlands recommends the development of additional stormwater interceptor wetlands where they currently do not exist to improve water quality.

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#### **23. Conservation measures taken:**

- Preparation of a Management Plan
  - Active rehabilitation of terrestrial areas by the Friends of Edithvale – Seaford Wetlands.
  - Weed control, primarily in terrestrial areas.
  - Installation of stormwater management measures.
  - Salinity management measures to ensure a predominance of freshwater ecosystems
  - Drainage management to promote both de-salinisation and a natural, seasonal water regime.
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#### **24. Conservation measures proposed but not yet implemented:**

- Installation of litter traps, sedimentation ponds and macrophyte zones at the ends of stormwater drains where this remains to be done.
  - Implementation of a weed control strategy, including control of Spiny Rush (*Juncus acuta*).
  - Implementation of rabbit and fox control programs.
  - More comprehensive monitoring of water quality, water levels and ecological indicators.
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#### **25. Current scientific research and facilities:**

The wetlands are used for scientific research. Although no formal research facilities exist within the site, the Friends' group has infrastructure that can support research activities. The site has been the subject of over a decade of monthly waterbird monitoring. This has tracked the increasing numbers and diversity of waterbirds with environmental improvements in response to management. Research has been undertaken on the stratigraphy and hydrogeology of the wetland basins and their catchments to determining mitigation measures for saline groundwater intrusion.

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#### **26. Current conservation education:**

The wetlands are used for community education and interpretation. There is a bird hide located in both the Edithvale and Seaford Wetlands, a viewing platform in the Seaford Wetlands and interpretative information at two locations in the Edithvale Wetlands. Schools and community education programs are run by the Friends of Edithvale – Seaford Wetlands.

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#### **27. Current recreation and tourism:**

The wetlands are currently used for recreational and tourism purposes. Both wetlands contain bicycle and walking tracks and bird watching hides or viewing platforms.

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#### **28. Jurisdiction:**

The Edithvale Wetlands are in the City of Kingston and the Seaford Wetlands are in the City of Frankston. Melbourne Water is the management authority with functional jurisdiction for

conservation purposes over all of the Edithvale Wetlands and the Wetland areas of the Seaford Wetlands. The Frankston City Council is responsible for some of the ephemeral wetland and dryland areas of the Seaford Wetlands. The Department of Natural Resources and Environment has a statewide strategic responsibility for the protection of biodiversity, including wetland conservation.

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**29. Management Authority:**

Site Manager

Scott Seymour  
Catchments and Waterways  
Melbourne Water Corporation  
68 Ricketts Road  
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**30. Bibliographical references:**

Lane, B.A., Bezuijen, M., Orscheg, C. and Todd, J. (1999). *Edithvale-Seaford Wetlands Ramsar Management Plan*. Ecology Australia Pty Ltd, Melbourne.

Carter, M. (1975). 'Conservation and Management Proposals for Edithvale – Carrum – Seaford Wetlands Areas.' Unpubl. report of the Wetlands Investigation Committee.

Watkins, D (1993). 'A National Plan for Shorebird Conservation in Australia'. RAOR Report No. 90. Royal Australasian Ornithologists Union. Moonee Ponds, Victoria.

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