



The Barker Inlet and Port Estuary waterways are an interconnected system of tidal creeks and channels that open up into the Gulf St Vincent. The shoreline consists of wide tidal mudflats that are framed by saltmarsh, grey mangrove forests, wetlands and low-lying sand dunes. It is an environment that supports a diverse array of wildlife, while also being home to a number of large industries, including coal handling facilities, cement works, electricity generating plants, salt harvesting, boat building facilities, sewage treatment plants, chemical plants and waste management sites.

THE BARKER INLET AND PORT ESTUARY SYSTEM

Put simply, an estuary is an enclosed coastal body of water that is part land... part waterway... part sea.... An estuary is where a river or creek meets the sea, where the fresh water and salt water mix. Estuaries are places of vast change from salt water to fresh water, from tidal to non tidal and from wet to dry. They can vary in size, salinity and flow.

WHAT IS AN ESTUARY



Socially
 • A number of activities, such as recreational fishing and boating, swimming, ecotourism and bird and dolphin watching, are undertaken in the Barker Inlet and Port River Estuary system.

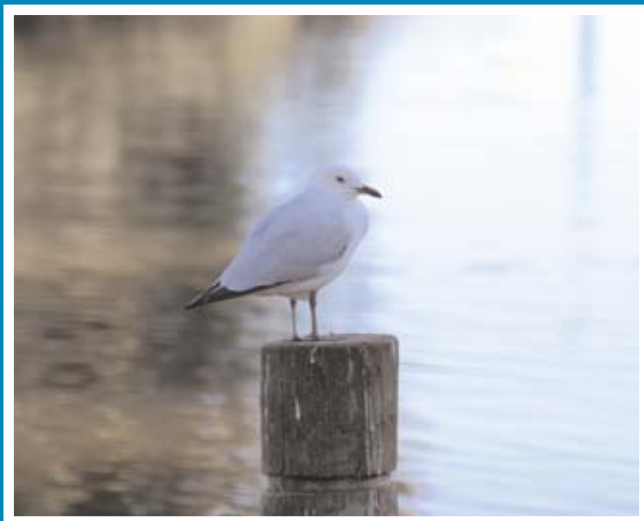
Economically
 • This environment is an essential feeding, breeding and nursing area for many commercially important fish and crustacean species. These include King George Whiting and Blue Swimmer Crab. A wide range of industries within the area, including the important fisheries, contribute approximately \$100 million per annum to our State economy.

Water quality
 • Water draining from the catchment carries sediments and nutrients. As the water flows through the marshes, mangroves and constructed wetlands, much of the sediment drops out of the water column and nutrients are trapped or used. These processes create cleaner and clearer water, which benefits both people and marine life.

Ecologically
 • Many fish and crustacean species spend their early life stages in these protected nutrient rich waters before moving offshore into deeper water or upstream into rivers. Some of these species include the Western King Prawn, Black Bream, Blue Swimmer Crab and Yellow-eye Mulllet. Birds such as the White-bellied Sea Eagle, Pelicans and Silver Gulls also visit this area to rest and feed.

WHY IS IT IMPORTANT?

For further information on the estuary, contact:
 KESAB Waterwatch
 214 Grange Road
 Flinders Park SA 5025
 Phone: (08) 8234 7255
 Email: admin@kesab.asn.au
www.cwmb.sa.gov.au/kwcc/



This brochure was produced by KESAB Waterwatch with the assistance of the following organisations:

- Adelaide and Mount Lofty Ranges Natural Resources Management Board
- City of Salisbury
- Northern Adelaide and Barossa Waterwatch
- Port Adelaide Karna community
- Project Dolphin Safe
- Urban Forest Biodiversity Program



THE BARKER INLET AND PORT ESTUARY

PART LAND

PART WATERWAY

PART SEA



However Europeans still saw the need for this 'wild inhospitable land' to fit their development ideals. Mangroves were ripped up and embankments were built around the Port Adelaide town centre and other developed areas.

When Europeans first explored the land and associated waterways of the Barker Inlet and Port Adelaide River they saw it as muddy and uninteresting, and immediately made plans to "improve it". However those who took the time to sit, watch and listen began to develop an appreciation of this unfamiliar environment. There were the dynamic sandy beaches of the gulf coast, while on the other side of the narrow peninsula lay the sheltered saline waters fringed by mangroves supporting an array of fish, crustaceans and birdlife. To the south there were freshwater lagoons and flourishing reed beds backed by grassy plains.

ESTUARY REFLECTIONS

Le-Fevre Peninsula: *Mudlangga lit* (nose-place)
 Port Adelaide: *Yertabutti* (land of sleep or death)
 Port River dolphins: *Yambo*
 Black swan: *Kudlyo*

Some local indigenous names:

At the time of European settlement this region was occupied by the Karna aboriginal people. The abundant marine, land and bird life of the area made it a regular site for indigenous families to hunt and gather food and seek shelter. The development and clearance of the surrounding land and the spread of European diseases, such as smallpox and measles, soon caused the indigenous people to retreat further inland to the Greenfields area and Adelaide Hills. However, a few aboriginal people stayed in Port Adelaide and found work as domestic servants, dock workers or as weavers and repairers of nets and baskets. European settlement brought many changes to the Karna people, the most significant being a change in lifestyle.

INDIGENOUS HISTORY

WHO'S LOOKING AFTER THE BARKER INLET AND PORT ESTUARY SYSTEM?

There are a number of key organisations, community groups and schools managing, monitoring, funding and implementing programs and projects to improve the health of the Barker Inlet and Port Estuary environment.

Community groups and non-government organisations:

- Australian Dolphin Research Foundation
- Conservation Council of SA
- KESAB Waterwatch
- Marine and Coastal Community Network SA
- Our Patch
- Project Dolphin Safe and SA Seabird Rescue

Research institutions:

- Flinders University of South Australia
- South Australian Research and Development Institute (SARDI)
- University of Adelaide
- University of South Australia

State and local government:

- Adelaide and Mount Lofty Ranges Natural Resources Management Board
- Barker Inlet Port Estuaries Committee (BIPEC)
- Cities of Playford, Port Adelaide Enfield, Salisbury and Mallala
- Department for Environment and Heritage (DEH)
- Environment Protection Authority (EPA)
- Northern Adelaide and Barossa Waterwatch
- Primary Industries and Resources SA (PIRSA)

Vitas Karnaitis - a community volunteer monitoring the estuary as part of the program run by KESAB Waterwatch



HABITATS OF THE BARKER INLET AND PORT ESTUARY

All of the different habitats found in and around the Barker Inlet and Port Estuary play an important role in maintaining it as a functioning system.

Port Adelaide River

Much of Port Adelaide lies on the Port Adelaide River which was originally a tidal creek that has been dredged to form a port capable of taking medium-sized shipping. A berthing facility at the mouth of the river was formed shortly after settlement to assist heavy container shipping and large overseas vessels. This facility is still an important operation.

Sand Dunes

Take a stroll through the Semaphore to Outer Harbor sand dunes using the Coast Park shared-use recreational path. This area is currently being revegetated using native dune plants in conjunction with the installation of interpretive signage and seating.



Dune planting with the SA Urban Forests - Million Trees Project

Seagrasses

Seagrasses are flowering plants that grow underwater in coastal and marine environments. They are a valuable coastal resource in the Gulf St Vincent, forming extensive meadows that serve as significant nursing and feeding areas for commercial fish and crustacean species. They represent one of the largest temperate seagrass ecosystems in the world.

Saltmarsh

In Australia, marine wetlands are named after the dominant species present, so in South Australia the marine/freshwater marsh area is referred to as 'samphire' or 'saltmarsh'. They are habitats for communities of salt-tolerant plants and associated animals.

Saltmarsh has been greatly reduced in this estuary by a combination of industrial and urban developments, including salt evaporation pans and waste disposal sites. Shoreline development and changes in local hydrology continue to be the biggest threats to the saltmarsh habitat.

Mangroves in South Australia

South Australia has the most extensive temperate forests of Grey Mangrove (*Avicennia marina*) in Australia (230 sq km).

A mangrove is a woody plant or plant community found in estuarine areas. Mangroves are important as they provide habitat and food for many fish, crustacean and bird species, as well as trapping large amounts of silt and building up mudflats. In the Barker Inlet and Port Adelaide River system, mangroves can be found around North Arm Creek, Garden and Torrens Islands, Port Gawler, Middle Beach and St Kilda.



St Kilda Mangrove Trail and Interpretive Centre

Where Have The Mangroves Gone?

Elevated nutrient levels from sewage, industry and stormwater discharges often cause the growth of large drifts of algae, such as *Ulva*. *Ulva* prevents the establishment of young mangroves and chokes established trees by smothering and eventually killing their aerial roots. Mangroves have also been removed for industrial development, marinas, boat ramps and housing. Trampling of mangrove seedlings and aerial roots by recreational fishers looking for bait in the mud is also a problem.



Adelaide Dolphin Sanctuary

About 250 Bottlenose Dolphins have been identified in and around the region, with 20 to 30 of these considered to be permanent residents. Unfortunately, these dolphins have been subjected to various urban and industrial pollutants, heavy boat traffic and strikes, entanglements, harassment and deliberate attacks by humans. To alleviate these pressures and to protect the dolphins and their habitat, the Adelaide Dolphin Sanctuary has been established (2005).



Local resident, Bonnie the Bottlenose Dolphin

Wetlands of National Importance

There are a number of constructed wetlands of national importance located throughout the area (see map). Wetlands are an important ecosystem, vital to the protection of the estuary. They act as natural water treatment areas; by filtering and removing pollutants they help to improve water quality. Wetlands also support a variety of wildlife, control erosion and detain large quantities of water.



The Barker Inlet Wetlands at one of the viewing platforms

GET INVOLVED IN THE ACTION AROUND THE ESTUARY

Estuarine Monitoring

Schools and community groups can participate in monitoring estuarine health as part of the Waterwatch monitoring program. Participants complete a variety of tests to detect changes in the health of the estuary. Contact: KESAB Waterwatch (08) 8234 7255 or Northern Adelaide and Barossa Waterwatch (08) 88406 8305 for more info.

Barker Inlet Wetland Tours

The City of Port Adelaide Enfield runs free guided sunset tours of the Barker Inlet Wetlands from November to January, every second Friday of the month from 6 - 8pm. Contact: Port Adelaide Visitor Information Centre on (08) 8405 6560. KESAB Waterwatch can also provide tours and activities for schools. Contact: KESAB on (08) 8234 7255

Ship's Graveyard Kayaking Tour

Discover the fate of ships from times gone by as you paddle through the Ship's Graveyard at Garden Island, Mutton Cove and Jervis Basin in a kayak. Contact: Port Adelaide Visitor Information Centre on (08) 8405 6560

St Kilda Mangrove Trail and Interpretive Centre

Meander through the mangrove forest along the boardwalk without damaging this fascinating ecosystem. Phone: (08) 8280 8172

Failie Charters

Join one of the Failie charters or cruises for a few days or just a twilight cruise. Phone (08) 8341 2004 Fax (08) 8341 1810

South Australian Maritime Museum

126 Lipson St, Port Adelaide. Open 10am - 5pm daily. Phone: (08) 8207 6255

Port Adelaide Kaurna Cultural Heritage Walk

Walk with a Tauondi Aboriginal Cultural guide through one of the world's most ancient, continuous cultures. Contact: Port Adelaide Visitor Information Centre on (08) 8405 6560