

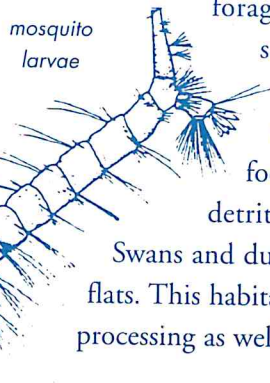


# Estuarine habitats

The Swan-Canning estuary, like all other estuaries, has a variety of different habitats. Each habitat varies in terms of its physical and chemical conditions and the way in which organisms use it. All estuarine habitats play an important role in maintaining the estuary as a functioning system. A functioning system is one that efficiently processes and cycles nutrients and energy, and has a healthy diversity for its kind and location. The types of habitats are described below.

## Salt marshes and fringing reeds

The low-lying area around the estuary is salt marsh (or samphire marsh). Saltmarsh plants that can tolerate salty conditions and are flushed regularly by tides occupy this habitat. Though they are sometimes viewed simply as swampy, smelly places where mosquitoes breed, salt marshes are extremely productive estuarine habitats. Most saltmarsh plants are not eaten directly by animals. Instead, broken or dead pieces are washed by tides into the estuary, where they are broken down or eaten by detritus-feeding animals. The receding tide also exposes small plants and animals on which the birds feed. Female mosquitoes lay their eggs in the pools of water that are left behind, and the mosquito larvae form an important part of the diet of ducks and other animals.



## Sandbanks and mudflats

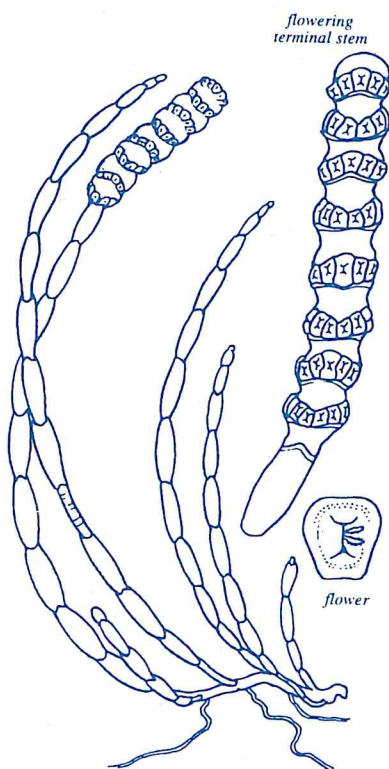
The estuary's shallow sandbank and mudflat habitats are environments that are exposed during periods of low tide. They provide abundant food for wading birds, including migratory waders. Here, whiting forage for invertebrates that inhabit sandbanks and mudflats during the rising tide. At low tide, birds probe the sand with their beaks in search of food. Invertebrates feed mainly on the detritus produced by coastal wetlands. Swans and ducks use the deeper waters of the tidal flats. This habitat is extremely important for nutrient processing as well.

## Seagrass meadows

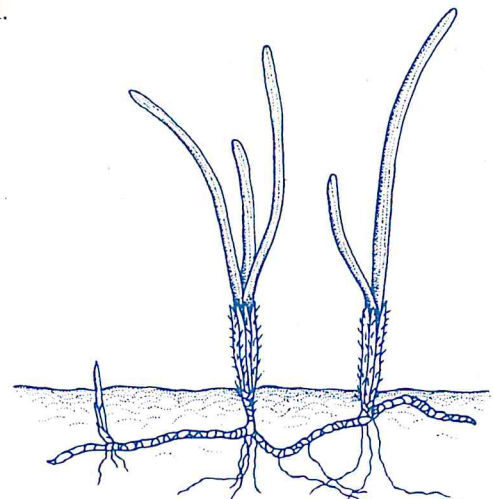
Seagrass occurs in clear waters up to three metres deep. Small invertebrates live and feed among these grasses. Seagrass meadows provide a nursery habitat for fish and crustaceans that feed either on invertebrates or on the detritus formed from decaying seagrass and algae. They are also important refuges from predators. Seagrass meadows help to bind and oxygenate the sediment, act as nutrient banks and provide structured diversity to water and mud.

The saltmarsh areas provide valuable cover and nesting areas for waterfowl.

Salt marshes are considered the 'kidneys' of an estuary because they are so important in influencing nutrient inputs and cycling in the system.



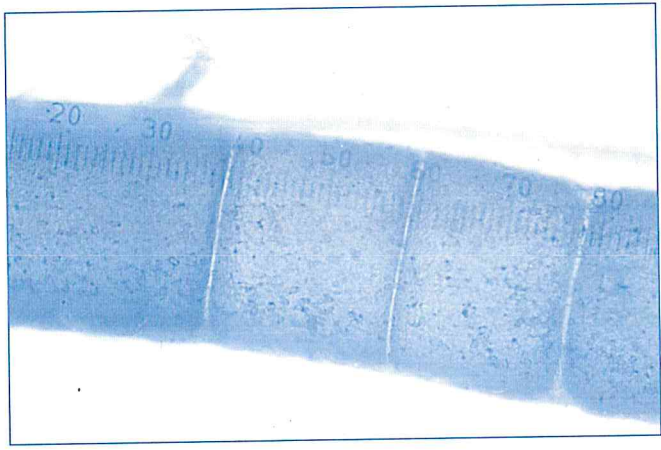
beaded samphire



seagrass

## Open waters

The open waters provide a habitat for the many fish that use the estuary. Pelicans, grebes, darters and cormorants fish these waters, and algae such as *Chaetomorpha* and *Enteromorpha* can be found floating here. Invertebrates are usually less numerous in the sediments of the open waters than they are on the mudflats, sandbanks and fringes of the salt marshes.



*Chaetomorpha* x 100

## Islands

The two islands in the Swan-Canning river system, Ron Courtney Island and Heirisson Island, were artificially created during dredging operations. Birds use these islands as feeding and roosting areas, and in some cases as breeding grounds. The islands are refuges from disturbance by people and dogs.

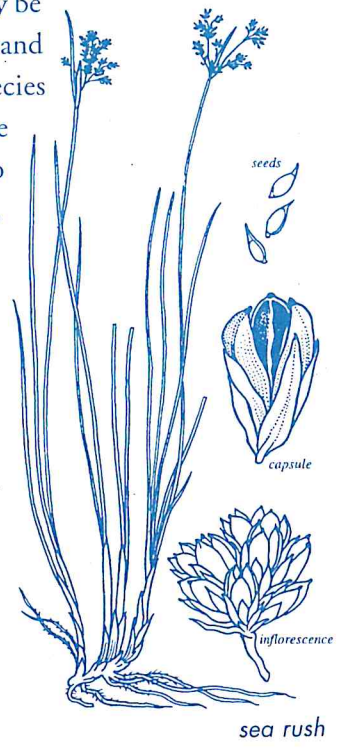
## Cleared parkland and pasture

Much of the river foreshore has been cleared of its natural vegetation to provide for pasture and parklands, or filled in to make tip sites, roads and recreational areas. Many of these areas become flooded at times, providing a feeding and roosting ground for ducks and birds such as herons, ibises and stilts. Many insects, frogs and small crustaceans are found amongst the puddles left by the receding floodwater. Well-vegetated foreshores and parklands that have not been over-cleared help to keep erosion under control and filter nutrients out of the water flowing from the land.




## Fringing (riparian) vegetation

Fringing vegetation plays an important role in the maintenance of a biologically balanced and healthy waterway. It provides a wide range of functions, which are essential for supporting plant and animal life and for maintaining the quality of the environment. These functions include: sediment, nutrient and pollutant filtering, stabilising banks, and most importantly, provision of food for the whole waterway.

Balanced and healthy waterways are usually characterised by their fringing vegetation. The water in which the plants grow may be fresh, brackish or saline and the particular species determined by the tolerance of the plant to water quality. Sedges, shrubs and trees not only provide a pleasing appearance to a waterway; they are an incredibly rich shelter and breeding habitat for a wide range of organisms.



*Further reading:*  
 Algal blooms, *Water facts No 6*, Water and Rivers Commission, 1998.  
 Managing our Rivers - a guide to the nature and management of the streams of south-west Western Australia (Chapter 5: River animals and their habitats) by Dr Luke Pen, Water and Rivers Commission, 1999.  
 Native vegetation of estuaries and saline waterways in south Western Australia, Water and Rivers Commission/Department of Conservation and Land Management, 1997.  
 Native vegetation of freshwater river and creeks in south Western Australia, Water and Rivers Commission/Department of Conservation and Land Management, 1997.

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