

Estuary Entrance Management East Gippsland Coast

The estuaries along the East Gippsland coast are important to local communities and culturally significant places for Aboriginal people.

These estuaries are susceptible to closure from sand build up where the estuary meets the open sea. When the entrance closes, boat ramps, jetties and surrounding land inside the estuary can be flooded. When water levels rise there can be requests to government agencies to artificially open the entrance.

Most estuaries open naturally, however, protocols about artificial openings are now in place for Lake Tyers, Snowy River (Marlo), Sydenham Inlet and Mallacoota Inlet. The East Gippsland Catchment Management Authority is responsible for decisions regarding the artificial opening of these estuaries.

Parks Victoria is responsible for completing the actual opening once approval is granted.

Sydenham Inlet April 2008



Processes have been set up to collect data on which decisions are made. The factors that have to be considered are briefly explained here.

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Why do estuaries close?

The estuaries on the East Gippsland coast are prone to closure by sand build up where the estuary meets Bass Strait. These closures are influenced by low fresh water inflows into the estuary, and large and prolonged wave action that mobilises sand along the coast.

The length of closure varies. Mallacoota Inlet closes infrequently but closures can last anywhere between 9 months and 3 years. On the other hand, Sydenham Inlet closes frequently, between one and four occasions each year, for periods from 3 weeks to 7 months.

The closure of an estuary, and the resulting rise in the water level following rain events, brings many environmental benefits. The flooding inundates areas suitable for fish spawning and nesting sites for some bird species and enhances aquatic habitats. Some species of plants around the margins of the estuary also benefit from high water levels.

A closed estuary will eventually open, normally after heavy rain and high river flows which raise the water level to a point where it flows over the sand berm (sandbar), scouring a channel and creating an outlet to the sea.

What is an 'artificial' opening?

An artificial opening involves creating a channel to the sea usually by using an excavator. The channel, whilst small at first, rapidly increases in size due to the high velocity flows as the estuary drains.

Factors that can influence an opening include:

- the differential between the estuary water level and the height of the tide – the steeper the gradient the better.
- the distance across the sand berm which affects the steepness of the channel and the volume of sand to be shifted.
- the sea conditions, where large waves can move sand into the entrance forcing it to close again, and
- high river inflows which increase the likelihood the entrance will remain open for longer.

With the right conditions, an entrance may remain open to the sea for a considerable period of time. If undertaken when the conditions are not suitable the entrance may not successfully open or could close again in a matter of days or weeks.

Choosing a suitable location for an opening may also influence the duration and the success of the opening. Usually, the opening will be made where the distance across the sand berm is the shortest or where openings have occurred in the past.



Snowy River estuary at Marlo, May 2014.



Flooded jetty at Lake Tyers, June 2014.



Artificial estuary opening at Marlo, April 2003.