

**Corangamite
Catchment
Management
Authority (CCMA)**

**AIDA Community
Forum**



CCMA is the regulator of artificial estuary openings at Painkalac Creek

Victorian Government's Victorian Waterway Management Strategy provides state-wide strategic direction for estuary management

- The **Corangamite CMA** authorises requests from permit holders to artificially open estuaries
- The **Estuary Entrance Management Support System (EEMSS)** is used to assess the environmental, economic and social risks of opening an estuary
- CCMA only authorises artificial estuary openings to allow Permit Holders to protect human assets.



13 Estuaries

New Work and findings

When looking at estuaries an ecosystem approach is taken

There will be winners and losers of any management decision

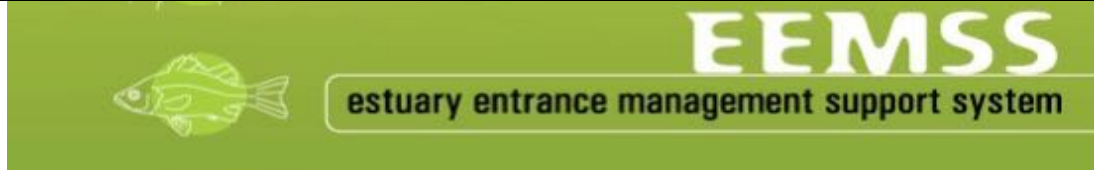
Three local, site-specific, Independent reports with multiple experts have highlighted:

- Artificial estuary openings should not be undertaken for environmental outcomes
- Artificial estuary opening comes with environmental costs, particularly where floodplains cannot be inundated.
- Opening estuaries causes ecological change.



The Corangamite CMA's risk assessment

- Provides a snapshot of potential risks associated with opening or not opening
- EEMSS has limitations and is one of several factors considered
- The risk assessment allows the CCMA and Permit Holder to be aware of potential risks of an artificial opening, which allows mitigation where possible



Considers:

- Potential impact to human assets and environmental and social values
- Dissolved oxygen levels (important to determine risk of fish kills)
- Current and expected decrease in water level
- Time of year/ state of climate
- Period since mouth last open
- Freshwater inflow

This assessment is provided to the Permit Holder upon authorisation

Environmental watering: Painkalac Reservoir

- Informal environmental entitlement formed through a partnership agreement between CCMA and Barwon Water
- Releases of water from the reservoir try to mimic natural (informed by FLOWS study), there are limitations to how much water can be released
- Releases aim to meet environmental objectives to maintain the health of the creek and estuary – unique to this system and not available elsewhere
- Support values in the creek and estuary such as water quality
- When the reservoir is full (like it has been recently) flows in the system are not impacted by the Reservoir
- The Painkalac creek watering proposal was developed in partnership with the community



Releasing environmental water during an artificial estuary opening

- When possible, CCMA and Barwon Water will release a pulse of water (a fresh) from the reservoir at the same time as an artificial estuary opening
- This is an attempt to mitigate potential negative impacts such as fish kills and to help achieve a successful opening (increased energy)
- This is very unique, no ability to do this at other estuaries



What information do we have about the ecological impact of increased frequency of estuary openings, and which agency is responsible for monitoring these impacts?

- Artificial openings increase frequency compared to what would occur naturally and interrupt hydrological regimes
- Frequency is one factor that can have negative ecological impacts – openings occurring at the same height and unnatural (riskier) times of the year is also relevant
- **When estuaries are opened to protect human assets, even with mitigation, artificial estuary openings put environmental values at risk**
- Multiple independent expert reports/studies.



Cont.. what information do we have about the ecological impact of increased frequency of estuary openings, and which agency is responsible for monitoring these impacts?

Consequences of artificial openings:

- Artificial openings occur at lower levels than natural openings / lack of floodplain inundation – important for many species life cycle
- Fish eggs/larvae swept out to sea
- More static water levels – lack of diversity
- Loss of breeding and foraging habitat for birds
- Risk of fish kills still present but **reservoir releases reduce this risk**

Human intervention such as artificial estuary opening is not fully understood

CCMA undertakes all required monitoring to adequately provide advice to Barwon Water on environmental water releases, as well as to provide advice (the risk assessment) on the risks associated with an artificial estuary opening.

Water Quality data is also collected by EstuaryWatch volunteers



Compilatory actions

- The Wild Otways Initiative small mammals project has been sampling for key species to help land managers determine actions required to support dwindling populations of small mammals.
- A Community grants program has supported ANGAIR in restoring habitat for small mammals on private land in the Painkalac Valley.
- The Dunecare program supports land managers to protect dune environments with benefits for swamp antechinus and other small mammals inhabiting the dunes around the Painkalac creek, Urquharts bluff and Eastern View.
- The Australian Government provided 7 million dollars for the Wild Otways Initiative





Thank you

More info:

- Painkalac Creek factsheet: The science behind estuary openings (May 2022)
https://www.ccmaknowledgebase.vic.gov.au/kb_resource_details.php?resource_id=4908
- [ENVIRONMENTAL FLOW \(ccmaknowledgebase.vic.gov.au\)](https://www.ccmaknowledgebase.vic.gov.au)
- [Estuaries - Corangamite Catchment Management Authority \(ccma.vic.gov.au\)](https://www.ccma.vic.gov.au)
- [Painkalac Creek Estuary \(estuarywatch.org.au\)](https://www.estuarywatch.org.au)
- [Watering Proposal for Painkalac Creek \(ccmaknowledgebase.vic.gov.au\)](https://www.ccmaknowledgebase.vic.gov.au)
- See chapter 13: [VWMS Part3.pdf \(water.vic.gov.au\)](https://www.water.vic.gov.au)
- [Corangamite CMA Knowledge Base - Aire Valley Estuary Floodplain Project - Final Report \(ccmaknowledgebase.vic.gov.au\)](https://www.ccmaknowledgebase.vic.gov.au)