



AIDA Painkalac Forum – 21 January 2023

D23/ 6842

Forum Focus

AIDA has advised that the Forum will consider two areas of concern – the ecological impacts of artificial (mechanical) estuary openings and the water quality of the creek, especially in summer.

Four questions have been raised for agency consideration:

1. What information do we have about the ecological impact of the increased frequency of estuary openings, and which agency is responsible for monitoring these impacts?
2. Are there feasible and less impactful options for mitigating flood risk other than current mechanical openings?
3. What are the current and future water quality testing regimes for the creek, and who is responsible for implementing these and publicizing results?
4. What results from current E.coli monitoring are available for the community?

Council's roles and responsibilities – Painkalac Creek estuary

Council's main roles and responsibilities in relation to Painkalac Creek estuary are:

- **Drainage authority** – storm water management
- **Land management** - including Painkalac Creek nature reserve and Mellors Swamp nature reserve
- **Estuary openings** – Council is the current permit holder to conduct artificial estuary openings of Painkalac Creek – these are done to reduce risk of flooding

A Painkalac Creek Fact Sheet has been prepared that outlines the different agency roles and responsibilities, includes a land management map and provides information regarding estuary openings.



PAINKALAC CREEK: FACTS ON FLOODING

Recent La Nina weather patterns have seen an increase of unpredictable storm events and rainfall. It has resulted in increased flooding risk to residential properties, businesses and critical infrastructure near the Painkalac Creek. These issues are expected to worsen as climate change impacts continue to emerge.

Around 50 private properties near Painkalac Creek are at risk of inundation from flooding without intervention, such as artificial (i.e., non-natural) estuary openings. Surf Coast Shire Council has the challenge of balancing the protection of property and infrastructure and the impacts on the environment when deciding whether to open the estuary.

The diversity of estuary habitats, land use and land tenure typically requires various agencies to undertake management roles.

Details of local roles and responsibilities in managing the Painkalac Creek estuary are below.

These organisations want to share their estuary management practices and challenges.

GROUP OR AGENCY	RESPONSIBILITY AT THE PAINKALAC CREEK
Surf Coast Shire Council (SCSC)	Manages storm water drainage, land management and emergency openings of the river mouth to reduce risk of flooding.
Corangamite Catchment Management Authority (CCMA)	Regulates artificial estuary openings for Painkalac Creek. As the regulator, CCMA issues a permit to SCSC that allows SCSC to ask permission to open the estuary mouth. CCMA also undertakes risk assessments of artificial openings, and works with Barwon Water on releases from the Painkalac Reservoir.
Great Ocean Road Coast and Parks Authority (the Authority)	Manages the coastal land at and adjacent to the estuary mouth. Includes management of the cliff tops and foreshore to the east and dune systems and foreshore to the west of the estuary.
Victoria State Emergency Service (VICSES)	Plays a key role in preparing communities for the impacts of floods and storms, and manages responses to flood.
Barwon Water	Provides water and sewerage services to the townships of Aireys Inlet and Fairhaven. Barwon Water manages land-based recreation activities at Painkalac Reservoir and environmental flows from the reservoir to Painkalac Creek. (Environmental flows are necessary to sustain healthy creek habitats.)
Department Environment, Land, Water & Planning	Development of waterway policy, coordinates regional delivery and prioritisation of government investment in waterways; management of fisheries, including recreational fishing.
Regional Roads Victoria/Department of Transport	Manages the Great Ocean Road through Aireys Inlet. This includes drainage and maintenance of the bridge over Painkalac Creek.
Traditional Owners	Recognised native title rights, collaboration in the development and implementation of plans and protection of cultural heritage values

Hierarchy of Decision Making to Reduce Flood Risk

State Emergency Management Plan

The SEMP and the EMMV

The SEMP replaces four parts of the *Emergency Management Manual of Victoria* (EMMV):

- the *State Emergency Response Plan* (part 3)
- the *State Emergency Relief and Recovery Plan* (part 4)
- *Emergency Management Agency Roles* (part 7)
- *Appendices and Glossary* (part 8).

The remaining chapters and appendices of the EMMV are superseded by the regional and municipal level reforms in the *Emergency Management Legislation Amendment Act 2018*, the published [Ministerial Guidelines](#), existing doctrine, policy and procedures.

The EMMV ceased to have effect on 1 December 2020.

Subject to s60AK of the *EM Act 2013*, an agency that has a role or responsibility under the SEMP in relation to the emergency response to a Class 1 or 2 emergency must act in accordance with the SEMP.

State Emergency Management Priorities

The State Emergency Management Priorities underpin and guide all decisions during a response to any emergency.

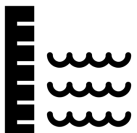
The priorities are:

- Protection and preservation of life and relief of suffering is paramount. This includes:
 - Safety of emergency response personnel; and
 - Safety of community members including vulnerable community members and visitors/tourists
- Issuing of community information and community warnings detailing incident information that is timely, relevant and tailored to assist community members make informed decisions about their safety
- Protection of critical infrastructure and community assets that support community resilience
- Protection of residential property as a place of primary residence
- Protection of assets supporting individual livelihoods and economic production that supports individual and community financial sustainability
- Protection of environmental and conservation assets that considers the cultural, biodiversity, and social values of the environment.

The guiding principles for mitigation outlined in policy are based on risk and on improving the resilience of governments, businesses and the community to respond to acute shocks and evolving stresses. The [National Principles for Disaster Recovery](#) and the [Resilient Recovery Strategy](#) guide our efforts, approach, planning and decision making for community focused recovery.

Council's role in estuary openings

1. What information do we have about the ecological impact of the increased frequency of estuary openings, and which agency is responsible for monitoring these impacts?
 - Council plays a support role in the collection of data before an opening for CCMA to run the EEMSS report. The data collected also supports the Estuary Watch program. With dissolved oxygen, turbidity, PH, water level and berm height being collected for analysis.
2. Are there feasible and less impactful options for mitigating flood risk other than current mechanical openings?
 - Not at this stage, Current information indicates the artificial opening is the least invasive option currently.
 - The Painkalac Flood Mitigation working Group has been working on this for the past 12 months.
 - The group hope to apply for some funding to improve monitoring and complete coastal and riverine flood modelling to provide further understanding of the risk and options.



Water Quality

3. What are the current and future water quality testing regimes for the creek, and who is responsible for implementing these and publicizing results?

- Council is currently funding a 20 week water sampling program (December-May) across four sites (see map below).
- Results will be shared after they have been interpreted by the EPA.
- We are unaware of any future plans beyond what is currently happening, a potential outcome could be to advocate to the State Government to conduct further water sampling/investigation.



Water Quality

4. What results from current E.coli monitoring are available for the community?

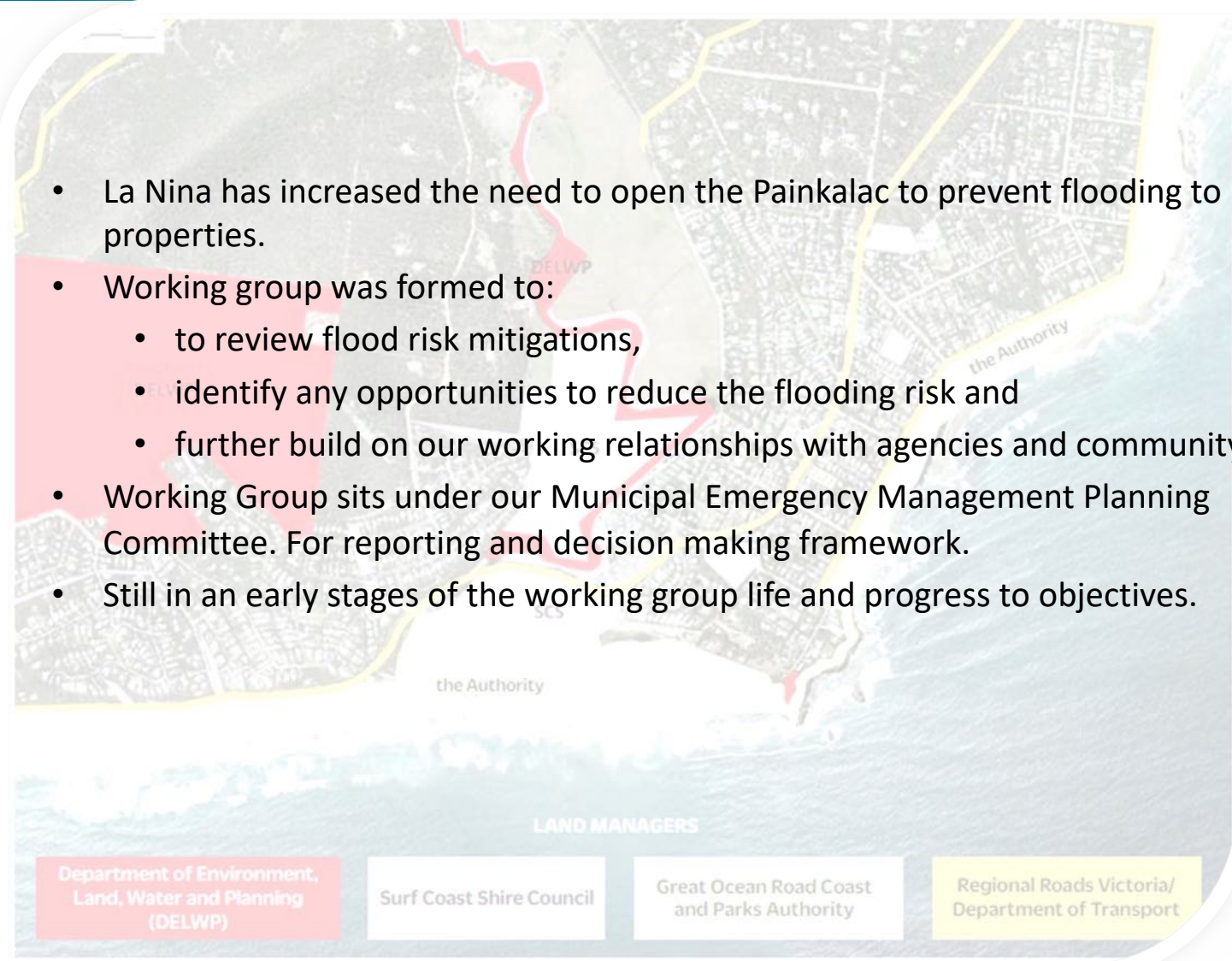
Site	Ok for swimming (Compliance with primary contact recreation environment reference standards)	Ok for boating, fishing and wading (Compliance with secondary contact recreation environment reference standards)
River mouth	100%	100%
Bridge	80%	100%
River road	80%	100%
Beach road	60%	100%

Please note:

- Enterococci being monitored as best indicator for faecal contamination in estuaries.
- 5/20 weeks of sampling completed to date.
- Council consulting with EPA to determine if signage alerting public is required given results.
- Illnesses and infections related to recreational water contact are usually mild.
- EPA yet to determine if there may be a contamination issue, further information is required – will be obtained throughout remainder of sampling program.

Flood Mitigation Working group

- La Nina has increased the need to open the Painkalac to prevent flooding to properties.
- Working group was formed to:
 - to review flood risk mitigations,
 - identify any opportunities to reduce the flooding risk and
 - further build on our working relationships with agencies and community.
- Working Group sits under our Municipal Emergency Management Planning Committee. For reporting and decision making framework.
- Still in an early stages of the working group life and progress to objectives.



Department of Environment,
Land, Water and Planning
(DELWP)

Surf Coast Shire Council

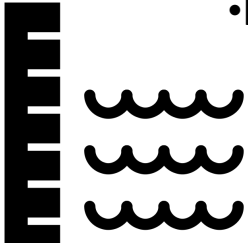
Great Ocean Road Coast
and Parks Authority

Regional Roads Victoria/
Department of Transport

Process – Artificial Opening

- Priority - Life, Property & Environment

- Monitor water levels guidance



- 0-1.7m Green – Low risk – monitor
- 1.7-1.9m Yellow – Flooding risk beginning to emerge – closely monitor
- 1.9 - 2m Orange – flooding risk has emerged – undertake risk assessment & potential opening
- 2.0m + Red – Flood risk has emerged Opening at this level may be undertaken regardless of rainfall or inflow.



- Undertake risk assessment when risk is present

- Factors considered water level, dam height, weather forecasts, water monitoring report, safety to the operator, timing of tides, incoming water to the catchment, catchment wetness and the EEMSS report.



Process – Artificial Opening

