Regional Floodplain Management Strategy
Everyone has a role to play in preparing for floods

FLOODPLAIN MANAGEMENT IN SURF COAST SHIRE

DRAFT Corangamite Regional Floodplain Management Strategy

The Corangamite Catchment Management Authority has been working with local communities, Traditional Owners, Local Government Authorities, the Victorian State Emergency Service (SES) and other regional agencies to prepare the draft Corangamite Regional Floodplain Management Strategy. The *draft* Strategy responds to outcomes of the 2016 Victorian Floodplain Management Strategy, with the aim to:

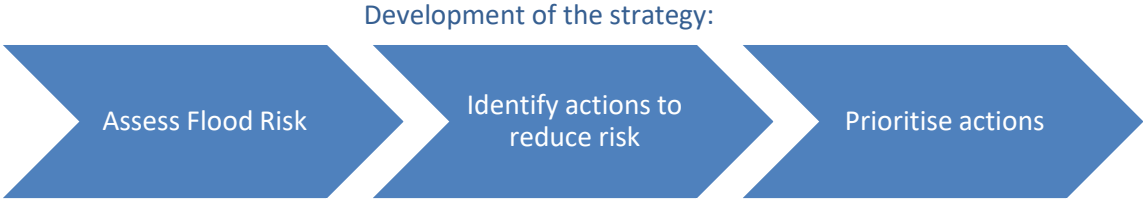
- **Build flood resilience** – by sharing information about flood behaviour;
- **Reduce flood risks** – through emergency management, flood mitigation infrastructure works and risk management;
- **Avoid future flood risks** – through land use planning and building controls;
- **Manage residual flood risks** – through flood insurance, sharing flood risk information and emergency management;
- **Protect floodplains for their ecological and cultural values** – by integrating the management of flood risks with protecting the environmental and cultural values of natural floodplains.

This brochure summarises the information in the *draft* Corangamite Regional Floodplain Management Strategy relevant to Surf Coast Shire, and is consistent with the Shire's intent and capacity to address flooding issues across its entire municipality.

The major river systems subject to periodic flooding include Painkalac Creek at Aireys Inlet, the Anglesea River at Anglesea, Thompsons Creek, which flows from Modewarre to the coast at Breamlea and the inland catchment of the Barwon River that flows through the township of Winchelsea.

There are also several short, hydraulically steep coastal waterways within the Otway Ranges that may be susceptible to flash flooding or short duration floods, for example the Erskine River at Lorne and the Cumberland River (south of Lorne). The Municipal Flood Emergency Plan (MFEP) for the Surf Coast Shire identified flash flooding risks for the two caravan parks at the Cumberland River and the Erskine River. Both of these caravan parks are on the lower floodplains of these river systems.

There are a number of estuaries within Surf Coast Shire, including Thompsons Creek, Spring Creek, Anglesea River, Painkalac Creek, the Erskine River and St George River. These are all intermittent estuaries that open to the sea and close by natural sand movement. The management of the estuary entrance and decisions on artificial openings of the estuary mouth is guided by the Estuary Entrance Management Support System, outlined in the Corangamite Waterway Strategy 2014-2022 and more specifically in the Anglesea River estuary management plan 2012-2020 (Corangamite CMA 2012).



Surf Coast Shire Flood Risks

Anglesea and Aireys Inlet have been identified as priority risk areas within the Surf Coast Shire. However, flood risks and related mitigation options in several other locations have also been identified due to the isolated but significant nature of the risk.

Flooding associated with the closure of the Painkalac Creek estuary at Aireys Inlet and the Anglesea River at Anglesea are significant risks that require ongoing management. This Strategy identifies a need to review the parameters around modelling estuary mouth flooding, such as berm heights, to ensure appropriate planning. Flooding of the Painkalac Creek estuary is influenced by the Barwon Water-managed reservoir, which sits just upstream of the estuary.

There are flash flooding risks in Anglesea, Jan Juc and Torquay where developments have occurred over old creek and/or drainage lines.

Coastal areas can also experience flooding from the sea caused by high tides in conjunction with storm surge events resulting from low-pressure systems and on-shore winds. These can cause backflow in waterways and stormwater drains and subsequent surcharge in and around the drainage network. This is a concern in Anglesea, particularly along the Great Ocean Road, which can flood as a result of flooding associated with the Anglesea River backing up the stormwater drainage system.

Addressing Flood Risk

Actions that do the most to reduce risk have been prioritised. All suggested actions are subject to feasibility, which may require further detailed investigation, and the availability of funding. The suggested actions have been prioritised over a regional scale, and may not address some specific localised issues including stormwater flooding, which are more appropriately dealt with through other channels.

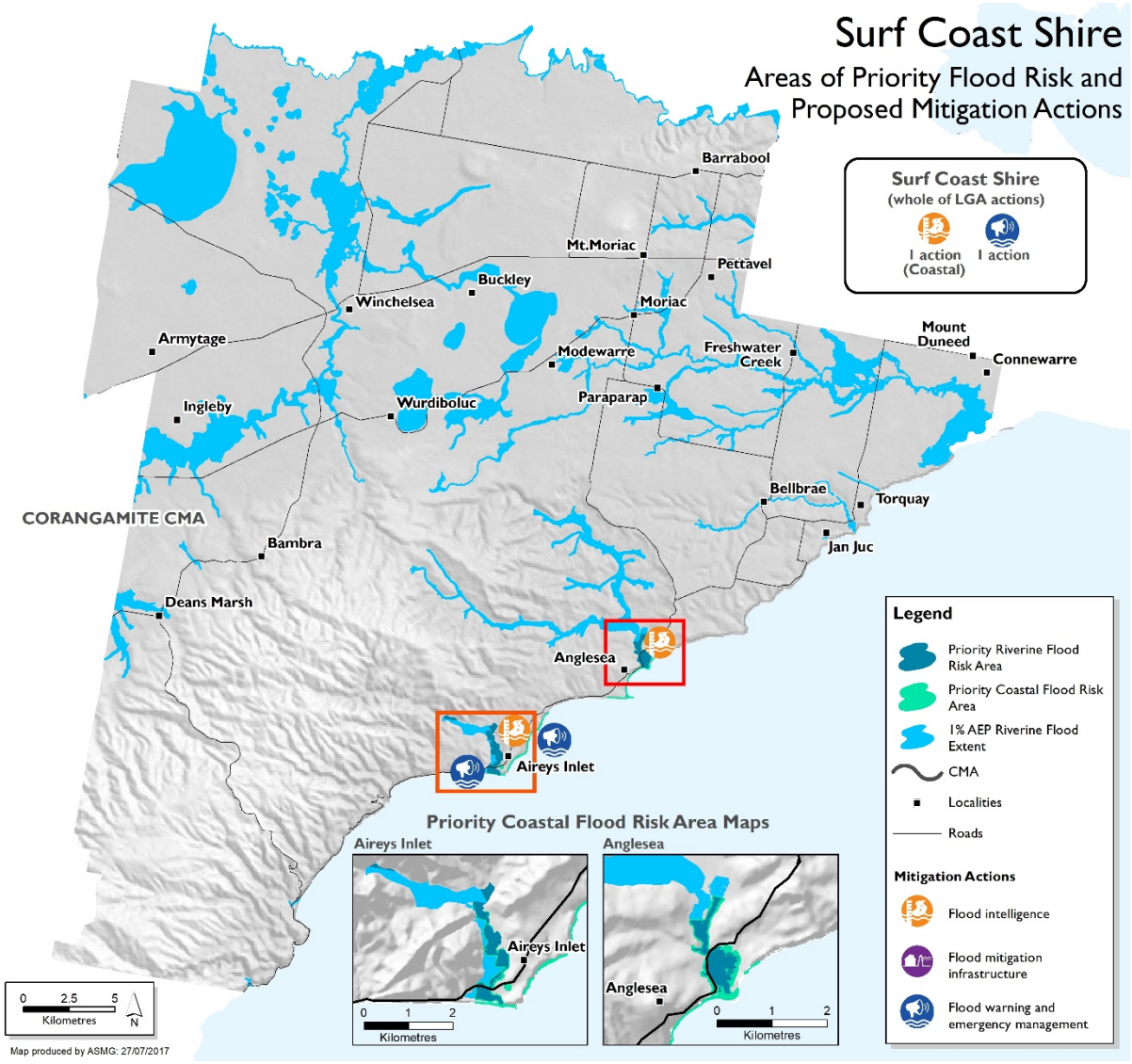
The flood mitigation actions proposed can be grouped into four categories:

Flood mitigation infrastructure involves the construction and management of physical works designed to reduce the impacts of flooding, such as levees, floodways and retarding basins. Example actions include managing waterways, developing retarding basins and developing or managing levees.

Flood warning and emergency management involves community education and awareness in support of flood preparedness to reduce existing flood risks. Example actions include the installation of flood warning systems on roads prone to regular flooding, and developing and sharing detailed flood maps. It also includes emergency management planning to manage residual risks such as updating Flood Emergency Management Plans.

Flood intelligence involves acquiring information about flood behaviour in order to understand the flood risk in more detail. An example action is the development of a flood study for a river reach.

Land use planning relates to tools such as Planning Schemes and building regulations, which manage development in flood-prone areas to reduce risk to life and property associated with new development. An example action is updating Planning Schemes to reflect current flood mapping.


Surf Coast Shire
Areas of Priority Flood Risk and Proposed Mitigation Actions
Surf Coast Shire
(whole of LGA actions)
1 action (Coastal)
1 action
Barrabool
Mt.Moriac
Pettavel
Buckley
Winchelsea
Moriac
Armytage
Modewarre
Freshwater Creek
Mount Duneed
Connewarre
Ingleby
Wurdiboluc
Paraparap
Bellbrae
Torquay
Jan Juc
CORANGAMITE CMA
Bambra
Deans Marsh
Anglesea
Aireys Inlet
Priority Coastal Flood Risk Area Maps
Aireys Inlet
Anglesea
Kilometres
Legend
Priority Riverine Flood Risk Area
Priority Coastal Flood Risk Area
1% AEP Riverine Flood Extent
CMA
Localities
Roads
Mitigation Actions
Flood intelligence
Flood mitigation infrastructure
Flood warning and emergency management
0 2.5 5
Kilometres
N
Map produced by ASMG: 27/07/2017

Possible Flood Mitigation Actions

	**Flood Warning and emergency management** • Review the current flood warning procedure and key decision points involved with the management of the Painkalac Creek estuary mouth with a view to update/amend if required. • Undertake targeted community education with flood-affected residents in Aireys Inlet. • Establish road closure procedures for the following key roads: o Klidean Rd o Horseshoe Bend Rd o Ghazeepore Rd o Pettavel Rd o Blackgate Rd (at Merrijig Creek and Thompson Creek) o Williams Rd o Dickins Rd o Cressy Rd
	**Flood Intelligence** • Investigate the feasibility of undertaking a flood study for the Anglesea River to investigate short and long term inundation risks, including: o assessment of the impact of the closure of Alcoa Coal Mine on flooding of the Anglesea River o flood mapping of the tributaries that flow into the Anglesea River (to inform council drainage plans for these systems) o erosion changes associated with the mouth of the estuary and adjacent coastline o sensitivity of coastline to changes in wave climate o berm dynamics to understand flood risk in more detail o consideration of storm surge and sea level rise/inundation. • Investigate the feasibility of a flood study for Painkalac Creek to investigate short and long-term inundation risks, including: o erosion changes associated with the estuary mouth and adjacent shoreline, o an updated assessment of the long term rate of erosion along Fairhaven-Aireys Inlet, along with an assessment of short term storm erosion under sea level rise scenario, o sensitivity of coastline to changes in wave climate.