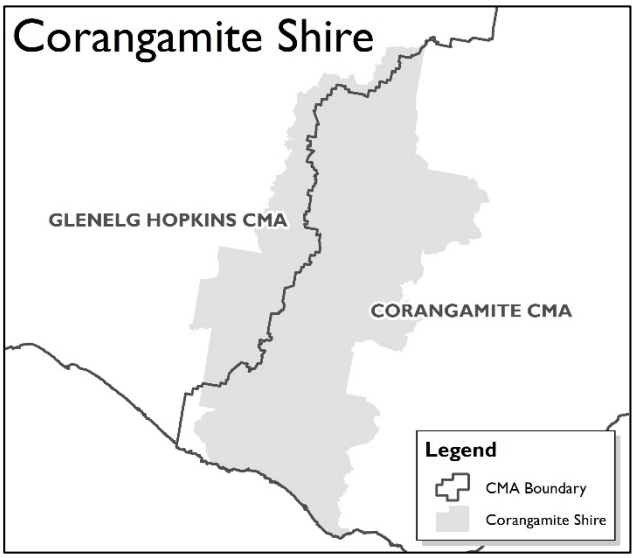
FLOODPLAIN MANAGEMENT IN CORANGAMITE SHIRE

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 (VICSES) 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 integrated flood 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.

Corangamite Shire extends across the Glenelg Hopkins and Corangamite Catchment Management Authorities, and is therefore considered within two regional floodplain management strategies. While the strategies are stand-alone documents, the tools and processes used to develop them have been the same, resulting in a consistent assessment of food risk and priority actions. This brochure summarises the information in the Corangamite Regional Floodplain Management Strategy relevant to Corangamite Shire, and is consistent with the Shire's intent and capacity to address flooding issues within this area.



There are several significant waterways and lake systems within the Corangamite CMA part of Corangamite Shire, including Lake Corangamite and the Gellibrand and Curdies Rivers.

The Western District Lakes sit at the top half of the Shire. The lakes are an important habitat for waterbirds, particularly during droughts. Lake Corangamite is the largest of the Western District lakes. It is a Ramsar wetland and one of the largest lakes in Victoria, with a surface area of 23,000 ha. The lake has no natural outlets and the area around it is flat and scattered with numerous small depressions. As a result, flooding depends on cumulative rainfall over a number of years rather than specific rainfall events. The Woady Yalloak River diversion channel near Cundare Pool allows the diversion of floodwaters from Lake Corangamite to the Barwon River via Warrambine Creek.

A significant waterway is the Gellibrand River, which originates outside the Shire in the Otway Ranges, enters the Shire at Lower Gellibrand River and discharges to the Southern Ocean at Princetown. The floodplains of the Gellibrand River and its tributaries are well developed and have a relatively flat gradient. Floodwaters are generally well confined by the narrow floodplain and are fast flowing with significant depths.

The coastal part of the Corangamite Shire includes two estuaries: the Gellibrand River estuary and the Port Campbell Creek estuary. Although the two are of very different scale, the processes at play are similar. They are both intermittent estuaries that naturally open and close to the sea by natural sand movement. Inundation of assets such as farmland or built infrastructure can occur when the river mouth is blocked. Excavation to reopen the entrance may be undertaken to reduce the extent of inundation under appropriate conditions, including water quality, river flow, ocean conditions and access. The management of the estuary entrance is governed by the Estuary Entrance Management Support System (EEMSS) outlined in the Corangamite Waterway Strategy 2014-2022 and, more specifically, the 2017 Gellibrand River Estuary Management Plan (currently in draft).

Development of the strategy:

Corangamite Shire Flood Risks

There were no priority risk areas identified within the portion of the Corangamite Shire in the Corangamite CMA region due to a lack of flood information for the rural and residential areas. A regional floodplain mapping project for the wider Corangamite Shire area will help identify any problem flood risk areas and help set appropriate actions. For example, there is a need to understand the risks associated with coastal storm surges in Port Campbell as well as riverine flood risks associated with Campbells Creek.

Another significant issue within the Shire is flood damages as a result of overland flows from smaller floods that can significantly damage the road network. The September 2016 floods caused more than $2.5 million in damages to the road network and extensive road closures. Many closures were in areas that had flooded in the past and could have been better planned if mapping and data were available.

Major risks relate to the potential inundation of the Great Ocean Road at Princetown (this could occur in combination with riverine flooding from the Gellibrand River).

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 priorities over a regional scale, and may not address some specific localised issues including stormwater flooding, which are more appropriately dealt with through other channels.

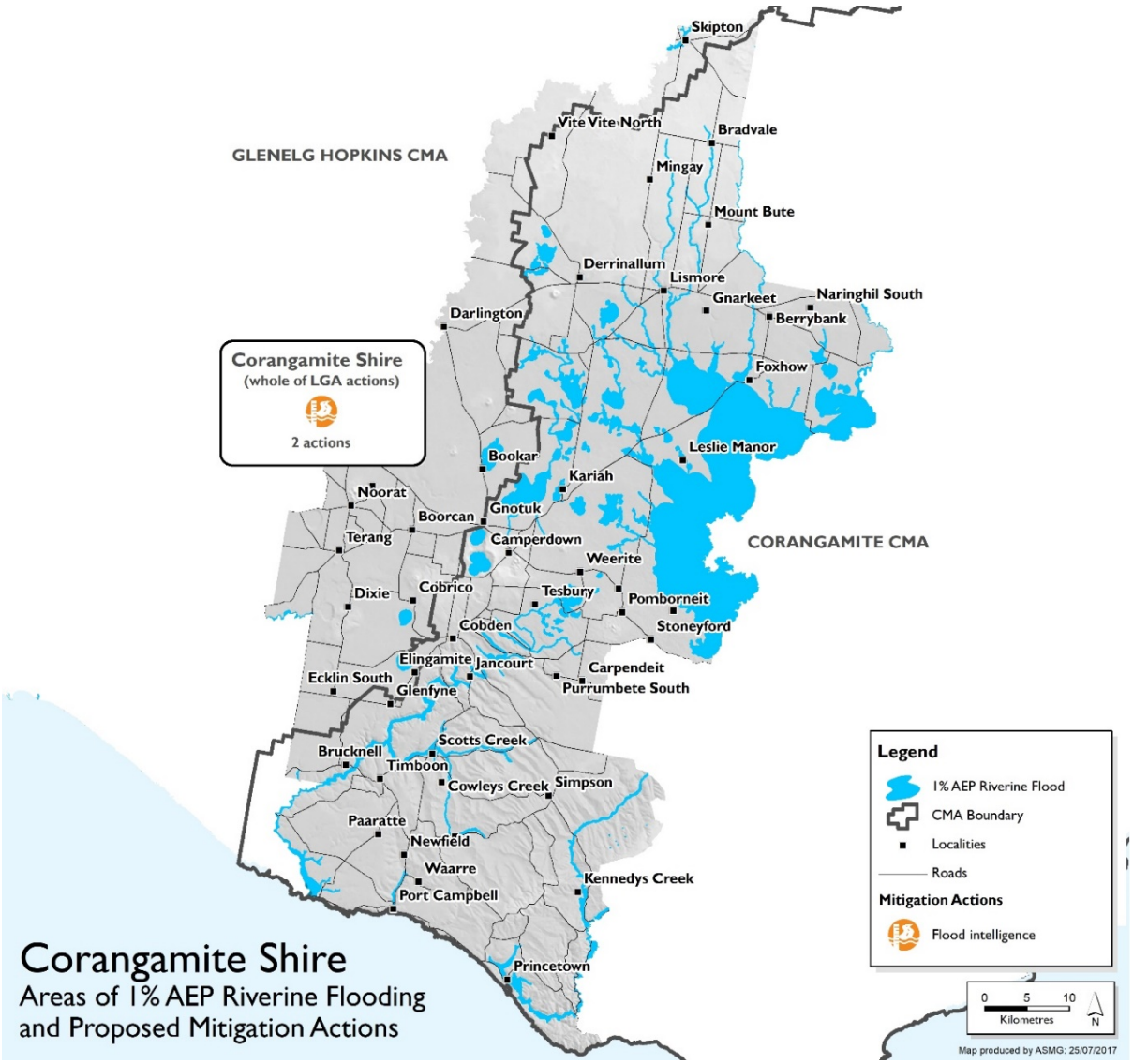
The flood mitigation actions proposed can be grouped into four categories:

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.


Skipton
Vite Vite North
Bradvale
GLENELG HOPKINS CMA
Mingay
Mount Bute
Derrinallum
Lismore
Gnarkeet
Naringhil South
Darlington
Berrybank
Corangamite Shire
(whole of LGA actions)
2 actions
Foxhow
Leslie Manor
Bookar
Kariah
Noorat
Gnotuk
Boorcan
Terang
Camperdown
CORANGAMITE CMA
Weerite
Dixie
Cobrico
Tesbury
Pomborneit
Cobden
Stoneyford
Elingamite
Jancourt
Carpendeit
Ecklin South
Glenfyne
Purrumbete South
Scotts Creek
Brucknell
Timboon
Cowleys Creek
Simpson
Paaratte
Newfield
Waarre
Kennedys Creek
Port Campbell
Princetown
Corangamite Shire
Areas of 1% AEP Riverine Flooding
and Proposed Mitigation Actions
Legend
1% AEP Riverine Flood
CMA Boundary
Localities
Roads
Mitigation Actions
Flood intelligence
0 5 10
Kilometres
N
Map produced by ASMG: 25/07/2017

Possible Flood Mitigation Actions

Flood Intelligence

- Continue to support the implementation of the Coastal Hazard Assessment for the Barwon South West coastline. Ensure that the outputs from this assessment meet the needs of the Shire and the CCMA.

- Investigate a regional flood mapping project for the whole Shire to identify key rural flow paths and provide advice on where overland flow paths might affect assets (including agricultural assets and roads, rail, drainage). This will include road inundation assessment (e.g. depth of flooding over roads) to assist council and SES plan for road closures during floods and to better plan for potential road damages.

- Seek funding to investigate the berm dynamics for the lower Gellibrand River estuary. This action needs to link in with any Coastal Hazard Assessment and could include recommendations for planning controls in estuarine areas (Corangamite CMA to lead).