

## Strathbogie Shire flood risk assessment and draft priority rankings for stakeholder discussion (urban centres)

Community input is needed to prioritise where flood knowledge needs to be improved through flood studies and flood mapping in Strathbogie Shire and to determine actions to reduce the risk of flooding.

This summary provides a list of studies for towns in Strathbogie Shire and draft priorities for flood mitigation actions.

### How to read the table below

The column to the left ranks flood risks (1: low, and 5: high), taking into account the possible damage from different sized floods and how often they are expected to happen. The measure of the yearly average cost of floods is known as Annual Average Damage (AAD).

The two columns in the centre of the table show:

- Flood studies that have been (or soon will be) completed for towns in your local government area.
- Recommendations from these studies that have been implemented (or are under way) and other relevant comments or observations.

The columns to the right of the table show DRAFT priority rankings [Low (L), Medium (M), High (H) and No Action (-)] for actions that reduce risk of flooding such as:

- Mitigation works (e.g. levees, retardation basin, and floodways)
- Flood warning systems (e.g. flood watch, flood warning broadcasts and action plans)
- Land use planning (e.g. flood overlay control in planning schemes)
- Municipal flood emergency plans (developed by council, VICSES and other agencies with flood-management responsibilities)

Please review this summary and provide feedback by:

- attending one of the community sessions being held across the catchment during February; or
- completing the feedback form on the website [www.gbcma.vic.gov.au](http://www.gbcma.vic.gov.au)

### Terminology

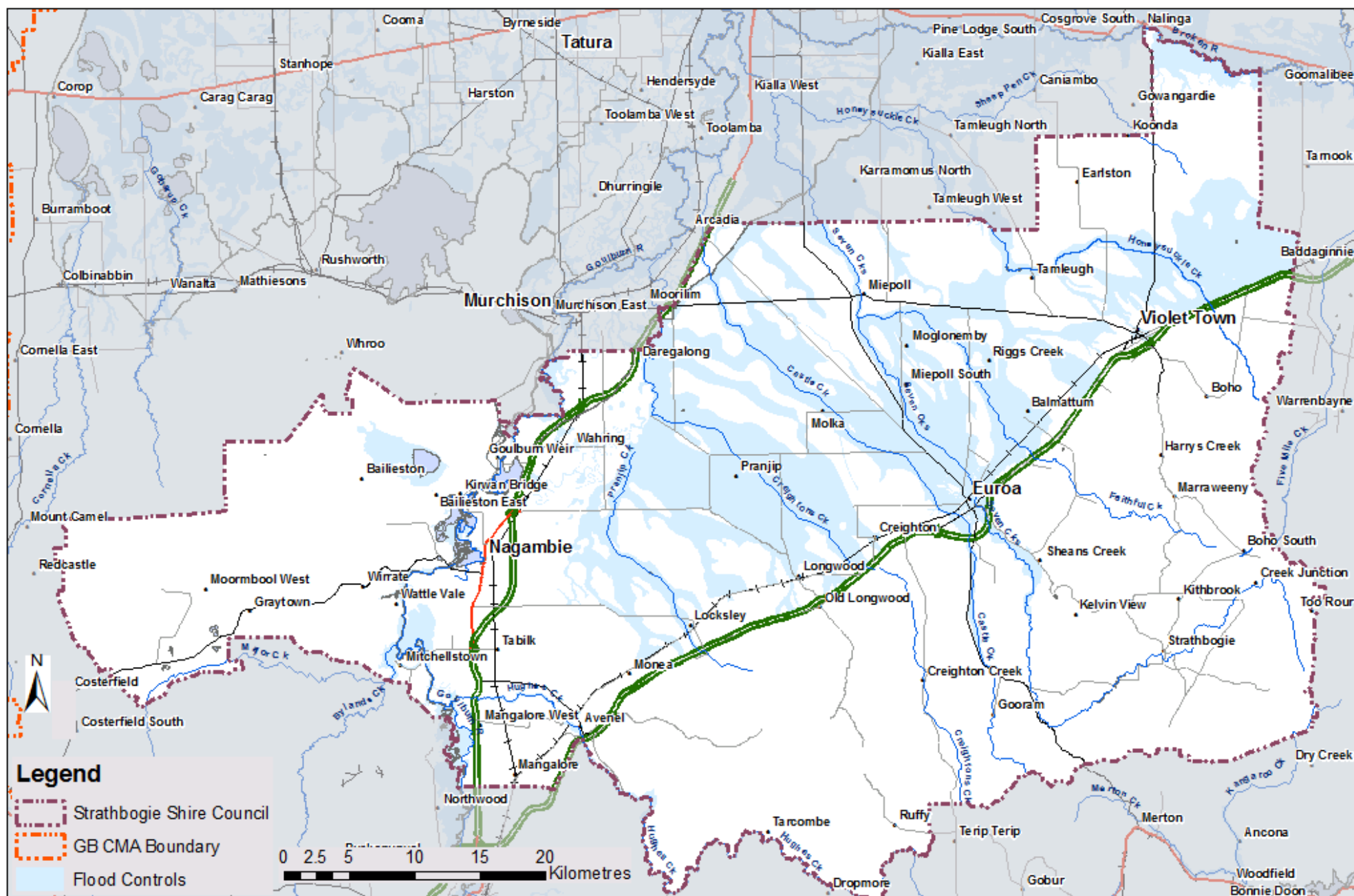
**Annual Average Damage (AAD)**, expressed in dollar terms, is the average damage per year that would occur in a particular area from flooding over a very long period of time. This provides a basis for comparing the economic effectiveness of different projects. For more information on risk assessment methodology, please see the Regional Floodplain Management Strategy section of the website.

**Annual Exceedance Probability (AEP)** is the likelihood of occurrence of a flood of given size or larger occurring in any one year.

**FloodSafe** is a whole community program designed to prepare and empower the community with the skills and knowledge to appropriately prepare for, respond to, and recover from floods.

**Municipal Flood Emergency Plan (MFEP)** is a plan prepared and maintained by each municipal council, under the *Emergency Management Act 1986*, which identifies the municipal resources available, and how they are to be used, for flood prevention, response and recovery.

**Regional Floodplain Management Strategy (RFMS)** (under development) will replace the previous regional strategy (2002) and aims to help manage flood risk by seeking community input to prioritise where flood knowledge needs to be improved. The priorities will be detailed in a rolling three-year regional work plan that can be used by local communities to secure funding for various flood management activities.



**Figure 1. Strathbogie Shire Council area showing town localities and existing flood controls**

**Table 1. Strathbogie Shire risk assessment (ranking 1: low, and 5: high)**  
**Draft priority rankings for stakeholder discussion: Low (L), Medium (M), High (H) and No Action (-) (for urban centres)**

| Name     | AAD | Summary of past and existing studies  | Summary of implemented study recommendations<br>(Other comments)   | Mitigation Works | Total Flood Warning System | Land Use Planning | Municipal Flood Emergency Plans |
|----------|-----|---|--|------------------|----------------------------|-------------------|---------------------------------|
| Avenel   | 2   | <ul style="list-style-type: none"> <li>Internal Rural Water Commission file used by GB CMA to prepare 1% AEP flood contours (Flood Atlas) for Hughes Creek together with infield flood overlay controls for planning scheme inclusion.</li> <li>Granite Creek Regional Flood Mapping Study (check name) (Water Technology, ongoing)</li> </ul>  | <ul style="list-style-type: none"> <li>Update flood zone and overlay controls in planning scheme</li> <li>Update 1% AEP flood contours in Flood Atlas</li> <li>Flood scoping study required to assess flood warning needs and emergency planning</li> </ul>  | M                | M                          | H                 | M                               |
| Euroa    | 4   | <ul style="list-style-type: none"> <li>Euroa Flood Study – Final Report (CMPSF, 1993)</li> <li>Euroa Flood Study – Hydraulic Assessment (Lawson &amp; Treloar 1997)</li> <li>Euroa Floodplain Management Study - 2 volumes (SKM, 1997).</li> <li>Total Flood Warning System (CT Management 1997) Check</li> <li>Euroa Water Management Scheme (Steering Committee, 1999)</li> <li>Urban Levee Review (SKM, 2013)</li> <li>Euroa Post Scheme Flood Mapping Study (Cardno, 2014)</li> <li>Levee Upgrade Report (GMR, 2016 – ongoing)</li> </ul> | <ul style="list-style-type: none"> <li>Total Flood Warning System implemented (need better access to flood data by community)</li> <li>Flood warning services are provided by BoM</li> <li>Water Management Scheme Implemented by Council including formalising the Castle Creek levee and waterway/floodplain vegetation thinning. Note that vegetation thinning along the Seven Creeks were achieved by significant exotic tree and weed removal as part of river health program by GB CMA</li> <li>Flood zone and overlay controls in place but require some revision based on latest Study</li> <li>1% AEP flood contours declared and part of Flood Atlas but need to be revised based on latest Study</li> <li>Property-specific flood information should be rolled out</li> <li>Castle Creek levee refurbishment required to ensure 1% AEP performance</li> <li>Monitoring action plan required to manage sand slugs under rail and Old Hume bridge structures</li> <li>Council remains committed for manage the water management scheme</li> </ul> | H                | H                          | H                 | H                               |
| Graytown | 0   | <ul style="list-style-type: none"> <li>Nil</li> </ul>   | <ul style="list-style-type: none"> <li>A waterway, with a 26 square kilometre catchment, flows west of the town with small localised drainage lines through the settlement</li> <li>The area is largely undeveloped and rural in nature</li> <li>Less than ten buildings identified from available aerial photography</li> <li>Possible scoping study required</li> </ul>  | -                | -                          | L                 | L                               |

| Name         | AAD | Summary of past and existing studies   | Summary of implemented study recommendations<br>(Other comments)  | Mitigation Works | Total Flood Warning System | Land Use Planning | Municipal Flood Emergency Plans |
|--------------|-----|--|---|------------------|----------------------------|-------------------|---------------------------------|
| Locksley     | 1   | <ul style="list-style-type: none"> <li>Granites Creek Regional Flood Mapping Project (Water Technology, ongoing)</li> </ul>  | <ul style="list-style-type: none"> <li>Pranjip (Burnt) Creek commands a catchment of some 36 square kilometres</li> <li>LiDAR ground level data and flood mapping indicates some 25 buildings (identified from 2015 aerial photography) are on high land above the estimated 1% AEP flood levels.</li> <li>Update flood overlay controls in planning scheme</li> <li>Flood warning requirements may rely on BoM flood watch products</li> </ul> | -                | -                          | M                 | L                               |
| Longwood     | 2   | <ul style="list-style-type: none"> <li>Nil</li> </ul>  | <ul style="list-style-type: none"> <li>Some 100 building exists (from 2015 aerial photography)</li> <li>LiDAR ground level data suggest some possible exposure to flood risk</li> <li>Some broad-brush mapping included in planning scheme</li> <li>Scoping flood Study required</li> </ul>   | -                | -                          | L                 | L                               |
| Mangalore    | 0   | <ul style="list-style-type: none"> <li>Nil</li> </ul>  | <ul style="list-style-type: none"> <li>Eight Mile Creek commands a catchment area of some 10 square kilometres that passes the town to the north. A smaller waterway flows south of the town</li> <li>No detailed ground level information is available</li> <li>Major storms passed over the area in early 2016 but the flood impact is unknown</li> <li>Scoping study is required</li> </ul>  | -                | L                          | M                 | L                               |
| Nagambie     | 1   | <ul style="list-style-type: none"> <li>Flood Risk Assessment for Chinaman's Caravan Park (SKM, 1999)</li> <li>Nagambie Flood Study – Draft Hydraulics Report (BMTWBM – ongoing)</li> </ul> | <ul style="list-style-type: none"> <li>Flooding of Low-lying areas including Tabilk Depression identified</li> <li>Flood zone and overlay controls are required in planning scheme</li> <li>MFEP needs updating</li> <li>Flood warning requirements may rely on BoM's Flood Watch products</li> </ul>   | -                | -                          | H                 | H                               |
| Old Longwood | 0   | <ul style="list-style-type: none"> <li>Nil</li> </ul>  | <ul style="list-style-type: none"> <li>Largely undeveloped with few buildings</li> <li>Winding Creek flows west of town commanding a catchment of some ten square kilometres</li> <li>A small drainage line identified through the town flowing west to east</li> <li>Rely on available BoM's products such as Flood Watch</li> <li>Possible scoping study</li> </ul>   | -                | -                          | L                 | L                               |

| Name        | AAD | Summary of past and existing studies  | Summary of implemented study recommendations<br>(Other comments)   | Mitigation Works | Total Flood Warning System | Land Use Planning | Municipal Flood Emergency Plans |
|-------------|-----|---|--|------------------|----------------------------|-------------------|---------------------------------|
| Ruffy       | 0   | <ul style="list-style-type: none"> <li>Nil</li> </ul>   | <ul style="list-style-type: none"> <li>Small waterway flows east of town commencing a catchment of some three square kilometres</li> <li>Possible localised drainage issues rather than riverine type flooding</li> <li>No further action</li> </ul>   | -                | -                          | -                 | -                               |
| Strathbogie | 0   | <ul style="list-style-type: none"> <li>Nil</li> </ul>   | <ul style="list-style-type: none"> <li>Some sixty buildings exist in the town (identified from 2015 aerial photography)</li> <li>Spring, Magiltans and Seven Creeks flow through the town.</li> <li>LiDAR ground level data reveals that these creeks are deeply incised and unlikely to create flooding issues.</li> <li>Possible scoping study require to determine flood extents</li> </ul>                                     | -                | -                          | L                 | L                               |
| Violet Town | 4   | <ul style="list-style-type: none"> <li>Violet Town Flood Scoping Study – Final Report (GHD/GEO ENG, 2002)</li> <li>Violet Town Flood Study (Water Technology, 2007)</li> <li>MFEM Updated Drafted (2011)</li> <li>Flood Warning arrangements (GMR, 2011)</li> <li>Violet Town Floodplain Management Plan (2012, Water Technology)</li> <li>Violet Town Floodplain Management Scheme (2012, Water Technology)</li> <li>Detail design for civil mitigation works (GMR Engineering – ongoing)</li> <li>FloodSafe Guide prepared</li> </ul> | <ul style="list-style-type: none"> <li>Flood zone and overlay controls prepared and not yet in planning scheme (await the implementation of mitigation works)</li> <li>1% AEP flood in Flood Atlas online</li> <li>Flash flood arrangements have been formulated but not implemented</li> <li>FloodSafe guide distributed</li> <li>Community negotiation on civil mitigation works are continuing</li> <li>MFEM updated</li> </ul> | H                | H                          | H                 | -                               |