

Performance Story

Managing risks of flooding in Shepparton Mooroopna

Guy Tierney, June 2008

Shepparton-Mooroopna is located at the confluence of the Goulburn and Broken Rivers and Seven Creeks. The total catchment area to Shepparton is 16,125 km².

Since the completion of Big Eildon Dam in 1955 major flooding has occurred in the Project area in 1956, 1958, 1974, 1975, 1981 and 1993. These major floods have highlighted that the relative contribution from the Goulburn and Broken Rivers and Seven Creeks can vary significantly. In addition, the relative contribution from the three catchments can markedly influence flood behaviour within the Project area.

The Shepparton Mooroopna Floodplain Management (SMFM) Study (SKM 2002) was undertaken for the Greater Shepparton City Council (GSCC) and Goulburn Broken Catchment Management Authority (GBCMA) in 2001-2002. This study undertook extensive topographic and field survey, hydrologic and hydraulic analyses, and flood damage assessment to define flood behaviour and risk within the study area.

A suite of flood inundation maps providing details of the flood depths, levels, velocities and the location of affected properties for a range of flood magnitudes were developed. This type of flood information is paramount as it enables flood height predictions, issued by the Bureau of Meteorology, to be meaningfully translated throughout major centres.

Analyses of these data found some 6,500 properties were impacted by the combined affects of the Goulburn River, Broken River and Seven Creeks during a 1 in 100-year flood.

From this knowledge came an understanding of flood risk, which underpinned the development of a floodplain management plan.

Community consultation during the SMFM study concluded that none of the proposed structural mitigation measures were desirable due to the predicted adverse flooding impacts to adjacent areas.

The SMFM study (SKM 2002) made the following recommendations:

- Adoption and implementation of revised land use planning maps.
- Improvements to flood warning tools/systems and arrangements.
- Refinement of flood response plans.
- Refinement of flood monitoring arrangements.
- Strengthening flood preparedness and community flood awareness.
- Development of improved information management systems.

The first recommendation was completed by GSCC and GBCMA. The remaining recommendations formed the basis of the Shepparton-Mooroopna Flood Warning and Emergency Management (S-MFWEM) Project. The key Project objectives of the S-MFWEM Project included the following:

- Community Consultation;
- Improved Flood Warning arrangements;
- Data collection network augmentation;
- Revision of Municipal Emergency Management Plan Flood Sub-Plan;
- Review of flood monitoring arrangements;
- Strengthening of Flood Preparedness and Community Awareness; and
- Development of improved flood information management systems.

Project deliverables

The key Project deliverables of the S-MFWEM Project included the following:

- Flood Warning Service Charter;
- Upgraded data collection network;
- Revised Municipal Emergency Management Plan Sub-Plan;
- Flood Monitoring Plan;
- Community flood warning information brochure;
- Property-specific flood charts;
- Implement Community Flood Alerting System; and
- GIS based flood information management system.

Each flood affected residence in Shepparton Mooroopna were provided an information kit including a property-specific flood chart. Furthermore, each resident was invited to be included on the telephone flood alerting system. Example of data provided.



Personal Flood Action Plan Information for: **4 Kula Street, Shepparton**



Flood Information Sources

Bureau of Meteorology (BoM)
Flood Warnings and related information:
www.bom.gov.au/weather/hydro/flood/vic
Victoria State Emergency Service
Storms and Floods 132 500

Flood warning categories	Goulburn River at Shepparton (m)
Minor	9.5
Moderate	10.7
Major	11.0
100 - year flood level	12.2

Critical Gauge Height Information for property (m)	Goulburn River at Shepparton (m)
Flooding above floor likely to commence Flooding above ground likely to commence	



Be prepared to activate your Personal Flood Action Plan if predicted gauge heights are higher than indicated above or vehicular access to your local area is threatened