
EXECUTIVE SUMMARY

Bewsher Consulting Pty Ltd was commissioned by Wollongong City Council, with financial assistance from the Department of Environment, Climate Change and Water (DECCW), to prepare a Floodplain Risk Management Study and Plan for the floodplains of Mullet Creek and Brooks Creek, which are located near Dapto. Council also separately undertook investigations to consider and manage the West Dapto Release Area.

The study was overseen by the Mullet and Brooks Creeks Floodplain Management Committee, which comprises councillors and staff from Council, officers from DECCW, the State Emergency Service and the Department of Planning, business stakeholders and several community representatives.

Principal Outcomes

The principal outcomes of this study include:

- ▶ A revision of the former Flood Study, with improved estimates of flood extents, levels and depths for the 20%, 10%, 5%, 2% and 1% Annual Exceedance Probability (AEP) events and the probable maximum flood (PMF) (BMT WBM, 2010);
- ▶ Estimation of the high, medium and low flood risk precincts used for planning control (**Chapter 4**);
- ▶ Definition of the flood problem by construction of a Flood Damages Database, which quantifies flood damages and records information on existing potentially flood affected properties within the study area up to the PMF (**Chapter 5**);
- ▶ An evaluation of potential floodplain management measures to reduce flood damages to existing development, incorporating input from the community (**Chapter 6**);
- ▶ A summary of work done to assess and mitigate the impacts of flooding associated with development of the proposed West Dapto Release Area (**Chapter 7**);
- ▶ Assessment of the potential impacts of climate change on flood behaviour, and a re-evaluation of potential floodplain management measures in view of those impacts (**Chapter 8**);
- ▶ A recommended Floodplain Risk Management Plan (FRMP) for the Mullet Creek and Brooks Creek floodplains (**Chapter 9**).

The Floodplain Risk Management Plan

The Mullet and Brooks Creeks FRMP is presented in **Table 9.1** and **Figure 9.1**. The recommended measures have been selected from a range of available measures, after an assessment of the impacts of flooding, as well as environmental, social and economic considerations.

The recommended measures have been categorised into high, medium and low priority measures, as follows:

High Priority (within 2 years)

- ▶ Amend planning and development controls:
 - 1) Prepare a City-wide approach for incorporating climate change flood risk into planning controls;
 - 2) Until the City-wide approach is implemented, include an interim climate change allowance in FPLs for Mullet and Brooks Creeks, following the approach of “Low” and “High” Climate Change FPLs (see **Chapter 8**);
 - 3) Revise the 1% AEP design flood level and the FPLs to take account of the West Dapto development proposals (when confirmed);
 - 4) Review the standard clause in the draft Wollongong LEP and draft West Dapto LEP to ensure consistency with this FMRS&P, the Floodplain Development Manual, the Illawarra Regional Strategy and relevant planning directions;
 - 5) Incorporate statutory controls in planning instruments for implementing and staging the West Dapto development in order to manage flood impacts on existing and new development;
 - 6) Amend DCP 54 by adding matrices of planning controls for the Mullet and Brooks Creeks floodplains;
- ▶ Revise Local Flood Plan (update flood intelligence, establish procedures to deal with isolation risks);
- ▶ Improve public awareness through issuance of flood certificates, distribution of FloodSafe brochures, maintenance of Council’s web-site, installation of flood marker post and commemoration of 30th anniversary of 1984 Mullet Creek flood;
- ▶ Manage riparian corridor through preparation of vegetation management strategies for Mullet and Brooks Creeks, through rehabilitation of the Brooks Creek riparian corridor, and by preparation of a “Riparian Corridors and Flooding” brochure;
- ▶ Continue to apply Lake Illawarra entrance opening policy (already being implemented); and
- ▶ Continue to implement existing voluntary house purchase scheme (Burringbar Street).

Medium Priority (within 4 years)

- ▶ Study and works to reduce blockage of Emerson Road culvert;
- ▶ Install debris control structure upstream of the Byamee Street culvert;
- ▶ Conduct minor drainage works near Kanahooka Road;
- ▶ Extend voluntary house purchase scheme for one house;
- ▶ Establish voluntary house raising/shifting scheme for four houses;
- ▶ Prepare guidelines for flood-proofing techniques;
- ▶ Install flood warning siren at Kembla Grange Industrial Estate;
- ▶ Improve flood warning system especially by publishing data from Mullet Creek water level recorder in real-time on MHL website;
- ▶ Provide reliable road access to Horsley and West Dapto during the 1% AEP flood; and
- ▶ Continue Council's on-site detention (OSD) policy.

Low Priority (within 7 years)

- ▶ Internal levee works at Kembla Grange Industrial Estate.

Funding

The total capital cost of implementing the Plan is \$1.6M, with ongoing maintenance costs of about \$25K per year. This would yield damage savings of up to \$3.3M (net present value), resulting in an overall benefit-cost ratio (BCR) in excess of 2.0. It would reduce the number of houses flooded above floor level in the 1% AEP flood by 47, from 77 to 30.