

Teven Valley Flood Warning

Ballina Shire, North Coast, NSW

A History of Flooding

Teven Valley, located in Ballina Shire, has had a previous history of flooding, with residents given little time to prepare or evacuate. Because of the experience that Manly Hydraulics Laboratory (MHL) has with establishing similar systems, the Laboratory was chosen to establish an early warning system based on rainfall to provide sufficient warning to the local State Emergency Service team.

Project Scope

MHL was responsible for establishing three rain gauges and one water level gauge in the Teven Valley catchment. Associated infrastructure to retrieve and record the data as well as to issue the alarms was also provided by the Laboratory.

System Calibration

To accurately set trigger levels for the alarms, MHL used a HEC-RAS model to determine likely threatening flows, as this was unknown. From this the rate of rainfall that would likely cause flooding could be determined, and alarms triggered when this rainfall is recorded.

Our Role

MHL was responsible for delivering a complete functioning system to Ballina Shire Council and the local State Emergency Service team, consisting of:

- installation of three rain gauges and one water level gauge
- co-ordinating the use of repeater stations and base stations to establish a radio data network
- calibration of the system using numerical modelling.



Installed rain gauge and radio data link



Overview of modelling domain, installed sites and properties at risk

Outcomes

Using a combination of real time data capture and predictive modelling MHL has been able to improve warning of impending likely flood events. Greater advance warning of floods has reduced the risk to life and property in Teven Valley.