Resilient Valley, Resilient Communities

Hawkesbury-Nepean Valley Flood Risk Management Strategy

Frequently asked questions

Understanding floods

Why do we need to prepare for flood during a drought?

It's vital to plan for natural disasters before they happen. Like droughts, fires and storms, floods are unpredictable, damaging and dangerous. The Hawkesbury-Nepean floodplain was created by floods over thousands of years. More floods are inevitable and we need to be prepared.

Recent research points to a cyclic pattern of flood-dominated and drought-dominated periods across the region. This would suggest we are currently in a drought dominated period which has included the Millennium Drought. A flood-dominated period is likely to follow this drier cycle.

Even in a long dryer period, we can still experience a rain event that can cause a flood. That's what happened in 1998, when an East Coast low delivered enough rainfall to the large Warragamba Catchment to take Warragamba Dam from 56 percent full to spilling in around two weeks. The same could happen during the current drought.

What causes floods in the Hawkesbury-Nepean Valley?

Rainfall events known as East Coast lows are the primary weather systems behind large floods in the Hawkesbury-Nepean Valley. The extent and depth of flooding is also influenced by the unique 'bathtub' effect of the floodplain.

Most river valleys tend to widen as they approach the sea. The opposite is the case in the Hawkesbury-Nepean Valley. Narrow downstream sandstone gorges between Sackville and Brooklyn create natural choke points. Floodwaters back up and rise rapidly, causing deep and widespread flooding across the floodplain. Much like a bathtub with five taps turned on, but only one plug hole to let the water out.

What is the risk of flooding?

It's important to think about flood risk both in terms of their likelihood and the consequences when they happen.

Likelihood

Floods are most often described in terms of the chance that floods of a certain size could occur.

The terms '1 in 100 flood', or '100-year flood' refers to a flood that has a 1 in 100 (or 1%) chance of happening or being exceeded in any one year**. It does not mean a chance of happening once every hundred years.** For example, every year there is a 1 in 100 chance (or 1% chance) there would be a flood reaching around 17 metres or higher above normal river level at Windsor.

Said another way, it means a person living to 70 years of age has a 50% chance of experiencing this type of flood during their lifetime. Another way of thinking about this size flood is that there would be around a one in four (or 25%) chance of it happening during the period of a 30-year mortgage.

Consequence

The Bureau of Meteorology has three categories for describing the consequences of regional flooding: minor, moderate and major. More information about flood categories is available on http://www.bom.gov.au/water/awid/

What are the impacts of floods in the Hawkesbury-Nepean Valley?

There have been 130 moderate to major floods in the Hawkesbury-Nepean since European settlement.

If a major flood similar to the 2011 Brisbane flood happened in the valley today (approx.1 in 100 (or 1%) chance per year event) it would pose a significant risk to life. Around 64,000 residents would need to be evacuated, and more than 5,000 homes would be impacted.

The largest flood in the valley since European settlement happened in 1867. That flood reached around 19 metres above normal river height at Windsor, caused massive and widespread damage, and resulted in the loss of 13 lives. If a similar flood happened now the consequences would be catastrophic - many lives would be at risk and around 90,000 people would have to evacuate.

Recovery from major floods like these can take years, and the personal and financial effects on people and communities can be devastating.

When will the next major flood happen in the valley?

Flood are random, naturally occurring events. It's impossible to predict when the next major flood will happen.

History has shown that serious floods can happen many times in a single decade, and not again for many years. For example, there were several major floods in the valley from 1956 to 1964, two of which were after Warragamba Dam was built. Following flooding through the 1980s, the last major flood was in 1990.

The absence of major floods since 1990 in no way suggests this relatively flood-free period will continue. It's not a matter of if the next flood will happen, it's a matter of when.

What if a flood happened now in the Hawkesbury-Nepean?

In recognition of the major flood risk in the valley, the NSW SES has prepared the Hawkesbury-Nepean Flood Plan to help manage and respond to floods in the region. The plan allocates responsibilities to agencies and organisations to prepare, respond to, and recovery from floods. This plan is reviewed regularly.

What can people do to prepare for flood?

It's vital for people who live and work in the valley to be aware of their flood risk and be prepared.

Information on flood emergency management and what people can do to prepare for a flood can be found on the NSW SES website www.ses.nsw.gov.au . It is vital that people be alert to flood warnings and respond to evacuation orders.

How do people know if they are in a flood-prone area?

Local councils are primarily responsible for managing flood-prone land in their local government area. Residents can contact their local council to request flood information related to their property