

Background for Flood Risk Assessment

To enable risk to be managed equitably across “urban centres” and “rural study areas” and priorities for investment to be determined, an evidence-based approach has been developed. This is consistent with state and national emergency management reform agendas, and is aligned with the requirements of the Victorian Floodplain Management Strategy.

The Department of Environment, Land, Water and Planning’s rapid appraisal methodology is used to assess flood risks. It has been developed with the intention of providing a simplified appraisal tool that can be used to rapidly gain an understanding of flood risk with an appropriate level of reliability.

This methodology assesses risk associated with agriculture, property, buildings and emergency services.

The risk assessment is based on a calculation known as the Annual Average Damage (AAD) expressed in dollar terms. It 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.

It presents risk using three metrics using a 1 to 5 scale of relativity. There is no one risk metric that is likely to best capture the severity of flood risk within a study area.

Using AAD, the flood risk has been carried out for each study area using three metrics:

1. Density of flood damages – the Average Flood Annual Damage (AAD) is divided by the area of inundation for the 1% AEP flood extent
2. Absolute AAD – the absolute size of the AAD per study area
3. Proportion of the town population affected - the Average Annual Population Affected (AAPA) which is the AAD divided by a town's population

This categorisation requires consultation with regional stakeholders to present flood risk severity in a local regional context.

Table 1. Assumptions used for risk categories

Score	Density of flood damages ⁱ	Absolute AAD ⁱⁱ	Population affected ^{iii, iv}
0	No data	No data	No data
1	0	0	0
2	\$500	\$100,000	4
3	\$1,000	\$200,000	10
4	\$2,500	\$500,000	30
5	\$5,000	\$1,000,000	60

Notes

(i) Measured as the AAD divided by the area of inundation for the 1% AEP flood extent.

(ii) The absolute size of the AAD.

(iii) Measured as AAPA divided by a town’s population (multiplied by 1,000).

(iv) No population has been determined for “rural” study areas. They are given a score of 1.