

## **DEFINITIONS**

The GHGMA approach is underpinned by the following definitions.

### **Floodway (Edwards, 1998)**

- Generally the high hazard<sup>[1]</sup> portion of the floodplain.
- Water is likely to be deep and/or fast moving in these areas during large floods.
- Generally areas where major discharge or storage of water occurs during large floods.
- Often aligned with naturally defined channels and include areas which, if filled or even partially blocked, would cause a significant redistribution of flood flow, or significant increase in flood levels.

### **Flood Fringe**

Generally the low hazard portion of the floodplain.

Water is likely to be relatively shallow and slow moving in these areas during large floods.

This land is often (but not always) on the fringe of the floodplain.

<sup>[1]</sup> In the context of floodway, hazard is defined as a potential source of harm or adverse health and wellbeing effects on people.

## **DELINEATION CRITERIA**

### **FLOODWAY**

As a minimum<sup>[2]</sup>, any land where best practice floodplain modelling indicates:

- the 100 YR ARI flood depth is likely to reach or exceed 0.5 metres; and/or
- the estimated 100 YR ARI flood hazard factor (velocity x depth) can be expected to reach or exceed 0.4m<sup>2</sup>/sec

is delineated as floodway for the purpose of land use and development planning.

Flood frequency (eg. 10 yr. ARI flood extent) is an additional criteria that may be applied as per Edwards (1998). However the implications of this need careful consideration. Significantly larger areas of land may be delineated as floodway. Whilst the subject land may flood more frequently, the relationship of the floodway delineation to hazard becomes weaker. This may not be appropriate from socio economic viewpoints. In general, stronger emphasis should be placed on flood frequency when considering flood controls for greenfield areas.

### **FLOOD FRINGE**

Any land that is outside the floodway, but inside the 100 YR ARI flood extent is delineated as within the flood fringe by default.



### Notes:

**Flood hazard factor** is derived from the product of velocity and depth of water likely to inundate the land during a 100 year ARI flood. A factor of  $0.4\text{m}^2/\text{s}$  is recommended by the *Australian Rainfall and Runoff (ARR) guidelines* (I.E.Aust, 1987) which states that 'to prevent pedestrians being swept along streets and other drainage paths during major storm events, the product of velocities and depths in streets and major flow paths generally should not exceed  $0.4\text{m}^2/\text{s}$ '.

**Where depth is likely to be 0.5m or more** during a 100 yr ARI flood it is assumed that the land is of major importance for the storage and conveyance of floodwater (Edwards, 1998). In addition, contemporary research indicates that flooding to this depth represents a significant risk to people in and of itself (ARR revision project 10, Stage 1 and 2 reports P10/S1/006, P10/S2/020).

<sup>2</sup> The criteria are subject to change pending advancements in advancements in flood hazard research.

### PLANNING MAP DEVELOPMENT PRINCIPLES

- Raw flood data boundaries are smoothed to create plausible representation of the floodway and flood fringe boundaries.
- Irregularities in the floodway and flood fringe boundaries, such as small "tongues" of flood-prone land extending out from the bulk of the identified flood extent, may be smoothed when accurate reflection of this data is of no value in terms of a planning permit trigger. The underlying Planning Scheme Zone is a consideration in doing this.
- Flood-prone areas shown on raw flood mapping that are less than 1000 m<sup>2</sup> (0.1 Ha); and not directly connected to riverine flow path (ie outside the riverine floodplain) have been excluded from the planning maps. This needs careful consideration in relation to the scale and purpose of planning maps and the underlying planning scheme zone. A permit trigger for such areas within the Farming Zone is probably not warranted, but the converse may be true for land zoned for residential purposes.
- Islands (high ground) within the floodway (ie marooned by high hazard flooding) are in general covered by the floodway overly due to safe access being cut off by flooding. A planning permit application is therefore triggered on such land which provides for proper consideration of flooded access hazards in the permit application assessment process.
- Islands (high ground) of 1000m<sup>2</sup> (0.1 Ha) or less within the flood fringe area to be represented by the LSIO are filled in due to safe access being cut off by flooding. A planning permit application is therefore triggered on such land which provides for proper consideration of flooded access hazards in the permit application assessment process.
- Small "holes" in the floodway mapping have been filled in to create the floodway overlay map. The land is still flood-prone and such "holes" represent land where the depth and hazard factor ( $v \times D$ ) of floodwater is lower than the adopted floodway criteria. In general there is no value from a planning perspective in identifying such small patches of land within the Floodway Overlay as subject to the Land Subject to Inundation Overlay when these patches will be marooned by high hazard flooding in any case.



- Flood extents on planning maps may sometimes be pulled back to property boundaries in instances where the area of identified floodway or flood fringe land within the property boundary is so minor as to render a planning permit trigger impractical or unreasonable.

### References

Edwards, M (NRE) (1998) Advisory notes for delineating floodways