



# THE ENTRANCE PENINSULA

## COMMUNITY PRECINCT

ENCOMPASSING: THE ENTRANCE; THE ENTRANCE NORTH; LONG JETTY TOOWOON BAY; BLUE BAY; SHELLY BEACH & MAGENTA

### Wyong Shire Council's Senior Planning Engineer ( Hydrology) Natural Resources, Lara Critchley's presentation, 16 March, 2010 at 7:00pm on "Tuggerah Lakes Floodplain Risk Management Study and Plan"

Lara was welcomed by the chairperson of T.E.P.C.P, Vivienne Scott, and thanked for her attendance to address the Precinct Committee on the Floodplain Risk Management Study and Plan. Supporting Lara Wyong Shire Council's Martin Johnson, Manager, Natural Resources and Legal & Policy and Shah Alam, Engineer Hydrology.

Lara advised that Council is preparing a floodplain risk management plan for the area you live, work or socialise in. She explained that every creek and river floods in a different way, and a floodplain risk management plan was being prepared for several of the Shires waterways, including Lower Wyong River, Ourimbah Creek, Tumbi Umbi Creek, Porters Creek and the Tuggerah Lakes. An important part of formalising the plan is Community Consultation and community input. To this end Lara referred to the questionnaire that had been sent out to everyone living in the suburbs around Tuggerah Lakes. The study area covers all the areas (not just the flood prone areas) around Tuggerah Lake, Budgewoi Lake and Lake Munmorah. The survey asks what experiences you have had in a flood and what you think should be do to manage floodprone land.

Lara's Power Point presentation gave an explanation of the meaning of some of the terms uses to describe rainfall and flood events. One of these was the **Probable Maximum Flood (PMF)** which is the largest flood that could possibly occur at a particular location, usually estimated from probable maximum precipitation. It explained that flooding was a relatively **high stream flow** which overtops the natural or artificial banks in any part of a stream, river, channel, estuary lake or dam; and/or **local overland flooding** associated with drainage before entering a watercourse; and/or coastal inundation resulting from super elevated sea levels and or waves overtopping coastline defences excluding tsunamis. A Floodplain is the area subject to inundation by floods up to and including the Probable Maximum Flood (PMF) event, also referred to as **flood prone land**.

The survey was particularly interested in how flooding had affected residents. For example in the 2007 flood houses around Tuggerah Lakes were flooded for up to three days. The sewer had to be turned off in some locations resulting in a health risk if you stay in your home. Then the need for evacuation plans comes into play and evacuation can be difficult as the floodwaters are already quite expansive and /or deep.

The presentation then showed pictures of flooding in the Shire, like Porters Creek flooding in October 2004; Ourimbah Creek and Tuggerah Lakes flooding in June 2007; Wyong River flooding in June 2007 where a nursing home had to be evacuated; Urban flooding in Wyong town centre June 2007 and a slide of Urban nuisance flooding in June 2007 showing plastic bins washed away.

Broad community involvement in the plan preparation, from the beginning, should produce the best prospect for community acceptance of, and commitment to, the resulting Management Plan

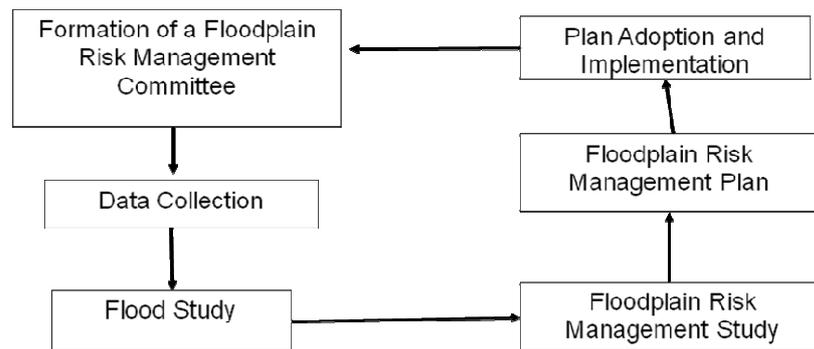
#### What is a Floodplain Risk Management Plan?

- a management plan is developed in accordance with the principles and guidelines of the NSW Floodplain Development Manual (2005).
- The plan includes information on how particular areas of flood prone land should be managed to achieve specific objectives as well as managing the existing flood risk.

#### Why do we need a Floodplain Risk Management Plan for Tuggerah Lakes?

- Reduce the social and financial costs from the risks associated with occupying the floodplain
- Increase the sustainable benefits of using the floodplain; and
- Improve or maintain floodplain ecosystems dependent on flood inundation

## Steps Involved in Formalising Floodplain Risk Management Study and Plan



### Flood Study – Tuggerah Lakes catchment :

- Completed in 1994;
- Design flood levels for PMF, 1%, 5%, 20% and 50% AEP design storm events;
- Approximately 8,700 properties are affected by flood planning level,
- Approximately 2,800 properties with floor levels below the flood planning level.

### Floodplain Risk Management Study:

- Study for the Tuggerah Lakes area is currently being carried out by WMAWater
- Analyse all factors and risks associated with flooding
- Analyse potential risk management options

### Flood Risk Management Options:

Lara spoke on the management options and it was this topic that created the most interest from the audience.

#### Property Modification Measures:

- Zoning, Voluntary House Raising, Building and Development Controls, Flood proofing Building  
Lara showed aerial flood photos illustrating how building your floor level above the Flood Planning Level could be used in floodprone areas; and a slide of how zoning of land to industrial uses in floodprone areas can result in properties being inundated with all the associated problems. Another method illustrated was Property Modification Measures such as voluntary house raising so that the floor level is above the Flood Planning Level

#### Response Modification Measures:

- Community Awareness, Flood Prediction and Warning, Local Flood Plan, Evacuation Arrangements.

#### Flood Modification Measures:

- Retarding Basins, Levees, Channel Improvements, Flood Gates, Opening or dredging the Entrance channel

Lara showed flood photos showing culvert upgrades and the levee at Maclean.

### The presentation asked: **How can you help?**

As an inhabitant of the Tuggerah Lakes area, the community has a key role in the preparation, implementation and success of the Floodplain Risk Management Plan.

- By providing any information in relation to historic flood events or flooding experiences, and/or
- suggestions of how Council can manage flood prone land.

### What are the outcomes of the Plan?

Develop a Plan that

- Reduces flood risk to the community
- Increases community resilience to flood risk
- Introduce planning controls that are specific to all flood prone areas in Tuggerah Lakes area.
- Create greater community awareness that Council is actively involved with floodplain management
- Provide information for preparing Local Flood Plans – for SES.

### Where to from here?

- Final draft of plan → public exhibition for review and comment, The intention is to have a draft plan ready in June or July, 2010, for exhibition
- Final report and plan → sent to Council for adoption.
- Adopted plan → implement recommendations, such as planning controls and construction works.
- The Plan will be reviewed every 5 years

### Questions and Comments:

- The major concern by the audience was the creation of a permanent opening to the lakes at The Entrance. These should form part of the “flood modifications” or “hard engineering” options that Council should invest in. The audience felt strongly that this would alleviate a lot of the flooding issues around the Lakes and Council should construct something as a matter of importance/urgency.
- Also of concern of the audience was Council's rescinded **Climate Change Policy** which is being revised and prepared for re introduction. Lara explained that due to the extent of flooding around the Tuggerah Lakes, this study was concentrating on the existing flood information however must also consider the sea level rise predictions provided by the State Government.
- It was stated that Existing Flooding and Potential Flooding due to climate change were two separate policies. This study has an existing flooding focus. This floodplain management study is being carried out in accordance with NSW Department of Environment, Climate Change and Water, whereas Council does not have a climate change policy currently in place.
- There was concern about the Planning Departments adoption of NSW Department of Environment, Climate Change and Water 900mm sea level rise and it was pointed out that this was a State Government law and Council staff were obliged to adopt it.
- Comment was made that the Management Plan should be scientific and not based on popular opinion from the survey. Council indicated that this would be the case, however Council must also consider what concerns and ideas the community has to ensure they are also looked at as part of the study.
- There was a lot of ignorance in the community about Tuggerah Lakes and the belief that opening The Entrance channel would help mitigate floods. Lara said that studies showed that this was not the case. The Tuggerah Lakes system is a series of lagoons. Flushing of the lakes depends on rainfall events and that the flow of water at The Entrance channel is driven by tide and accounts for only 1% of the system's water exchange.
- Council indicated that one of the recommendations of the plan would be about community education, and informing and educating the community on the flood behaviour of the Tuggerah Lakes system and the different Flood Mitigation options for Tuggerah Lakes. Lara stated that she would be happy to come back and do another presentation to the TEPCP when the draft study was complete, to go through the different options that were presented for management of floodprone land in the Tuggerah Lakes area.
- Council has not communicated well in the past on how the flood modelling works. Council recognised this fact, and intent to incorporate this in to the community education, as noted above.
- The audience came away confused on how exhibition of this plan would be meaningful without the proposed sea level rise data being include.

Vivienne Scott thanked Lara for her presentation.

Note taker Doug Darlington.