



→ WOLLONGONG | CITY OF INNOVATION

# Floodplain Risk Management Committee

Central area

17/04/2018



## Meet the Team.

- Peter Nunn      19 years experience in floodplain management.  
State Award for Excellence in Strategic Master Planning  
for Stormwater and Floodplain Management (2014)
- Isabelle Ghatti      18 years experience - 2 Masters (Polytech Montpellier-1<sup>st</sup>  
class honours, UTS)
- Dr Petar Milevski      24 years experience - Ph. D in Hydraulics - ANU  
visiting fellow
- Yelia Pandika      28 years experience - 2 Masters
- Rudy Van Drie      30 years experience. Bachelor, co-author of 2  
hydrological models - ANU visiting fellow

Authors of dozens of Industry Conference papers and presentations at  
Flood Conferences



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# The Floodplain Risk Management Process

Management of flood risk in NSW is a responsibility of local government

**Floodplain Development Manual**

the management of flood liable land

April 2005

Policy Guidance is provided by NSW Government:  
Office of Environment and Heritage

## Review

- new improved data
- major changes in catchment
- flood -policy changes

## FLOODPLAIN RISK MANAGEMENT PROCESS Appendix C

Floodplain  
Risk  
Management  
Committee

Data  
Collection

Flood  
Study  
Preparation

Floodplain  
Risk  
Management  
Study  
Preparation

Floodplain  
Risk  
Management  
Plan  
Preparation

Floodplain Risk  
Management  
Plan  
Implementation

Understand  
the flood risk

Understand risks  
and identify  
mitigation measures

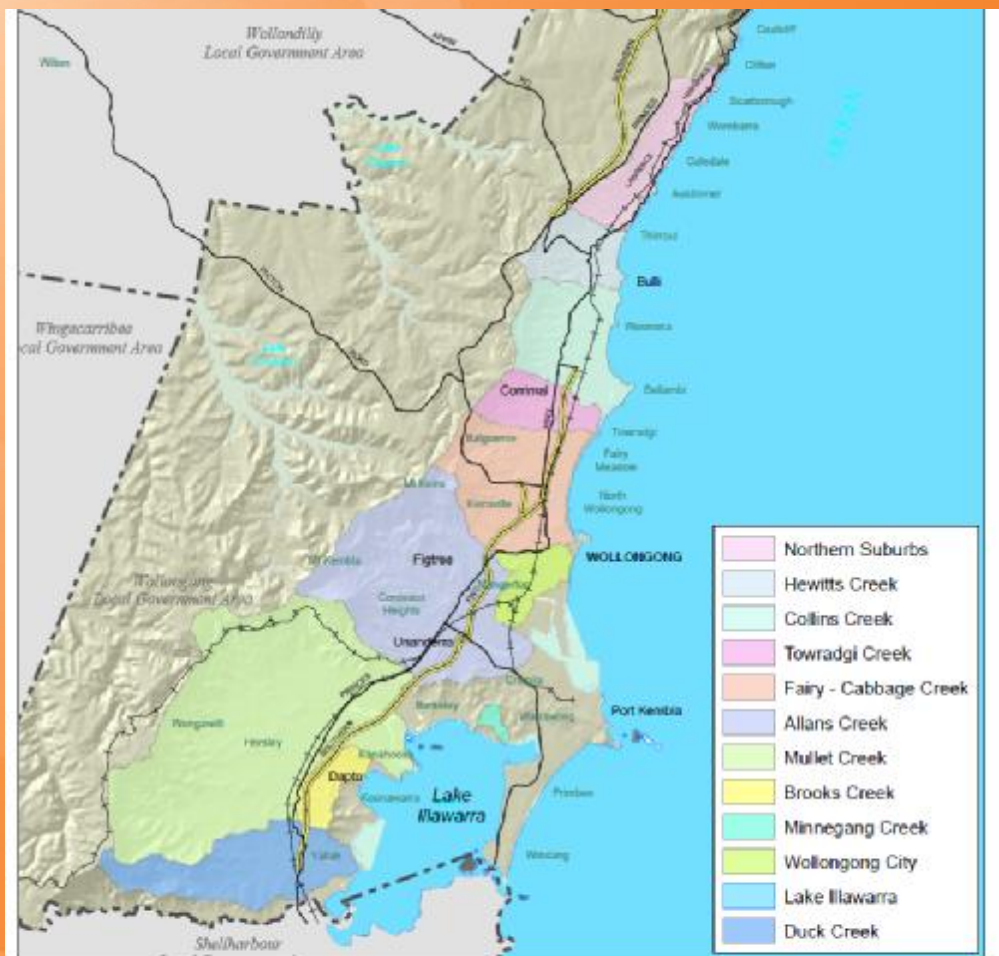
Council  
delivery  
program



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# Status of flood risk Management in Wollongong

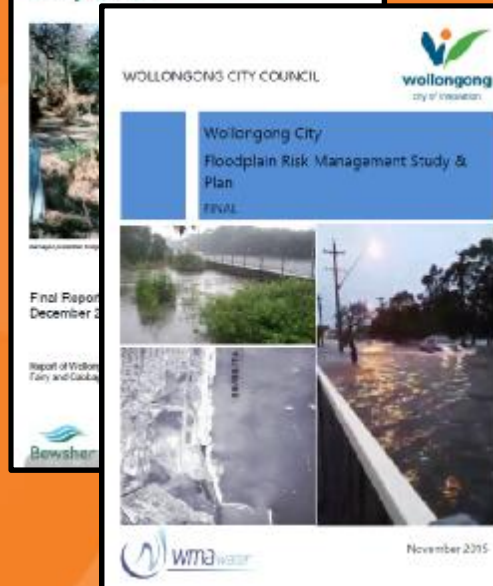
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Wollongong City Council  
**Floodplain Management Areas**



Fairy and Cabbage Tree Creeks  
Floodplain Risk Management  
Study & Plan




WOLLONGONG CITY COUNCIL  
wollongong  
city of innovation

Wollongong City  
Floodplain Risk Management Study &  
Plan  
FINAL

Final Report  
December 2015

Report of Wollongong  
Fairy and Cabbage  
Tree Creeks

WMAwater  
November 2015

Library | Tourist Parks | Leisure Centres | Botanic Garden | Golf Course | Memorial Gardens | Gallery | Community Centres | Emergency Services


WELCOME TO  
**WOLLONGONG**  
CITY COUNCIL

Our City | Council | Services & Projects | Planning & Development | Community Facilities

**Services & Projects**

- Climate Change
- Coastal and Estuary Management
- Events and Workshops
- Floodplain Management**
- Flood Information
- Catchment Strategies
- Flood Education
- Brooks Creek Catchment
- Natural Area Management
- Sustainable Living
- Trees and Your Property
- Volunteer Programs
- Wollongong Botanic Garden

## Floodplain Management

Strategies and reports of Wollongong's floodplain areas

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### Flooding in Wollongong

Flooding is when the water level in a creek, river, lake or the sea rises and covers land. Whilst some floods occur without problem, others are devastating, causing large-scale destruction and significant loss of life. The rise in water level can be due to numerous causes, although the most common in Australia is heavy rainfall.


Flooding that is sudden and unexpected is referred to as flash flooding. It is usually caused by slow-moving thunderstorms that deposit an extraordinary amount of water in a relatively short period of time.

Due to our location at the foot of the Illawarra Escarpment, Wollongong is particularly prone to flash flooding. As heavy rainfall occurs along the escarpment, runoff reaches the creeks very quickly, giving local residents little time to prepare.

### Floodplain Risk Management Committees

**Are you interested in Floodplain Management?**  
Wollongong City Council is establishing new Floodplain Risk Management Committees. We're looking for residents who would like to be actively involved in advising Council on local floodplain management issues.

**Which Floodplain Management Area(s) are you interested in?**







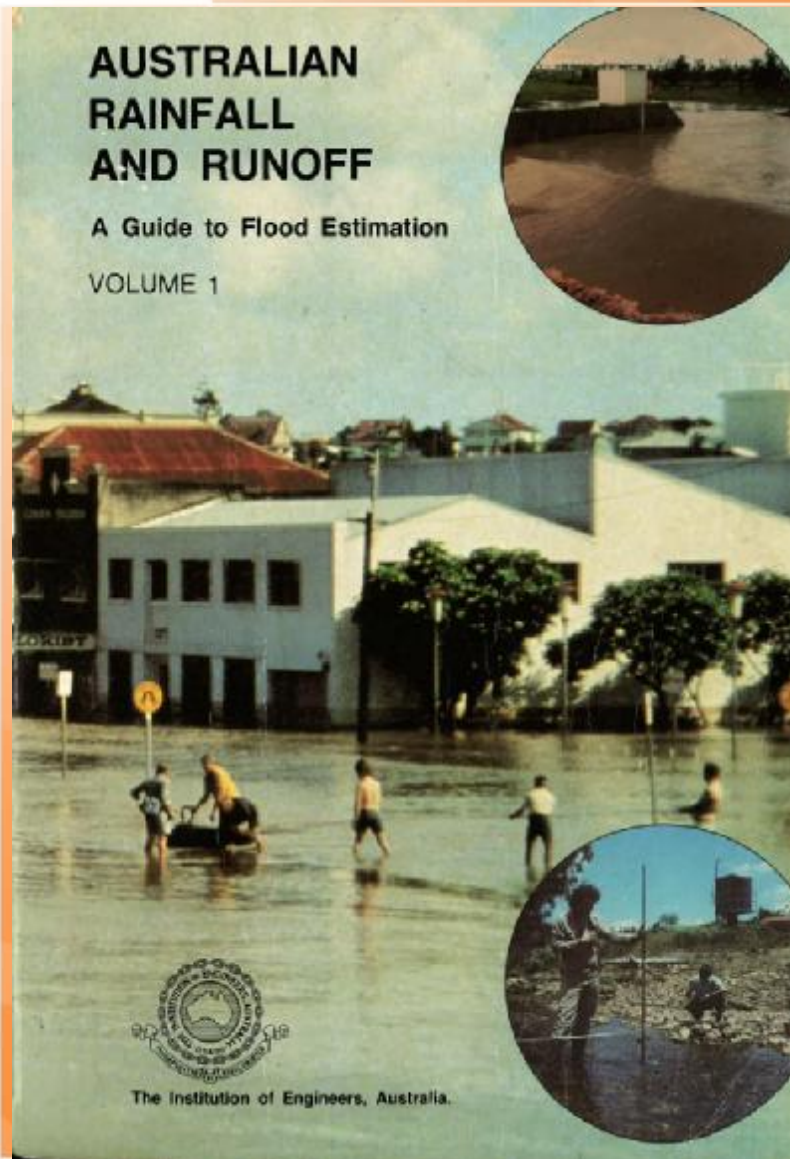
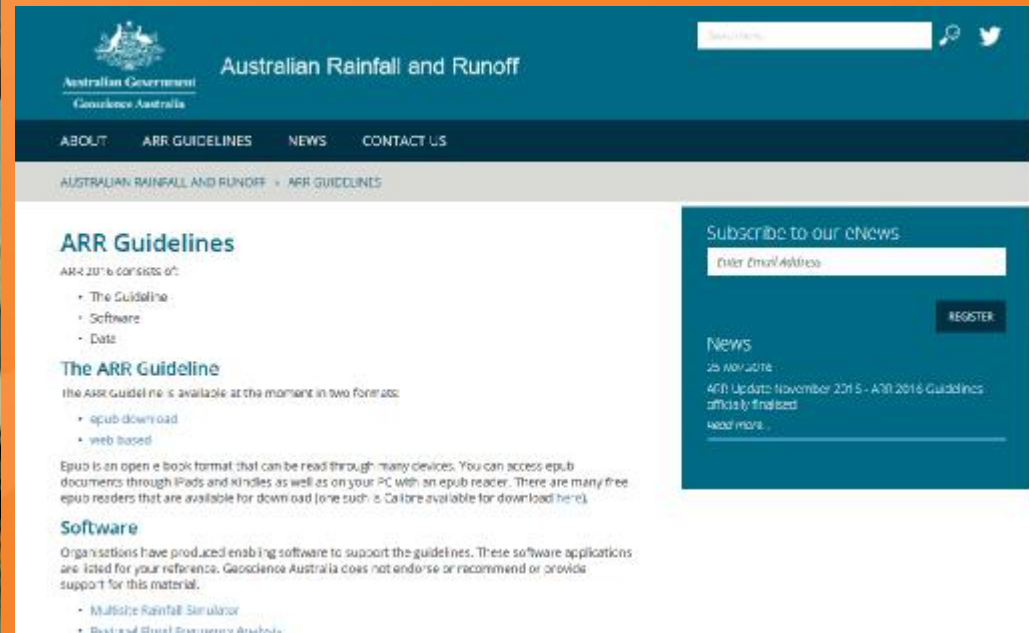
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Catchments	Councillors membership (February 2018)	Committees Established February 2018
Hewitts	Cr Jenelle Rimmer Cr Mithra Cox [Chair] Cr Janice Kershaw	Northern area
Collins		
Towradgi		
Fairy Cabbage Tree	Cr Cath Blakey, Cr Tania Brown and Cr John Dorahy [Chair]	Central area
Wollongong City		
Allans (already formed)		
Minnegang	Cr Cameron Walters, Cr Vicky King and Cr Dom Figliomeni [Chair]	Southern Area
Kully Bay		
Mullet and Brooks		
Lake Illawarra		
Duck Creek		



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# Recent changes in guidelines and policies

**Australian Government**  
Geoscience Australia

## Australian Rainfall and Runoff

ABOUT | **ARR GUIDELINES** | NEWS | CONTACT US

AUSTRALIAN RAINFALL AND RUNOFF > ARR GUIDELINES

### ARR Guidelines

ARR 2016 consists of:

- The Guideline
- Software
- Data

#### The ARR Guideline

The ARR Guideline is available at the moment in two formats:

- epub download
- web based

Epub is an open e-book format that can be read through many devices. You can access epub documents through iPads and Kindles as well as on your PC with an epub reader. There are many free epub readers that are available for download (one such as Calibre available for download here).

#### Software

Organisations have produced enabling software to support the guidelines. These software applications are listed for your reference. Geoscience Australia does not endorse or recommend or provide support for this material.

- Multiple Rainfall Simulator
- Regional Flood Frequency Analysis

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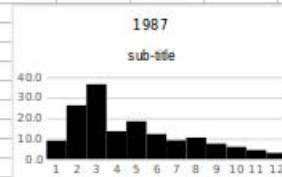
REGISTER

News

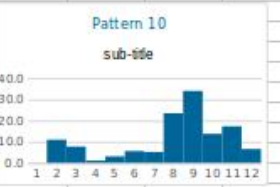
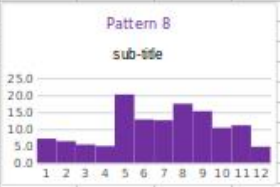
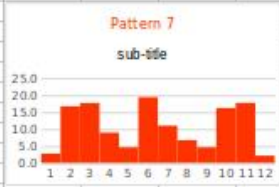
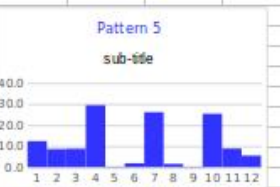
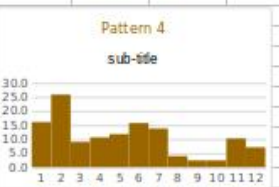
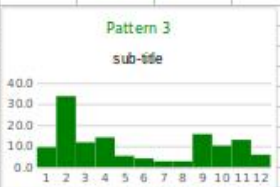
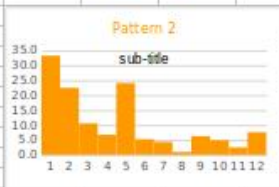
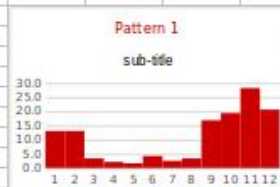
25 Nov 2016  
ARR Update: November 2015 - ARR 2016 Guidelines officially finalised  
[Read more...](#)

AR&R 1987 – 1 rainfall pattern

Sum					
<b>1987 100 Year ARI, 180 Minute Pattern</b>					
Intensity (mm/h)		58.40	Depth (mm)		175.21
Time (minutes)	Depth (mm)				
0					
15	9.99				
30	29.43				
45	41.00				
60	15.24				
75	20.67				
90	13.67				
105	10.16				
120	11.74				
135	8.41				
150	6.66				
165	4.91				
180	3.33				
Check	175.21				
Sum					



AR&R 2016 – 10 rainfall patterns





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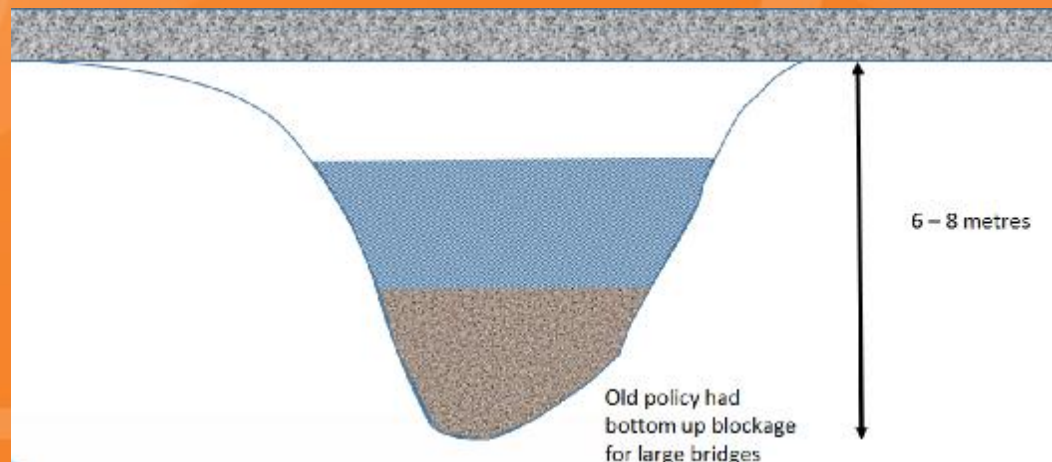


Council first blockage policy developed in response to 1998 flood and impacts of blockages

Council blockage policy reviewed in 2016 in view of 15 years of data collection + new guidance provided in Australian Rainfall and Runoff Manual 2016

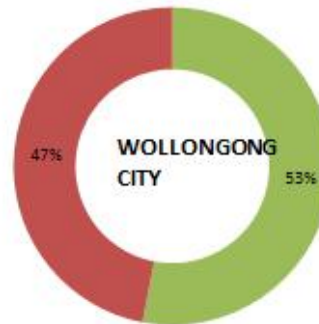
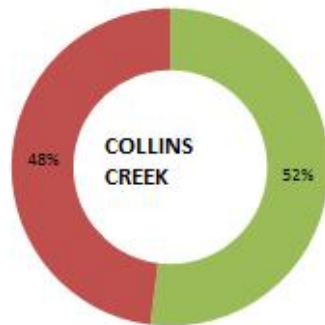
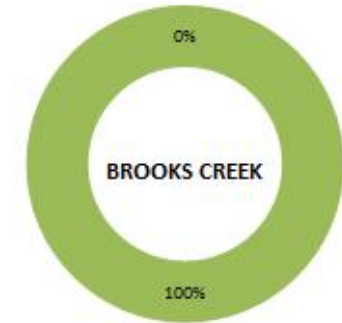
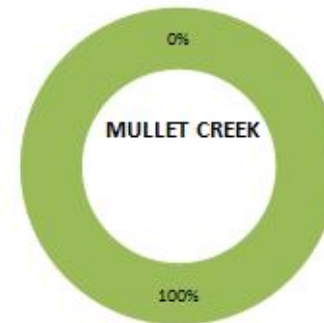
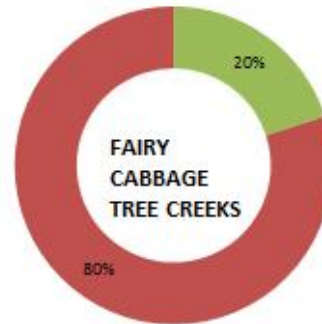
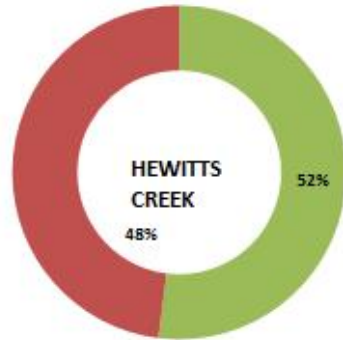
## Culvert Blockage

- 2002 Policy – Culverts less than 6m (diagonal) - 100% blocked  
- Culverts greater than 6m (diagonal) – 25% blocked
- 2016 Risk Management Blockage – Varies from 60% to 95% blocked
- 2016 Design Blockage – Varies from 35% to 75% blocked
- the 2016 Blockage factors are generally lower compared to 2002 policy



Review of blockage policy and new guidance provided in Australian Rainfall and Runoff Manual 2016 triggered review of ALL flood studies for Wollongong Council

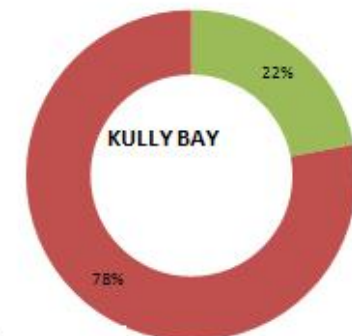
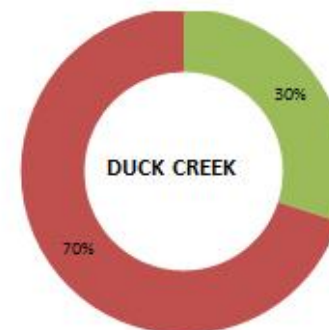
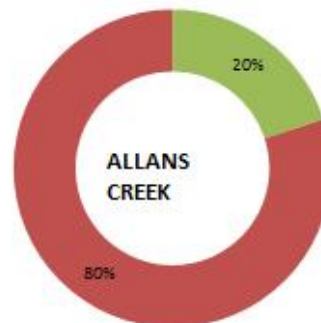
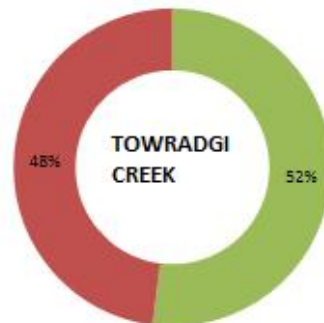
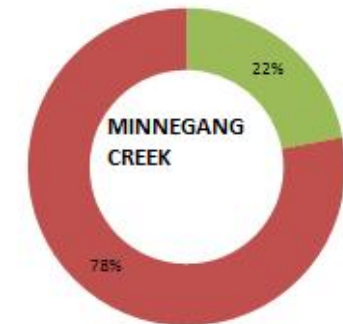




Implementation of revised blockage factors for Wollongong Catchments Flood studies

**% complete**

March 2018



NORTHERN AREA

CENTRAL AREA

SOUTHERN AREA