

## **Portfolio Committee No. 7 – Planning and Environment**

### **Inquiry Into rationale for, and impacts of, new dams and other water infrastructure in NSW**

#### **Response to Questions on Notice to Tom Green and Mary Ewing, Lachlan Valley Water.**

##### **Page 23**

**Question:** When you mentioned the options paper identifying Wyangala as the preferred option, which options paper was that?

**Question:** I was wondering – because this is important for what has occurred so far in relation to the Wyangala Dam wall raising proposal – whether it was possible to table on notice, Mr Green, some of the documentation you are referring to in relation to those options?

**Answer:** Attached is a presentation given to the Customer Reference Group and Community Reference Group for the Lachlan Valley Water Security Project in 2017.

- Slide 20 refers to the dam safety upgrade needed at Wyangala to provide acceptable flood capacity, and estimates the cost at approximately \$200 million
- Slide 26 refers to the Wyangala Dam project contributing materially to the 'step change' in water security, drought security and flood management capability
- Slide 30 indicates that raising Wyangala Dam scored best of the dam solutions in the strategic assessment

##### **Page 24**

**Question:** The first was your comments regarding flood management and particularly talking about what had happened in 2016-17 and what happened once the inflows came in – and for obvious reasons – when the Newell Highway was closed for 42 days and so on. Could you speak to what the broader impacts of the flooding were?

**Answer:** Attached in the NSW Government's Regional Recovery Co-ordinators Report about the flooding.

- P 5 states that the Newell Highway was closed for 43 days, with major impacts to local and state economies.
- P17 lists 1,316,316 ha of crops damaged, with a total value of \$740,000,000. Also 285,408 ha pasture with a total value of \$42.8 million, and 2918 km fencing with a total value of \$29 million. (This relates to the whole area covered by the report, not just the Lachlan)
- P 18 estimates the damage to agriculture in the Central West as being \$528,450,000 , and to roads at \$46,000,000. The report does not provide a breakdown of what proportion of the damage to agriculture in the Central West was to the Lachlan and what proportion was to the Macquarie, but if it was 50% roughly to each region, that means that agriculture in the Lachlan suffered damage of \$260,000,000 from the 2016 flood year.

##### **Page 27**

**Question:** The Jemalong Plan obviously has a lot of opportunities for people to really deal with efficiency issues. Whether the dam wall went ahead or not, this would be an improvement would it not?

**Answer:** Jemalong's three proposals to the Private Irrigation Infrastructure Operators Program included savings that could be achieved through rationalisation of some channels, in-system modernisation to improve efficiency and some options for buyback.

As these projects were not funded, Jemalong Irrigation Ltd has since undertaken some in-system modifications, and they continue to investigate options to improve efficiency of delivery within Jemalong, but it should be recognised that these options can only manage the water that is made available through the allocation process, they do not have an impact on the underlying high variability in the availability of water for licence holders in the Lachlan system.

In addition, individual farmers within the Jemalong Irrigation district are also carrying out their own on-farm efficiency projects, but again, these do not change the reliability factor.

**Attached:**

Lachlan Valley Water Security Project, Overview of Preliminary Business Case, October 2017. Presentation for Customer Reference Group and Community Reference Group meetings, October 2017. WaterNSW.

Regional Recovery Co-ordinator Report, September 2016 NSW Inland Flooding. NSW Government, Justice.

# Lachlan Valley Water Security Project

Overview of Preliminary Business Case

October 2017



Customer Reference Group and  
Community Reference Group Meetings  
Condobolin

# Introduction

WaterNSW is responsible, on behalf of Infrastructure NSW and the NSW Government, for development of the business case for development of project options in response to critical water infrastructure needs in the Lachlan Valley.

WaterNSW has completed the development of the business case with engagement from:

- GHD – technical advisor
- Balmoral Group – economic advisor
- KPMG – Business Case development support

# Purpose for the meeting

Meetings are being held for both:

- Customer Reference Group (October 24)
- Community Reference Group (October 25)

The purpose of these meetings is to:

1. Inform on the process that has been undertaken, in particular the options that have been considered and the outcome of economic analysis.
2. Hear feedback from customers and the community to ensure that the final business case document includes all pertinent issues, relevant to the Government proceeding with a project recommendation.

# Agenda

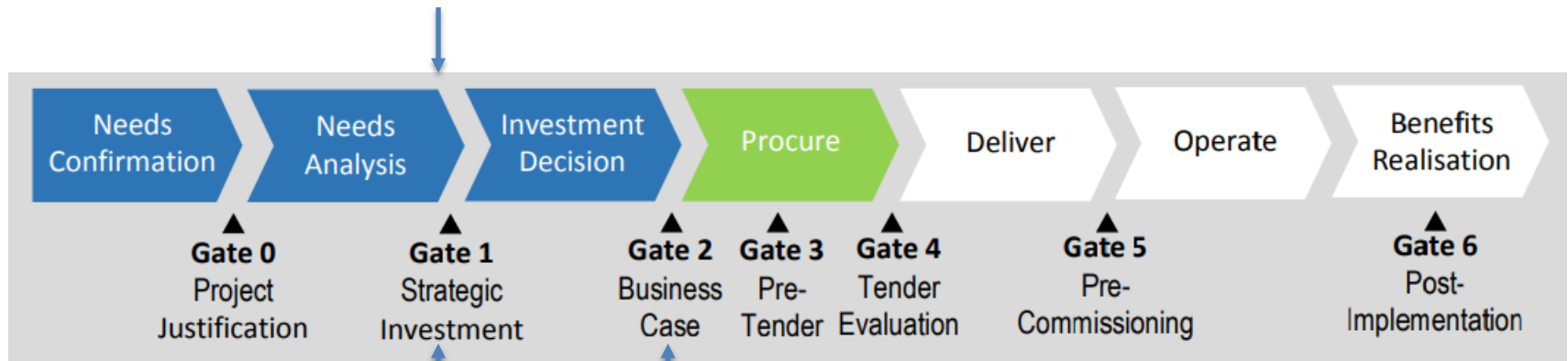
1. Context: Government process for approving infrastructure
2. Preliminary Business Case requirements
3. Objectives of the project
4. Options considered
5. Description of the shortlisted options and shortlisting rationale
6. Final Business Case – the path to a Government decision

# Infrastructure Investor Assurance Framework (IIAF)

- NSW Government uses a “gateway” process to provide confidence that the State’s large investment programs and projects are being developed and delivered on time, on budget and in line with the government’s objectives.
- These large Infrastructure projects are specifically subject to the Infrastructure Investor Assurance Framework, governed by Infrastructure NSW.
- WaterNSW is the responsible agency for the project.

# Gateway Process

WE ARE HERE



Gate 1 Strategic Assessment:  
A **preliminary business case** is prepared to support assessment of service needs, consideration of a broad range of alternatives, preliminary estimates of costs and benefits and project timing.

Gate 2 Business Case:  
A **business case** is prepared to support an investment decision.



# Team and Roles

The Preliminary Business Case has been developed by an integrated team led by WaterNSW.

## **WaterNSW - Project Sponsor / Proponent**

- Project Management, hydrology modelling, stakeholder engagement

## **GHD – Technical advisor**

- Design / engineering, geology/geotechnical, environment,
- Hydrology/water planning (BWR Consulting)
- Costing (WT Partnership)

## **Balmoral Group - economic assessment**

- Willingness to Pay study (choice modelling survey)
- Cost Benefit Analysis

## **KPMG – Business Case development**

- Collation of inputs and document drafting

# Preliminary Business Case

The Preliminary Business Case includes the following main elements:

1. **Service Need** – the PBC needs to clearly demonstrate that there is a high priority need to upgrade services.
2. **Identify the options available to meet the Service Need** – the PBC must identify options that have been considered, including non-build options.
3. **Analyse the options** – shortlisted options are compared with a “do-minimum” Base Case. Analysis is done through multiple lenses:
  1. Economic
  2. Risk
  3. Sustainability
  4. Technical
  5. Legislative and regulatory

# Service Need

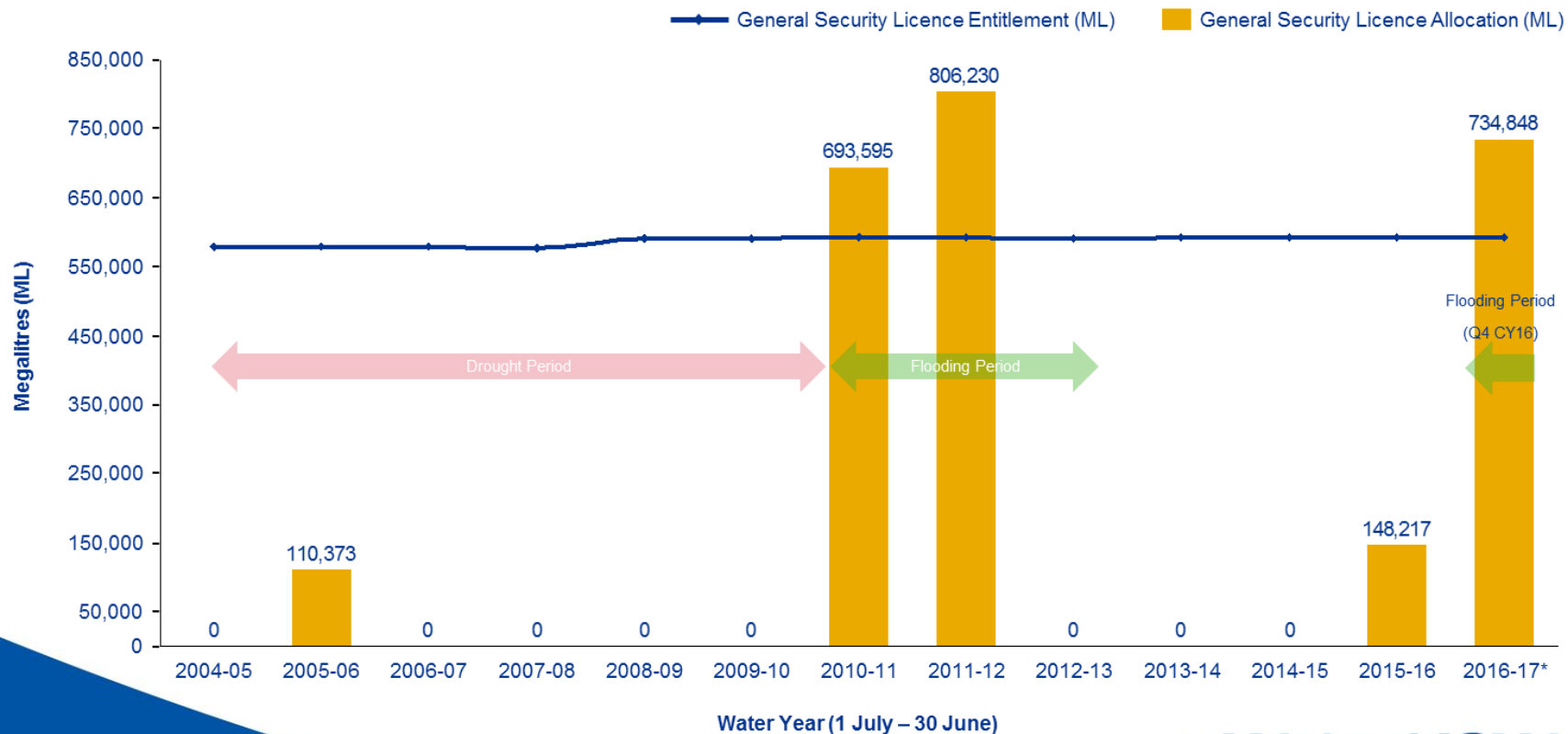
Lachlan Valley's drought security and flood management are rated behind other NSW valleys.

River Catchment	Index Assessment			
	Irrigation Drought Security	Flow Utilisation	Flood Management	Delivery Efficiency
Lachlan	L	M	L	M
Murrumbidgee	H	H	L	H
NSW Murray	H	H	L	H

Source: State Infrastructure Strategy Review 2014

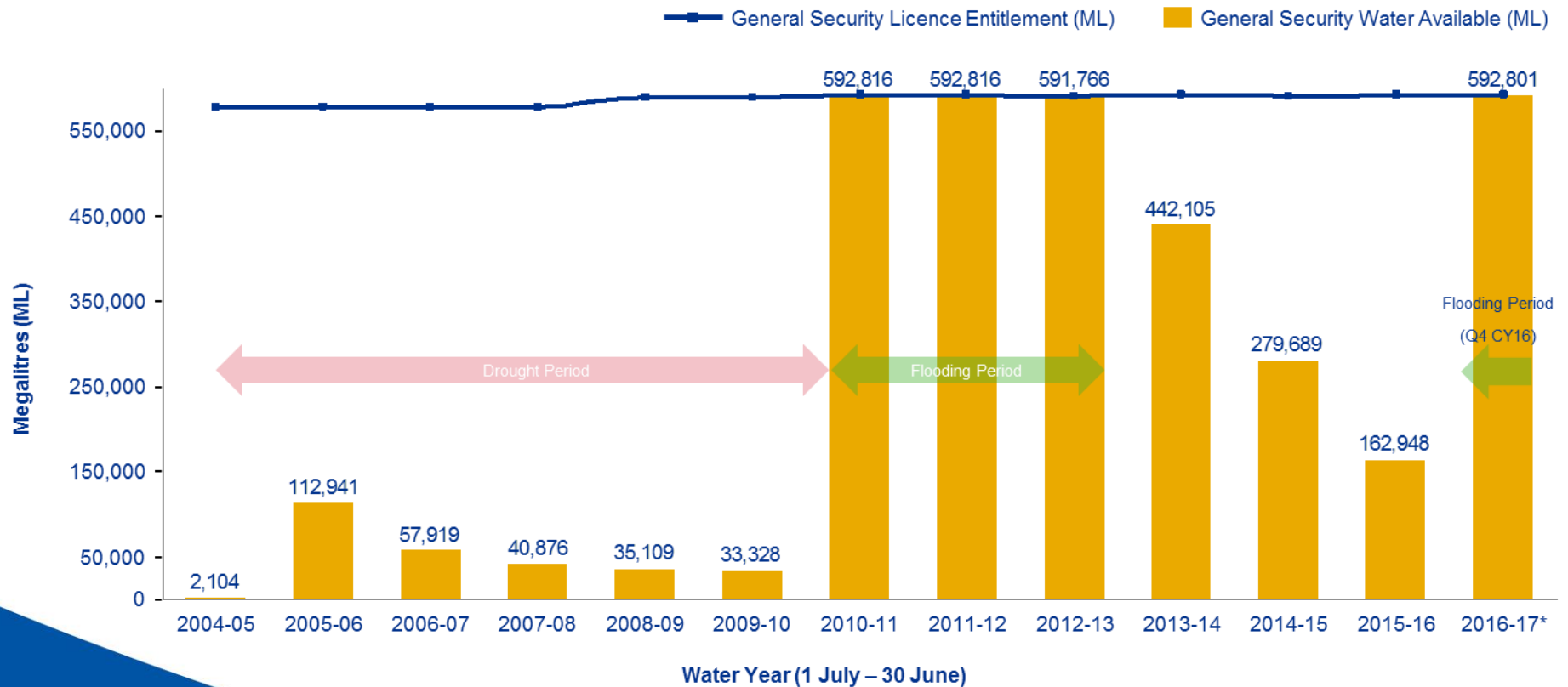
# Service Need

Average Available Water Determinations for General Security licences has been 39% of entitlement over the last 20 years

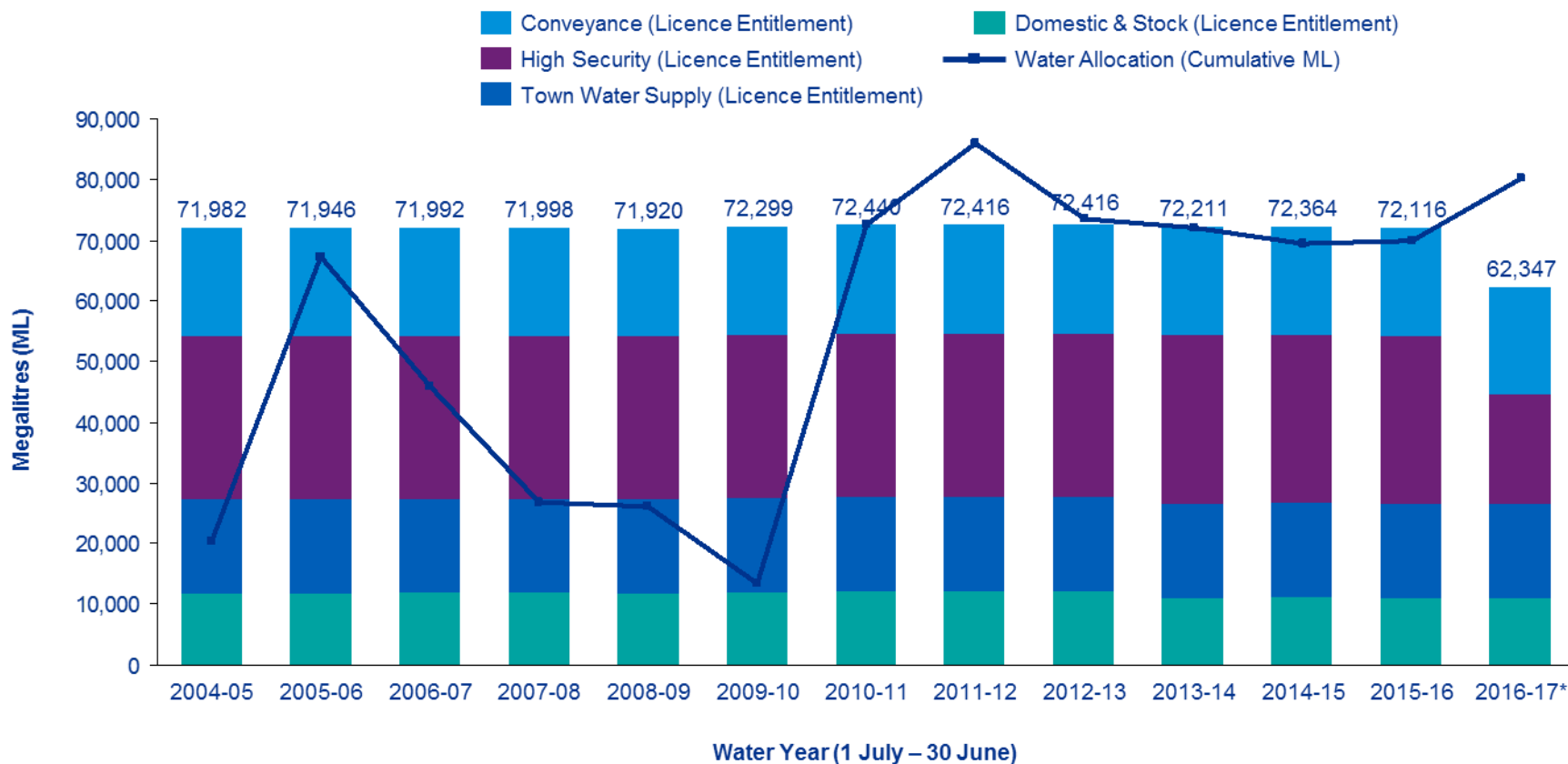


# Service Need

General security water availability levels have been volatile.



# Other licence categories



Note: Allocation is cumulative, i.e. allocation for domestic & stock, town water supply, high security and conveyance summed.

# Objectives

WaterNSW established the following objectives, which are also used as the basis for evaluating project options:

1. Foster **economic growth** by improving water security in the Lachlan Valley
2. Deliver a significant “**step-change**” **improvement in drought security** to promote long term social and economic benefits in the Lachlan Valley area
3. Improve **flood management capability** within the regulated portions of the Lachlan Valley area
4. Avoid **environmental impacts**, and where unavoidable, minimise or offset the impact
5. Provide **value for money** for user and government funds applied to the delivery of a solution

# Strategic assessment of options (1/5)

- Multiple options were assessed for ability to meet the objectives
- Best options were shortlisted for analysis

Option Ref	Option	Description	Storage	GS Yield	Project objectives				
			(GL)	(GL p.a)	1: Economic Growth	2: Drought Security	3: Flood Management	4: Environment	5: Value for Money
1	Cranky Rock Dam (upstream, aka Pride of Oak site) FSL 375m	Proposed new dam is approximately 15km east of Canowindra on the Belubula River, situated on a narrow portion of the Belubula River to enable a relatively short dam and providing potential storage of approximately 103GL. To reduce the risk of inundation of the nearby Cliefden Caves, the height of the dam would be limited.	103	4	●	●	●	●	●
2	Cranky Rock Dam (upstream, aka Pride of Oak site) FSL 395m	Located at the same site as option 1 above, but with an increased height resulting in storage of approximately 311GL. The impact of inundation of the Cliefden Caves is identified as significant.	311	13	●	●	●	○	●
3	Cranky Rock Dam (downstream) FSL 375m	Proposed new dam is located approximately 2 km downstream from the location of option 1 above. The site is a more open part of the valley and therefore a much longer dam is required. By locating the dam further downstream, potential storage increases to 266GL versus the equivalent dam located further upstream.	266	4	●	●	●	●	●



# Strategic assessment of options (2/5)

Option Ref	Option	Description	Storage	GS Yield	Project objectives				
			(GL)	(GL p.a)	1: Economic Growth	2: Drought Security	3: Flood Management	4: Environment	5: Value for Money
6.4	Cranky Rock Dam (downstream) FSL 395m	Located at the same site as 3 above, but with a higher dam resulting in storage of approximately 700GL. The impact of inundation of the Cliefden Caves is identified as significant.	700	20	●	●	●	○	●
6.5	Cranky Rock Dam (downstream) FSL 401m	Located at the same site as 3 and 4 above, but with an even higher dam resulting in storage of approximately 1,000GL. The impact of inundation of the Cliefden Caves and incremental impact on non-indigenous heritage sites and vegetation are identified as significant.	1,000	24	●	●	●	○	●
6.6	Wyangala Dam Raising – 10 metres	Raising the existing dam by 10 metres provides an extra 650GL storage. The costs of relocation of services and structures affected by the raising e.g. intake towers, spillway and access roads have been considered. Environmental and heritage impacts on Indigenous sites, State Park and vegetation have also been considered.	650	21	●	●	●	●	●
6.7	Wyangala Dam Raising – 6 metres	Raising the existing dam by 6 metres provides an extra 370GL storage. The costs of implementing this solution is lower than the 10m raising but the dam raising will only provide approximately one third of the GS yield of option 6. This option is only considered credible option if the 10m rise is not feasible.	370	8	●	●	●	●	●

# Strategic assessment of options (3/5)

Option Ref	Option	Description	Storage	GS Yield	Project objectives				
			(GL)	(GL p.a)	1: Economic Growth	2: Drought Security	3: Flood Management	4: Environment	5: Value for Money
8	Water transfer pipeline between Lake Rowlands and Carcoar Dams	An 11.8km pipeline to transfer surplus water from Lake Rowlands Dam (spills 40% of the time), to the under-utilised and larger Carcoar Dam (spills c.20% of the time), allowing for more efficient storage of the available water. Results in High Security (HS)/Fixed demand equivalent yield of 2.5GL.	N/A	6 <sup>1</sup> (equiv.)	🕒	🕒	🕒	🕒	●
9	Abercrombie Dam	Proposed dam is located on the Abercrombie River upstream of Wyangala Dam and provides approximately 700GL of storage. The construction will impact on the nearby National Park.	700	21	●	🕒	🕒	🕒	🕒
10	Storage options: Lake Cargelligo	Compartmentalising the lake for more efficient storage when volumes are less than capacity to reduce evaporation loss. This option provides little water savings with significant impact on recreational users, bird and waterfowl habitat.	TBD	N/A	🕒	🕒	○	🕒	○
11	Storage options: Lake Cowal	Install regulators and related infrastructure to enable management of inflows and outflows to the privately owned lake, acting as operational storage. Total potential storage is 194GL but the current private ownership could mean problematic access.	Up to 194	N/A	🕒	🕒	🕒	🕒	○

# Strategic assessment of options (4/5)

Option Ref	Option	Description	Storage	GS Yield	Project objectives				
			(GL)	(GL p.a)	1: Economic Growth	2: Drought Security	3: Flood Management	4: Environment	5: Value for Money
12	Storage options: Upgrade Weirs Hillston to Booligal	Upgrade of 2 existing weirs and install a new weir between Hillston and Booligal to enable re-regulation of operational surpluses released primarily from Wyangala Dam.	TBD	4 <sup>1</sup>	🕒	🕒	🕒	🕒	●
13	Storage options: Storage on a tributary of the Belubula River - Panuara Rivulet site	The site is on the Panuara Rivulet, about 1.5km upstream from its confluence with the Belubula River and north of Needles Gap and considered low yield (although not modelled). Approximate 100GL storage but site is 40m above the river level therefore requiring pumping. Storage of local catchment but unsuitable as off-river storage.	100	N/A	🕒	🕒	🕒	🕒	🕒
14	Lower Lachlan water efficiency - Alternative and more efficient water supply for basic landholder rights in Lower Lachlan	Improved efficiencies in effluent systems and alternative groundwater supply for Stock and Domestic (S&D) supply in Muggabah, Merrimajeel, Merrowie, Booligal, Booberoi and Willandra Creeks.  This option includes a number of proposed improvements to reduce transmission losses, replenishment flows and operational surpluses. Proposed improvements include pipeline supply from the River, groundwater bores and on-farm infrastructure.	N/A	22	●	●	🕒	🕒	●

# Strategic assessment of options (5/5)

Option Ref	Option	Description	Storage	GS Yield	Project objectives				
			(GL)	(GL p.a)	1: Economic Growth	2: Drought Security	3: Flood Management	4: Environment	5: Value for Money
15	Mid Lachlan water efficiency - Alternative and more efficient water supply for basic landholder rights and entitlement	Improved efficiencies for Regulated and S&D supply in Wallamundry, Narrathong and Wallaroi Creeks. This option aims to use similar methods as proposed in option 14. A weir / fish way is assumed to be required.	N/A	5 <sup>1</sup>	●	●	●	●	●
16	Targeted buyback or rationalisation of licenses	Existing resource is shared amongst a reduced pool of users thereby allowing for improved water security of the reduced licenced volume. It should be noted that buybacks don't change the water availability, at a valley level, in drought years.	N/A	N/A	○	○	○	○	○
17	Water Sharing Plan and Murray-Darling Basin Plan (both Lachlan and Belubula) changes	There is scope for some changes within these instruments to allow for operational efficiencies which result in improved water security. Outcomes are expected to be negligible.  Note: not modelled at this stage and being assessed as part of the Water Resource Plan.	N/A	N/A	●	●	●	●	○
18	Use of groundwater as an alternative to surface water supply	Conjunctive use of the ground and surface water resources particularly use of groundwater during droughts, however current ground water use is at 100% of Water Sharing Plan limit in Lower Lachlan and 50% usage (but over allocated) in Upper Lachlan. As such, any options involving groundwater would require changes to Water Sharing Plans (WSPs).	N/A	N/A	○	○	○	●	○

# Shortlisted options

Four project options were shortlisted for further analysis on the basis of the strategic assessment against the Project Objectives:

- Option 1: Water transfer pipeline between Lake Rowlands and Carcoar Dams
- Option 2: Lower Lachlan water efficiency options
- Option 3: Wyangala Dam Raising – 10 metres
- Option 4: Cranky Rock Dam 2 (downstream) FSL 395m

# Base Case

Dam safety upgrades are needed to Wyangala Dam in order to provide Acceptable Flood Capacity.

## Background:

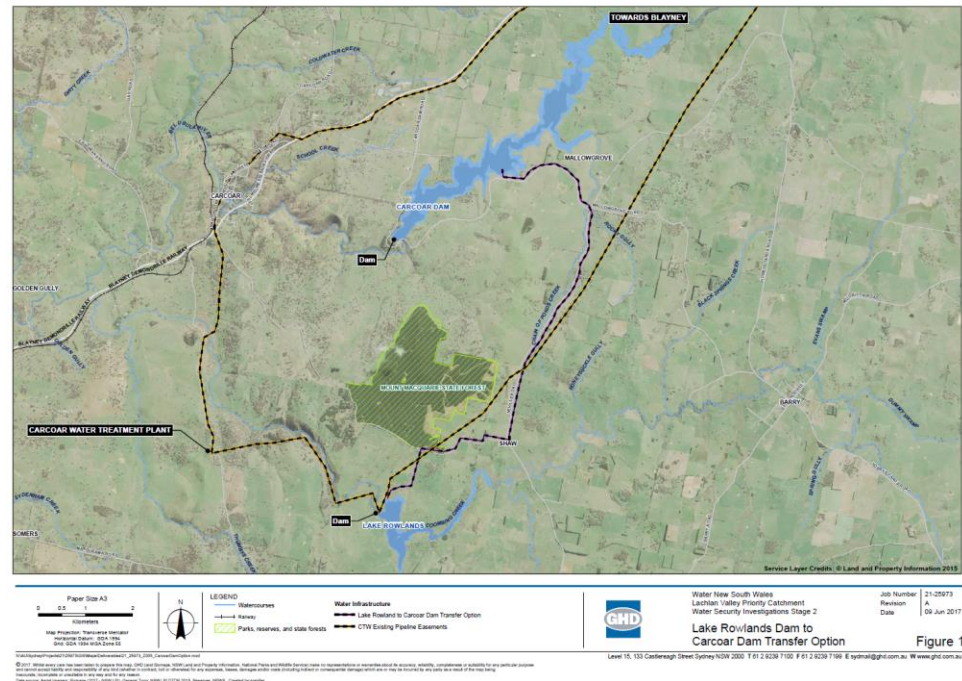
- The Base Case recognises that dam safety upgrades are needed to Wyangala Dam in order to provide Acceptable Flood Capacity in accordance with the NSW Dam Safety regulator's guidelines.
- These works may trigger Section 218 of the Fisheries Management Act requiring construction of fish passages at the dam
- Safety upgrades move the dam from its 'extreme consequence' category to a risk profile that can be classified as 'as low as reasonably practicable' (ALARP)
- Cost of these works is anticipated to be approximately \$200 million

# Option 1: Pipeline between Lake Rowlands and Carcoar Dams

Construction of a pipeline from Lake Rowlands Dam to Carcoar Dam via existing road corridors, to capture surplus water.

## Background:

- Lake Rowlands Dam is a small dam that spills regularly (c.40% of the time on average) owned by Central Tablelands Water
- Carcoar Dam is a larger dam operated by WaterNSW and regularly has available water storage capacity. It spills c. 20% of the time on average





# Option 1: Pipeline between Lake Rowlands and Carcoar Dams

The key benefits of option 1 are identified as the following

- More efficient storage of the available water resource and operational flexibility
- Improved water availability in the upper Belubula and Macquarie valleys for town water supply and other demands, supporting future development
- Potential for increased water reliability for Belubula valley irrigators
- Increased water yield based on hydrological modelling:
  - Additional 2.5 GL/year (urban water equivalent)
- Note: Splitting of water resource benefits will be studied in further detail in the coming phases.

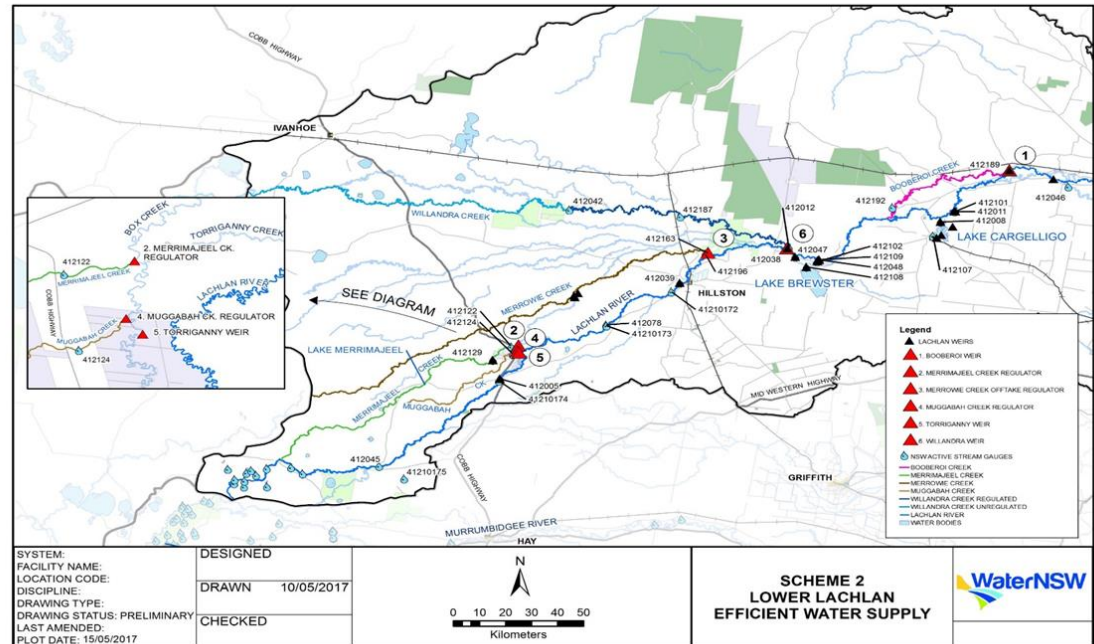


# Option 2: Lower Lachlan Efficiency Options

Provide an alternative and more efficient water supply for basic landholder rights in the Lower Lachlan

## Background:

- Improved efficiencies in effluent systems such as piping from the existing weirs and alternative groundwater supply for Stock and Domestic (S&D) supply
- Reduce transmission losses, replenishment flows and operational surpluses over long distances



# Option 2: Lower Lachlan Efficiency Options

The aim of Option 2 is to mitigate large water losses through the creeks over long distances and the need for large replenishment flows.

System	Length (kms)	Annual Replenishment (GL)
Willandra Ck Homestead Weir to Ivanhoe Balranald Rd	110	12
Merrowie Ck to Cuba Dam	130	9
Muggabah Ck to Hugh Mclean	50	9
Merrimajeel Ck to Murrumbidgee Swamp	45	
Boobaroie Creek	70	12.5

# Option 2: Lower Lachlan Efficiency Options

The key benefits of Option 2 are identified as the following:

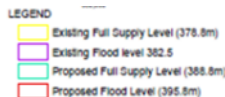
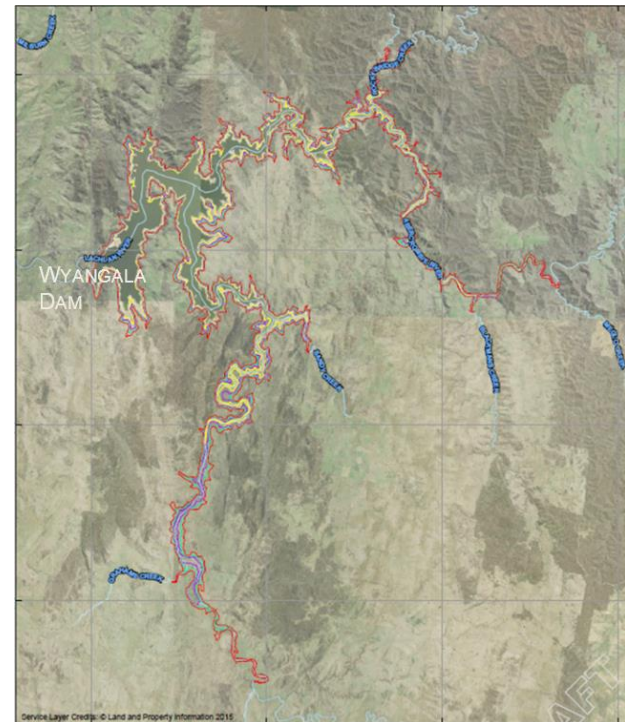
- Improved drought management
  - The Booberoi Creek option could include either an annual replenishment flow or piping supported by on-farm infrastructure
  - Scheme development with landholders will be an essential part of the Final Business Case phase
- Increased water yield based on hydrological modelling:
    - Additional 22 GL/year of General Security

# Option 3: Raise Wyangala Dam 10m

Raising the existing Wyangala Dam on the Lachlan River by 10 metres provides an extra 650GL of storage capacity:

## Background:

- The works involve a downstream raising of the rockfill embankment, leaving the upstream face mostly undisturbed
- Raising Wyangala Dam contributes materially to achieving the desired 'step change' in water security, drought security and flood management capability



# Option 3: Raise Wyangala Dam 10m

The key benefits of option 3 are identified as the following:

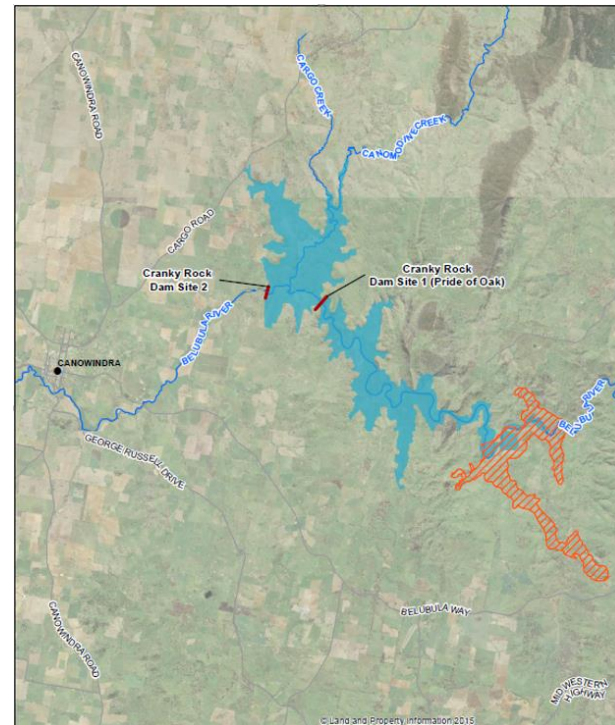
- Provides an extra 650GL of storage capacity in addition to the current storage level of 1,218GL
  - Improved drought security and flood management capability
  - On an incremental cost basis, raising Wyangala Dam avoids the need to undertake Base Case works
- Increased water yield based on hydrological modelling:
    - Additional 21 GL/year of General Security

# Option 4: New Cranky Rock Dam, downstream site, FSL 395m

Constructing of a c.700GL dam at the Cranky Rock location, located 17km east of Canowindra on the Belubula River.

## Background:

- Multiple configurations for a dam near the Cranky Rock location were considered
- Inundation of part of the Cliefden Caves is certain from this option when the dam is full and ascribed a very high economic cost in the economic appraisal of this option
- Lower height dams do not provide meaningful water security benefits



Legend  
Blue line: Belubula River  
Red line: Dam site  
Blue area: Inundation area  
Orange area: Cliefden Caves site inundation area



# Option 4: New Cranky Rock Dam, downstream site, FSL 395m

The key benefits of option 4 are identified as the following:

- To enable comparison with the storage benefit of raising Wyangala Dam, the other major water security options, the 700GL Cranky Rock dam option was selected
  - Improved drought security and flood management capability
  - It is noted that the reservoir geological setting has also given rise to concern with reservoir integrity issues identified due to limestone formations
- Increased water yield based on hydrological modelling:
    - Additional 20 GL/year of General Security

# Shortlisting rationale

- Options 1 and 2 are expected to provide significant **annual yield for relatively low cost**, but **do not** by themselves offer the desired step-change required to fulfil the water security needs of the Lachlan Valley that is delivered by adding significant storage capacity.
- Raising Wyangala Dam by 10m scored the best of all dam solutions in the strategic assessment.
- Out of the Cranky Rock dam options considered in the long list, the shortlisted Cranky Rock dam option (downstream site, FSL 395m) provides comparable hydrological benefits to raising Wyangala Dam. However, there are severe environmental issues and material geotechnical issues which were considered in the analysis.



# Upgrade schemes

Options 1 and 2 are not mutually exclusive and may be undertaken in combination with the other options.

“Schemes” were designed to allow analysis of undertaking combinations of projects.

The Schemes include bundling of Options 1 and 2 with dam options to combine the efficiency improvements of Options 1 and 2 with the drought security and flood management provided by large storage Options 3 and 4.

Option	Scheme 1	Scheme 2	Scheme 3	Scheme 4
1. Water Transfer Pipeline btw Lake Rowlands and Carcoar Dams	✓	✓	✓	✓
2. Lower Lachlan water efficiency options		✓	✓	✓
3. Wyangala Dam 10m Raising			✓	
4. New “Cranky Rock” Dam, downstream site, FSL 395m				✓

# Economic analysis

Balmoral Group appraised the Schemes using a consistent framework for estimating costs and benefits:

## Costs:

- **Direct costs** – construction, operating and maintenance costs; land acquisition, dam safety upgrade works, fish passage offsets (or construction costs) and biodiversity offsets;
- **Indirect costs** – losses due to dam failure or flood risk; and
- **Non-market costs** – inundation of heritage sites, loss of riverine / riparian habitat, and impacts to endangered or listed species.

## Benefits:

- **Community benefits** – recurring producer surplus, agricultural output, improved water security, improved flood management, improved mining output and other water-intensive commerce, and commercial fishing; and
- **Recreational / aesthetic benefits** – tourism and recreational fishing benefits

# Final Business Case

In addition, WaterNSW will also develop procurement and funding strategies. As part of this, the Final Business Case will include an analysis and recommended approach to:

- Packaging the works;
- Engaging with the market;
- Contracting and allocating delivery, operations and maintenance risks; and
- Funding the work packages including expected impact on customer charges.

# Questions – After the break

# Regional Recovery Co-ordinator Report September 2016 NSW Inland Flooding



## Table of Contents

Glossary.....	4
Executive Summary.....	5
Recommendations .....	7
Event Overview .....	9
Background .....	9
Rainfall Summary .....	9
Antecedent Conditions .....	10
Flooding through Mid-June, July and August 2016.....	10
Inland flooding through September and October 2016 .....	10
NSW SES Response.....	10
Flood Related Fatalities.....	10
Evacuation Centres .....	11
Forbes.....	11
Condobolin.....	11
Impact Assessments.....	11
Damage/Rapid Impact Assessments.....	11
EOC Impact Assessments .....	12
State Impact Overview.....	13
Natural Disaster Declarations .....	13
NSW Natural Disaster Assistance Arrangements.....	13
Housing Impact .....	16
Agricultural Impact .....	16
Small Business Impact.....	17
Infrastructure Impact.....	17
Levees .....	18
Dams .....	19
Newell Highway .....	19
Environmental.....	20
Transition from Response to Recovery.....	21
Combat Agency – NSW SES.....	21
State Emergency Operations Controller .....	21
NSW Recovery Plan.....	21
Handover.....	21
Recovery Structure .....	22

Office of Emergency Management .....	22
State Emergency Recovery Controller .....	22
Regional Recovery Coordinator .....	23
Department of Premier and Cabinet Regional Co-ordinators .....	23
Parliamentary Secretaries:.....	24
Recovery Committees.....	25
Engagement strategies with 45 Local Government Areas.....	26
Teleconference/s .....	26
Flood Recovery Bulletin .....	27
Recovery Strategies.....	28
Identifying Community Needs – Recovery Questionnaires .....	28
NSW Disaster Welfare Assistance .....	29
Disaster Welfare Assistance Line .....	29
Disaster Welfare Outreach.....	29
NSW Disaster Relief Grants.....	30
Health and Wellbeing .....	30
Mosquito Management .....	30
Mental Health .....	32
Support for Landholders .....	32
Landholder Field Days/Workshops .....	33
Technical advice and information products.....	33
NDRRA Category C Primary Producers Grants.....	33
NGO Financial Assistance.....	34
Consideration of BlaizeAid Assistance .....	34
Support for schools and students isolated by floodwaters .....	35
Repairs to Roads .....	35
Support for Small Business .....	36
Office of the NSW Small Business Commissioner .....	36
Back to Business Campaigns .....	37
Media and Communications .....	37
Transition to Longer Term Recovery.....	39
Regional Recovery Committee Debrief/s.....	39
Appendices:.....	40
Appendix A: Terms of Reference – Regional Recovery Coordinator, Western Region Flooding.....	40
Appendix B: Fight the Bite .....	41
Appendix C: Flood Recovery Bulletin Number 1 .....	42

Appendix D: Recovery Action Plan-Central West .....	46
Appendix E: Recovery Action Plan-Riverina Murray .....	63

## Glossary:

The following abbreviations and terms are used within this document.

Term	Description
AASFA	Agricultural and Animal Services Functional Area
AGDRP	Australian Government Disaster Relief Payment
BoM	Bureau of Meteorology
CENTROC	Central NSW Councils
DPC	Department of Premier and Cabinet
DPI	Department of Primary Industry
DRA	Disaster Recovery Allowance
DSERCON	Deputy State Emergency Recovery Controller
DWAL	Disaster Welfare Assistance Line
EMPLAN	NSW State Emergency Management Plan
EMU	Emergency Management Unit (NSW Police)
EOC	Emergency Operations Centre
FACS	Family and Community Services
FRNSW	Fire & Rescue New South Wales
HSC	High School Certificate
LGA	Local Government Area
LLS	Local Land Service
NDD	Natural Disaster Declaration
NDRRA	Natural Disaster Relief and Recovery Arrangements
NSWDAG	New South Wales Disaster Assistance Guidelines
NSWPF	New South Wales Police Force
NSW RFS	New South Wales Rural Fire Service
NSW SES	New South Wales State Emergency Service
OEM	Office of Emergency Management
OROC	Orana Regional Organisation of Councils
OSBC	Office of the NSW Small Business Commissioner
PIFAC	Public Information Functional Area Coordinator
RAMROC	Riverina and Murray Regional Organisation of Councils
RAMPH	Rural Adversity Mental Health Program
REROC	Riverina Eastern Regional Organisation of Councils
SEOCON	State Emergency Operations Controller
SERCON	State Emergency Recovery Controller
WSP	Lachlan Regulated River Water Source Water Sharing Plan



## Executive Summary

Flooding of the inland rivers of New South Wales (NSW) commenced in mid-June 2016, due to a successive series of cold fronts and inland troughs crossing the state. This rainfall saturated the catchments and filled the major dams, including Wyangala, Burrinjuck, and Hume Dams which were near capacity by early September.

There was a series of six cold fronts in September and one in October 2016. These fronts linked with tropical moisture in northern Australia and brought repeated moderate and occasionally heavy rainfall. The rainfall was persistent rather than extreme and combined with saturated catchments was the primary cause of flooding along the inland river system. The flood level at Forbes on the Lachlan River was just higher than the 1990 flood and the highest since 1952. Flood levels along the Murray and Edwards Rivers were the highest in 22 years, with levels similar to the 1993 floods.

This report details the impacts and the recovery measures undertaken. The damage caused was mostly to agricultural lands and roadway infrastructure. Major towns did not suffer major inundation, however they were significantly impacted by the loss of trade due to the extensive damage to major highway and roads.

The flooding event impacted upon nine (9) of the seventeen (17) State Emergency Service (SES) Regions of NSW, and resulted in over 7,700 requests for assistance to the NSW SES between Tuesday 30 August 2016 and Monday 12 December 2016. As a result of the floods, one person lost their life. There was a total of 146 flood rescue activations and 1243 out of area deployments to assist with the flooding. The SES was assisted in high impact areas by personnel from FRNSW, NSWRFs, NSWPF, NSW Ambulance and the Volunteer Rescue Association.

Across the impacted areas approximately 18 houses sustained some level of flood damage, however for the majority this was relatively minor and widely distributed.

The Newell Highway was closed due to flooding between the 22 September to the 4 November 2016 (43 days) with major traffic diversions onto state and local roads in the surrounding areas. The closure of the Newell Highway had major impacts to the Local and State economy with initial detours adding approximately 350 kilometres and three and a half hours to the journey. The closure occurred over the school holidays and long weekend which would normally be one of the busiest periods on the highway.

The agricultural industry was greatly impacted by the flood event. Many primary producers were about to harvest crops when the flooding occurred and in many instances, there was a 100% crop loss across many Local Government Areas. The Department of Primary Industry (DPI) and Local Land Services (LLS) took the lead in the recovery effort conducting multiple landholder recovery sessions, workshops and field days. In total agricultural losses were approximately \$827,867,807

Information accessibility by primary producers was a priority of the Recovery Committee. Recovery information on crop and pasture management, biosecurity risks and farm business and financial management was made available on the DPI/LLS websites. Technical advice and information products were developed into YouTube videos to increase the accessibility to information. Landholder Flood Recovery Advice Bulletins were also developed and widely distributed.

Mosquito numbers increased to record levels as a result of the flooding due to water going into areas that are not normally subject to flooding and large bodies of water remaining for significant periods of time. Multiple strategies were developed in concert with NSW Ministry of Health to reduce the incidence of Ross River Virus and Barmah Forest Virus, through community education and Bulletins to General Practitioners and pharmacies in affected areas.

Strategies were developed and implemented to address mental health concerns within the affected areas. Programs were conducted by NSW Ministry of Health (Regionally based) in concert with the Department of Primary Industry, Local Land Services and the Red Cross to ensure that we tapped into existing services and programs. The Rural Adversity Mental Health Program facilitated self-care information along with self-assessment tools and access to support services.

Natural Disaster Declarations were issued for 45 Local Government Areas (LGA). The Commonwealth and State Governments made available a range of disaster assistance through jointly funded Commonwealth-State Natural Disaster Relief and Recovery Arrangements (NDRRA). These arrangements are made available through the NSW Department of Justice, Office of Emergency Management and address the provision of assistance to individuals, primary producers, small business and non-profit organisations.

This report also describes the 2016 NSW Inland flood event in terms of impacts on affected communities and industries and the recovery activities that were subsequently undertaken. The report also highlights a number of issues of interest and makes recommendations for improvements to better enable future recovery operations.

As per the State Recovery Plan, a tailored recovery approach was adopted which varied from region to region, dependent on local needs. Two Regional Recovery Committees were established (Central West and Riverina Murray) and whilst they did not align exactly with the NSW Government Regional areas, those involved in the committees ensured that they achieved their aims. Sub Committees were also established in the two regions that addressed local needs.

To support a coordinated recovery effort across these two Regional areas, The Premier announced the appointment of Mr Dave Owens APM as the Regional Recovery Coordinator for the 2016 NSW Inland floods on the 26<sup>th</sup> September 2016. Mr Owens worked with the Office of Emergency Management and agencies during his appointment. The 2016 NSW Inland floods saw a significant overlap between response and recovery. This ensured a seamless transition from the Operational to the Recovery Phase.

The Recovery Coordinator wishes to acknowledge the cooperation and input from all agencies, local government, non-government, volunteer organisations and the communities of affected areas involved in the recovery process. The Regional Recovery Committees brought with them a positive attitude, ensuring that local services were restored as soon as possible. The Recovery Committees adopted a collaborative approach with all individuals and agencies providing assistance where required.

## **Recommendations**

### **Recommendation 1: Inundation descriptor**

The Office of Emergency Management in consultation with the Impact Assessment Advisory Group:

- develops a rapid impact assessment template that includes a clear definition of degree of damage to properties
- review and combine current templates into one, single template for Impact Assessment Reports that is used by all agencies.

### **Recommendation 2: EOC Impact Assessments**

The Impact Assessment Advisory Group considers the following:

- review of the timeframe and triggers for undertaking Impact Assessments
- review the name “EOC Impact Assessments” as it is confusing
- review of the impacts of an EOC not opening during an event upon EOC Impact assessments
- review any feedback on the revised EOC Impact Assessment process and template with EMU, OEM, SES, RFS & FRNSW.

### **Recommendation 3: Transition from Response to Recovery**

That the Office of Emergency Management, in consultation with the NSW Police Force Emergency Management Unit and Combat Agencies continue to refine a template for handover of the Response to Recovery Phase of an emergency.

### **Recommendation 4: Protocols for visits to EOCs**

The Office of Emergency Management in consultation with combat agencies considers the development of protocols for attendance at an EOC where there is an overlap between response and recovery.

### **Recommendation 5: Department of Premier and Cabinet Regional Coordinators**

Continue to build the capacity of the DPC Regional Coordinator role in recovery operations by providing:

- training and development opportunities for Regional Coordinators to equip them for working in the disaster recovery environment
- on the ground support for Regional Coordinators during recovery operations by REMOs or OEM Recovery Team.

### **Recommendation 6: Council Recovery Bulletins**

The Office of Emergency Management continue the practice of issuing Council Recovery Bulletins for major emergency events.

### **Recommendation 7: Regional Recovery Committees**

That Regional Recovery Committees consider moving meetings to a number of locations within affected LGAs.

### **Recommendation 8: Cat C Primary Producer Grant**

That a review of the Cat C Primary Producer Grant is undertaken that considers the effectiveness of this financial assistance as a recovery measure.

### **Recommendation 9: Communicating in Recovery**

The Office of Emergency Management:

- considers the further development of a communications and engagement strategy for major disaster events
- progresses the development of the “Communicating in Recovery” Guideline in the Local Recovery Toolkit.

### **Recommendation 10: OEM Webpage**

The Office of Emergency Management review the webpage and costings associated with any upgrade to enable it to become the single source of information in an emergency event.

## Event Overview

### Background

Flooding of the inland rivers of New South Wales (NSW) commenced in mid-June 2016, with minor to moderate flooding occurring in the central-western river basins due to a successive series of cold fronts and inland troughs crossing the state. This rainfall saturated the catchments and filled the major dams, including Wyangala, Burrinjuck, and Hume Dams which were near capacity by early September.

There was a series of six cold fronts in September and one in October 2016. These fronts linked with tropical moisture in northern Australia and brought repeated moderate and occasionally heavy rainfall. The persistent, rather than extreme, nature of the rainfall was particularly notable and, combined with saturated catchments was the primary cause of the flooding along the inland rivers during September and October, where flood warnings were issued for every inland river basin. Major flooding occurred in five river basins including Bogan, Macquarie, Lachlan, Murrumbidgee, Murray and Edward Rivers, with minor to moderate flooding occurring in eight other inland river basins. The flood level at Forbes on the Lachlan River was just higher than the 1990 flood and the highest since 1952. Flood levels along the Murray and Edward Rivers were the highest in 22 years, with levels similar to the 1993 floods<sup>1</sup>.

### Rainfall Summary

Above average rainfall was recorded across much of NSW during the period of June to September 2016, especially in September. September 2016 was the wettest on record for NSW, with many inland locations receiving more than four times their average September rainfall.

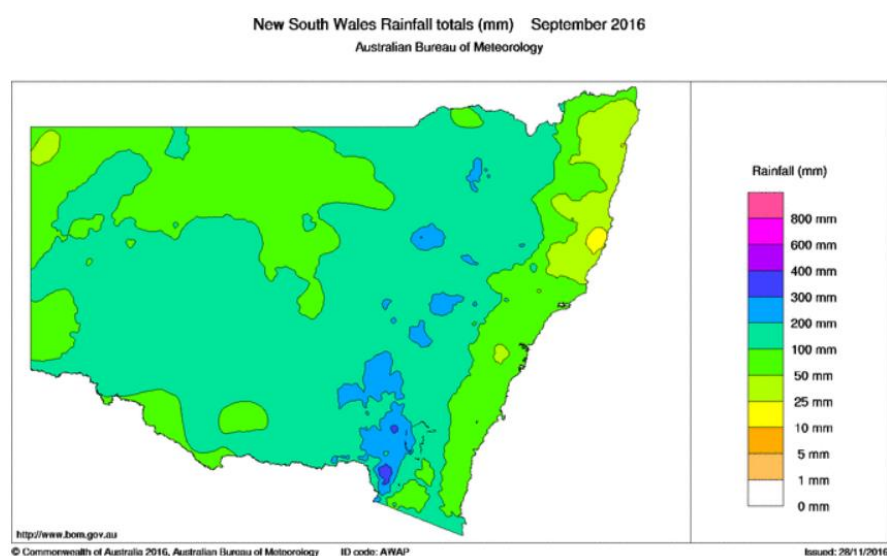


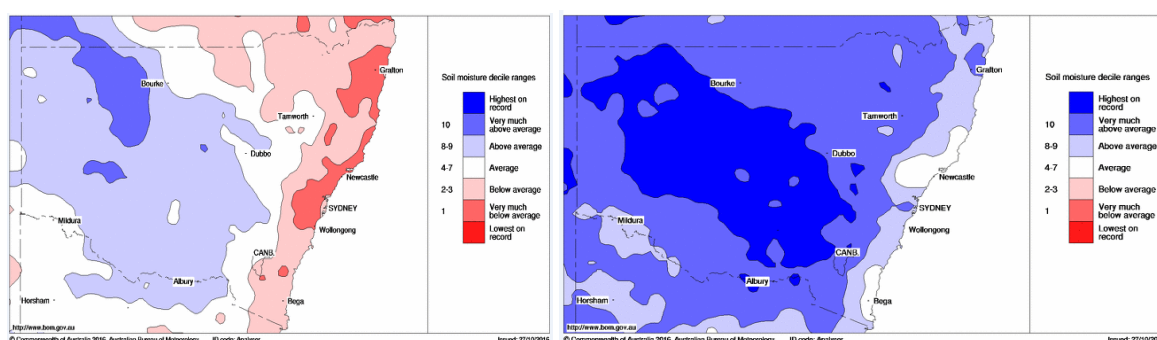
Figure 1: Monthly rainfall totals for September 2016<sup>2</sup>

<sup>1</sup> Bureau of Meteorology

<sup>2</sup> Bureau of Meteorology

## Antecedent Conditions

Heavy rainfall during the period from June to September saturated the inland catchments and filled the major dams in NSW. The changes of soil moisture across NSW during this period are shown below.



## Flooding through Mid-June, July and August 2016

Initial minor to moderate flooding started in the central-west in mid-June 2016 due to a series of cold fronts and inland troughs crossing the state. Then areas in the South-West experienced heavy rainfall during July and August. This rainfall saturated the catchments and filled the major dams. During mid-June through to August, inland NSW rivers experienced widespread and prolonged minor to moderate flooding, particularly in the Macquarie, Lachlan and Bogan River Valleys. Minor flooding also occurred along the mid-North coastal rivers on 2-5 August 2016.

## Inland flooding through September and October 2016

After three months of continual flooding, rain-bearing systems were very active during the period from 2 September to 5 October. These systems brought repeated moderate and occasionally heavy falls to areas inland NSW. With catchments, already saturated, the persistent rainfall resulted in renewed flooding, including major flooding in the Bogan, Macquarie, Lachlan, Murrumbidgee and Murray River basins.

## NSW SES Response

The flooding event impacted upon nine (9) of the seventeen (17) SES Regions of NSW, and resulted in over 7,700 requests for assistance to the NSW State Emergency Service (SES) between Tuesday 30 August 2016 and Monday 12 December 2016. There was a total of 146 flood rescue activations and 1243 out of area deployments to assist with the flooding. The SES was assisted in high impact areas by personnel from FRNSW, NSWRFs, NSWPF, NSW Ambulance and the Volunteer Rescue Association.

## Flood Related Fatalities

On the 1<sup>st</sup> October 2016, a 49-year-old male went missing in the Lake Cowal area. The male was located deceased near a make shift boat ramp on the 5<sup>th</sup> October 2016.

<sup>3</sup> Bureau of Meteorology

<sup>4</sup> Bureau of Meteorology

## Evacuation Centres

A number of evacuation orders were issued to residents in towns threatened by flood waters and Evacuation Centres and Assistance Points were established. Local intelligence suggests that the vast majority of those affected by evacuation orders sought refuge with family and friends.

### Forbes

An initial evacuation order was issued on 7 September 2016 for a number properties along Yellow Box Road and outside of Forbes. One family was accommodated in Forbes for eight days. On Saturday 24 September 2016, an evacuation order was issued for approximately 1100 homes in parts of Forbes. An Evacuation Centre was established at the Forbes High School by Family and Community Services (FACS) staff, supported by volunteers from ADRA, Anglicare, Red Cross and Salvation Army. The Evacuation Centre was open for 11 days, closing on 4 October 2016 and approximately 100 people registered. 40 people were provided with emergency accommodation in Parkes over a one month period.

A Disaster Welfare Assistance Point was also established at the Jemalong Regional Education Centre on 24 September 2016 and closed two days later on 27 September 2016 as there was no demand for this service.

Disaster Welfare Services staff, located at Forbes Council, continued to provide ongoing assistance and conducted welfare checks on families in emergency accommodation after the Evacuation Centre closed. The final evacuation orders were lifted from Forbes on Saturday 22 October 2016.

### Condobolin

On Thursday 29 September 2016, an evacuation warning was issued for parts of Condobolin including the community of Willow Bend. A Disaster Welfare Assistance Point was established at Condobolin High School, staffed by FACS and Red Cross. An evacuation order was issued for the community of Willow Bend on Wednesday 5 October 2016 with 10 people provided with emergency accommodation in Condobolin until Wednesday 13 October 2016. The Condobolin Disaster Welfare Assistance Point was open for 9 days and closed on Friday 7 October 2016 with contact details for assistance posted at the school. The evacuation order for areas of the township of Condobolin was lifted on 24 October 2016.

## Impact Assessments

### Damage/Rapid Impact Assessments

The damage/rapid impact assessments for this flood event were undertaken by FRNSW and RFS staff with the assistance of Public Works engineers where required for dam/levee assessment. These rapid impact assessments varied greatly in the level of detail that they contained and in many instances information was unable to be ascertained as to the level of actual inundation that had occurred. This information is required to assist the recovery process.

In a number of instances, outdated rapid impact assessment templates were used by emergency services staff conducting the assessments. This slowed down analysis of this information for use in the recovery phase.

**Recommendation 1:**

The Office of Emergency Management in consultation with the Impact Assessment Advisory Group:

- develops a rapid impact assessment template that includes a clear definition of degree of damage to properties
- review and combine current templates into one, single template for Impact Assessment Reports that is used by all agencies.

### EOC Impact Assessments

Emergency Operations Centre (EOC) Impact Assessments involve the collection of social, infrastructure, economic and natural impacts to a community because of a disaster event. The Assessment provides an interpretation and analysis of how the disaster has impacted the community which is used to inform Recovery arrangements.

It is the responsibility of the Emergency Operations Controller to coordinate the EOC Impact Assessment, with data being provided by multiple local and state agencies. Regional Emergency Management Officers generally assist with this process. The Assessment provides further context and analysis of impacts that detail what the effects are to the community and are used to inform operational planning and form the basis for Recovery Needs and Capacity Assessment and Recovery Action Plans developed by the Local Recovery Committee. The Assessments are also used to complete National Impact Assessment Model applications for the event.

The EMPLAN states that Assessments “should take place within 24 hours or as soon as practicable following the declaration of a natural disaster”. Experience from this event highlighted that the timeframe and trigger/s for undertaking Impact Assessments needs further consideration. Multiple LGAs met the \$240,000 threshold for Natural Disaster Declaration, but the EOC Impact Assessment process added little value due to the impacts being limited to agriculture and roads with information that could be obtained directly from those agencies.

There was also considerable ‘pushback’ from many Local Emergency Management Committees in the completion of the Impact Assessments as in many areas, an EOC was not opened and therefore there was confusion as to whose role it was to complete the assessments.

A revised EOC Impact Assessment template was trialled during this event. The template was revised to ensure appropriate data is collected for NSW to meet the National Impact Assessment Model (NIAM) requirements.

**Recommendation 2:**

The Impact Assessment Advisory Group considers the following:

- review of the timeframe and triggers for undertaking Impact Assessments
- review the name “EOC Impact Assessments” as it is confusing
- review of the impacts of an EOC not opening during an event upon EOC Impact assessments
- review any feedback on the revised EOC Impact Assessment process and template with EMU, OEM, SES, RFS & FRNSW.



## State Impact Overview

The impacts from the September 2016 inland flooding were felt from the Queensland border in the north to the Victorian border in the south. The regions most significantly impacted were the Central West and Riverina Murray, noting that impacts also occurred in the Far West, New England and South East Regions.

### Natural Disaster Declarations

On the 27 September 2016, the Commonwealth Minister for Justice, Hon Michael Keenan MP and NSW Minister for Justice and Police, Hon Troy Grant MP jointly declared 21 Local Government Areas Natural Disasters and announced the availability of a range of assistance through the jointly funded Commonwealth-State Disaster Relief and Recovery Arrangements (NDRRA). Subsequent announcements and declarations were made on the 12 October 2016 (7 LGA's), 28 October 2016 (8 LGA's), 21 October 2016 (7 LGA's) and the 13 December 2016 (2 LGA's). A total of 45 Local Government Areas were declared Natural Disasters for this event.

### NSW Natural Disaster Assistance Arrangements

A Natural Disaster Declaration makes several supportive schemes available under the NSW Disaster Assistance Guidelines (NSWDAG), which is supported by the NDRRA. These arrangements are made available through the NSW Department of Justice, Office of Emergency Management (OEM) and address the provision of assistance to individuals, primary producers, small business and non-profit organisations.

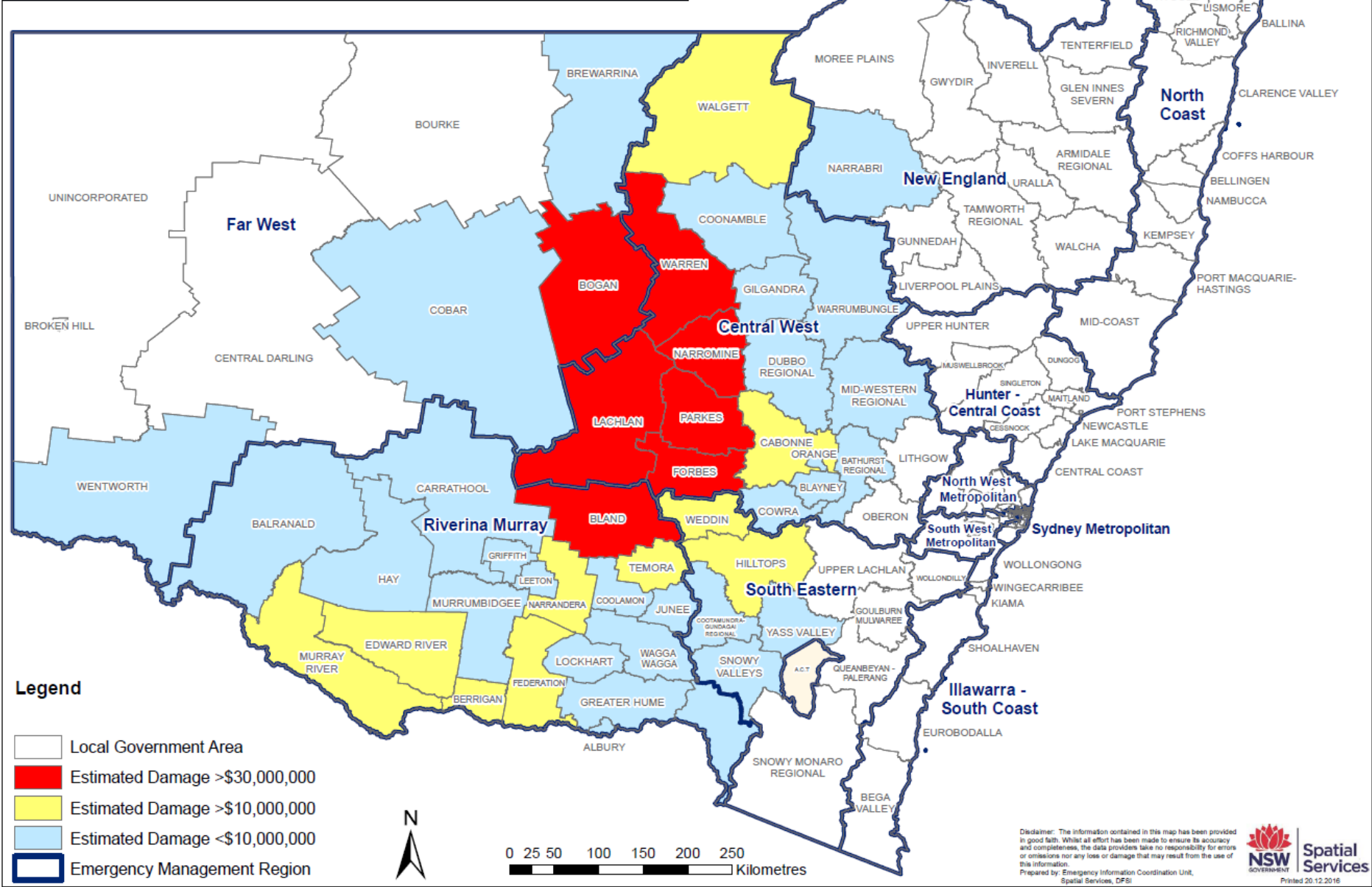
The range of assistance measures available in the affected Local Government Areas include:

- grants for essential home contents and structural repairs for people who meet an assets and income test
- financial assistance for local and state government authorities to assist with the restoration of damaged infrastructure
- concessional interest rate loans for small businesses, primary producers and not-for-profit organisations
- freight subsidies for primary producers
- grants to not-for-profit organisations that have suffered physical damage.

More information on these assistance measures can be found at [www.emergency.nsw.gov.au](http://www.emergency.nsw.gov.au)

<i>Central West</i>	<i>Riverina Murray</i>
Declaration Date: 27/9/16	Declaration Date: 27/9/16
<ul style="list-style-type: none"> <li>• Bathurst</li> <li>• Bland</li> <li>• Blayney</li> <li>• Carbone</li> <li>• Coonamble</li> <li>• Cowra</li> <li>• Dubbo Regional</li> <li>• Forbes</li> <li>• Gilgandra</li> <li>• Lachlan</li> <li>• Mid-Western</li> <li>• Narromine</li> <li>• Orange</li> <li>• Parkes</li> <li>• Walgett</li> <li>• Warren</li> <li>• Warrumbungle</li> </ul>	<ul style="list-style-type: none"> <li>• Cootamundra-Gundagai</li> <li>• Hilltops</li> <li>• Temora</li> <li>• Yass Valley</li> </ul>
Declaration Date: 12/10/16	Declaration Date: 12/10/16
<ul style="list-style-type: none"> <li>• Bogan</li> <li>• Narrabri</li> <li>• Weddin</li> </ul>	<ul style="list-style-type: none"> <li>• Coolamon</li> <li>• Junee</li> <li>• Murrumbidgee</li> <li>• Narrandera</li> </ul>
Declaration Date: 28/10/16	Declaration Date: 28/10/16
<ul style="list-style-type: none"> <li>• Cobar</li> </ul>	<ul style="list-style-type: none"> <li>• Berrigan</li> <li>• Edward River</li> <li>• Federation</li> <li>• Hay</li> <li>• Leeton</li> <li>• Murry River</li> <li>• Snowy Valley</li> </ul>
Declaration Date: 21/11/16	Declaration Date: 21/11/16
<ul style="list-style-type: none"> <li>• Brewarrina</li> </ul>	<ul style="list-style-type: none"> <li>• Albury</li> <li>• Carrathool</li> <li>• Greater Hulme</li> <li>• Griffith</li> <li>• Lockhart</li> <li>• Wagga Wagga</li> </ul>
Declaration Date: 13/12/16	Declaration Date: 13/12/16
	<ul style="list-style-type: none"> <li>• Balranald</li> <li>• Wentworth</li> </ul>

**NSW Floods - September / October 2016**  
**Estimated Damage (\$)**



## Housing Impact

Across all Regions approximately 18 houses sustained some level of over floor damage as a result of the flood, however for the majority this was relatively minor and widely distributed. Regional towns were not significantly impacted, rural properties suffered isolation due to flooding with some minor inundation.

## Agricultural Impact

The combined effects of the slow-moving water, prolonged periods of inundation in some areas and continued rain events resulted in significant agricultural impacts, particularly crop losses. Reported livestock losses were relatively low, largely due to good preparedness by landholders and the aerial surveillance/aerial mustering coordinated by the Agricultural and Animal Services Functional Area (AASFA).

The Department of Industry encouraged landholders to report agricultural losses to assist in assessing the cumulative impact of the flood event. By February 2017, landholder reported damage was a total of \$106.2M across the recovery area (Exclusive of Riverina) from a total of 475 reports. A significant number of landholders reported a 100% write off, of their winter crops (particularly in the central and western areas of the State). It is however important to recognise that not all landholders self-report damage or losses.

An estimated 1,316,316 ha of crop and 285,408 ha of pasture was inundated and destroyed. Other damage included:

- extensive and in many cases severe damage to farm fences
- damage to farm infrastructure such as laneways, pumps, irrigation systems and sheds

The total agricultural damage from the floods is estimated at just over \$827 million<sup>5</sup>.



Figure 4<sup>6</sup> Flooding at Forbes and surrounds September 2016

<sup>5</sup> Estimated damage@Febrary 2017

<sup>6</sup> Photos courtesy of Lachlan Valley Delegation

Nature of damage	Quantity	Value
Crops (all types)	1,316,316 ha	\$ 740,275,290
Pasture (native/improved)	285,408 ha	\$ 42,812,555
Fodder (stored grain)	7,819 tonnes	\$ 2,345,700
Internal roadways/levees	3,705.9 km	\$ 7, 443,800
Silos/bridges/infrastructure	20 silos 34 (sheds/houses) 4 internal bridges 12 Other	\$ 1,510,000
Fencing	2,918.3 km	\$ 29,183,000
Flood gates	1,175	\$587,500
Cattle	499	\$ 1,001,000
Sheep	7,834	\$ 1,105,720
Dairy	506,000 litre milk	\$ 253,000
<b>TOTAL</b>		<b>\$ 827,867,807</b>

Figure 5<sup>7</sup>: Total agricultural damage to all LGA's

### Small Business Impact

While there was minimal direct flood damage to businesses, the extensive and prolonged flooding caused major road closures to the Newell Highway and regional and local roads, isolating town centres. There was a marked downturn in local and tourist trade for up to six weeks in some areas, resulting in significant loss of income to businesses.

### Infrastructure Impact

The estimated infrastructure damage costs to local and state roads from this event are estimated to be nearly \$100m. Many roads and causeways were significantly damaged due to the flooding and prolonged inundation. Significant damage to LGA infrastructure was caused to cycle and pathways, parks and reserves and a sewage treatment plant (Warren).

<sup>7</sup> DPI figures February 2017

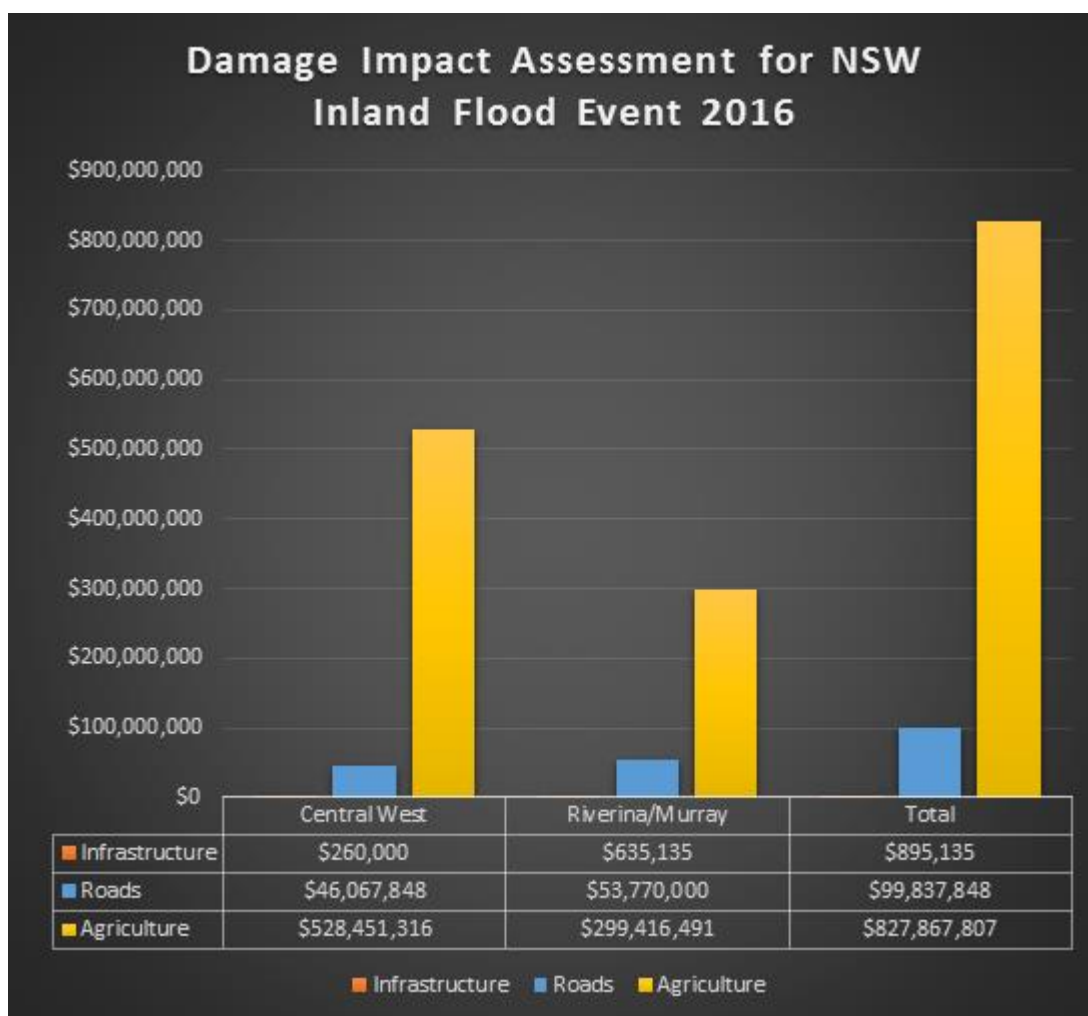


Figure 6: Economic impact on infrastructure, roads and agriculture<sup>8</sup>

### Levees

WaterNSW is the regulatory authority for levees in NSW. As a result of the inland floods, a number of complaints were received by WaterNSW in regards to flood work approvals on levees in the Forbes and Lachlan areas. In total, WaterNSW received twenty complaints in the Forbes area relating to seven levees.

Through using a risk based approach to the assessment of the complaints, WaterNSW has commenced investigations into all seven works and has determined that five of these works are unauthorised. WaterNSW has a number of avenues available to them once a levee is determined as unauthorised, these range from stop work orders and directions to remove or modify the works, provide a warning or advisory letter, issue an on-the-spot fine or initiate court action.

In some instances, the landholder may seek a retrospective approval. Depending on the circumstances the structure may be allowed to remain while the application is determined. Where flooding may occur in the interim, it may be appropriate to breach part of the structure pending a determination. In an emergency situation, the SES may direct the removal or construction of a levee. No such direction was given during this event.

<sup>8</sup> OEM Recovery Assessment document 21/02/17

When investigating levees WaterNSW will not direct removal or modification when water is held back and the consequences of release and safety aspects are not assured. Actions can be pursued when it is safe to do so after the flood has passed. The five unauthorised levees are currently with WaterNSW for consideration of action<sup>9</sup>.

### Dams

WaterNSW is responsible for the operation of Wyangala Dam and must operate this dam in accordance with the regulatory requirements set out in the Wyangala Dam Works Approval (WA) and the Lachlan Regulated River Water Source Water Sharing Plan (WSP).

These regulatory requirements stipulate that during flood WaterNSW must operate the dam to:

1. Maintain the safety of the dam
2. Ensure storage levels are at Full Supply Level (FSL) at the end of a flood event; and
3. Lessen downstream flooding

There is also a requirement under the Operating License to operate a notification system (Early Warning Network - EWN) for flood releases from Wyangala Dam. Throughout August 2016, WaterNSW made airspace releases and translucent releases in order to increase their ability to lessen downstream flooding during multiple flood events throughout late August and October.

The operation of Wyangala Dam by WaterNSW from 3 August to 10 October 2016 provided flood mitigation by reducing and delaying peak outflows from the dam. At all times in the lead up to and during the floods, WaterNSW collaborated closely with the Bureau of Meteorology (BOM) and the State Emergency Services (SES) to ensure that their operational activities were coordinated and effective in mitigating the flood. Anecdotal information received by the Recovery Committee from local agencies and the community is that the release of water from the dams during the flood was well managed and did not contribute to additional flooding.

WaterNSW has commissioned Warren Martin to conduct an independent review of its flood operations at Wyangala Dam. This report is expected to be finalised, and provided to the Premier, in March 2017.

### Newell Highway

The Newell Highway is the longest highway in New South Wales spanning 1058 kilometres south to north through the State. It provides a major interstate transport connection between Victoria, New South Wales and Queensland for freight and passengers, including tourists. It also provides a significant regional traffic route serving and linking a range of towns and major cities as well as a link to domestic and export markets for agricultural products.

Traffic volumes along the Newell Highway vary significantly from around 1,200 to 4,000 vehicles per day in rural areas. In the urban centres, such as Dubbo, average daily traffic volumes exceed 20,000 vehicles a day. A large number of heavy vehicles use the Newell Highway – on average, between 26

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<sup>9</sup> WaterNSW 19/12/16



per cent and 52 per cent of all traffic on the route. The Newell Highway has been flooded and or closed at Marsden north of West Wyalong in 1950, 1952, 1956, 1962, 1974, 1983, 1990, and 2012.

On 22 September 2016, the Newell Highway was closed between West Wyalong and Forbes to all traffic due to flooding and it remained closed for six weeks, reopening on the 4 November 2016. The flood level was the highest recorded in over 20 years and at the peak of the flooding there was 12 continuous kilometres of the Newell Highway under water. During this time traffic was diverted onto other state and regional roads.

The closure of the Newell Highway had major impacts to the state and local economies with initial detours adding approximately 350 kilometres and three and a half hours to the journey. The closure occurred over the school holidays and a long weekend which would normally be one of the busiest periods on the highway.



Figure 7: Newell Highway<sup>10</sup>

### Environmental

The Recovery Committee received limited reported environmental impact damage as a result of the flood. Many of the rivers flooded to record levels, however the water in the majority of cases was slow moving and therefore only minor riverbank damage was reported.

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<sup>10</sup> Photo of Newell Highway 27/9/16 (abc.net.au)



## Transition from Response to Recovery

### Combat Agency – NSW SES

The New South Wales State Emergency Service is the designated response agency under the NSW State Emergency and Rescue Management Act for storms, floods and tsunamis.

### State Emergency Operations Controller

The State Emergency Operations Controller (SEOCN) is a member of the NSW Police Force senior executive and provides advice to the Minister on operational response matters regarding emergencies. They coordinate resources at a State level and carry out requests of the combat agency responsible for controlling the response to an emergency or assumes control if required to do so. It is the responsibility of the SEOCN to ensure Impact Assessments are conducted to inform recovery arrangements.

### NSW Recovery Plan

The NSW Recovery Plan outlines the strategic intent, responsibilities, authorities and the mechanisms for disaster recovery in NSW. The Recovery Plan allows for the development and implementation of a planned recovery following a natural disaster or other emergency. The purpose of the Recovery Plan is to provide a broad framework for a range of more localised and event-specific recovery plans, which will be tailored to support the affected community to manage its own recovery.

### Handover

The nature of this flood event meant that a different approach was taken to a formal handover from the Deputy State Emergency Operations Controller to the State Emergency Recovery Controller. The flood event saw some LGA's in the Operational Phase whilst others had progressed to the Recovery Phase. Agreement was reached between the Deputy SEOCN and the Deputy SERCON on the 28 September 2016 that it was practical and efficient to have the handover in clusters of Local Government Areas when impact assessments were available, after the water had receded and the Local Emergency Management Committees had met to discuss the need for a Local Recovery Committee. This was confirmed in a Memorandum. On the 28<sup>th</sup> October 2016, the cluster model handover was confirmed by the Deputy SEOCN to the Commissioner SES. The phased handover occurred on the following dates:

22 <sup>nd</sup> November 2016	19 Local Government Areas
20 <sup>th</sup> December 2016	24 Local Government Areas
21 <sup>st</sup> December 2016	2 Local Government Areas

Although regular communications occurred between the Deputy SEOCN, the Deputy Recovery Controller and Recovery Coordinator, recovery action planning could have been enhanced if more timely and complete impact and operational intelligence, about the ongoing and changing operational conditions on the ground was provided. The handover documents themselves were bulky and repetitious in nature and contained significant information on the operational response as opposed to information that was required for the recovery process.

A draft handover template was trialled during this event, however was found to be unsuitable to meet the needs of both the operational and recovery phases. The handover process would be enhanced through further development of a handover template that consolidates criteria in the State Recovery Plan and encompasses the legislated requirements to be addressed in the handover phase of Response to Recovery. This would include:

- Emphasis on any actions that are incomplete
- Resources allocated to the emergency response and associated exit strategies
- An impact assessment of the emergency, focusing on the four environments and their interaction and
- Agreed milestones and timings for the conclusion of response and transition of management responsibility to the SERCON.

<b>Recommendation 3:</b>
That the Office of Emergency Management, in consultation with the NSW Police Force Emergency Management Unit and Combat Agencies continue to develop a template for handover of the Response to Recovery Phase of an emergency.

## Recovery Structure

### Office of Emergency Management

In NSW, the State Emergency and Rescue Management Act 1989 (SERM Act) requires the appointment of a State Emergency Recovery Controller (SERCON) and a Deputy State Emergency Recovery Controller (DSERCON) and clearly articulates their responsibilities and functions.

The NSW State Emergency Management Plan (EMPLAN) details emergency preparedness, response and recovery arrangements for NSW. It is to ensure that a coordinated response occurs to emergencies by all agencies having responsibilities and functions in emergencies.

The NSW Recovery Plan is a supporting plan to the EMPLAN. It outlines the strategic intent, responsibilities, authorities and the mechanisms for disaster recovery in NSW.

### State Emergency Recovery Controller

The SERCON at the time of this event was the Executive Director of the Office of Emergency Management, NSW Department of Justice. The SERCON is assisted by the Deputy SERCON (DSERCON), the Director Response and Recovery Branch, Office of Emergency Management. In disaster response and recovery actions, the SERCON and DSERCON are supported by the Response and Recovery Branch and other officers from the Office of Emergency Management.

The SERCON/DSERCON have the authority to engage the support of Government agencies as required and also engage with industry, non-government organisations and Local, State and Commonwealth Governments as necessary, to address issues affecting the recovery process.

## Regional Recovery Coordinator

The NSW Recovery Plan outlines the responsibilities, authorities and mechanisms for disaster recovery in NSW. It provides for the appointment of a Recovery Coordinator to lead the recovery effort. On 26<sup>th</sup> September 2016, The Premier and The Honourable David Elliott MP, Minister for Emergency Services appointed retired Deputy Police Commissioner, David Owens APM as the Regional Recovery Coordinator.

The Recovery Coordinator's primary role was to coordinate the recovery process at the Region Level, working with and supporting regional and local recovery efforts to address the flood's impacts on the communities, the economy, infrastructure and the environment. The Recovery Coordinator's Terms of Reference are included at Appendix A.

The Recovery Co-ordinator commenced whilst the Response Phase of the operation was still occurring. The protracted nature of the flood meant that recovery activities commenced whilst the water had not yet receded. Response and Recovery were working in parallel to each other, ensuring a seamless handover. This model worked very well, however consideration needs to be given to the development of some protocols around the parallel process of response and recovery working in an Emergency Operations Centre context to ensure that there is minimal disruption to the response effort.

### **Recommendation 4:**

The Office of Emergency Management in consultation with combat agencies considers the development of protocols for attendance at an EOC where there is an overlap between response and recovery.

During the course of the Recovery effort, the Regional Recovery Coordinator, DSERCON and recovery team deployed to a number of areas within the State to support the recovery effort.

## Department of Premier and Cabinet Regional Co-ordinators

Department of Premier and Cabinet Regional Coordinators have provided a valuable operational resource in regional and local recovery operations in recent years. Notable disaster recovery operations include:

- Hunter and Central Coast Storm-June 2007
- North Coast Floods-January 2013
- Cooma Monaro Bushfires-January 2013
- Hunter and Central Coast Storm-April 2015
- East Coast Low-June 2016.

The strategic policy expertise, deep subject matter knowledge and overall operational coordination for disaster recovery sits within the OEM. The OEM State level coordination can be complemented by the coordination and support role that the DPC Regional Coordinators fulfil at the regional/local levels. Regional Coordinators are embedded within their local communities and their established relationships with councils, other agencies and local networks provide an excellent support to regional/local recovery committees and conduit to State level operations.

In this flooding event, the Department of Premier and Cabinet Directors, Greater Western and Riverina Murray were engaged to provide assistance and support to the Regional Recovery Committees. The DPC Regional Directors reported through to the Regional Recovery Coordinator and worked closely with the OEM Recovery Team. Their assistance was invaluable in accessing local networks, identification of key personnel and agencies along with their comprehensive understanding of local issues.

**Recommendation 5:**

Continue to build the capacity of the DPC Regional Coordinator role in recovery operations by providing:

- training and development opportunities for Regional Coordinators to equip them for working in the disaster recovery environment
- on the ground support for Regional Coordinators during recovery operations by REMOs or OEM Recovery Team.

**Parliamentary Secretaries:**

The 2016 September flooding impacted 45 Local Government Areas, noting the wide spread of areas impacted upon, a decision was made to actively engage with the NSW Parliamentary Secretaries to ensure that a structured approach was adopted. The Parliamentary Secretaries report directly to the NSW Cabinet each quarter, however in this instance were used as a conduit to Local Members of Parliament. A formal teleconference was conducted on 4 October 2016 and then through written briefings (including the Flood Recovery Bulletins).

The following Parliamentary Secretaries were engaged by the SERCON and the Recovery Coordinator:

- Ms. Sarah Mitchell. MLC. Parliamentary Secretary for Regional and Rural Health and Western NSW.
- Ms. Bronnie Taylor. MLC. Parliamentary Secretary for Southern NSW and Regional Communications.

Formal written briefings along with the Flood Recovery Bulletins were provided to the following Members of Parliament during the Recovery Phase:

- Mr Troy Grant MP.
- Mr. Kevin Humphries MP.
- Mr. Philip Donato MP.
- Ms. Prue Goward MP.
- Ms. Katrina Hodgkinson MP
- Mr. Adrian Piccoli MP.
- Mr. Greg Aplin MP.
- Mr. Daryl Maguire MP.

## Recovery Committees

Recovery committee/s are formed as a strategic decision making body for the recovery process. They can be established at regional or local level and are designed to provide strong and visible leadership to represent and meet local community needs. They also determine priorities and resource allocation within their areas.

Recovery Committees can be tailored in terms of their membership, focus and duration. The decision was made early to establish both a Central West and a Riverina Murray Recovery Committee. This decision was based on the fact that the majority of LGA's affected by the floods fell within these two NSW Government Regional boundaries. The decision to have two Regional Recovery Committees within these locations was based on the NSW Government Service Model (Regional Services readily available) and affected LGAs who were outside of these Regions were serviced within this model. Recovery issues across all Regions were similar in nature. All Local Emergency Management Committees met post the response phase and agreed that Local Recovery Committees were not required and agreed that a Regional Recovery response would better service their needs.

The State Recovery Committee was chaired by the State Recovery Controller and met on six occasions, ensuring oversight of the recovery effort.

The Central West Regional Recovery Committee initially met on the 29 September and the 5 October to conduct briefings for government agencies that had a role in the recovery phase. The first formalised Recovery Committee meeting was held on the 12 October 2016 and held eleven (11) subsequent weekly meetings.

The following sub committees were established in the Central West Region, reporting back to the Regional Recovery Committee:

- Agriculture-DPI Chair
- Health & Wellbeing-Health Chair
- Business & Industry-Industry Chair

An Infrastructure meeting was held on the 15 November 2017 involving RMS, Council and Public Works Representatives discussing scheduling of programmed road repairs, availability of contractors to conduct repairs and emerging recovery issues. The meeting concluded that all issues raised could be dealt with through existing business arrangements and an escalation plan was discussed for any issues that arose.

A decision was made by the Central West Regional Recovery Committee that a subcommittee for Environment was not required due to the limited reported impacts on these areas.

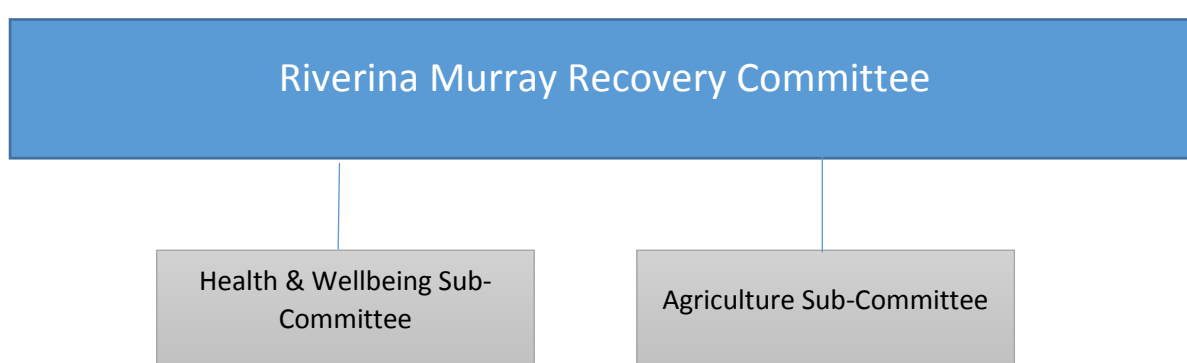


The Riverina Murray Recovery Committee met on the 27 October to conduct a briefing for government agencies that had a role in the recovery phase. The first Recovery Committee meeting was held on the 10 November 2017 and held seven (7) subsequent weekly meetings.

The following sub committees were established in the Riverina Murray Region, reporting back to the Regional Recovery Committee:

- Agriculture-DPI Chair
- Health & Wellbeing-Health Chair

A decision was made by the Riverina Murray Regional Recovery Committee that subcommittees were not required for Industry & Business, Infrastructure and Environment due to the limited reported impacts on these areas.



#### Engagement strategies with 45 Local Government Areas

On the 27 October, the Recovery Coordinator wrote to all councils to introduce the Recovery Committee structure across the two regions. The Recovery Committees included representatives from two councils to represent the broader council network. The Central West Recovery Committee had representatives from Forbes and Lachlan Councils and the Riverina Murray Recovery Committee had representatives from Coolamon and Junee Councils. As additional Natural Disaster Declarations were made, the Recovery Coordinator wrote to those Councils to inform them of the existing recovery processes.

#### Teleconference/s

On the 7 November 2017, teleconferences were conducted with the General Managers of the Councils in the Natural Disaster Declared areas (Central West and Riverina Murray), along with representatives from the Orana Regional Organisation of Councils (OROC), Central NSW Councils (CENTROC), Riverina Eastern Regional Organisation of Councils (REROC) and the Riverina and Murray Regional Organisation of Councils (RAMROC). Representatives were given an overview of the Recovery Committee arrangements, an update on recovery actions to date and emerging recovery issues. Representatives were then kept informed through the Flood Recovery Bulletins.

### Flood Recovery Bulletin

A new initiative was developed by OEM for this event. A flood recovery bulletin was developed for distribution to all councils in the LGAs that had Natural Disaster Declarations. The flood recovery bulletin included key information and activities that councils needed to be aware of throughout the recovery phase. Three (3) flood recovery bulletins were distributed between November and December.

The flood recovery bulletin was also sent to Parliamentary Secretaries and Members of Parliament Offices in Natural Disaster Declared Areas. A copy of Flood Recovery Bulletin Issue 1 is attached Appendix C.

<b>Recommendation 6:</b>
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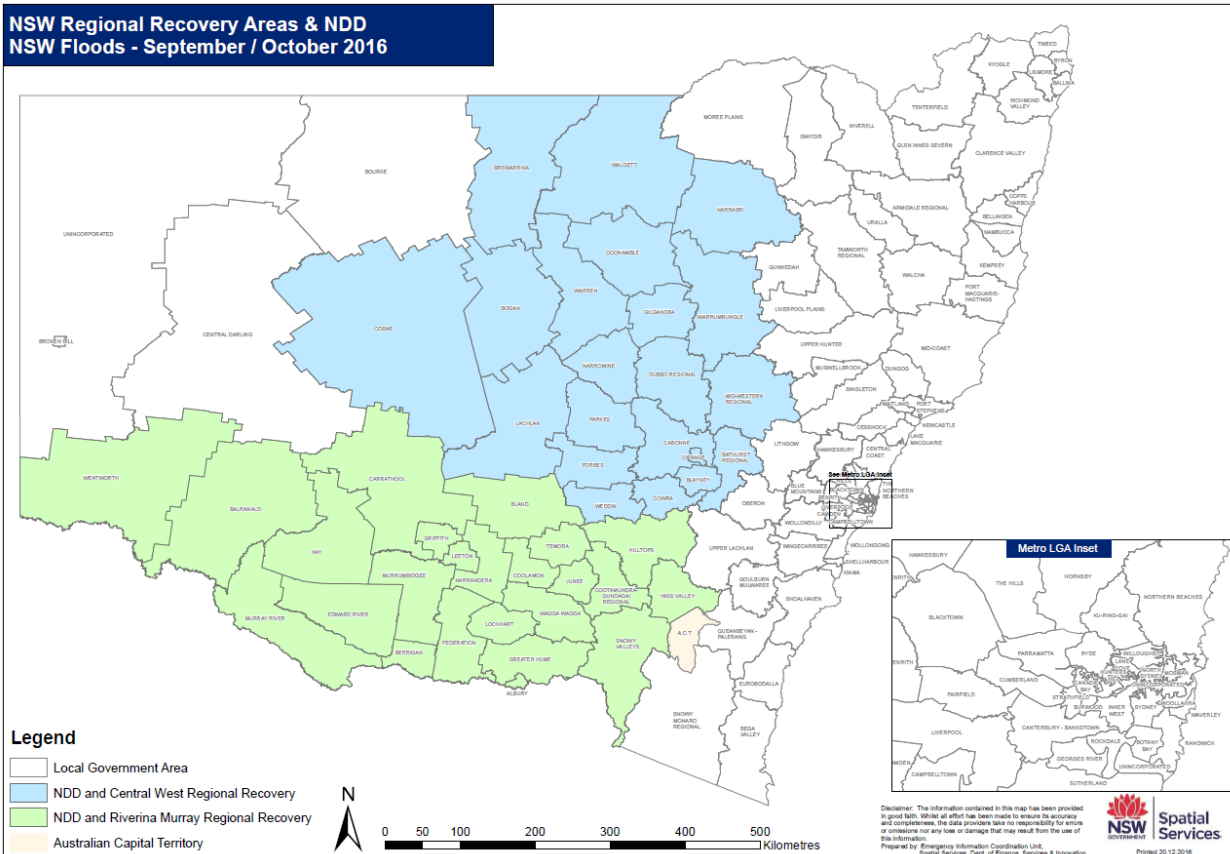
The Office of Emergency Management consider the issuing of Council Recovery Bulletins for major emergency events.
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The implementation of two Regional Recovery Committees worked well, with committee meetings being held at Forbes and Wagga Wagga. To increase engagement with all councils, consideration should be given to one or more of the committee meetings being moved to an alternate location within the affected area/s, should the event occur across multiple Local Government Areas.

<b>Recommendation 7:</b>
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That Regional Recovery Committees consider moving meetings to a number of locations within affected LGAs.
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## NSW Regional Recovery Areas & NDD NSW Floods - September / October 2016



## Recovery Strategies

### Identifying Community Needs – Recovery Questionnaires

The main impacts of this event were the extensive crop losses, extended periods of isolation caused by the flood waters and an increased threat of mosquito borne diseases. These impacts led to financial and psychological stress on landholders and small business owners.

The degree of impact varied greatly between, and in some cases within LGAs, where the impact for some landholders who had suffered significant crop losses was heightened, as other neighbouring landholders who were fortunate not to have been affected by inundation were likely to experience bumper harvests.

A particular challenge was the regional nature of this recovery operation, covering 45 local government areas. A strategy employed to gain an understanding of impacts and recovery issues across all LGAs was the development of questionnaires for councils about the impacts on health and wellbeing and small businesses on their communities. The questionnaires were coordinated through the Health and Wellbeing Sub-committees and the Business and Industry Sub-committees in both regions - Central West and Riverina Murray.

In the Central West, the questionnaires were emailed to Council Economic Development Officers and Community Development Officers, for completion and return. In the Riverina Murray, given time constraints, a different strategy was employed by a Red Cross Officer who telephoned the Economic and Community Development Officers in each council to discuss and record their answers to the



questions. This strategy of telephone contact proved to be much more successful, with all councils providing detailed feedback and information, compared with the return rate for the emailed questionnaires in the Central West which was very small.

The information collected from the Council Impact Questionnaires was very useful and informed the development of the Recovery Action Plans for both Regional Recovery Committees. Similar strategies should be considered in future events, particularly where recovery covers wide geographical areas and involves multiple councils.

## NSW Disaster Welfare Assistance

### Disaster Welfare Assistance Line

The Disaster Welfare Assistance Line (DWAL) activates in the response and recovery phases of a disaster and provides information about disaster relief grants and a point of information for individuals suffering loss from natural disasters.

The Disaster Welfare Assistance Line (DWAL) received nearly 400 calls from September to the end of December 2016 in relation to this flood event. The majority of calls were from Forbes, Narrandera, Moulamein, Condobolin, Hillston, Griffith, Wagga, Cowra, Moree and Berrigan shire.

Call inquiries were about: the Australian Government Disaster Relief Payment (AGDRP) and the Disaster Recovery Allowance (DRA), financial assistance for isolation, small business, emergency accommodation and contents and structural damage to homes. In many cases callers were advised of other potential options for assistance or referred other agencies where appropriate.

It is worth noting that as in other most recent disasters, a high percentage of calls were enquiries about AGDRP and DRA which were not activated by the Australian Government for this event. The DRA is a commonwealth payment that provides income support to individuals, including employees, primary producers and sole traders who can demonstrate they have experienced a loss of income as a direct result a disaster. There were many calls from employees and primary producers enquiring about this payment, indicating that the widespread and prolonged isolation by flood waters impacted on the incomes of many in flood affected areas.

### Disaster Welfare Outreach

An outreach doorknock was conducted by Disaster Welfare Alumni, Red Cross and Chaplains in affected parts of Forbes from 7 – 9 October 2016. Outreach information included health and mental health resources, DPI assistance measures, SES booklet on Recovery from Floods and Storms and Council Clean up Information.

A new initiative introduced in this event was the inclusion of recovery outreach information in the resupply packs for isolated landholders that were delivered by SES. This was an effective means of providing information about recovery assistance directly to landholders and strategies that partner with other agencies who have direct contact with disaster affected residents should be considered in future events.

### NSW Disaster Relief Grants

Disaster Welfare Services administers the Disaster Relief Grants Program which assists eligible disaster affected households with the replacement of essential household contents and structural repairs. People with limited financial resources and no insurance may be eligible for a grant under this program.

Reflecting the relatively small number of homes that were significantly damaged in this flood event, only 8 applications for Disaster Relief Grants across the Central and South Western areas had been received by end December 2016.

### Health and Wellbeing

#### Mosquito Management

A direct consequence of the large volume of slow moving flood waters and saturated grounds was the emergence of large numbers of mosquitos and the increased risk of mosquito borne diseases, particularly Ross River Virus and Barmah Forest virus. In early October 2016, mosquitos emerged as an issue that required a coordinated public health information strategy. NSW Health reported larger than expected mosquito infestations in flooded areas and Local Health Districts distributed information in late September to councils on mitigation and treatment practices, as councils have the responsibility for the installation of traps and carrying out of treatment options.



Figure 9<sup>11</sup>: Mosquito trap with rain gauge      Figure 10<sup>12</sup>: 26,000 mosquitoes trapped at Griffith in one 24-hour period

NSW Health undertakes routine surveillance of mosquitos across NSW and provides reports (NSW Arbovirus Surveillance and Mosquito Monitoring Program 2016-17-weekly update). On 24 October 16, information from trapping showed almost 15,000 mosquitos collected from four inland sites where

<sup>11</sup> 8/11/16 Department of Medical Entomology, Pathology West

<sup>12</sup> Photo supplied by Environmental Health Officer Griffith City Council.

the normal trapping numbers was a few hundred. Subsequent reports indicated that in the first three weeks of the 16/17 season, more mosquitos were trapped than for the entire previous season. In late November in one 24-hour period, 26,000 mosquitoes were trapped in Griffith.

On 22 November 2016, a meeting was held with the A/Chief Health Officer (State Public Health Controller) NSW Health, Director Communicable Diseases, the Regional Recovery Coordinator and various state and regional representatives from NSW Ministry of Health to discuss and implement strategies to address the increasing number of detections of mosquitoes across the flood affected areas.

The following strategies were developed and implemented:

### **Regional Council Mosquito Control Workshops**

Conducted on the 15 November 2016 in Narrandera and 6 December 2016 in Dubbo. The Workshops were facilitated by the local Public Health Unit with the main presenter being the Senior Hospital Scientist, Mosquito and Arbovirus Surveillance Laboratory Department of Medical Entomology, Pathology West, Westmead Hospital, Sydney. These were well attended by local council representatives.

### **Information Sheets for General Medical Practitioners and Pharmacies**

Two information sheets were developed specifically for General medical practitioners and pharmacies on arbovirus risk and prevention. These were distributed on the 25 November 2016 (Appendix B).

### **Information for Local Councils**

Information was prepared and distributed by NSW Health on Mosquito management at community events. This was important as many councils and local businesses were actively promoting events to stimulate business in the Regions. Product information was also distributed to Councils on available treatment options that had been approved by the Department of Primary Industry.

### **Community FACT Sheet – Fight the Bite**

A FACT sheet was developed for advice to the general public on personal protection and was distributed through:

- Councils
- Libraries
- Tourist Information Centres
- Supermarkets in targeted high risk areas
- SES and RFS volunteers email contact lists
- SES & RFS Social Media
- Country Women's Association and Farmers Federation email contact lists
- Community Radio announcements
- Local newspapers
- State Government Agencies email to all staff and clients

In total 50,000 hard copy community information facts sheets were distributed across the affected areas. Positive feedback was also received from community members on the electronically distributed facts sheets.

In December 2016 contact was made with the Cross-Boarder Commissioner to ensure there was an information flow across the border into Victoria.

### Mental Health

The mental wellbeing of the affected communities, in particular farmers, was a priority of the Recovery Committees. Multiple strategies were employed to ensure the needs of the whole of the communities were considered and implemented.

The Rural Adversity Mental Health Program (RAMHP) distributed a variety of self-assessment Mental Health Information packages through councils, medical centres, community health centres, hospitals, agriculture and veterinary businesses, stock agents and the Rural Financial Counselling Services. The full range of strategies is outlined in the attached Recovery Action Plans (Appendix D), however the strategies included:

- “Taking Care of yourself after a disaster”
- “Having that difficult conversation”
- The Glove Box Guide to Mental Health
- Conducting Men’s Health Check sessions
- Links to mental health supportive websites
- Business cards for the NSW Health Line and access to crisis services

A number of Local Landholder Recovery sessions and Community gatherings were conducted where the Red Cross, RAMPH workers and Psychological First Aid support was provided. These community gatherings and Local Landholder Recovery sessions will continue as needed into the future.

### Support for Landholders

NSW Primary Industries and Local Land Services coordinated a range of support measures for landholders affected by the flooding.

Easy access to information about flood assistance measures and agricultural technical advice was identified early as an important strategy. The Department of Primary Industry hosted a link on the DPI website “Natural Disaster Flood Recovery Assistance for Primary Producers”. The DPI website was used as a central point for flood recovery information for primary producers and included community information through newsletters, factsheets and brochures. The website supported Local Land Services “one to one” contact with landholders, e-newsletters and local media articles.

The DPI Rural Resilience Program was also a key strategy, with Rural Resilience Workers travelling throughout the affected areas providing support, information and assistance to affected landholders. This included running a series of family gatherings in the lead up to Christmas. A specialist Rural Support Worker was engaged for six months to support program delivery and was based in the flood zone at Condobolin.

### Landholder Field Days/Workshops

Landholder workshops/field days were coordinated by Local Land Services (LLS) and the Department of Primary Industries (DPI). Technical advice and information was available on pasture management, weed identification and biosecurity risks. Other assistance included farm business and financial management and mental health support and strategies. The sessions were attended by the Rural Financial Counselling Service, Red Cross and DPI Rural Resilience Program.

### Technical advice and information products

Technical advice and information was developed into YouTube videos. Interviews on flood recovery were developed with technical specialists and farmers to provide advice, positive messaging and to showcase proactive and emergency management activities and place on YouTube.

A Landholder Flood Recovery Advice Bulletin was developed by DPI and LLS and distributed electronically through the Riverina LLS and Murray LLS and linked through council websites. The Bulletin included information on; cropping & pasture management, weed management, animal health risks, mental health and financial planning advice.

### NDRRA Category C Primary Producers Grants

NDRRA Category C Primary Producer Grants are an exceptional circumstances financial assistance measure that can be activated over and above the assistance already being provided (concessional loans and freight subsidies) under the Natural Disaster Relief and Recovery Arrangements.

These grants assist primary producers who have been severely impacted by a natural disaster with assistance for clean-up and recovery. Stringent impact levels and criteria are set by the Commonwealth, grants are activated by agreement of the NSW Premier and Prime Minister and are jointly Commonwealth-State funded.

The scale and severity of flood damage to primary producers in Central Western NSW was significant in this flood event. On 19 December 2016, the Commonwealth Minister for Justice Michael Keenan and NSW Minister for Justice and Police Troy Grant announced recovery grants for primary producers of up to \$15,000 in seven local government areas: Bland, Bogan, Forbes, Lachlan, Parkes, Warren, Narromine.

There was a slow take up of the recovery grants by landholders over December – January. This was likely due to the timing of the announcement just before Christmas and the holiday period. As @ 8 February, applications had begun to increase with 62 applications mainly from Forbes, Bland and Parkes LGAs. The grants will continue to be promoted through media and agencies and it is expected that applications would continue to rise. The Recovery Grants remain open until 19 June 2017.

### Review of Cat C assistance measure

'Category C' grants for primary producers have been activated in NSW on five occasions over recent years:

- January 2013 State-wide bush fires
- January 2013 North Coast Storms and Floods
- April 2015 East Coast Storms and Floods
- June 2016 East Coast Low
- August 2016 Inland Storms and Floods (current event)

There has not to date, been any formal evaluation of these activations that consider the rate of take up of the grants by primary producers and the effectiveness of this financial assistance as a recovery measure. In this current activation of the 'Category C' grants, the Rural Assistance Authority is surveying grant applicants to gather data about how primary producers are using this recovery assistance, to inform a future policy review of this grant measure.

<b>Recommendation 8:</b>
That a review of the Cat C Primary Producer Grant is undertaken that considers the effectiveness of this financial assistance as a recovery measure.

#### NGO Financial Assistance

The Australian Lions Foundation made available funding for disaster relief grants for primary producers and rural residents directly affected by the floods in Forbes and Condobolin from 17 October 2016. Community members wanting to make financial donations to assist affected residents were also encouraged to support this fund.

The first round of grants were vouchers (\$100 adult, \$50 child) for food and medical needs to be used at local businesses in Forbes or Condobolin. This assistance was not highly utilized by the community with only \$4,500 being given out.

The second round of grants were up to \$3,500 per family to be used on fuel, fodder and fences. This was more widely embraced by the community. At the end of January 2017, around 47 families had been assisted and \$50,000 spent. The Disaster Relief Program will remain open as long as there is an identified community need. Demand is now slowing considerably and when the Program closes any remaining funding will be returned to the Lions Foundation.

The Forbes and District Lions Club also raised a considerable amount of money locally and it is their plan to put this funding towards local flood pro-active projects.

Other local NGOs also provided financial assistance to affected residents/landholders in the Forbes area. St Vincent de Paul Society assisted with household costs such as utility bills and groceries and Rotary assisted with cash grants to households suffering hardship for fuel, food and fodder.

#### Consideration of BlaizeAid Assistance

The extensive but slow moving nature of the floods meant that flood debris caused widespread damage to fences, but not destruction. Particularly in the Forbes LGA much of the fencing remained standing, however required clean up and repair – a very labour intensive task for landholders.

The Recovery Coordinator and Forbes and Lachlan Shire Councils held ongoing discussions with BlaizeAid about possible assistance. However, it was finally agreed that as the fences required clean up rather than reconstruction and the fencing clean-up efforts on farms were being undertaken over time independently by farmers, use of the BlaizeAid operational model where volunteers are brought in for a consolidated and coordinated block period of time, was not practical or effective in this situation.



### Support for schools and students isolated by floodwaters

The timing of the floods meant that the major flooding occurred over the school holiday period. Term 4 commenced for the majority of students on the October 2016. The flood was going to significantly impact upon HSC students, boarders returning to school, day students on their daily commute, alternate bus routes and some schools being completely isolated due to flooding.

On the 5 October 2016, a meeting was convened in the Central Western Region involving Department of Premier and Cabinet, Office of Emergency Management, State Emergency Service and representatives (Local and Regional) from public and private schools with students impacted by the flooding. Mitigation strategies were put in place such as:

- HSC students sitting exams at alternate venues and delivery of HSC papers to those venues
- Principal and staff being flown into one isolated school at the commencement of the school week and flown out at the end of the week (Bedgerebong)
- Virtual schooling via video conferencing
- Alternate transport arrangements for isolated school students

This strategy was replicated in a meeting in the Riverina Murray Region on the 10 October 2016. As a result of these mitigation strategies by all agencies working together, not one case was identified where a HSC student was unable to sit their exams.

All schools were also tasked with conducting risk assessments on all trees within the boundaries of their properties to ensure that due to the heavy rain and flooding the root systems had not been affected and the trees were structurally sound for students to be around/under. This was completed across both Regions.

### Repairs to Roads

The Newell Highway was closed due to flooding between the 22 September to the 4 November 2016 (43 days) with major traffic diversions onto state and regional roads in the surrounding areas. Once the flood waters receded the Newell Highway was inspected. Prior to the highway re-opening repairs were carried out by local councils and the direct Roads and Maritime Services workforce.



Figure 11: Newell Highway at peak flooding

On the 6 October 2016, Deputy Premier Troy Grant and Minister for Roads and Freight Duncan Gay announced additional road funding (\$14m) to 21 councils that was additional to funding available through Natural Disaster Relief arrangements<sup>13</sup>. Sixteen councils received \$500,000 and five councils received \$1 million each to be utilised on road repairs. One million dollars was also allocated to investigate options to improve flood resistance of the Newell Highway at Tichborne. On the 1 December 2016, the Minister for Roads and Freight announced an additional 22 councils in the flood affected areas would receive \$11.5 million in funding relief for repair of local roads<sup>14</sup>. In January 2017, all councils in Central West and Riverina Murray Regional Areas who were Natural Disaster Declared in the September 2016 floods had received the Special Assistance Grants<sup>15</sup>.

Roads and Maritime Service and Councils worked closely on the assessments of Council flood damage claims to ensure that they were all within funding guidelines. There were initial concerns that due to the high level of flood damage that councils would have to reprioritise road work schedules that may impact on other funding arrangements within financial years. It is viewed that the majority of the flood damage funding can be carried out over the 2017/18 financial year so very little reprioritisation would need to occur on existing programs in 2016/17.

## Support for Small Business

### Office of the NSW Small Business Commissioner

During the recovery phase of the western region floods, the Office of the NSW Small Business Commissioner (OSBC) engaged with local small businesses to support their recovery. The OSBC visited local operators, listening to their concerns and understanding their needs while providing information about available support mechanisms.

During the visit to Condobolin, Forbes and Parkes, the Commissioner met with a wide range of local businesses to directly hear their stories. The Commissioner also met with the Mayors of Forbes Shire Council, Lachlan Shire Council, Parkes Shire Council and community business leaders, to understand how the whole community has been affected by this disaster.

During the weeks of the flood, the OSBC and the NSW Department of Industry also conducted 39 “Relief and Recovery Arrangements” surveys of small businesses to estimate the total impact on small businesses and identify common concerns. Feedback from those surveys and community leaders overwhelmingly indicated that the major concern was the drop in the number of visitors that came with the roads being closed during the disaster. For many small businesses, the drop-in trade lasted six weeks or more. Local businesses also asked for support in encouraging visitors to return to the region as quickly as possible, as well as for advice for how to manage unusual business conditions such as dealing with reduced cash flow.

To help address those needs, the Department of Industry’s Small Biz Bus was redirected to visit a range of towns in Western and Southwestern NSW (Forbes, Condobolin, West Wyalong, Lake Cargelligo, Burcher, Darlington Point, Jerilderie and Corowa) to provide advisory services and to put businesses

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<sup>13</sup> NSW Government media release 6 October 2017

<sup>14</sup> NSW Government Media release 1 December 2016.

<sup>15</sup> RMS Email 2/1/17



in contact with their local Business Connect advisor. Small businesses can still receive advisory services at no cost to them by calling 1300 134 359.



Figure12: The NSW Small Business Commissioner in Forbes: (left to right) Robyn Hobbs OAM, The NSW Small Business Commissioner, Dave Owens APM, Western NSW floods Regional Recovery Coordinator, and Peter Croft. Business Connect advisor.



Figure 13: Small Biz Bus in West Wyalong: (left to right) Adrian Lazarou – Department of Industry Training Services NSW; David Wardell - Workforce Community Development Manager TAFE NSW Riverina Institute, West Wyalong Campus; Warwick Grant – Small Biz Connect; Tony Lord- Mayor of the Bland Shire; Louise Conibear Department of Industry and inside the bus hard at work is Wayne Sunderland - BEC Business Centre.

### Back to Business Campaigns

A number of campaigns were initiated to promote the Regions as ‘Open for Business’. These included a variety of activities in concert with Destination NSW and regional based marketing campaigns including Taronga Western Plains Zoo, Dubbo Regional Council and Central West NSW Tourism. The full list of strategies is outlined in the attached Recovery Action Plan.

Business Health Checks were provided free of charge for businesses in natural disaster LGA’s, offering advice and guidance on managing cash flows, planning for the next steps to get back to normal trading, accessing financial support schemes and connecting to additional support. Workshops are also planned under the banner of improving business resilience and sustainability through the Business 90 Day Accelerator Program and Back to Business Week.

### Media and Communications

The Office of Emergency Management does not have a permanent media/communications position. The event saw OEM access existing arrangements with the Department of Justice where two (2) media and communications staff formed part of the Regional Recovery Team.

The media and communications team undertook the following activities during this event:

- Developed a media and communications plan specific for this event
- Held five (5) Regional fortnightly communications meetings with representatives from all government departments and local councils

- Conduit between NSW Health and local councils re 'Fight the Bite mosquito facts sheet' messaging for residents, businesses and visitors to the areas
- Provided assistance and editorial advice to other departments and councils on public messaging documents.

Consideration should be given to the further development of a communications and engagement strategy for major disaster events. This should be built upon by the existing partnerships that have been developed between the Office of Emergency Management and the Department of Justice, Strategic Communications Branch during the 2016 events. This should also be developed in consultation with the Public Information Functional Area Coordinator (PIFAC).

The development of templates and Fact Sheets about recovery information and assistance measures that could be utilised by State and Local Government would also be beneficial. Guidelines for 'Communicating in Recovery' are currently under development by the Office of Emergency Management (through the Department of Justice, Strategic Communications Branch). It is recommended that this be progressed as a priority to provide assistance for local government and include the roles of State and Local Government working together, key messaging and Facts Sheets.

**Recommendation 9:**

The Office of Emergency Management:

- considers the further development of a communications and engagement strategy for major disaster events
- progresses the development of the "Communicating in Recovery" Guideline in the Local Recovery Toolkit.

During the recovery operation, the media team conducted an audit of all webpages of councils in the 45 disaster declared areas and an inconsistency was discovered in some of the messaging provided and some webpages had no flood recovery information. Several councils were very proactive and had accurately and timely information, along with the web link to Emergency NSW, whilst others had little or no information. The media team rectified this situation post the audit, ensuring that all council websites had the Emergency NSW and NSW Health (mosquitoes) web link.

In this event, agencies continued to manage messaging about their agency recovery strategies. This process worked well. The Office of Emergency Management webpage should be a single source of accurate and timely information. The webpage was found to be cumbersome and difficulty was experienced in locating information. In future events, if the OEM webpage is to be utilised as the single source of information, significant upgrades would need to be undertaken to the webpage.

**Recommendation 10:**

The Office of Emergency Management review the webpage and costings associated with any upgrade to enable it to become the single source of information in an emergency event.

## Transition to Longer Term Recovery

On the 1 February 2017 (Central West Regional Recovery Committee) and the 9 February 2017 (Riverina Murray Recovery Committee) met to discuss the transition to longer term recovery. At that time the Recovery Committees agreed that recovery was working well as documented in the Regional Recovery Action Plans and as such there was no need for any further meetings of the Recovery Committee to occur.

## Regional Recovery Committee Debrief/s

The Regional Recovery Committees met on the 1/2/17 (Central West) and the 9/2/17 (Riverina Murray) for a Recovery de-brief. The majority of agencies were represented at these debriefing sessions and the debrief was facilitated by an external facilitator. A separate report is provided to the Office of Emergency Management to build on identified best practices and to consider any improvements to other processes.

## Appendices:

### Appendix A: Terms of Reference – Regional Recovery Coordinator, Western Region Flooding

The NSW Recovery Plan outlines the responsibilities, authorities and mechanisms for disaster recovery in NSW. It provides for the appointment of a Recovery Coordinator to Lead the recovery effort.

Following the devastation caused by the flooding in the Central West September 2016, The NSW Government has appointed Mr David Owens APM to perform the role of Regional Recovery Coordinator. The Regional Recovery Coordinator will:

- Coordinate the recovery process at the Regional level, working with and supporting local and regional efforts,
- Develop and maintain a Regional Recovery Action Plan that aligns with local assessments and plans, and to
- Brief the Minister for Emergency Services and other elected representatives on the recovery.

The Regional Recovery Coordinator will report through the Executive Director, Office of Emergency Management. The Coordinator will be supported in his duties by the Office of Emergency Management in the Department of Justice.

**FIGHT THE BITE!**

# Mosquito borne infections



## Information for people who live in or are travelling to flood affected areas in south west and western NSW

- 1** Mosquitoes can transmit infections, including Ross River and Barmah Forest virus.
- 2** Stagnant water left behind by the recent floods and heavy rain in NSW provides ideal breeding conditions for mosquitoes.
- 3** Take simple measures to prevent being bitten by mosquitoes and reduce your risk of infection.

### Summary

- In the last few months, inland NSW has experienced heavy rains and significant flooding, resulting in water lying around. This water provides ideal conditions for mosquito breeding.
- NSW Health has received reports of a large number of mosquitoes in south western and western NSW; mosquitoes in these areas have been detected carrying the Ross River or Barmah Forest virus.
- With the increased mosquito numbers, there is an increased risk for people to be infected with mosquito borne diseases, including Ross River and Barmah Forest virus. More rarely mosquitoes may carry Murray Valley encephalitis virus and Kunjin virus.
- Apply mosquito repellent regularly to exposed areas (as directed on the container). Repellents containing Diethyl Toluamide (DEET) or Picaridin are best. Repellents containing oil of lemon eucalyptus or p-Menthane-3,8-diol (PMD) also provide adequate protection.
- Devices that use light to attract and electrocute insects are NOT effective.
- When mosquitoes are present inside the room use over the counter insecticide sprays, especially behind furniture and in dark places.
- When camping, make sure your tent is well protected with flyscreens, or sleep under mosquito nets.

### Signs you may have a mosquito related disease

Many people will have no symptoms if infected. However a few days after being bitten some will feel generally unwell, and may have sore joints, muscle aches, rash, fever and tiredness.

### Protecting yourself from a mosquito disease

Simple steps to avoid mosquito bites include:

- Checking fly screens on all windows and doors are in place and do not have any rips or holes.
- When outside cover up as much as possible with light-coloured, loose-fitting clothing and covered footwear, especially in the early morning and evening.

### Further Information

Detailed information on reducing the risk of mosquito bites at home and while travelling can be accessed from the following link:

[www.health.nsw.gov.au/Infectious/factsheets/Pages/mosquito.aspx](http://www.health.nsw.gov.au/Infectious/factsheets/Pages/mosquito.aspx)

Detailed information on control of mosquitoes during floods and public events can accessed from the following link:

[www.health.nsw.gov.au/environment/factsheets/Pages/mosquito-control-floods-and-public-events.aspx](http://www.health.nsw.gov.au/environment/factsheets/Pages/mosquito-control-floods-and-public-events.aspx)



**Health**

## Flood Recovery Bulletin

An Update for Councils

9 November 2016

This is the first of a series of bulletins to help councils keep up-to-date with the recovery effort and assist their communities after the widespread impact of the recent floods in Western NSW.

### Regional Recovery Co-ordinator

Mr Dave Owens APM was appointed by the Premier as the Regional Recovery Coordinator on 26 September 2016. Key aspects of Mr Owens's responsibilities as Regional Recovery Coordinator include:

- Coordinating the recovery process at the regional level, working with and supporting local efforts as recovery commences
- Providing a Regional Recovery Plan that builds on assessments and plans at the local level
- Facilitating and co-ordinating services provided by non-government and private sector organisations involved in the recovery process.

### Regional Recovery Committees

Natural disasters have been declared in 36 Local Government Areas and two Regional Recovery Committees have been established: the Central West Regional Recovery Committee and the Riverina Murray Regional Recovery Committee. The table below outlines the LGAs included under each committee.

Central West	Riverina Murray
<ul style="list-style-type: none"> <li>• Bathurst Regional</li> <li>• Blayney</li> <li>• Bogan</li> <li>• Cabonne</li> <li>• Coonamble</li> <li>• Cobar</li> <li>• Cowra</li> <li>• Dubbo Regional</li> <li>• Forbes</li> <li>• Gilgandra</li> <li>• Lachlan</li> <li>• Mid-Western Regional</li> <li>• Narrabri</li> <li>• Narromine</li> <li>• Orange City</li> <li>• Parkes</li> <li>• Warren</li> <li>• Walgett</li> <li>• Warrumbungle</li> <li>• Weddin.</li> </ul>	<ul style="list-style-type: none"> <li>• Bland</li> <li>• Coolamon</li> <li>• Cootamundra-Gundagai Regional</li> <li>• Hilltops</li> <li>• Junee</li> <li>• Murrumbidgee,</li> <li>• Narrandera</li> <li>• Temora</li> <li>• Yass Valley</li> <li>• Berrigan</li> <li>• Edward River</li> <li>• Federation</li> <li>• Hay</li> <li>• Leeton</li> <li>• Murray River</li> <li>• Snowy Valleys.</li> </ul>

Table 1: Natural Disaster Declaration, by region.

A map of these Natural Disaster Declarations is attached at the end of this Bulletin



## Council Representation on Regional Recovery Committees

The General Managers of two councils will represent the interests of all councils in the region at each of the Regional Recovery Committees.

- For the **Central West Regional Recovery Committee**, the representatives are:
  - Danny Green, General Manager, Forbes Shire Council  
02 6850 2300 email: [Danny.green@forbes.nsw.gov.au](mailto:Danny.green@forbes.nsw.gov.au)
  - Robert Hunt, General Manager, Lachlan Shire Council  
02 6895 1969, email: [Robert.hunt@lachlan.nsw.gov.au](mailto:Robert.hunt@lachlan.nsw.gov.au)
- For the **Riverina Murray Regional Recovery Committee**, the representatives are:
  - Tony Donoghue, General Manager, Coolamon Shire Council  
02 6930 1800 email: [tdonoghue@coolamon.nsw.gov.au](mailto:tdonoghue@coolamon.nsw.gov.au)
  - James Davis, General Manager, Junee Shire Council  
02 6924 8100 email [jsc@junee.nsw.gov.au](mailto:jsc@junee.nsw.gov.au)

If you have issues that you would like to raise, contact the council representatives on your Regional Recovery Committee.

General Managers from all councils covered under the two Regional Recovery Committees were invited to attend a teleconference on Monday 7 November 2016. The teleconference provided an opportunity for General Managers to hear from the Regional Recovery Coordinator, Dave Owens about plans for recovery and for councils to raise emerging recovery issues.

## Important information for Councils

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### 21 day clean-up period

Under the NSW Disaster Assistance Guidelines (NSW DAG), financial assistance may be provided for the additional resources required by councils within the first 21 days after a disaster to clean-up debris from council essential public assets. The 21 day period commences from the day Council is able to gain access to the assets to restore them.

The 21 day period may be extended by the NSW Government if the event's impact is severe or widespread and clean-up operations will extend beyond 21 days.

Should Council have severe or widespread green waste and require a variation to this rule please notify the Office of Emergency Management via [NaturalDisasters@mpes.nsw.gov.au](mailto:NaturalDisasters@mpes.nsw.gov.au).

Further information can be found under guideline B.4 of the [NSW Disaster Assistance Guidelines](#).

[Download the fact sheets](#) on the 21 day clean-up period and day labour information from the [Emergency New South Wales website](#).

## Mosquitoes

NSW Health has reported larger than expected mosquito infestations in flooded areas and has distributed information to all councils on mitigation and treatment practices. Please be aware that councils are responsible for installation of the traps and carrying out treatment.

NSW Health undertakes routine surveillance of mosquitos across NSW and provides reports and information on management of this issue.

If your council wishes to undertake a program of mosquito trapping, please contact your local Public Health Environmental Health Officer to discuss.

## Mental Health

A package of information and fact sheets has been provided to the Councils in Natural Disaster Declared Areas. Please publish this information on your council website and distribute the information widely throughout your community. See further information and links at the end of this bulletin.

The Red Cross will be providing psychological first aid at a number of local events being arranged by DPI Rural Resilience Network and the Departments of Education and Health. The Red Cross is also networking with other local agencies to see where additional outreach assistance may be needed.

## Primary Production

NSW Department of Primary Industries and Local Land Services are urging primary producers to report all flood damage, including:

- stock and fodder losses
- damage to crops and pastures
- damage to fencing and other farm infrastructure.

This will assist NSW authorities determine the extent of damage and assess potential support measures.

Farmers can obtain a copy of the Self Reporting Damage Impact Report by calling Local Land Services on 1300 795 299.

An [Assistance Guide for Primary Producers](#) is also available on the Department of Primary Industries website and has been distributed widely to councils.

## Small Business

Small Biz Connect is a NSW Government service that provides quality, personalised business advisory services. Mobile Small Biz Connect advisors can provide advice to flood affected businesses about:

- managing cash flow
- accessing support schemes
- planning the next steps
- connecting to additional support.

They can also connect affected businesses with appropriate financial packages, disaster recovery programs and Commonwealth Government business support services.

To connect with a local business advisor, call 1300 134 359.

The Small Business Connect Office is currently conducting a [survey](#) to assess the extent of the impact of the floods. Please alert local businesses both to the survey and to other kinds of support available through [Small Business NSW](#).



## Road Repairs

Roads and Maritime Services (RMS) is working with councils to assess damage as quickly as possible. As a matter of course, councils risk assess and prioritise road repairs. However, should councils require additional assistance in the assessment process or coordination of additional resources/contractors, the initial point of contact should be the RMS Area Maintenance Manager in your respective region.

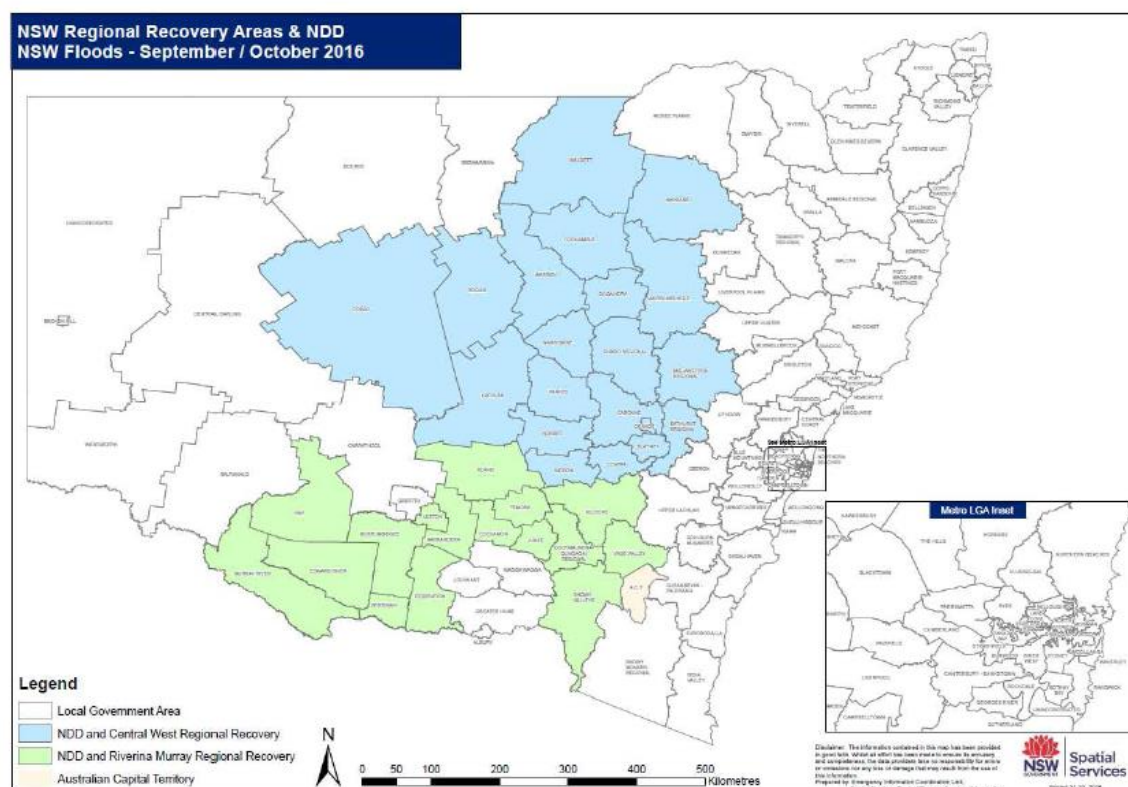
## Further information and resources

The following provide excellent information and resources for Councils to include on websites and make available to their communities through other distribution channels:

- [Office of Emergency Management](#)
- [Regional Development Australia \(RDA\) Central West](#)
- [Rural Adversity Mental Health Program](#)
- [Managing Mosquito Risk around the home and farm](#)

## Contact Us

For further information or assistance, please contact the Office of Emergency Management via [Recovery@mpes.nsw.gov.au](mailto:Recovery@mpes.nsw.gov.au)



# Central West Regional Flood Recovery Committee 2016 Recovery Action Plan

## Appendix D: Recovery Action Plan-Central West February 2017

### Event Summary

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A series of complex cold fronts and rain bands impacted on central and south west NSW in August and September 2016, with particularly heavy rainfall on the Lachlan and Murrumbidgee catchments. This resulted in moderate flooding in the Murrumbidgee and Murray River catchments and major flooding in the Lachlan and Bogan river catchments.

45 local government areas have been included in a Natural Disaster Declaration. This protracted and widespread flood event resulted in significant:

- damage to roads
- loss of crops and stock
- loss of trade to businesses in towns impacted by extended road closures.

### Recovery Action Plan

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The Recovery Action Plan outlines the priorities and actions of the Central West Regional Recovery Committee (RCC) and Sub Committees as at December 2016. The key actions outlined in the Plan are:

- repair of roads
- mosquito protection
- financial, mental health and agricultural business support for landholders
- business advice for small businesses.

The Plan is a 'living document' that will be updated as required to reflect completed actions and new and emerging priorities. A formal review of the Plan will be undertaken in March 2017.

### Central West Regional Recovery Committee

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The Central West Regional Recovery Committee covers 21 LGAs, including LGAs in the Far West and New England Regions. LGAs covered under the Central West Regional Recovery Committee are:

Bathurst Regional, Blayney, Bogan, Brewarrina, Cabonne, Coonamble, Cobar, Cowra, Dubbo Regional, Forbes, Gilgandra, Lachlan, Mid-Western Regional, Narrabri, Narromine, Orange City, Parkes, Warren, Walgett, Warrumbungle, Weddin
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Agencies represented on the Regional Recovery Committee:

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Department of Premier and Cabinet</li><li>• Department of Education and Training</li><li>• NSW Police</li><li>• Family and Community Services</li><li>• Central West Local Health District</li><li>• Forbes Shire Council</li><li>• Roads and Maritime Services</li><li>• State Emergency Service</li></ul> | <ul style="list-style-type: none"><li>• Department of Primary Industries</li><li>• DPI Rural Resilience Program</li><li>• Local Land Services</li><li>• Environment Protection Authority</li><li>• Department of Industry</li><li>• Insurance Council of Australia</li><li>• Lachlan Shire Council</li><li>• Public Works</li><li>• Office of Emergency Services</li></ul> |
|---|--|

# Central West Regional Flood Recovery Committee 2016

## Recovery Action Plan

The Central West Regional Recovery Committee was formally established on 12 October 2016. The Recovery Committee is chaired by the appointed Regional Recovery Coordinator, Dave Owens and has met each week up to 14 December 2016. The Recovery Committee will reconvene in the first week of February 2017 to monitor ongoing recovery actions and identify any emerging recovery issues. The need for, and frequency of future Recovery Meetings and transition of Chair arrangements will be determined in February 2017.

## Health and Wellbeing

### Agencies

Western NSW Local Health District  
Rural Adversity Mental Health Program  
Local Land Services  
Red Cross  
Forbes and District Lions Club

	Community Need	Recovery Actions	Timeframe	Responsible Agency/s
1	Information about mosquito protection to limit exposure to mosquitoes and risk of mosquito borne infections	<p><b>Development and distribution of community information about mosquito protection.</b></p> <p>Fact Sheets</p> <ul style="list-style-type: none"> <li>- Fight the Bite: Information for people living in or travelling to flood affected areas in south west or western NSW</li> <li>- Information for GPs and Pharmacists – increased risk of Ross River Virus and Barmah Forest virus.</li> </ul> <p>Public Health Communications Strategy for the community with advice about mosquito protection and management strategies</p> <p>Community Information Sheet distributed through:</p> <ul style="list-style-type: none"> <li>- NSW Health Public Health Units</li> <li>- Councils, Tourist Information Centres, Libraries, Caravan Parks</li> <li>- Independent and chain supermarkets in Parkes, Forbes, Condobolin, Warren, Brewarrina, Cobar, Nyngan, Walgett, Coonamble, Coonabarabran. (25,000 flyers)</li> <li>- SES, RFS – volunteer email lists and Facebook</li> <li>- LLS email contact lists</li> <li>- Farmer's Federation, Rural Women's Network email contact lists</li> <li>- National Parks &amp; Wildlife</li> <li>- School newsletters</li> </ul> <p>Information for Aboriginal Communities Aboriginal Environmental Health Officers met with Aboriginal Land Councils. Yarning sessions were conducted in Walgett,</p>	<p>Oct 16 – April 17</p> <p>December 16 COMPLETE</p> <p>December 16 COMPLETE</p> <p>December 17 COMPLETE</p>	<p>NSW Health CWHD Public Health Unit</p> <p>Central West &amp; Riverina Murray Recovery Committees</p>



	<p>Links to mental health supportive websites made available to Councils.</p> <p>Information included in Disaster Welfare outreach to affected areas in Forbes Town: "Taking care of our health and wellbeing following a Natural Disaster"</p> <p>Conducting Men's Health Check sessions</p> <p>Ongoing provision of mental health resources as needed, with a focus on Feb/March 17 when farmers are experiencing financial impacts of the crop/stock losses</p>	<p>October 16 COMPLETE</p> <p>Jan – April 17 Business as Usual</p> <p>Feb – March 17 Business as Usual model with enhanced monitoring</p>	
	<p>Mental health awareness training for government and community agencies</p> <p>RAHMP training sessions for Local Government Staff, LLS, Stock and Station Agents and RAA</p> <p>RAHMP Education Programs with a focus on the flood recovery will continue to be delivered as needed</p> <p>Funding submissions to Lyons International are in process for 2 Resilience Building Projects in collaboration with NGO and Charitable organisations. Projects will target all age spectrum. Further details to be provided once funding approval is obtained.</p>	<p>Ongoing Business as Usual</p> <p>Oct – Nov COMPLETE</p> <p>Feb – April 17 Business as Usual</p> <p>January 17 Await Funding Advice</p>	NSW Health RAMPH
	<p>Attendance at Local Landholder Recovery Sessions and Community Gatherings</p> <p>Red Cross attendance and Psychological First Aid support</p> <p>RAMPH worker attendance providing direct support and information about mental health services</p> <p>Local Landholder Recovery Sessions:</p>	<p>Oct – Dec 16 COMPLETE</p>	LLS W NSW LHD RAMPH Red Cross

		<p>Condobolin, Tottenham, Lake Cargelligo</p> <p>Community gatherings and events:</p> <ul style="list-style-type: none"> <li>- Bedgerabong Community BBQ</li> <li>- Food and stock flood information session, Forbes</li> <li>- NSW Rural Womens Gathering, Broken Hill</li> <li>- Carols by Candlelight, Forbes</li> </ul> <p>Attendance at future community gatherings as needed. 6 community “wrap up” sessions are scheduled through the Ag and Animal Service Plan at which RAMHP will participate.</p>	Feb – April 17 Business as Usual	
5	<b>Financial Assistance for flood affected residents and landholders in Forbes and Condobolin districts</b>	<p>Disaster Relief Funds – NGOs</p> <p>Lions Disaster Relief Fund Grants of up to \$3500 per family for fuel, fodder and fences</p> <p>St Vincent de Paul Society - Forbes Assistance with household costs such as utility bills and groceries</p> <p>Fund will continue as long as there is demonstrated need.</p>	October 16 – ongoing	<p>Forbes and District Lions Club</p> <p>St Vincent de Paul Society</p>
6	<b>Build community resilience and disaster preparedness for future disaster events</b>	<p>Red Cross Pillow Case Project</p> <p>A disaster resilience education program designed to help build student (Yrs 3/4) knowledge and capacity in disaster preparedness. Program conducted in:</p> <ul style="list-style-type: none"> <li>- Bedgerabong Public School, Yeoval Central School, St Columbus catholic school Yeoval, Cumnock Public School, Wellington Christian school.</li> </ul> <p>Schools in the following areas are targeted for presentations in 2017</p> <ul style="list-style-type: none"> <li>- Condobolin, West Wyalong,</li> <li>- Ungarie, Gooloogong, Grenfell, Peak Hill,</li> <li>- Trundle, Tullamore, Tottenham, Parkes, Forbes</li> <li>- Canowindra</li> </ul>	<p>Oct – Dec 16 COMPLETE</p> <p>2017</p>	Red Cross

## Health and Wellbeing Recovery Transition Strategy

Health and wellbeing impacts may continue to emerge once farmers are no longer focused on the immediate activities of harvest and preparation for summer crops. There is the potential for increased financial stress over Jan/Feb/Mar 2017 with farmers facing the reality of decreased cash flows and demands of program payment schedules for farm equipment and other farm costs, leading to increased stress and mental health issues.

A review of health and wellbeing issues undertaken in February 2017 has indicated no new or emerging issues arising within the impacted areas. Work will be ongoing in this community as part of the normal business of the RAMHP program with some targeted Resilience Building strategies both within RAMHP and in support of a number of agencies with whom RAMHP have collaborative models in place.

The Health and Wellbeing Subcommittee will formally conclude:

- when agencies indicate that they are receiving fewer requests for assistance
- there are no new or emerging issues that require a coordinated cross agency approach
- known issues have been managed/mitigated as much as possible
- agencies are providing recovery activities within normal business.

February 2017

The Health and Wellbeing Subcommittee will not reconvene in 2017 as no new or emerging issues that require a coordinated cross agency approach have been identified. Ongoing actions in the Plan will be managed through normal business activities of agencies.

Monthly reporting to OEM will continue until all actions are complete.



## Agriculture

### Agencies:

Central West Local Land Service	CWLLS
Department of Primary Industries	DPI
Industry Development Officer (DPI program)	IDO
North West Local Lands Service	NWLLS
Rural Assistance Authority	RAA
Rural Financial Counselling Service	RFCS
Rural Resilience Program (DPI Program)	RRP

	Landholder Need	Recovery Actions	Timeframe	Responsible Agency/s
1	<b>Technical and advisory information about primary production recovery options for pasture reestablishment, cropping alternatives and stock disease risk and other flood impacts.</b>	Landholder Recovery Sessions Held in highly impacted areas, as determined by landholders, local council or LLS/DPI. Sessions held in: Condobolin, Tottenham, Lake Cargelligo	November COMPLETE	Lead: LLS/DPI DPI-RRP RFC RAMHP Red Cross
		Landholder Workshop/field days Covering pasture management, Weed ID, Feedlot management post flood, Biosecurity risks, Farm Business Management and Financial management  Workshops/Field Days scheduled for Forbes, Condobolin, West Wyalong, Trangie, Tottenham, Lake Cargelligo – February-March. Held in conjunction with LLS Pasture Pre-Season workshops and pest animal control training. Supported by Rural Resilience Program and Rural Financial Counselling Service.  Further workshops being considered for Warren, Narromine and Trangie, depending on demand.  Rural Adversity Mental Health Program (RAHMP) holding separate series of mental health workshops, aimed at whole community, not just landholders.	Feb-March 2017	CWLLS, NWLLS, DPI-RRP RFC

		DPI/LLS Technical Fact Sheets – Flood Impacts Reviewed as required to identify new issues and updates by technical specialist advice	Dec 16 – April 17	LLS, DPI IDO
		Advice on technical and legal obligations for chemically contaminated clean up areas of old drums, waste pits, sheep dips etc.  Liaise with EPA regarding clean up and establish referral processes for landholders seeking advice.	December 16 COMPLETE	DPI/LLS
		Advice on post flood risk and landholder obligations regarding control programs for Biosecurity; including invasive weeds, pest animals, and animal health issues. Reminders about administrative controls and functions eg. stock tracking requirements. Advise will be included in workshops and field days.	Feb – April 2017	DPI, LLS
		Engagement of local private providers – agronomists and specialist breeding services To provide primary production expertise for information and referral and conduct interviews and workshop presentations.	Feb – March 17 COMPLETE	DPI/LLS
2	<b>Information about flood recovery and disaster assistance measures for primary producers</b>	DPI “Natural Disaster Flood Recovery Assistance for Primary Producers” Located on the DPI website and distributed at all Landholder Recovery Sessions  DPI website is the central point for flood recovery information for Primary Producers. Website also includes community information - Newsletters, Factsheets, Brochures  Monthly review of website information and identification of new information requirements as recovery progresses.	Monthly updates (ongoing business as usual)	DPI, RRP
3	<b>Easy access to information about flood recovery and assistance measures and technical advice for landholders</b>	Distribution of technical advice and information and flood recovery assistance <ul style="list-style-type: none"> <li>- LLS worker one to one contact with landholders</li> <li>- LLS e-newsletters</li> <li>- DPI/LLS websites</li> <li>- Media – local papers.</li> </ul>	Oct 16 – ongoing business as usual	DPI/LLS

		<p>Conversion of technical information products into: Podcasts, webinars, Youtube</p> <p>Podcast Interviews on flood recovery with technical specialists and farmers to provide advice, positive messaging and showcase proactive and positive emergency management activities</p>	Business as usual	LLS
4	<b>Practical support and assistance to repair/clean up property fences from flood debris.</b>	<p>Forbes and Condobolin have been identified as areas where property fencing has been significantly impacted BlazeAide have agreed to assist in February 2017.</p> <p>BlazeAid and Forbes/Lachlan Councils have agreed that as the fencing clean-up efforts on farms is not a coordinated process and being undertaken over time independently by farmers, use of the BlazeAid operational model where volunteers are brought in for a consolidated and coordinated block period of time, would not be practical or effective in this situation.</p>	January 2017 COMPLETE	BlazeAid Forbes & Lachlan Shire Councils
5	<b>Financial information and assistance for landholders experiencing financial stress due to economic impacts of floods eg crop/stock losses.</b>	<p>Financial Counselling</p> <p>Free financial counselling support through the Rural Financial Counselling Service. Rural Financial Counsellors attend Landholder Recovery Sessions, workshops and field days.</p> <p>Follow up financial assessment workshops, to be combined with other primary production technical support.</p>	Feb 17 Ongoing business as usual	RFCS LLS
		<p>Financial Assistance – Natural Disaster Relief and Recovery Arrangements</p> <p>NDRRA Cat A – Primary Producer low interest loans and transport subsidies</p> <p>NDRRA Cat C Grants Primary Producer Clean Up Assistance Grants - \$15,000. For Primary Producers in severely impacted areas that meet grant thresholds. Bogan, Bland, Forbes, Lachlan, Parkes, Warren, Narromine</p>	<p>October 16 – ongoing</p> <p>June 2017</p>	RAA

		<p>Cat C announced 19 December 2016 Applications close 19 June 2017 Grants have been promoted through ABC Rural, press releases, advertisements in local newspapers and The Land, Social media via Rural Resilience Program, Rural Financial Counselling Service and Local Land Service.</p>		
		<p>Financial Assistance – Non-Government Agency Disaster Assistance Lions Disaster Relief Fund – Forbes Condobolin Grants of up to \$3000 per family for fuel, fodder and fences. Fund will continue as long as there is demonstrated need.</p> <p>St Vincent de Paul Society - Forbes Assistance with household costs such as utility bills and groceries.</p> <p>Rotary Assistance with cash grants to households suffering hardship for fuel, food and fodder.</p> <p>Other NGOs offering financial/practical support Identify specific needs of landholders that are not being met by existing assistance measures or limited as a result of funding arrangements</p> <p>Identify and engage with NGOs and establish referral processes for farmers</p>	<p>Ongoing – as needed</p> <p>Ongoing - as needed</p> <p>Ongoing – as needed</p> <p>Ongoing -</p>	<p>Forbes and District Lions Club</p> <p>St Vincent de Paul</p> <p>RRP</p>
6	<b>Continued recovery support and monitoring of emerging issues as landholders return to full production in 2017</b>	<p>Monitor emerging recovery issues for Landholders and industry/farming groups and identify longer term recovery needs.</p> <p>Continued engagement and dialogue with landholders after harvest to gain information about emerging issues and capabilities.</p> <p>Referral landholders to available services and support</p>	End Feb 17	All agencies

## Agriculture Recovery Transition Strategy

The Agricultural Recovery Sub Committee will reconvene early in the new year to reassess impacts, both short and long term. It is anticipated that the primary concern in 2017 will be the ability of some landholders to remain viable and/or generate enough capacity to establish crops in 2017. The Rural Financial Counselling Service will likely be the lead agency for this issue.

Agricultural production issues will include crop establishment, invasive weeds and issues associated with an excessively wet season, such as fuel loads for grass and bushfires, and issues associated with animal health. Once the Recovery Subcommittee determines that these issues are within the scope of the core business of relevant agencies, it will recommend to the Recovery Committee that recovery efforts be wound down. This is likely to be March/April next year, unless there are significant new flooding events in the meantime. It is not envisaged that recovery agreements will be needed.

It is likely that some of the most significantly impacted communities where crops were completely devastated, may need some specific attention and service delivery for a longer period. The Recovery Subcommittee will identify these areas and determine appropriate actions with input from the other subcommittees and the Recovery Committee.

February 2017

The Agricultural Subcommittee will not reconvene face to face in 2017 as no new or emerging issues that require a coordinated cross agency approach have been identified. Ongoing actions in the Plan will be managed through normal business activities of agencies.

Monthly reporting to OEM will continue until all actions are complete or have transitioned back into core business arrangements.

	Ongoing Actions	Responsible Agency/s	Time Frame	Status
1	Landholder extension activities	Relevant LLS	ongoing	Core Business
2	Invasive weeds	LLS, DPI, Local Government	ongoing	Core Business
3	Landholder viability	Rural Financial Counselling Service	ongoing	Core Business
4	Animal health impacts	LLS, local private veterinarians	ongoing	Core Business
5	Flood mitigation works	Landholders, DPI Water	ongoing	Core Business

## Environment

An Environment Subcommittee was not established for this flood event as it was determined that environmental impacts could be addressed through agency normal business processes.

Infrastructure				
	Community Need	Recovery Actions	Timeframe	Agencies
1	<b>Flood damaged roads to be repaired as soon as possible.</b> Priority for repair of harvest roads so that farmers can transport crops Repair of the Newell Highway and other main access roads to support businesses returning to normal levels of trading.  Repair of roads will assist to: - encourage local shopping - encourage tourists to visit towns re-establish trucking routes and passing trade from truck drivers	Existing NDRRA natural disaster assistance measures to restore or replace roads and bridges, damaged as a direct result of a declared natural disaster, to their pre-disaster standard or service level.	From Oct 16	Roads and Maritime Services (RMS) Public Works
		RMS assistance to councils in the assessment of flood damaged roads (where required) and with the NDRRA application process. This includes photographing, damage assessments and submission of applications.		
		Additional financial contribution from NSW Government for councils to fix local roads damaged by floodwaters - \$24.5 million	Dec16	RMS
		LGA's were provided with \$1m - \$500,000 in additional funding for road recovery from the Minister for Roads, Maritime and Freight		
		Investigation of options to improve flood resistance of the Newell Highway at Tichborne – to assist keeping the highway open between Forbes and Parkes during heavy flood events.	2017	RMS
		\$1 million funding contribution from Minister for Roads, Maritime and Freight		
		Monitor the impact of diverting resources and assets to repairing flood damaged roads, away from the scheduled maintenance/upgrades to the road network involving Federal and State funded programs: - Roads to Recovery – Federal - Fixing Country Roads – TfNSW - Repair - RMS  In the event of a significant number of councils experiencing significant delays in meeting scheduled milestones, a coordinated approach to seeking extensions may be considered	Jan – April 16	RMS

**Infrastructure Transition Strategy**

The Recovery Committee determined that an Infrastructure Subcommittee was not required for this recovery operation as road repairs are managed by councils and RMS under existing NDRRA natural disaster assistance measures. The Infrastructure Group is available to convene on an as needed basis should any significant recovery issues arise that require a coordinated, cross agency approach.

Industry & Business				
	Business Need	Recovery Actions	Timeframe	Responsible Agency
1	<b>Visitors/travelers returning to regional towns to do business.</b>	<p>Campaigns to Promote Regions as 'Open for Business'</p> <p>Destination NSW has provided:</p> <ul style="list-style-type: none"> <li>• A spreadsheet of Destination NSW activity across the Central West region from January – June 2017</li> <li>• Other proposed regional-based marketing campaigns across the region, including Taronga Western Plains Zoo, Dubbo Regional Council and Central NSW Tourism RTO from January – June 2017</li> <li>• Get Connected fact sheets, to be distributed to affected LGAs</li> </ul> <ul style="list-style-type: none"> <li>• Recommendations for the additional spend available (\$35,000 from the Western NSW Business Chamber) and Destination NSW supporting activities.</li> <li>• Agreement to be confirmed by Western NSW Business Chamber. Once agreement is reached the Destination NSW team will implement the activity and provide a final summary report at the end of the campaign period.</li> </ul>	<p>Jan - June 017</p> <p>Dec 16 COMPLETED</p> <p>Dec 16 COMPLETED</p> <p>February – June 2017</p>	NSW Business Chamber Western Region/DNSW/Local Councils/Business Chambers
2	<b>Advice for businesses that impacted by road closures and downturns in trade; to improve cash flow and get back to normal trading.</b>	<p>Small Biz Connect</p> <p>A free mobile advisory service is available to small businesses through Small Biz Connect. Advice is offered about managing cash flow, planning the next steps, accessing financial support schemes and connecting to additional support.</p> <p>Advisors can also undertake Business Health Checks - fee waived for businesses in natural disaster LGAs</p> <p>Currently offered under existing Small Biz Connect</p>	<p>Oct – Dec 17 COMPLETED</p> <p>Jan-Jun 17</p>	NSW Department of Industry/Business Connect Program

		Program and will continue through Business Connect commencing 1 January 2017.		
		<p>Small Biz Bus – Activities</p> <p>Locations visited: West Wyalong, Condobolin, Forbes, Lake Cargelligo, Burcher</p> <p>Business Advisors offer face to face personalized advice at no cost and discuss what support is available at State and Federal levels in regards to disaster relief. Small Business Commissioner also visited Condobolin and Forbes to learn first-hand about the issues facing businesses</p>	November COMPLETED	NSW Department of Industry/Small Business Operations and Office of the Small Business commissioner
		<p>Information for Businesses impacted by natural disasters</p> <p>Support provided by the NSW Department of Industry and information on additional support available from other agencies was distributed to Councils, Business Chambers, AusIndustry, Training Services NSW, Regional Development Australia and Business Enterprise Centers.</p> <p>Regional Development Australia Central West website has comprehensive information on recovery assistance - <a href="http://www.rdacentralwest.org.au/initiatives/2016-flood-regional-recovery/">http://www.rdacentralwest.org.au/initiatives/2016-flood-regional-recovery/</a></p> <p>Support includes - Small Biz Connect advisory services; Small Business Concessional Loans through the NSW Rural Assistance Authority</p>	October 2016 COMPLETED	<p>NSW Dept Industry /Small Business Operations</p> <p>Various stakeholders</p>
3	<b>Increased awareness about general business assistance and grants available</b>	<p>Promotion of business assistance and grants currently available to business</p> <p>Supporting Business ‘High Impact Teams’ factsheet details NSW Government business assistance and grants currently available. Includes information about - Jobs for NSW Regional Jobs Now Portfolio; Office of State Revenue’s Jobs Action Plan and the Small Business Grant.</p>	December 2016 COMPLETED	NSW Industry Through Councils, BEC and Business Chambers, Regional Development Australia



		<p>The Federal Government website <a href="http://www.business.gov.au">www.business.gov.au</a> provides a comprehensive range of assistance available to business at the Commonwealth level.</p> <p>This information will be circulated to councils and other stakeholders to help promote opportunities.</p>	December 2017 COMPLETE	
4	<b>Improve business resilience and sustainability so that businesses are better prepared for future disaster events</b>	<p>Encourage business planning for growth and resilience – Workshops</p> <p>Business 90 Day Accelerator Program</p> <p>First workshop to be held in Lithgow, 27 Feb 17, to coincide with “Back to Business Week” Other workshop locations: Portland, Blayney, Bathurst, Cowra, Canowindra, Grenfell, West Wyalong &amp; Gulgong.</p> <p>Workshops for businesses 1 day per month with various speakers to grow business strategies including one-on-one support, development of an action plan from each 1-day workshop and mentor support during the month as the business implements their action plan. With the process repeated after workshop 2 &amp; 3 over a 90 Day period</p> <p>Businesses in some locations impacted by the floods e.g. Forbes &amp; Lachlan Shires will be able to register in any of the locations.</p>	February to June 2017	NSW Department of Industry/Business Connect Program Supported by council and business chambers
		<p>Back to Business Week - launched</p> <p>Launch of Business Connect along with a series of events and opportunities across NSW.</p> <p>NSW Department of Industry would like to hear from communities who want to get involved and host an event during Back to Business Week. For more information contact <a href="mailto:connect@industry.nsw.gov.au">connect@industry.nsw.gov.au</a></p>	December 2016  26 February – 4 March 2017	NSW Department of Industry – Small Business Operations
		<p>Future Towns - launched</p> <p>A pilot program targeting digital readiness and place activation in a number of regional towns including West Wyalong</p>	December 2017	NSW Department of Industry – Small Business Operations

## Industry & Business Recovery Transition Strategy

A review of Industry and Business flood related issues will be undertaken in March 2017.

The Industry and Business Subcommittee will formally conclude when:

- there are no new or emerging issues that require a coordinated cross agency approach.
- known issues have been managed/mitigated as much as possible.
- agencies are continuing to address recovery needs through normal business activities.

February 2017

The Industry and Business Subcommittee will not reconvene in 2017 as no new or emerging issues that require a coordinated cross agency approach have been identified. Ongoing actions in the Plan will be managed through normal business activities of agencies.

Monthly reporting to OEM ([Recovery@mpes.nsw.gov.au](mailto:Recovery@mpes.nsw.gov.au)) will continue until all actions are complete by June 2017.

# Riverina Murray Regional Flood Recovery Committee 2016 Recovery Action Plan

## Appendix E: Recovery Action Plan-Riverina Murray February 2017

### Event Summary

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A series of complex cold fronts and rain bands impacted on central and south west NSW in August and September 2016, with particularly heavy rainfall on the Lachlan and Murrumbidgee catchments. This resulted in moderate flooding in the Murrumbidgee and Murray River catchments and major flooding in the Lachlan and Bogan river catchments.

This protracted and widespread flood event resulted in significant:

- damage to roads
- loss of crops and stock
- loss of trade to businesses in towns impacted by extended road closures.

45 local government areas have been included in a Natural Disaster Declaration for this event.

### Recovery Action Plan

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The Recovery Action Plan outlines the priorities and actions of the Riverina Murray Regional Recovery Committee (RCC) and Sub Committees as at December 2016. The key actions outlined in the Plan are:

- repair of roads
- mosquito protection
- financial, mental health and agricultural business support for landholders
- business advice for small businesses.

The Plan is a 'living document' that will be updated as required to reflect completed actions and new and emerging priorities. A formal review of the Plan will be undertaken in March 2017.

### Riverina Murray Regional Recovery Committee

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The Riverina Murray Regional Recovery Committee covers 24 LGAs, including LGAs in the South-Eastern Region. LGAs covered under the Riverina Murray Regional Recovery Committee are:

Albury, Balranald, Bland, Coolamon, Cootamundra-Gundagai Regional, Hilltops, Junee, Murrumbidgee, Narrandera, Temora, Yass Valley, Berrigan, Edward River, Federation, Hay, Leeton, Murry River, Snowy Valley, Carrathool, Griffith, Wagga Wagga, Greater Hume, Lockhart, Wentworth
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Agencies represented on the Regional Recovery Committee:

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Department of Premier and Cabinet</li><li>• Department of Education and Training</li><li>• NSW Police</li><li>• Family and Community Services</li><li>• Murrumbidgee Local Health District</li><li>• Coolamon Shire Council</li><li>• Roads and Maritime Services</li><li>• State Emergency Service</li></ul> | <ul style="list-style-type: none"><li>• Department of Primary Industries</li><li>• DPI Rural Resilience Program</li><li>• Local Land Services</li><li>• Environment Protection Authority</li><li>• Department of Industry</li><li>• Insurance Council of Australia</li><li>• Junee Shire Council</li><li>• Public Works</li><li>• Office of Emergency Services</li></ul> |
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# Riverina Murray Regional Flood Recovery Committee 2016

## Recovery Action Plan

The Riverina Murray Regional Recovery Committee was formally established on 10 November 2016. The Recovery Committee is chaired by the appointed Regional Recovery Coordinator, Dave Owens and has met each week up to 15 December 2016. The Recovery Committee will reconvene in the first week of February 2017 to monitor ongoing recovery actions and identify any emerging recovery issues. The need for and frequency of future Recovery Meetings and transition of Chair arrangements will be determined in February 2017.

## Health and Wellbeing

### Agencies Acronyms:

Murrumbidgee Local Health District  
Rural Adversity mental health program  
Local Land Services

MLHD  
RAMPH  
LLS

	Community Need	Recovery Actions	Timeframe	Responsible Agency/s
1	<b>Information about mosquito protection to limit exposure to mosquitoes and risk of mosquito borne infections</b>	<p>Development and distribution of community information about mosquito protection</p> <p><u>Fact Sheets</u></p> <ul style="list-style-type: none"> <li>- Fight the Bite: Information for people living in or travelling to flood affected areas in south west or western NSW</li> <li>- Information for GPs and Pharmacists – increased risk of Ross River and Barmah Forest virus.</li> </ul> <p>Public Health Communications Strategy for the community with advice about mosquito protection and management strategies</p> <p>Community Information Sheets (20,000) distributed through:</p> <ul style="list-style-type: none"> <li>- NSW Health Public Health Units</li> <li>- Councils, Tourist Information Centres, Libraries, Caravan Parks</li> <li>- Supermarkets in the most affected areas</li> <li>- SES, RFS – volunteer email lists and Facebook</li> <li>- LLS email contact lists</li> <li>- Farmer's Federation, Rural Women's Network</li> <li>- National Parks &amp; Wildlife</li> <li>- School newsletters</li> </ul>	<p>Oct 16 – April 17</p> <p>December COMPLETE</p> <p>December 16 – April 17 as required</p> <p>COMPLETE</p>	<p>NSW Health MLHD Public Health Unit</p> <p>Central West &amp; Riverina Murray Recovery Committees</p>
2	<b>Mosquito control measures to limit community exposure to mosquitoes</b>	<p>Information for Councils about mosquito monitoring and control measures</p> <p><u>Fact Sheets for councils</u></p> <ul style="list-style-type: none"> <li>- Suppliers of chemicals for mosquito control</li> <li>- Mosquito control during public events</li> </ul> <p>Mosquito &amp; Arbovirus Control Workshop, Narrandera Fortnightly teleconference for Councils – mosquito update and management issues</p>	<p>Oct 16 – April 17</p> <p>December COMPLETE</p> <p>15 November 2016 COMPLETE</p>	<p>Public Health Unit Environmental Health Officers. NSW Health</p>

		Ongoing support and advice to councils as required	Nov - Dec 16 COMPLETE	
			Jan – April 17	
3	<b>Monitoring of mosquito numbers and escalation of Ross River Virus and Barmah Forest Virus in Local Health Districts</b>	Continue to monitor disease notifications for Ross River and Barmah Forest virus Mosquito trappings – Ross River Virus Sentinel Chickens – Murray Valley encephalitis, Kunjin	Dec 16 – April 17	MLHD Public Health Health (Ministry)
4	<b>Mental health information about self-care, self-assessment tools and access to support services</b>	<p>Provision of mental health resources to agencies to support community members, delivered through RAMPH normal business activities.</p> <p>RAMPH Mental Health Information Packages -: tools for looking after yourself included:</p> <ul style="list-style-type: none"> <li>- "Taking care of yourself after disaster"</li> <li>- "Having that difficult Conversation"</li> <li>- Business card for the NSW Mental Health Line and access to crisis services</li> </ul> <p>The Glove Box Guide to Mental Health (GBG) stories about rural people who have either had a lived experience of mental illness or who gone through hardship. Information about NGO support programs and useful apps, contact phone numbers and web pages. Distributed through the Land Paper and RAMPH to agencies.</p> <p>Links to mental health supportive websites made available to Councils.</p> <p>Ongoing provision of mental health resources as needed, with a focus on Feb/March 17 when farmers are experiencing the financial impacts of crop and stock losses</p>	<p>Oct 16 – April 17</p> <p>October COMPLETE</p> <p>Jan – April 17</p>	NSW Health RAMPH
		<p>RAHMP training sessions in psychological first aid for agencies and community groups in flood affected areas. Delivered within normal business activities.</p> <p>RAMHP Education Programs with a focus on the flood recovery will continue to be delivered as needed RAMHP has returned to business as usual though there</p>	Feb – April 17	NSW Health RAMPH

		is capacity to provide a flood focused approach should a need be identified.		
		Attendance at Local Landholder Recovery Sessions and Community Gatherings: Red Cross attendance and Psychological First Aid support RAMHP worker attendance providing direct support and information about mental health services  Locations: Urana, Blighty, Lake Cowal, Pretty Pine, Ungarie  No further community gatherings have been required in the Riverina Murray Region.	Oct – Dec 16       Feb – April 17 COMPLETE	LLS NSW Health RAMHP Red Cross
5	<b>Build community resilience and disaster preparedness for future disaster events</b>	Red Cross Pillow Case Project A disaster resilience education program designed to help build student (Yrs. 3/4) knowledge and capacity in disaster preparedness.  Programs are being planned for flood impacted communities in 2017	2017	

## Health and Wellbeing Recovery Transition Strategy

Health and wellbeing impacts may continue to emerge once farmers are no longer focused on the immediate activities of harvest and preparation for summer crops. There is the potential for increased financial stress over Jan/Feb/Mar 2017 with farmers facing the reality of decreased cash flows and demands of program payment schedules for farm equipment and other farm costs, leading to increased stress and mental health issues.

The Health and Wellbeing Subcommittee will not reconvene in 2017 as no new or emerging issues that require a coordinated cross agency approach have been identified. Ongoing actions in the Plan will be managed through normal business activities of agencies.

Monthly reporting to OEM (Recovery@mpes.nsw.gov.au) will continue until all actions are complete by June 2017

A review of health and wellbeing issues will be undertaken in March 2017 The Health and Wellbeing Subcommittee will formally conclude when:

- agencies indicate that they are receiving fewer requests for assistance
- there are no new or emerging issues that require a coordinated cross agency approach
- known issues have been managed/mitigated as much as possible
- agencies are providing recovery activities within normal business.

<b>Agencies Acronyms:</b> Riverina Local Land Services RLLS Department of Primary Industries DPI Industry Development Officer (DPI program) IDO Murray Local Land Services MLLS Rural Assistance Authority RAA Rural Financial Counselling Service RFCS Rural Resilience Program (DPI Program) RRP				
	Landholder Need	Recovery Actions	Timeframe	Responsible Agency/s
1	<b>Technical advice and information that enable landholders to identify grazing and cropping production risks that would impact their ability to recover from flooding.</b>	<p>Landholder Recovery Sessions  Held in highly impacted areas, as determined by landholders, local council or LLS/DPI.  Distribution of DPI Natural Disaster Flood Recovery Assistance for Primary Producers.</p> <p>Sessions conducted in Urana, Blighty, Lake Cowal Blighty and Pretty Pine</p> <p>Future Landholder Sessions:  Moulamein – Edward River Council determined no longer required</p> <p>Additional Landholder Recovery Sessions will be convened on advice from landholders or local councils as needed – Assessed in February 17 as no longer required.</p>	<p>Oct – Dec 16</p> <p>November COMPLETE</p> <p>December 16 COMPLETE</p> <p>Jan - April 17 COMPLETE</p>	<p>Lead: RLLS MLLS DPI</p> <p>DPI-RRP RFCS RAMHP Red Cross</p>
		<p>Riverina Murray Landholder Flood Recovery Advice 1, December 2016  Includes information about cropping/pasture/weed/animal health risks as well as mental health and financial planning advice.</p> <p>Developed by LLS/DPI and sent out electronically via RLLS and MLLS contact lists and posted on LLS websites and links from Council websites</p>	<p>Mid December 16 COMPLETE</p>	<p>LLS/DPI</p>



		<p>Distribution of technical advice and information to landholders</p> <ul style="list-style-type: none"> <li>- LLS one to one contact with Landholders</li> <li>- LLS e-newsletters</li> <li>- DPI/LLS websites</li> <li>- Media – local papers.</li> </ul>	Oct 16 – April 17	
2	<p><b>Psychological support and information for landholders about mental health awareness and self-care.</b></p> <p>Information about how to access mental health support services</p>	<p>Landholder Recovery Sessions As outlined in Action 1.</p> <p>Rural Resilience Program Officers, RAHMP and Red Cross Workers attend Landholder Recovery Sessions to provide support to landholders as required and distribute information about mental health and counselling services. No further Recovery Sessions were required and updated information was provided on NSW DPI website</p>	Oct – Dec 16 COMPLETE	DPI-RRP RFC RAMHP Red Cross
3	<p><b>Financial information and assistance for landholders experiencing economic impacts of floods eg crop/stock losses</b></p>	<p>Financial Counselling The Rural Financial Counselling Service offers a free service for landholders Rural Financial Counsellors attend Landholder Recovery Sessions.</p>	Oct 16 – ongoing as needed	
		<p>Financial Assistance</p> <p>NDRRA Cat A – Primary Producer low interest loans</p> <p>NDRRA Cat C Primary Producer Clean Up Assistance Grants - \$15,000. In Riverina Murray, Bland Shire is eligible Applications close 19 June 2017</p>	<p>Oct 16 - Open</p> <p>Dec 16 – Open June 17 - Close</p>	RAA
4	<p><b>Grazing and cropping technical advice and information to assist landholders prepare for the coming 2017 season.</b></p>	<p>Riverina Murray Landholder Flood Recovery Advice 2 March 2016 Includes information about cropping/pasture/weed/animal health risks.</p> <p>Will be developed by LLS/DPI and sent out electronically via MLLS and RLLS contact lists and posted on LLS websites Landholders have factored issues from flooding into their planning for the 2017 season with any local issues being dealt with through normal business interactions. It was determined that a second Flood Recovery Advice was not required.</p>	March 2017 COMPLETE	LLS/DPI
5	<p><b>Continued recovery support and monitoring of emerging issues as</b></p>	<p>Monitor emerging recovery issues for Landholders and industry/farming groups and identify longer term recovery needs.</p>	Jan - Feb 2017	All agencies

	<b>landholders return to normal production in 2017</b>	Continued engagement and dialogue with landholders after harvest to gain information about emerging issues and capabilities. Referral of landholders to available services and support		
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## Agriculture Recovery Transition Strategy

The Riverina Murray Agriculture Recovery Sub Committee will reconvene early in 2017 to determine how impacted industries are recovering and if any new issues have emerged. It is anticipated early Autumn 2017 will be a key decision point for landholders as they plan cropping/pasture programs and will factor in their financial position following the floods.

Agricultural production issues will include crop establishment, managing crop stubbles, new and invasive weeds and pasture management issues. Following this pre-winter 2017 period, the Agriculture Recovery Sub Committee will assess if there are any outstanding recovery issues that cannot be addressed as part of normal business activities by relevant agencies. If there are no further flood events, it is expected that the Agriculture Sub Committee will be wound down in March/April 2017 with agreement by the Recovery Committee.

The Agriculture Sub Committee will formally conclude when:

- agencies indicate that they are receiving fewer requests for assistance
- there are no new or emerging issues that require a coordinated cross agency approach
- known issues have been managed/mitigated as much as possible
- agencies are providing recovery activities within normal business.

February 2017

The Agriculture Sub Committee reconvened in February 2017 and determined that there were no new or emerging issues that required a coordinated cross agency approach. Ongoing actions in the Plan will be managed through normal business activities of agencies.

Monthly reporting to OEM (Recovery@mpes.nsw.gov.au) will continue until all actions are complete by April 2017.

	Ongoing Actions	Responsible Agency/s	Time Frame	Status
	One to One – Contact with Landholders cropping/pasture/weeds/animal health advice to landholders	LLS	Dec 16 – Jun 17	
	Monthly technical advice/information production newsletters that address any ongoing issues facing landholders affected by floods as required Incorporate flood related information into monthly newsletters as needed.	LLS	Mar 17 – Sep 17	