

# State Recovery Co-ordinator Report June 2016 East Coast Low



Photo: Strangesounds.org

## Table of Contents

<b>Executive Summary</b> .....	4
<b>Recommendations</b> .....	6
<b>Event Overview</b> .....	8
Background .....	8
NSW SES Response.....	10
Flood Related Fatalities.....	10
Evacuation Centres .....	11
<b>State Impact Overview</b> .....	11
Natural Disaster Declarations .....	12
Impacts.....	15
Coastal Erosion.....	15
<b>Regional Impact Overview</b> .....	16
Northern NSW.....	16
Greater Sydney Region: .....	20
Sydney – Northern Beaches.....	21
Sydney – South Western.....	22
South Eastern NSW .....	24
<b>Impact Assessment</b> .....	27
Impact Data Sharing Assessment Project .....	27
Impact Assessment Teams.....	28
Impact Data Sharing Arrangements.....	28
<b>Transition from Response to Recovery</b> .....	29
Combat Agency - NSW SES: .....	29
State Emergency Operations Controller: .....	29
NSW Recovery Plan:.....	29
Handover:.....	30
<b>Recovery Structure</b> .....	30
Office of Emergency Management .....	30
State Emergency Recovery Controller .....	31
State Recovery Coordinator.....	31
Department of Premier and Cabinet Regional Co-ordinators .....	31
Parliamentary Secretaries:.....	32
Recovery Committees .....	33
<b>Recovery Operations</b> .....	34
NSW Disaster Welfare Assistance Line .....	34

Disaster Welfare Outreach Strategy .....	34
State Recovery – Coastal Erosion:.....	34
NSW framework for coastal management and the coastal reforms .....	35
<b>Northern NSW</b> .....	36
Recovery Committee: .....	36
Recovery Activities .....	36
Sydney – Northern Beaches.....	38
Recovery Committee.....	38
Northern Beaches Recovery Centre.....	39
Recovery Activities .....	40
Sydney – South Western Region.....	41
Wollondilly Recovery Committee .....	41
Wollondilly Recovery Information Point.....	42
Recovery Activities .....	43
South Eastern NSW .....	45
Recovery Committee: .....	45
Recovery Activities .....	45
<b>Natural Disaster Financial Assistance</b> .....	46
NSW Natural Disaster Assistance Arrangements.....	46
NSW Disaster Relief Grants.....	46
NDRRA Category C Primary Producer Grants .....	47
Disaster Recovery Allowance .....	47
<b>Media &amp; Communications</b> .....	48
<b>Transition to Longer Term Recovery</b> .....	49
<b>Appendices</b> .....	50
Appendix A: Terms of Reference – State Recovery Coordinator, East Coast Low Event.....	50
Appendix B: State Recovery Coordinators Schedule of Activities .....	51
Appendix C: State Recovery Action Plan.....	53
Appendix D: The North Coast Local Land Services High Priority On-Ground Projects .....	58

## Executive Summary

During 4-6 June 2016 an intense East Coast Low (ECL) stretched along the entire NSW coast, bringing widespread rainfall, damaging winds and flash flooding to the Northern and Southern coastal regions, Sydney Northern Beaches and South West Metropolitan region. Damaging surf combined with king tides caused coastal erosion up and down the NSW coast.

This report details the impacts and the recovery measures undertaken. Although damage was significant and widespread, a detailed assessment of impacts indicates that this ECL did not create large areas of extreme damage requiring intensive recovery work.

The storm event resulted in more than 11,000 requests for assistance to the NSW State Emergency Service (SES). There were 310 flood rescues (182 of these 310 flood rescues involved vehicles) and 17 general rescues performed over this period. As a result of the storm, two people lost their lives. The NSW SES deployed members into the field from Tweed Heads to Eden and were assisted in high impact areas by personnel from FRNSW, NSWRFs, NSWPF, NSW Ambulance and the Volunteer Rescue Association.

Across the State approximately 600 houses sustained some level of storm damage, however for the majority this was relatively minor and widely distributed, with wind damage, leaking roofs or minor water inundation. 130 business were directly impacted with major impact occurring in the Picton CBD where 81 out of approximately 128 businesses were significantly damaged. The Insurance Council of Australia is currently estimating the costs of the storm to be in excess of \$304m in NSW.

Many roads, bridges and wharfs were significantly damaged, from Tweed in the north down to Eden in the South. As at July 2016 the estimated infrastructure damage costs are \$17,500,000.

Coastal Erosion was the major environmental impact of this event, with large seas and dangerous surf conditions that caused significant coastal erosion on Sydney's Northern Beaches at Collaroy and Sydney Central Coast at Wamberal. Many other coastal areas along the NSW coastline also sustained some degree of coastal erosion damage.

Agriculture and aquaculture along the coast were severely impacted, in particular the banana and oyster industry. The Department of Primary Industry has provided initial estimates of the cost of the impact upon agricultural and aquaculture industries at a figure over \$19m.

Natural Disaster Declarations were issued for 41 Local Government Areas (LGA). The Commonwealth and State Governments made available a range of disaster assistance through the 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 describes the June 2016 East Coast Low 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. Regional Recovery Committees were established on the North Coast and Illawarra South Coast. Local Recovery Committees were established to address the needs of affected communities in the Wollondilly LGA (Picton), the Northern Beaches and on the North Coast (Coffs Harbour).

To support a coordinated recovery effort across these various areas, the Premier announced the appointment of Mr Dave Owens APM as State Recovery Co-ordinator for the East Coast Low on 7 June 2016. Mr Owens worked with the Office of Emergency Management and agencies during his appointment.

At the height of the storm in excess of 700 properties were evacuated and eleven evacuation centres were opened. A total of 375 people registered at these evacuation centres and 98 people were provided emergency accommodation in motels. Residents at the coastal properties between Stuart and Ramsey Street Collaroy may not return to their properties for a number of months.

The June 2016 East Coast Low saw significant overlap between response and recovery. This was compounded by the arrival of a second East Coast Low seven days after the impact of this devastating event. The combat agencies, NSW State Emergency Service (SES), NSW Rural Fire Service (RFS), NSW Police Force and Fire and Rescue NSW (FRNSW) should be commended for their actions in the response phase.

There were a number of significant impacts across the State that will be highlighted in this report, such as:

- Collaroy coastal erosion
- Picton Central Business District
- Coffs Harbour Marina
- Eden wharves/businesses

The Recovery Coordinator wishes to acknowledge the cooperation and input from all agencies, local governments, non-government and volunteer organisations involved in the recovery process. The Regional and Local 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: Preventing Flood Related Fatalities**

The NSW Government consider the recommendations from the Preventing Flood Related Fatalities Report when it is released.

### **Recommendation 2: Impact Assessment Data Collection**

The Office of Emergency Management continues to progress the Impact Assessment Data Collection Project and:

- incorporate recovery schema in Rapid Impact Assessments
- review procedures for collection of Rapid Impact Assessment Data
- review and combine current templates into one, single template for Impact Assessment Reports that is used by all agencies
- further develop Impact Assessment Guidelines for agency personnel undertaking impact assessments.

### **Recommendation 3: Impact Assessment Data Sharing**

The Office of Emergency Management:

- with the SEOCON, jointly provides further guidance to Regional Emergency Management Officers about their role in facilitating local council access to the Impact Assessment Data Base
- with REMOs and the SEOCON jointly provides further information to local councils about Impact Assessment Data Sharing Arrangements and the data available through this mechanism
- includes information about the Impact Assessment Data Sharing Arrangements in the Local Recovery Toolkit
- develops a mechanism to allow local councils to have direct access to the collated impact data.

### **Recommendation 4: Transition from Response to Recovery**

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

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

Continue to build the capability of the Department of Premier and Cabinet Regional Coordinator role in recovery operations by providing:

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

### **Recommendation 6: Transition from Response to Recovery**

That Region Emergency Management Committees meet post event to:

- consider available impact data
- determine the need to establish a Recovery Committee
- document the rationale for the decision
- advise the Office of Emergency Management of the decision.

### **Recommendation 7: Communicating in Recovery**

The Office of Emergency Management:

- considers the 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.

## Event Overview

### Background

East Coast Lows (ECL) are intense low-pressure systems which occur off the eastern coast of Australia. Whilst they can occur at any time of year, they are more common in autumn and winter. ECL's often intensify rapidly overnight, generating gale and/or storm force winds along with heavy widespread rainfall that can lead to flash and/or major river flooding and phenomenal seas. ECL's are one of the more dangerous weather systems to affect the New South Wales coast.

East Coast Lows are not uncommon to Australia and the Bureau's weather records show that over the past 50 years, systems of comparable severity have affected the populated areas of Wollongong, Sydney and Newcastle about once every 10 years on average. The most notable recent event was the April 2015 East Coast Low which resulted in gale force winds and rainfall in excess of 200mm in the Hunter and Illawarra districts. This event also caused extensive flooding, coastal erosion and fatalities.

Other major historical ECLs include<sup>1</sup>:

- **April 2015, Sydney Metropolitan, Hunter and Central Coast Storms and Flooding**  
Four fatalities with flash flooding at Dungog resulting in extensive damage.
- **June 2007, Hunter and Central Coast Storm**  
Nine fatalities, the Pasha Bulka bulk carrier washed ashore at Nobby's Beach Newcastle.
- **August 1996, Sydney Metropolitan, Central Coast and Illawarra**  
Two fatalities and almost \$20 million damage.
- **August 1986, Sydney Metropolitan, Nepean and Central Coast**  
24-hour rainfall totals of over 300mm in Sydney area with major flooding on the Nepean-Hawkesbury and Georges Rivers
- **May 1974 - "Sygna" storm**  
The Sygna bulk carrier driven onshore during the storm, the wreck of the Sygna still lies on Stockton Beach near Newcastle.

This current event, during 3 - 7 June 2016, an intense East Coast Low caused major damage to the New South Wales coastline, including the Sydney Metropolitan Region. The NSW coast experienced flooding in nineteen (19) catchments with nearly all of the east-flowing rivers flooded<sup>2</sup>. The riverine flooding included major flooding of the Georges River in Sydney and moderate flooding of the Hawkesbury/Nepean Rivers.

The East Coast Low brought extreme hourly rainfall rates of between 100 to 150mm to a number of locations along the eastern coastline. Woolgoolga, located to the north of Coffs Harbour, recorded 113mm on Saturday 5 June in a one-hour period to 6pm. The Sydney area also received prolonged

---

<sup>1</sup> Bureau of Meteorology. About East Coast Lows.

<sup>2</sup> Bureau of Meteorology (12/7/16)



heavy rain. Picton (Stonewarry Creek) near the George River received 332mm. The intense rainfall exceeded the 1% Annual Exceedance Probability (1 in 100 year) and caused major flooding along many local creeks.

Widespread 48-hour rainfall totals in excess of 250mm were experienced along most the NSW coast, with over 500mm falling in places along the far northern and southern coastline of NSW. The maximum recorded falls were:

- Woolli Caravan Park – 524mm;
- Robertson – 618mm (462mm fell in a 24-hour period);
- Macquarie Pass – 580mm (306mm fell in a 24-hour period).

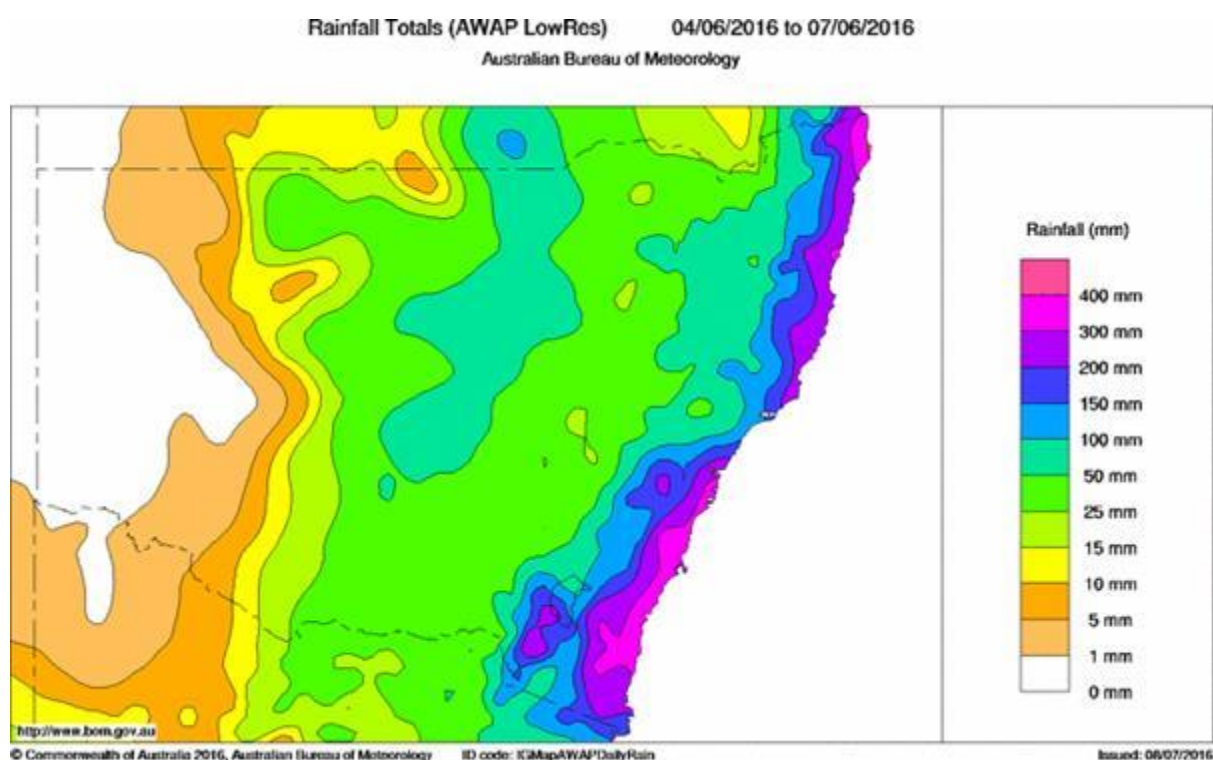


Figure 1: Rainfall totals between 4/6/16 – 7/6/16

King tides were experienced at or close to the Highest Astronomical Tide along the NSW coast, combined with large seas whipped up by the low pressure system resulted in local inundation of low-lying areas and widespread coastal erosion. Operational NSW wave-rider buoys, operated by Manly Hydraulic Laboratory, all measured Maximum Wave Heights higher than 11 metres and Significant Wave Heights higher than 5 metres on 5 and 6 June 2016. The wave rider buoy at Eden measured close to 18 metre maximum wave heights on Monday the 6 June 2016.

In addition to the widespread heavy rainfall, extended periods of sustained gale force winds (over 63km/h) with damaging wind gusts (over 90km/h) were experienced along the coastal fringe. Sydney Harbour experienced wind gusts of 116km/h and Port Kembla saw 100km/h gusts.

This event was particularly notable with respect to the spatial extent of the heavy rainfall. East Coast Lows are typically small-scale systems whose major impacts are confined to a few hundred kilometres

of the coastline. For example, in the case of the April 2015 East Coast Low rainfall in excess of 200 mm was largely confined to areas from the Hunter to the Illawarra regions of New South Wales, with only light falls north of Taree.

The rainfall analysis for the 72-hours to 0900 on 7 June 2016 shows widespread rainfall extending along the majority of the NSW coast, ranges, and central inland. Only a very small stretch of the NSW coast (between Newcastle and Lake Macquarie) escaped with less than 100mm during this event.

On Saturday 5 June 2016, the averaged rainfall across eastern NSW, was calculated to be the wettest day on record with a regional average of 73.11 mm, surpassing the previous NSW-averaged record of 68.89 mm set on 19 January 1950<sup>3</sup>. Also notable was that the previous extreme daily rainfall totals approaching this volume over eastern NSW all occurred during summer months, and were all associated with tropical cyclones or former tropical cyclones.

### NSW SES Response

The storm event resulted in over 11,000 requests for assistance to the NSW State Emergency Service (SES). There were 310 flood rescues, 182 of these involving vehicles and another 17 general rescues. The NSW SES deployed members from Tweed Heads to Eden and were assisted in high impact areas by personnel from FRNSW, NSWRFs, NSWPF, NSW Ambulance and the Volunteer Rescue Association.

### Flood Related Fatalities

Over half of the flood rescues performed by SES involved vehicles and there were two fatalities related to driving through flood waters. Two males, in two separate incidents lost their lives attempting to drive through flood waters at Bowral and Leppington on 5 June 2016.

Despite numerous public information campaigns on the dangers of floodwaters by state and territory governments in recent years, large numbers of people continue to put themselves at risk. In Australia, more than 180 people died in the last 15 years as a result of flooding (Haynes, et al., 2016).<sup>4</sup> A large number of these fatalities occurred when people drove their vehicles into floodwaters, often ignoring road closures and warning signs.

In 2015, the Law Crime and Community Safety Council (LCCSC) resolved to explore a national public safety campaign to address this issue. NSW SES, guided by a national working group, has developed the Preventing Flood Related Fatalities (PFRF) Scoping Report that will inform ANZEMC and include a set of recommendations for further action. The report is expected for release in the near future.

---

<sup>3</sup> Bureau of Meteorology (12/7/16)

<sup>4</sup> Haynes, K. et al., 2016. *An analysis of human fatalities from floods in Australia 1900-2015*, s.l.: Report for the Bushfire and Natural Hazard Cooperative Research Centre.

This current storm event reinforces the need for more focussed attention on communication and community engagement strategies to change driving behaviour and it is recommended that close consideration be given to the findings and recommendations in the Preventing Flood Related Fatalities (PFRF) Report.

<b>Recommendation 1:</b>
The NSW Government consider the recommendations from the Preventing Flood Related Fatalities Report when it is released.

### Evacuation Centres

At the height of the storm in excess of 700 properties were evacuated and eleven evacuation centres were opened from 10-12 June 2016 in the following locations: Banora Point, Ocean Shores, Lismore, Coffs Harbour, Mona Vale, Cromer, Bankstown, Fairfield, Liverpool, Gympie and Shellharbour. Additional centres were on standby at Shoalhaven Heads, Sanctuary Point, Wollongong and Sussex Inlet. A total of 375 people registered at these evacuation centres and 98 people were provided emergency accommodation in motels.

### State Impact Overview

The impacts from this East Coast Low were felt along the entire NSW coast, from Tweed in the north to Eden in the south. The region's most significantly impacted were the northern and south eastern coastal regions and the Sydney south west metropolitan region.

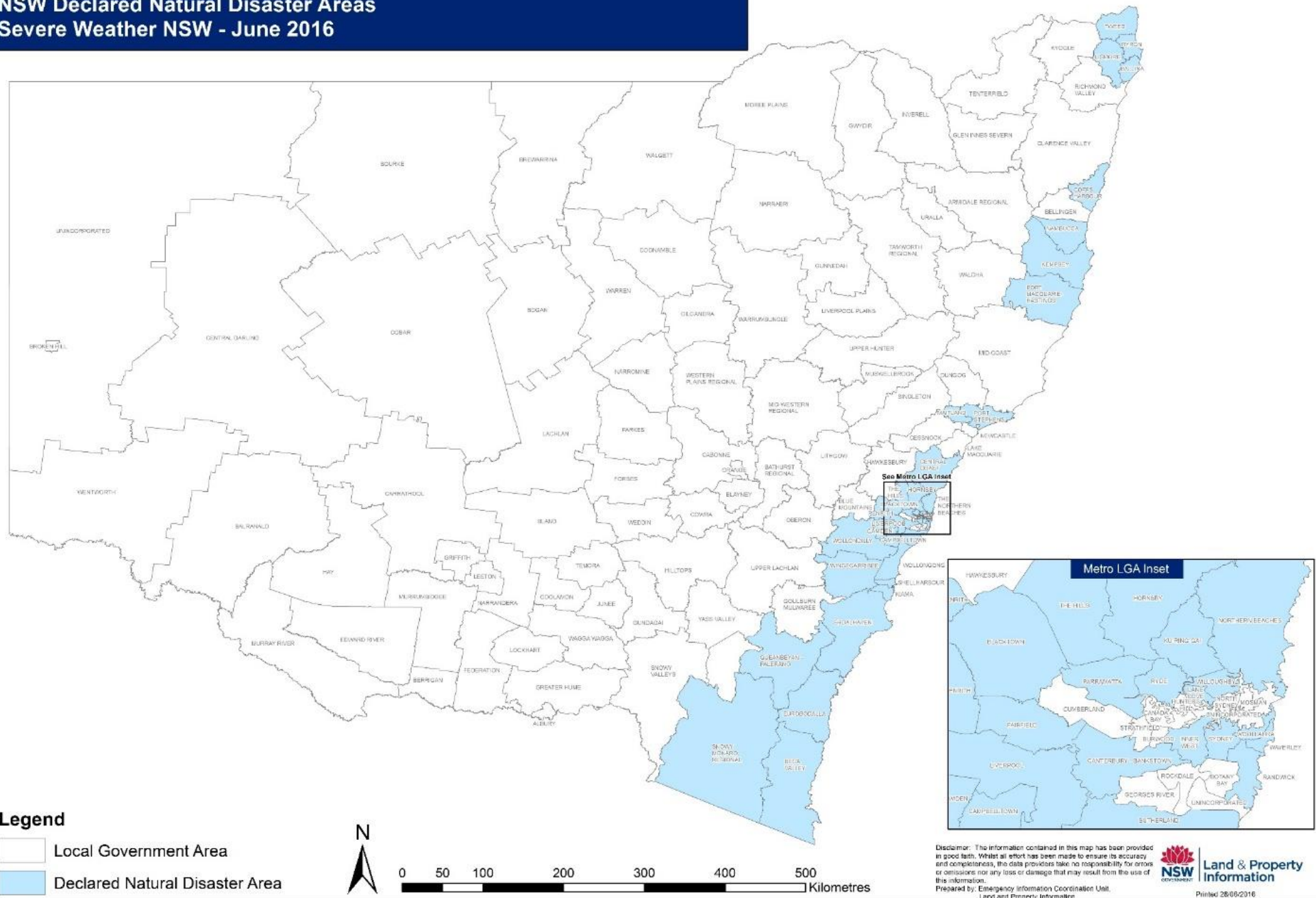
The Insurance Council of Australia assessed the cost of this disaster in NSW to be approximately \$304 million, at 17<sup>th</sup> July 2016 with 68% domestic and 32% commercial.

## Natural Disaster Declarations

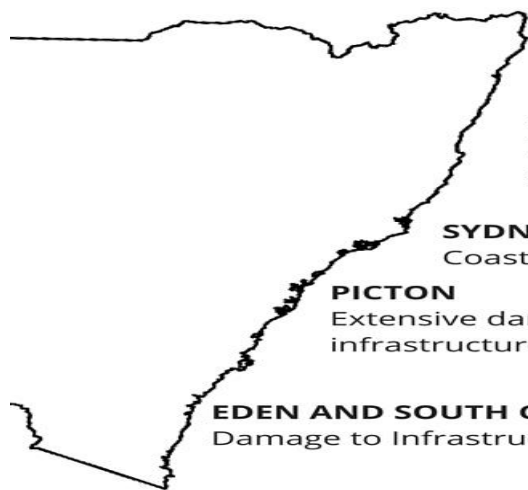
Forty-one (41) local government areas have been included in a Natural Disaster Declaration for this event (as at 17/7/16).

Northern Region	Greater Sydney Region	South Eastern Region
Ballina Byron Central Coast Coffs Harbour Kempsey Lismore Maitland Nambucca Port Macquarie-Hastings Port Stephens Tweed	Blacktown Camden Campbelltown Canterbury-Bankstown City of Sydney Fairfield Hornsby Inner West Ku-ring-gai Lane Cove Liverpool Northern Beaches Parramatta Penrith Randwick Ryde Sutherland The Hills Waverley Willoughby Wollondilly Woollahra	Bega Eurobodalla Kiama Queanbeyan-Palerang Shellharbour Shoalhaven Wingecarribee Wollongong

# NSW Declared Natural Disaster Areas Severe Weather NSW - June 2016



# JUNE 2016 WEATHER EVENT



## KEY AREAS AFFECTED

**COFFS HARBOUR AND NORTH COAST**  
Impact on wharfs and infrastructure, aquaculture and agriculture industry

**SYDNEY NORTHERN BEACHES**  
Coastal erosion, flooding of homes and businesses

**PICTON**  
Extensive damage to businesses, homes flooded, public infrastructure including roads

**EDEN AND SOUTH COAST**  
Damage to Infrastructure and effect on local aquaculture industry



**600**

homes  
damaged



**5%**

of homes  
had major  
damage



**130**

businesses  
directly  
impacted



**81**

of 128  
businesses in  
Picton  
significantly  
damaged



**\$19M+**

estimated  
impact from  
agriculture and  
aquaculture  
losses



**\$17.5M**

estimated  
damage to  
infrastructure



## Impacts

### **Social Impacts**

Across the State approximately 600 houses sustained some level of storm damage, however for the majority this was relatively minor and widely distributed, with wind damage, leaking roofs or minor water inundation. Less than 5% of the 600 homes sustained major damage in this event.

### **Economic Impacts**

Across the State it is estimated that around 130 business were directly impacted by the storm. The major area of impact was in the Picton CBD where 81 out of approximately 128 businesses were significantly damaged.

The storm resulted in significant impacts to certain areas of the agriculture and aquaculture industries with costs from crop and stock losses estimated at over \$19 million.

The most severely impacted industries were the North and South Coast shellfish producers and the North Coast banana producers, with estimated combined costs of \$7.6 million.

Damage from other primary industries impacted by the storm is estimated at \$11.5 million and includes; blueberries, beef, dairy, macadamias, pecans, nurseries, greenhouses and sugarcane, though this was less severe.

### **Infrastructure**

The estimated infrastructure damage costs from this event are \$10,580,000. Many roads, bridges and wharfs were significantly damaged.

### **Environmental**

Coastal erosion was the major environmental impact of this event, with large seas and dangerous surf conditions that caused significant coastal erosion on Sydney's Northern Beaches at Collaroy and Sydney Central Coast at Wamberal. Many other coastal areas along the NSW coastline also sustained some degree of coastal erosion damage.

## Coastal Erosion

### **Coastal Processes and Impacts**

The storm was characterised by coincident extreme water levels and wave conditions, which is known from historical observations to generate severe coastal impacts. Although East Coast Lows typically generate modest storm surges, the peak conditions of the June 2016 event coincided with one of the highest predicted tides for 2016. This contributed to unusually high ocean water levels during the storm peak, particularly along exposed NSW coasts where peak water levels and wave heights aligned.

The combination of king tide, modest storm surge and the effects of wave setup and run up resulted in significantly elevated water levels along the open coast of NSW. Coincident rainfall also contributed to coastal inundation and flooding within some coastal river systems and coastal lagoons, including Narrabeen and Terrigal.

Wave run up overtopped many coastal structures in the Sydney and Central Coast region and impacted lower lying buildings including most surf clubs. Typically, the worst affected sites were in the southern corners of beaches which are normally protected from larger swell waves such as Manly and Terrigal.

The combination of elevated ocean water levels and high waves experienced during the storm lead to severe beach erosion at exposed locations. While beach erosion was widespread along the NSW coastline, the impacts were most apparent at Collaroy-Narrabeen Beach in Sydney, and Wamberal Beach on the Central Coast, where development has historically occurred in particularly dynamic and vulnerable locations.

The measurement record of beach change at Collaroy-Narrabeen spans from 1976 onwards and is one of the longest and most-detailed in the world. Table 1 indicates the erosion volume experienced during the June 2016 event is the largest since monitoring began in 1976.

**Table 1** – Top five historical beach erosion events at Collaroy-Narrabeen Beach based on measurements since 1976 (UNSW Water Research Laboratory).

Storm event	Beach erosion volume per metre shoreline (m <sup>3</sup> /m)	
	Average	Maximum
June 2016	103	151
May 1997	76	137
June 2007	73	96
April 2015	62	95
August 1986	58	68

The impacts at Collaroy-Narrabeen Beach and Wamberal Beach follow a well-established historical pattern of property loss and damage at those locations, reaching as far back as the early 20th century indicating that existing development at these locations is situated within the natural beach fluctuation zone.

## Regional Impact Overview

### Northern NSW

Rainfall of 200-300mm fell across the majority of the Northern Region, with rainfall in the order of 450 mm recorded in isolated areas of the Northern Rivers. Significant flooding occurred in the Wilson River catchment near Lismore and the Orara River near Coffs Harbour followed by the Tweed, Bellinger, Richmond and Hastings River systems. Numerous local roads and river crossings were flooded.

Eleven local government areas were significantly impacted with Natural Disaster Declarations announced for Ballina, Byron, Central Coast, Coffs Harbour, Kempsey, Tweed, Lismore, Maitland, Nambucca, Port Macquarie-Hastings, Port Stephens and Tweed.



## **Social Impacts**

Impact assessments identified approximately 300 properties with minor damage across the Coffs Harbour and Tweed areas. On the Central Coast 74 beachfront properties, including 3 apartment blocks with up to 10 units were impacted by coastal erosion.

The majority of applications for Disaster Welfare Relief grants came from South Tweed, Lismore and Coffs Harbour. Disaster Welfare Services have conducted 82 home visits to assess applications, this number is expected to increase.

## **Economic Impacts**

The storm event caused over \$16 M<sup>5</sup> of damage and losses to horticulture, agriculture and fishery sectors across the north coast region.

Horticulture damage was largely caused by severe winds and the intensity of rainfall. Agriculture in the Wilsons River catchment near Lismore and the coastal hills around Coffs Harbour appeared to sustain the most concentrated damage, though agriculture and fishing damage has been reported across all coastal local government areas from Tweed to Forster.

## **Agriculture**

The intensity of rainfall caused substantial overland water flow across farms as well as concentrated flow of water in drainage lines causing wash-outs, soil organic loss, farm road erosion, drainage system damage and washing away macadamia nut that was ready for harvest on the coastal hills of the Northern Rivers and Nambucca.

The winds pushed over bananas, damaging fruit and impacting farm production for the next 12 months to 2 years. Banana plants had their leaves stripped by the winds which compromises the chance of the plants recovering. As well as lost bunches a lot of banana plants have 'rolled' out of the ground taking the follower sucker with them. This sucker will need to be replanted which means a lag time of 2-3 years until growers can return to full production

Blueberry crop and flowering was damaged along with farm infrastructure on blueberry farms including drainage system infrastructure and netting. The nursery industry of the Northern Rivers sustained infrastructure and plant losses. Pecans and sugar cane crops also sustained limited damage.

---

<sup>5</sup> Department of Primary Industry figures



Figure 2: Banana crop in Coffs Harbour damaged by the storm. (Photo: abc.net.au)

### **Aquaculture**

Oyster aquaculture businesses sustained damage and losses across all producing areas of the region and commercial fishing reported cases of damage, though limited in extent. Commercial fishing was interrupted by the large seas and general storm conditions.

Extensive regional damage and losses in the agricultural sector was generally avoided due to upper catchment areas of the main river systems receiving only moderate rainfall of 50-150 mm and winds having primarily a coastal impact and only lasting a brief period, though intense.

### **Infrastructure Impacts**

Across the entire northern region, including Central Coast infrastructure costs were estimated at more than \$10M.

The Tweed, Lismore and Coffs Harbour areas suffered private/public infrastructure damage to the M1 Pacific Motorway (Hunter Region), local roads, bridges, drainage, and community facilities. There was significant debris and trees over the transport network in the Tweed/Byron Shire areas. The East Lismore sewage treatment plant suffered a blockage at its inlet requiring remedial work to be undertaken. There were also a number of embankment slips in the Hunter and Tweed/Byron Shires.

### **Coffs Harbour:**

The breakwaters at Coffs Harbour are an important tourism asset with more than 100,000 people using the northern breakwater (completed 1927) to access Muttonbird Island every year.

The Coffs Harbour marina has 165 berths with access from five finger wharfs extending from the northern boardwalk. It is the only deep-water, all weather port entrance between Port Stephens and Brisbane. There is a 100 tonne slipway (upgrade construction had commenced), a Fisherman's Co-Operative and various small commercial premises within the marina precinct. The commercial operators offer a range of services from a chandlery, fuel, whale and dolphin watching, chartered

fishing and a licensed yacht club. The Fisherman's Co-operative sources its product predominantly from local fisherman.

As a result of the high seas and large swells the northern breakwater was heavily impacted by waves breaking directly over the breakwater and onto the marina area. As a result of the force of the wave action a number of ten tonne concrete blocks at the top of the breakwater were moved from one side of the wall to the other. Significant damage was sustained to the northern boardwalk (Figure 3), along with walkway access to the five finger wharfs within the marina complex. Power and sewerage services within the marina were also severely impacted.

Two vessels within the marina were sunk, and a number of other commercial fishing and whale watching vessels sustained significant damage. As a result of the marina slipway being upgraded/under construction and the nature of the damage to the vessels has required them to be taken under tow to either Port Macquarie or Yamba for repairs.



Figure 3: Breakwater at Coffs Harbour during storm and damage to marina walkway.

### **Environmental Impacts**

Impacts of the storm concentrated on extensive erosion of frontal sand dunes in the Coffs Harbour area and damage to over fifty beach access points along the Byron coastal strip.

#### **Terrigal/Wamberal**

Terrigal/Wamberal had a number of properties suffering inundation due to the waves overtopping their seawall protection. Largely the dwelling structures themselves were not significantly damaged, however private verandas, retaining walls, fences, access ways and ancillary development has been lost. In total, 74 land parcels affected (69 privately and five NSW Government owned).

The entire length of Wamberal Beach has now receded in most parts to rock armour placed at the rear of the beach to protect public and private property in the 1970s. Many properties have had seawall protection partially or entirely undermined leading to slope instability and failure.



Figure 4: Terrigal Beach and private home access. (Photos: [dailytelegraph.com.au](http://dailytelegraph.com.au) and [Theherald.com.au](http://Theherald.com.au))

### Greater Sydney Region:

22 local government areas were significantly impacted: Blacktown, Camden, Campbelltown, Canterbury-Bankstown, City of Sydney, Fairfield, Hornsby, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Northern Beaches, Parramatta, Penrith, Randwick, Ryde, Sutherland, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.

The Sydney area received prolonged heavy rain. Picton (Stonewarry Creek) near the George River received 332mm during the event. Camden received 289mm over the event, which exceeded the 1% Annual Exceedance Probability (AEP) for rainfall (see Figure 5).

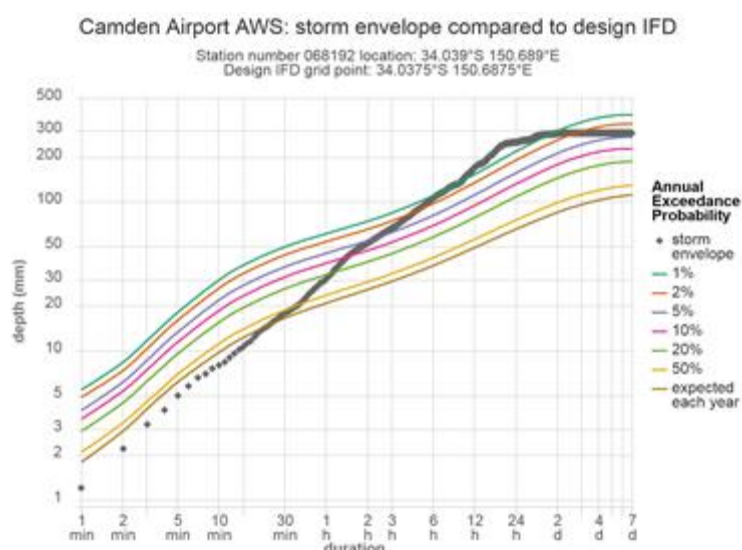


Figure 5: Annual Exceedance Probability



## Sydney – Northern Beaches

### Social Impacts

#### Narrabeen Lagoon

87 properties experienced some water inundation around Narrabeen Lagoon, however in most cases damage was minor with inundation mainly affecting garages and granny flats.

#### Collaroy

In Collaroy, between Stuart and Ramsay Streets 10 houses and one apartment block with 14 apartments were significantly impacted by coastal erosion. Extensive parcels of sand/beach and grassed areas behind the houses were eroded, leaving the property foundations exposed to the elements. These properties suffered substantial damage from the sea surge and king tides that occurred during the storm. All residents were directed to evacuate and relocate to alternate accommodation.



Figure 6: Collaroy properties between Stuart and Ramsey Streets.

### Economic Impacts

There were no major economic impacts within the Northern Beaches LGA. There was minor damage to a number of small businesses.

### **Infrastructure Impacts**

A number of local roads, walkways, footpaths, road ends and retaining walls were damaged. The Sydney Water sewage system between Ramsey and Stuart Streets Collaroy was significantly damaged and needed considerable work undertaken to restore these services.

### **Environment Impacts**

Almost all of council's beaches and coastal reserves suffered damage, including within the Bay of Pittwater where some of the sites were affected by refracted waves and swell (Mackeral Beach, Sandy Point, Palm Beach Wharf Reserve, Paradise Beach Avalon and Scotland Island). Coastal impact concentrated on oceanic inundation and sand over-wash at Palm Beach and Bilgola. Collaroy beach had significant sand erosion between Stuart and Ramsey Streets.

### **Sydney – South Western**

The Sydney south western area was impacted in; Hawkesbury, Fairfield (Lansvale), Liverpool (Chipping Norton) and Canterbury Bankstown (Milperra) along the Georges River and Wollondilly (Picton).

### **Social**

Around 100 properties were impacted by water inundation at Chipping Norton, Lansvale and Milperra. Damage to these properties was minor to moderate with many residents insured and well prepared for this type of event.

In Picton, Menangle Rd was the area of greatest impact with 20 homes receiving over floor inundation. St Anthony's Catholic School had significant damage with water inundation into almost all areas of the school. The school had to be closed and alternative arrangements made for students to be bussed each day to another school.

### **Economic**

Across the region a number of small businesses were impacted upon due to storm damage and/or water inundation. The Picton Central Business District was by far the worst affected area with approximately 90% of commercial properties damaged in some way.

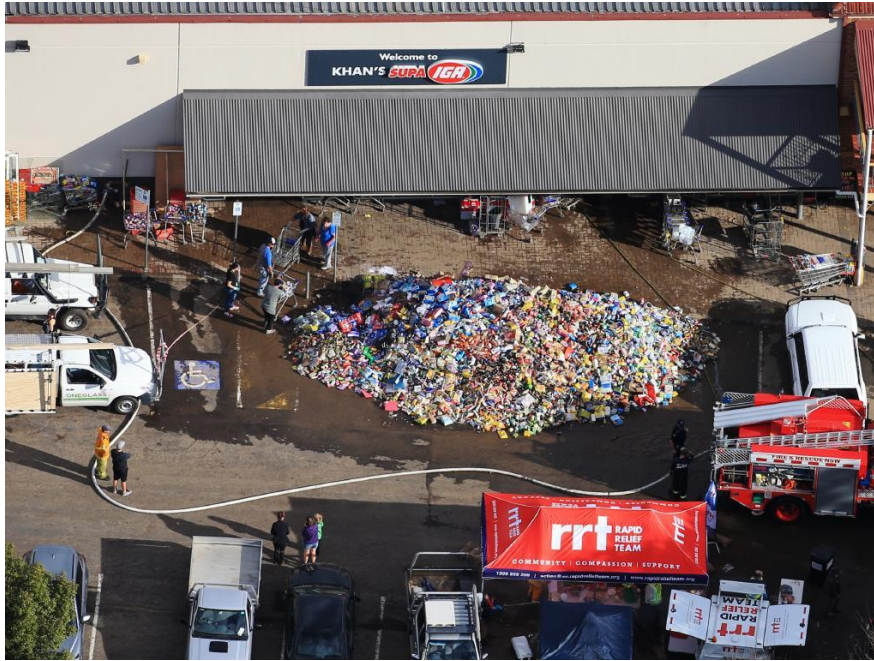


Figure 7: Picton IGA store (Photo: News.com.au)

### Infrastructure

Broughton Pass is situated on Wilton Rd across the Cataract River in the Wollondilly Shire. The annual average daily traffic on Broughton Pass is 2,400 vehicles. The bridge, constructed from dry stacked sandstone blocks approximately six metres in height suffered extensive damage with sections of the wall failing and the roadway falling away. Without the retaining wall, the road is unsupported and unable to be used. The closure of the pass did not result in any communities being isolated, but did create significantly extended travel times for many Wollondilly residents.



Figure 8: Broughton Pass damage (Photo: dailytelegraph.com.au)

### **Environment:**

The area suffered minor environmental damage due to water inundation.

### **South Eastern NSW**

While the whole south coast was impacted to some extent by this event, due to the timely warnings, most landholders were able to move stock, lift pumps, etc. which effectively reduced the potential impacts of this event. All areas reported moderate to major erosion, particularly Shoalhaven, Eurobodalla, Wingecarribee and Bega Valley.

Eight local government areas were significantly impacted; Bega, Eurobodalla, Kiama, Queanbeyan-Palerang, Shellharbour, Shoalhaven, Wingecarribee and Wollongong.

The majority of damage was caused due to wave impact and high tides along the coastal areas and flooding, with subsequent inundation of commercial and residential properties (particularly caravan parks).

The oyster and mussel industry suffered considerable damage to infrastructure with potential for indirect impacts to be experienced through the loss of skilled employees from the industry as well as from downturns in tourism.

### **Social Impacts**

Impact assessments did not identify damage to homes as significant in the southern area. However, a number of residents from caravan parks around Windang have contacted Disaster Welfare Services for assistance.

### **Economic Impacts**

Across the region significant damage to the shellfish industry is estimated in excess of \$2.5m.

### **Oyster Industry**

The South Coast was the region with most significant impact to the oyster industry. The level of disruption directly to the industry (oysters and mussels) is considerable. There is the potential for indirect impacts to be experienced through the loss of skilled employees from the industry as well as within the tourism industry, i.e., Narooma Oyster Festival, Greenwell Point Oyster and Fishing Festival. These are all major tourist attractions on the south coast.

Oyster farmers have to firstly recover infrastructure and then make a determination as to what stock survived the freshwater conditions (juvenile or market sized stock). The Production cycles for Pacific Oysters within this region is approximately 18 month and Sydney Rock Oysters approximately 30 months. It is estimated that production disruption could be up to 18-24 month and even longer if farmers have lost juvenile stock, cannot afford to purchase new stock, and have to rely upon next year's wild caught stock.

Mussel farmers were impacted with much of the juvenile stock stripped from the lines. The juvenile stock is crucial to the 18-month production schedule, essentially setting business back 18 months.





Figure 9: Oyster leases at Clyde River Batemans Bay

### **Infrastructure/Roads:**

The Region suffered minor damage to a number of roads, foreshore boardwalks, bridges, wharfs (including major damage to the Tathra wharf) and the Eden chip mill. The Illawarra had damage to Macquarie Pass (Illawarra Highway) in two locations reducing traffic to one lane only.

### **Eden Wood Chip Mill**

Allied Natural Wood Exports (ANWE) is a significant business operation and employer in the Bega Valley processing woodchip from native forest and plantation timbers in the south east. As a consequence of the storm, significant damage was caused to port infrastructure that is owned and operated by ANWE. Two sections of its jetty (approximately 90 metres and 30 metres) has been washed away and the conveyor system lost. The infrastructure in its present state is unusable.

The damage to the loading facility will cause significant impact within the Region, as the loading facility is at the end of a supply chain that supports a significant number jobs within the local region in the areas of direct employees, harvest and haulage contractors, service industries and sawmills.



Figure 10: Eden wood chip wharf and loader before and after the event (Photo: edenmagnet.com.au)

### **Environment:**

The Region experienced significant coastal erosion with large areas of beaches and beach access areas suffering from the impact of the large sea swells. Erosion issues were also experienced along estuary foreshore areas and storm water outlets.

## Impact Assessment

The NSW Recovery Plan stipulates that it is the role of the Emergency Operations Controller (a senior Police officer) to provide information on the response operation, including damage and impact assessments. Functional Areas (other agencies such as Primary Industries, Disaster Welfare and Public Works with specialised understanding of key impacts) should also be consulted during this process.

### Impact Data Sharing Assessment Project

The Impact Assessment Data Sharing Arrangements Project was initiated by the Office of Emergency Management in 2014 following on from recommendations in the Blue Mountains October 2013 Bushfire – Asbestos Operation Debrief Report. The project established formal data sharing arrangements for Rapid Impact Assessment Data, with a common data schema agreed upon. The common data schema was based on Urban Search and Rescue (USAR) impact assessments. The data sharing arrangements facilitate Combat Agencies, Functional Areas and Local Governments to conduct damage and impact assessments to identify economic, social, infrastructure and environmental impacts on communities. The data is then submitted to the NSW Emergency Information Coordination Unit, who process, collate and distribute the consolidated geospatial data. In April 2015 the first trial of the Impact Assessment Data Sharing Arrangements (pilot program) occurred.

The June 2016 storm event had unique difficulties in that response continued over an extended period due to the nature of the storm and its impact, coupled with the potential of a second East Coast Low impacting the coast on the weekend of 11/12 June 2016. This meant that in the Response Phase and in the early days of the Recovery Phase response agencies were performing a dual function, with preparations for the second storm and visiting impacted sites and gathering data.

In a number of instances, impact data was not collected from impacted areas or delays occurred. The initial data that was collected was primarily related to private dwellings (USAR impact assessments are dwelling only related), with little data collected on public infrastructure, environmental condition, social or economic impacts. It needs to be noted that gathering data on many of these issues in the immediate aftermath of an event is a complex matter, as affected residents and business owners may not be available or in a position to quantify damage. Agencies have committed to improvements in the process of collection and collation of impact data to ensure that a whole of government approach is implemented. This includes:

- developing Standard Operating Procedures for activation of interagency teams
- standardising schema so that one data collection input process is utilised by all agencies
- accessing and integrating Australian Business Register small business data into the collated impact assessment data
- developing efficient processes for collecting and collating data
- working closely with Department of Primary Industry, Office of Small Business and Department of Public Works to ensure clarification of arrangements for data sharing and use of templates

### Impact Assessment Teams

The NSW impact assessment core data schema is built upon the USAR impact assessment template. The Rapid Impact Assessment Data for this event was undertaken by FRNSW and RFS with Public Works engineers participating when required. The NSW Impact Assessment Data Sharing Project is reviewing the current core data scheme to include hazard specific and social data which will be useful to inform recovery actions.

Given the changing nature of the data collection requirements (Rapid Impact Assessments), it is recommended that the Impact Assessment Data Sharing Arrangements Project conducts a review of the current procedures used to collect impact data and the associated training given to Combat Agencies. This would minimise duplication of effort, gather a wider context of data and reduce undue impact on affected communities by minimising return visits.

#### **Recommendation 2:**

The Office of Emergency Management continues to progress the Impact Assessment Data Collection Project and:

- incorporate recovery schema in Rapid Impact Assessments
- review procedures for collection of Rapid Impact Assessment Data
- review and combine current templates into one, single template for Impact Assessment Reports that is used by all agencies
- further develop Impact Assessment Guidelines for agency personnel undertaking impact assessments

### Impact Data Sharing Arrangements

The Emergency Information Coordination Unit (EICU), is part of Spatial Services in the Department of Finance, Services and Innovation and is responsible for the collation of the Whole of Government Impact Assessment Database.

Access to the information contained in the Impact Assessment Database is governed through the Impact Assessment Data Sharing Arrangements. The stakeholders included in these arrangements are; combat agencies, Functional Areas, Regional Emergency Management Officers (REMOs), State Emergency Operations Centre (SEOC), EICU, Office of Emergency Management (OEM), State Emergency Operations Controller (SEOCN), State Emergency Recovery Controller (SERCON) and Local Government Areas (LGAs).

The data sharing arrangements allow for a REMO, as directed by the SEOCN to identify agencies to participate in the Arrangements in an event. They can “advise local government personnel of data sharing activation and the processes for delivering and accessing data” (Section 3.1.4, Data Sharing Arrangements 2015).

It has been recognised that in this storm event REMOs were not well informed of their responsibilities to actively share impact assessment data through the Impact Assessment Data Sharing Arrangements and that Local Councils were not aware that they could request this information through this mechanism.

Local councils are a major stakeholder in recovery and require all available impact data information to inform decisions at the local level. It is recommended that the SEOCON and OEM jointly provide guidance to the REMOs regarding their role in facilitating local council access to collated impact data and that local councils are made aware of the Impact Assessment Data Sharing Arrangements and the data available to them through this mechanism.

The data sharing arrangements currently use the SEOC Operational Information System (OIS) as the method to distribute collated impact data. However, local councils do not have access to the SEOC OIS and must rely on an ad hoc process with a third party passing the information on. This creates risk regarding the timeliness and accuracy of the data councils receive. Further consideration should be given to developing a mechanism to allow local councils to have direct access to the collated impact data.

### **Recommendation 3:**

The Office of Emergency Management:

- with the SEOCON, jointly provides further guidance to Regional Emergency Management Officers about their role in facilitating local council access to the Impact Assessment Data Base
- with REMOs and the SEOCON jointly provides further information to local councils about Impact Assessment Data Sharing Arrangements and the data available through this mechanism
- includes information about the Impact Assessment Data Sharing Arrangements in the Local Recovery Toolkit
- develops a mechanism to allow local councils to have direct access to the collated impact data.

## 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 (SEOCON) 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 SEOCON 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:

A formal handover occurred on Friday 10 June 2016 from the Deputy State Emergency Operations Controller to the State Emergency Recovery Controller. The handover report included the NSW SES Operational & Transition Report. Although regular communications occurred between the Deputy SEOCON, the 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 process would be enhanced through the 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 includes:

- 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.

### **Recommendation 4:**

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

The East Coast Low occurred on the weekend of 4 to 6 June 2016, however the Bureau of Meteorology notified emergency responders of the likelihood of another East Coast Low occurring on the weekend of 11 and 12 June 2016. Teleconferences were arranged between the SEOCON, SERCON, Recovery Coordinator and the NSW SES to ensure clear lines of authority occurred between the new response and current recovery arrangements. These arrangements worked well over the weekend of 11 and 12 June 2016.

## 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, 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.

### State 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 7 June 2016, The Honourable David Elliott MP, Minister for Emergency Services appointed retired Deputy Police Commissioner, David Owens as the State Recovery Coordinator.

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

During the course of the Recovery effort, the State Recovery Coordinator, DSERCON and recovery team deployed to a number of areas within the State to support the recovery effort. The schedule of activities is contained in Annexure B.

### 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).

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 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 past events Regional Coordinators have been engaged as members of Recovery Committees, as Recovery Coordinators and/or to work with the deployed OEM recovery team on specific issues.



In this ECL, the Sydney, South East NSW and North Coast Regional Coordinators were engaged to provide assistance and support to Regional and Local Recovery Committees. The Regional Coordinators reported through to the State Recovery Coordinator on a twice weekly basis and worked closely with the OEM Recovery Team.

It is worth noting that this was the first recovery operation that these 3 Regional Coordinators had been engaged in and their ability to navigate and bring their agency coordination skills into the unfamiliar space of emergency management was especially commendable. Their local knowledge and regional relationships were instrumental in progressing recovery actions and resolving issues as they arose.

The South East NSW Regional Coordinator was supported by a REMO which proved an effective partnership, bringing together agency coordination and local relationships with emergency management expertise and networks.

The Regional Coordinators had a lead role in the recovery operations for 4 weeks, from 6 June – 1 July 2016. Regional Coordinators returning to their day to day duties as soon as possible is always a key priority in the transition from formal recovery operations back to normal agency business.

**Recommendation 5:**

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

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

**Parliamentary Secretaries:**

The June East Coast Low impacted 63 electorates of the NSW Parliament. These Members of Parliament were active in the provision of support to their local communities through not only the Response Phase, but equally as important in the Recovery Phase. State and Federal Members were highly visible in the provision of assistance to their communities during this event.

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 10 June 2016 and then on an as needed basis.

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

- Mr Ray Williams MP Parliamentary Secretary to the Premier for Western Sydney
- Mr Gareth Ward MP Parliamentary Secretary for the Illawarra and South Coast
- Mr Christopher Gulaptis MP Parliamentary Secretary for the North Coast



## Recovery Committees

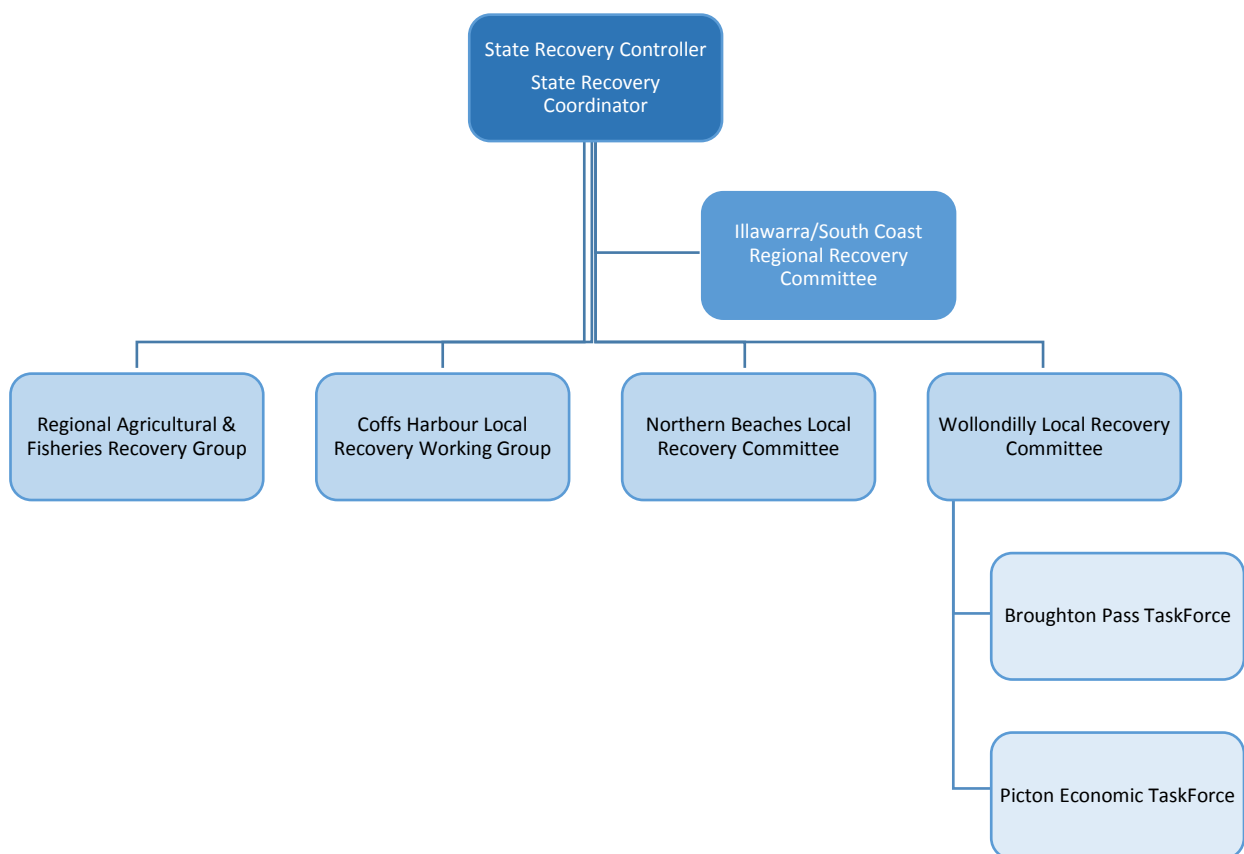
Recovery committee/s are formed as a strategic decision making body for the recovery process. They can be established at regional or local level and are designed to provide strong and visible leadership to represent and meet local community needs. They also determine priorities and resource allocation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

Recovery Committees can be tailored in terms of their membership, focus and duration.

On the North Coast, two Recovery Working Groups were established; Coffs Harbour Local Recovery Working Group and the Regional Agriculture and Fisheries Recovery Group.

In Greater Sydney, a Local Recovery Committee was established in Wollondilly (Picton) along with the Broughton Pass Taskforce and the Economic Taskforce. On the Northern Beaches, the Northern Beaches Local Recovery Committee was established.

On the Illawarra/South Coast the Southern Regional Recovery Committee was established.



The event highlighted the need and importance of Region Emergency Management Committees meeting at least once post event to determine the need for a Recovery Committee. This decision is informed by the Impact Assessment Data and should be documented and provided to the OEM.

**Recommendation 6:**

That Region Emergency Management Committees meet post event to:

- consider available impact data
- determine the need to establish a Recovery Committee
- document the rationale for the decision
- advise the Office of Emergency Management of the decision.

## Recovery Operations

### NSW Disaster Welfare Assistance Line

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

As at 1 July 2016 a total of 986 calls had been made to the line, however it is noted that 380 of these were abandoned before speaking with an operator. It is understood that this is most likely the result of callers hearing the recorded message that advised that the Commonwealth Australian Government Disaster Recovery Payment had not been activated for this event.

Many of the 606 calls answered by the DWAL were enquires about assistance for small business, insured householders, lost livestock and damage to farms.

Out of these 606 calls, 170 requests for assistance were being followed up by Disaster Welfare staff for potential eligibility for a household disaster relief grant.

### Disaster Welfare Outreach Strategy

Disaster Welfare Services coordinated a doorknock outreach strategy where volunteers from Australian Red Cross, Anglicare and Disaster Recovery Chaplains visited over 1300 homes and businesses in Narrabeen, Picton, Windang caravan parks and various suburbs along the Georges River. Approximately 50% of residents were at home when visits occurred and recovery information and contact details were left for residents not personally contacted.

### State Recovery – Coastal Erosion:

The Office of Environment and Heritage (OEH) is the NSW government authority responsible for advising on coastal zone management and provides technical advice about options being considered by decision makers during emergencies. OEH has made available a coastal engineer to assist councils with expert in-kind advice on coastal engineering and guidance in applying for OEH Coastal and Estuary Grants.

Early observations are that many NSW beaches experienced significant erosion during the June 2016 event, although with less conspicuous impacts than Collaroy. Through a collaborative research program between the UNSW Water Research Laboratory (ARC Discovery Grant), UNSW School of Aviation, and the Office of Environment and Heritage, the impact of the storm has been measured in detail at over 100 NSW beaches between Coffs Harbour and Eden, using high-resolution airborne Lidar

sensing. Once analysed that data will shed light on regional- and local-scale variability in beach response to the storm.

#### [NSW framework for coastal management and the coastal reforms](#)

The current framework for coastal management in NSW is established by the *Coastal Protection Act 1979*. This framework is being reformed by the NSW Government and a new *Coastal Management Act 2016* has been assented to, but not commenced.

#### *Coastal Protection Act 1979 and coastal zone management plans*

The *Coastal Protection Act 1979* contains provisions relating to the use and occupation of the coastal region in order to preserve and protect these areas while encouraging sustainable use of the areas. The Act also facilitates the carrying out of temporary coastal protection works by landowners.

Under the current framework, local councils are responsible for preparing coastal zone management plans, known as CZMPs. Councils preparing CZMPs must follow the [Guidelines for preparing coastal zone management plans](#), which are made by the Minister for Planning under the *Coastal Protection Act 1979* and published by the Office of Environment and Heritage. These guidelines provide a framework which also includes key strategic considerations for preparing these plans. It also provides guidance on preparing coastal emergency action sub plans.

The main purpose of a CZMP is to describe proposed actions to be implemented by a council, other public authorities and potentially by the private sector to address priority management issues in the coastal zone over a defined implementation period. These issues include:

- managing risks to public safety and built assets
- pressures on coastal ecosystems, and
- community uses of the coastal zone.

Where a local council is preparing a CZMPs that addresses coastal risks such as hazards, the council is to include an emergency action sub plan, which is to describe:

- intended emergency actions to be carried out during periods of beach erosion such as coastal protection works for property or asset protection, other than matters dealt with in any plan made under the *State Emergency and Rescue Management Act 1989* relating to emergency response (sections 55C(b) and (g) of the *Coastal Protection Act 1979*)
- any site-specific requirements for landowner temporary coastal protection works, and
- the consultation carried out with the owners of land affected by a sub plan.

Under its coastal zone management program, the Office of Environment and Heritage (OEH) works with councils to reduce the impact of coastal hazards and maintain the ecological health of our estuaries while accommodating population growth.

#### *Coastal reforms and the Coastal Management Act 2016*

The NSW Government has been working with coastal councils to reform the coastal management framework. While many of the key elements of this reform process are well advanced, they are not yet in effect.

The current *Coastal Protection Act 1979* is to be replaced by the new *Coastal Management Act 2016*, which has been assented to, but not commenced. The new Act will enable more integrated and strategic management of coastal issues. Provisions that allow temporary coastal protection works by landowners without consent will be repealed.

Current requirements for emergency action sub-plans will be retained and will focus on the roles and responsibilities of public authorities. Councils with land or assets within mapped 'coastal vulnerability areas' will be required to outline the emergency actions they will carry out immediately before, during or after periods of coastal zone emergencies.

While management objectives for the coastal vulnerability area have been articulated in the new Coastal Management Act, the specific areas will be identified by maps in the forthcoming Coastal Management State Environmental Planning Policy.

A draft coastal management manual was published for public comment in November 2015 and includes guidance to councils on the preparation of coastal zone emergency action sub-plans.

## Northern NSW

### Recovery Committee:

The North Coast Regional Recovery Committee convened on 14 June 2014. It was resolved that no further Regional Recovery Committee meetings were required and the best way for recovery issues to be addressed was through issues based Working Groups. The Regional Agriculture and Fisheries Recovery Group, chaired by DPI was established to assess the ongoing impacts on agriculture and aquaculture industries. The Coffs Harbour Local Recovery Working Group was established to assess coordinate the recovery of the tourism and small business sectors, and oversee Coffs Harbour Jetty infrastructure and marina recovery. At the time of this report both recovery working groups were ongoing.

### Recovery Activities

#### Agriculture and Aquaculture

The DPI took the lead in the recovery process involving agriculture and aquaculture. They were assisted by the NSW Office of the Small Business Commission through the provision of Small Biz Connect services, including commercial fishers and agribusiness.

The Regional Agriculture and Fisheries Recovery Group led by DPI undertook the following activities:

- North Coast Local Land Services promotion of their customer service line to capture damage reports from farmers.
- Outreach by the DPI Rural Resilience Program, Rural Financial Counselling Service and Rural Adversity Mental Health Program at Primex Field Day at Casino on 24 and 25 June (attracting more than 40,000 people). Farmers were surveyed on their experience and preparedness with natural disaster events.

- Rural Financial Counsellors and Rural Adversity Mental Health linked with the horticulture industry events providing specialist advice and support.
- Rural Financial Counsellors were part of the Banaba Industry Roadshows (Coffs Harbour & Murwillumbah).
- The NSW DPI Rural Resilience Program participation in the Farm-Safe Event (Kempsey), three macadamia growers' meetings and blueberry industry events at Woolgoolga/Coffs Harbour.
- Funding opportunities identified to support industry to undertake future disaster and risk preparedness over the medium to longer term.
- NSW Fisheries and DPI Rural Resilience Program continue to engage with the Professional Fishers Association to clarify and highlight the recovery assistance measures available.
- The NSW DPI flood webpage was updated with the brochure "Help for flood and storm affected primary producers" containing a summary of assistance available.
- North Coast Local Land Service published a number of disaster recovery stories (June e-newsletter) including the assistance available and caring for cattle in the wet. Coordination with The Land newspaper to publish farm preparedness to build resilience stories.
- DPI Fisheries coordinating recovery assistance for Professional Fishers in Forster-Tuncurry.

### **Building The Resilience of Primary Producers**

The North Coast Local Land Services (LLS) implemented high priority on-ground projects to improve the health and productivity of farms and the environment. Whilst not primarily targeted to support emergency preparedness, response and recovery, they are designed to increase the resilience of farms and the environment to natural disasters.

Examples of these on-ground projects are:

- Erosion Management Action Plans (EMAP) developed to improve water management in macadamia orchards through capacity building and planning to reduce land degradation;
- The Southern SEL Soil Health Project (including drone survey over 380 hectares of macadamia plantations to capture HD, NVID and LiDAR photogrammetry to develop drainage and erosion management plans.

A comprehensive list of Local Land Services projects is contained in Annexure B

### **Coffs Harbour Marina**

The Coffs Harbour Marina is a focal point in the Coffs Harbour Region, not only for commercial fishing but also tourism, whale watching and recreational fishing. The Coffs Harbour Local Recovery Working Group, led by Council, undertook a range of activities to ensure that the Marina was operational despite the significant damage caused by the East Coast Low.

The Charter operators negotiated use of the public wharf as Marina access is limited. This caused a number of logistical issues however it continues to be used as a viable alternative whilst repairs are carried out. The Charter operators have experienced a downturn in business due to the limited access and lack of visibility.

The Northern Breakwater was opened with limited access during the July school holiday period to allow tourist's access to Muttonbird Island. The Breakwater access was closed again on the 17<sup>th</sup> July as the area became a construction zone as part of the major refurbishment works. The Marina boardwalk is likely to be re-established in August, allowing the public access to Muttonbird Island along this alternate pathway.

The Marina Operator engaged a company to remediate damage, including assessment of the marina's structural integrity and resurrection of the pontoons. The Marina is prioritising restoration of the access points and finger wharfs. Crown Lands is finalising the slipway remediation project (NSW Government funded project) with remediation works finalised in mid-July and Phase 2 works commencing to establish a temporary crane facility that will be operational in August 2016.

The "Open for Business" campaign run by the North Coast Destination Network is being used to reinforce the messaging that the North Coast is operational. They are also involved in significant tourism marketing, including assistance from Tourism NSW and National Parks and Wildlife Service.

### **Terrigal/Wamberal**

In response to the 74 beachfront properties that were significantly impacted by coastal erosion the Central Coast Council engaged a specialist engineer to undertake preliminary assessments of dune stability and identification of areas of concern. A large number of properties required debris removal for safety reasons and in cases where structural damage has occurred partial demolition may be required. Council is working with individual property owners to explore options for property restoration.

The lack of beach in front of these properties means that they will continue to be damaged by even relatively small storm events during high tide. Council is working with the Office of Environment and Heritage to address this issue.

## **Sydney – Northern Beaches**

### **Recovery Committee**

The North West Region Emergency Management Committee convened on the 9 June 2016 to assess the impacts from the storm. It was determined that a Regional Recovery Committee was not required and that a Local Northern Beaches Recovery Committee was the most effective way to coordinate the recovery. The Local Recovery Committee convened on two occasions, 15 June and 7 July 2016. The Recovery Committee focused on oversight of the actions needed to allow Collaroy residents to return to their properties and on the longer term solutions for coastal erosion issues.

### Northern Beaches Recovery Centre

Recovery Centres are established under the NSW EMPLAN to provide a one-stop-shop for local and state government, the Commonwealth and non-government services to assist people affected by emergency.

The Northern Beaches Recovery Centre was the only Recovery Centre established in this storm event. The decision to open the Recovery Centre was informed by early impact assessments indicating that Narabeen Lake residents may have experienced widespread flood damage, as well as the Collaroy residents impacted by coastal erosion.

The Recovery Centre opened on 10 June 2016 at the Mona Vale Customer Service Centre, 1 Park Street Mona Vale. Demand for Recovery Centre services was low, as it became apparent throughout the week that the flood damage for Narabeen Lake residents was not as significant as first thought and residents displayed a high level of self-sufficiency and resilience. The Recovery Centre was open every day for 8 days and closed on 17 June 2016.

The following agencies were represented at the Recovery Centre:

Disaster Welfare Services	Legal Aid	Small Biz Connect
Safe Work	Family and Community Services	NSW Health
Fair Trading	Insurance Council of Australia	Red Cross
Salvation Army	Office of Environment and Heritage	Disaster Recovery Chaplains



The Mona Vale Recovery Information Centre was visited by the NSW Minister for Planning and Member for Pitwater, The Hon. Rob Stokes, The Administrator of the Northern Beaches Council, Mr. D. Persson and the General Manager, Mr. M Ferguson. The State Recovery Coordinator also visited the Recovery Centre.



### Recovery Activities

The Northern Beaches Council has been working collaboratively to respond and coordinate recovery efforts. Almost all of Council's beaches and coastal reserves suffered storm damage, including damage by refracted waves and swell. Immediately following the storm, the beaches were sign posted as closed, along with most public access paths. Maintenance crews were deployed to collect debris from the critical assets. Sea walls and associated public infrastructure (footpaths, walkways, road ends, retaining walls etc.) was damaged and Council established an interactive map on their webpage that provided up to date information on the status of these sites (<http://www.northernbeaches.nsw.gov.au/storm-recovery#map> ).

### Collaroy Properties

The Collaroy properties between Stuart and Ramsay Streets that were significantly impacted by coastal erosion required complex works to be undertaken, coordinated in a staged approach between Council and the property owners. Owners were issued with Emergency Orders and Council provided access to the rear of the properties by constructing an access ramp through Ramsay St to enable the owners to remove parts of their homes that were considered a public safety risk, such as partially fallen balconies.

Temporary coastal protection works at Collaroy were completed by 8 July 2016. Approximately 1,600 tonnes of sand were brought into the affected areas between Stuart and Ramsay Streets to construct a 110m long, 5m high temporary wall made of geobags built on private land. These bags have been put in place to help protect homes in the short term, while property owners and Council work together to develop a long term strategy and solution.

The Sydney Water owned sewer system that serviced these properties was lost in the storm and needed to be replaced before residents can return to their homes. Sydney Water has developed a temporary solution for installing new sewer pipes which was completed by 16 July 2016. Sydney Water is continuing to work with Council on a long term solution.

Residents are able to return home when the following actions are complete:

- structural engineering reports are submitted to Council
- power has been reconnected by qualified electrician.



### Spontaneous volunteering - Collaroy Sandbagging

Coastal engineers identified that the seawall that was in place at the property at 1150-1152 Pittwater Rd Collaroy had been undermined by the storm on 3-6 June and that backfilling behind the wall would help prevent the situation deteriorating further from a second storm event predicted to hit Sydney on 11 and 12 June 2016. For this strategy to be successful a minimum of 3,000 sandbags were required to be filled at short notice. Under the direction of the Local Emergency Operations Controller, the NSW SES coordinated this sandbagging exercise. The NSW SES was able to mobilise over 400 members and volunteers to fill, not just 3,000 but 12,000 sandbags. The bulk of the volunteers were SES, FRNSW and RFS, supported by large numbers of spontaneous volunteers from local Surf Life Saving Clubs and individuals in the community. This enormous task could not have been achieved without their assistance.



Photo: Huffingtonpost.com.au

### Sydney – South Western Region

The South West Region Emergency Management Officer, at the Direction of the Region Emergency Operations Controller contacted Liverpool, Canterbury-Bankstown and Fairfield Councils to discuss the need for the establishment of a Local Recovery Committee. In consultation with these councils it was agreed there was not a need to establish Local Recovery Committees.

### Wollondilly Recovery Committee

The Wollondilly Local Recovery Committee convened on 6 June 2016. Two Taskforces were formed to coordinate the economic recovery of Picton CBD and repair of Broughton Pass. A Social Recovery Subcommittee was also established to oversee the Mayor's Relief Fund.

The Local Recovery Committee met twice a week and held eight (8) meetings. the Committee continued to meet weekly from 28 June 2016.

#### Wollondilly Recovery Information Point

A Recovery Information Point is an alternate service delivery model that provides recovery information to an affected community. A Recovery Information Point is staffed and maintained by Local Council, usually located within Council Customer Service Offices and supports residents and businesses to access information about the range of recovery services as well as providing advice and assistance from Council.

The Wollondilly Council established a Recovery Information Point in the Council Offices on 10 June 2016. A number of services were located at the Information Point to assist residents and businesses:

- Disaster Welfare Services
- Human Services
- Office of Small Business Commissioner
- Small Biz Connect
- Insurance Council of Australia
- Telstra Business
- Safework NSW

The Council also established a Wollondilly Hotline for affected residents that received 146 calls. The Recovery Information Point and Hotline ceased operations on 24 June 2016, however residents were still able to access information, advice and assistance from the Council as needed.

A series of web pages are available from the council website to provide advice/information <http://www.wollondilly.nsw.gov.au/resident-services/storm-information/>



Figure 11: Wollondilly Information Centre

### Recovery Activities

Wollondilly Council worked with the community following the storm to assist commercial and residential properties with the clean-up and restore services. Disaster Welfare Services coordinated outreach in affected residential areas providing personal support, information and referral to other agencies.

### Small Business

Small Business Commission Advisors engaged with 128 damaged businesses in the Picton CBD to provide guidance about managing cash flow, planning next steps, accessing support schemes and connecting to additional support. The Office of the Small Business Commission has been undertaking a number of activities to support affected businesses including:

- development of a Facts Sheet for businesses
- arranged for a Dispute Resolution Team available to offer procedural information and strategies
- arranged for representatives from the Insurance Council of Australia to visit Picton and meet with business owners to address insurance issues
- Small Biz Bus visit Picton on 5 July
- Minister for Small Business street walk in Picton on 7 July
- 6 Small Biz Connect workshops held in Picton through July and August.

A survey is underway to determine the extent of small business losses. Anecdotal reports indicate that 60% of businesses in Picton report 100% losses. Independent structural engineers were engaged by council, identifying five commercial structures to be condemned. Council has informed the owners.

### Insurance:

The State Recovery Coordinator met with the General Manager Risk, Insurance Council of Australia (ICA) in respect to potential insurance claims from commercial and residential premises damaged due to the storm. Insurance companies engaged a hydrologist to provide expert opinion on claims in Picton CBD. On 29 June 2016 a number of insurance claim issues arose in respect to damage assessments (flood -v- storm damage). Subsequently, the General Manager Risk from ICA notified the Recovery Team that all residential claims had been accepted and in Picton, all bar two of the commercial property claims had been accepted.

It was established that whilst commercial claims had been accepted, insurance companies were relying on the hydrologist reports that accepted storm damage to a height of 100mm and above 100mm was being classified as flood damage. Claimants were encouraged to lodge a dispute under the dispute process to have the claims reassessed.

The ICA arranged for an information night to be held in Picton on 7 July 2016. This was an opportunity for affected residents and commercial owners to speak directly with the ICA, individual insurance company representatives, the NSW Ombudsman and Legal Aid.

### **St. Anthony's Catholic School:**

The school suffered substantial damage due to water inundation, rendering the classrooms uninhabitable. The Catholic Education Office, Diocese of Wollongong was responsible for the restoration of Catholic schooling services to the community. A number of letters were sent to parents from the Principal and Director of Schools, informing them of the temporary school arrangements (two catholic schools at Rosemeadow) along with transport arrangements to bus the students from Picton to Rosemeadow each day. A Parent information session was held on 20 July 2016 to update all parents on progress.

### **Broughton Pass**

Wollondilly Council engaged NSW Public Works South Coast Region to undertake the rectification project. This involved tendering on council's behalf for geotechnical, structural, heritage and environmental consultants. A subcommittee was formed to coordinate the project with NSW Government Agencies (OEHL, EPA, RMS & Sydney Water) and the Council. The Council established a webpage at <http://www.wollondilly.nsw.gov.au/resident-services/infrastructure/current-projects/broughton-pass-wilton-road/>.

A community walk and information session was held at Broughton Pass on Sunday 3 July 2016. The community was given the opportunity to discuss their concerns with Council staff and provided with information about the challenges of repairs the bridge. Two families with five children were impacted upon (one a special need student) and arrangements were made through the school principal for alternative schooling whilst repairs were carried out.

### **Appeals**

Two appeals were established to assist Picton residents and businesses that were affected by the storm. These funds were established and operated independently of each other. An improvement to this process would have been for the two funds to share information, to ensure that assistance was targeted in a coordinated way to those most in need.

### Wollondilly Shire Council Mayor's Relief Fund

The Mayor's Relief Fund was activated on 6 June 2016 to support Picton residents affected by the storm event. The Fund was able to be activated quickly and efficiently as it was an existing fund originally established in 2002, with ATO endorsement and tax deductible gift recipient status.

By 6 July 2016 the fund had raised over \$137,000. Initial emergency grants of \$500 and \$250 were provided and a Social Recovery Sub Committee was established to disperse the remaining funds.

### Jai Rowell's Flood Relief Fund

Wollondilly MP Jai Rowell established a Flood Relief Fund administered by the Lions Club. Monies raised were used to assist homeowners and businesses affected by the storm. The Local Member was assisted by Mark Geyer (Triple M) along with a charity walk held on 29 June 2016 involving members of the NRL Wests Tigers all raising funds for the Relief Fund.

## South Eastern NSW

### Recovery Committee:

The Illawarra/South Coast Region Emergency Management Committee met on 10 June 2016 and established a Regional Recovery Committee. The Committee convened on 16 June 2016, holding two meetings before handing over to Industry to oversight recovery of the Eden Woodchip Mill.

### Recovery Activities

#### Oyster Farmers

The oyster farming industry sustained significant flood and tidal surge impacts on stock and infrastructure. The most significantly impacted estuary was the Shoalhaven/Crookhaven in the Shoalhaven LGA. This area has also impacted upon by the mandatory 21 days' harvest closure following a sewage spill. The industry was also significantly impacted by the ability to obtain oyster spat from Tasmanian hatcheries due to the recent Pacific Oyster Mortality Syndrome virus.

NSW DPI Fisheries organised a Recovery Information Day for Oyster Farmers on 16 June 2016 with representatives from Council, Human Services Centrelink, Red Cross, a Rural Financial Counsellor and a Rural Support Worker.

#### Eden Woodchip Mill

The jetty and woodchip conveyor belt system privately owned by Allied Natural Wood Exports (ANWE) sustained significant damage. On 8, 9 and 10 June 2016, TNSW, RMS and the Port Authority of NSW met with Bega Valley Shire Council and ANWE to discuss contingency plans and support needs to minimise impact across the supply chain and employment in the region.

ANWE had three/four vessels scheduled to load and export woodchip overseas in July. However due to the damage to the conveyor belt and wharf, coupled with the design of the vessels (top loading via a conveyor belt system) these vessels were no longer able to be loaded from the ANWE wharf. The operational contingency developed by ANWE, in partnership with TNSW, RMS, Port Authority and the Australian Navy is to export from the nearby Multi-Purpose Berth (MPB) until such times as the temporary repairs on the wharf conveyer are completed. The MPB is able to accommodate smaller vessels that have been sourced by ANWE.

ANWE have engaged the services of Mobile Conveying Services to procure a mobile conveyor unit, a ship loader and twelve trucks to feed wood chips from the storage site to the conveyor (ANWE are in the process of sourcing trucks from local operators). The Port Authority of NSW is assisting ANWE with vessel scheduling, planning the wharf set-up for mobile conveyor and truck operation, and any infrastructure modifications needed to accept large vessels anticipated by ANWE. The Port Authority of NSW has also offered use of their adjacent securely fenced uncovered hardstand in kind.

ANWE have commenced discussions for the temporary repair of their jetty and conveyor belt system and have engaged an Eden based company for conveyor belt construction, and a Sydney based company for construction and piling associated with jetty repair.

## Natural Disaster Financial Assistance

### NSW Natural Disaster Assistance Arrangements

On 7 June 2016 the Prime Minister, Hon Malcolm Turnbull MP and the NSW Premier, Hon Mike Baird MP jointly declared 37 Local Government Areas Natural Disasters and announced the availability of a range of assistance through the jointly funded Commonwealth-State Natural Disaster Relief and Recovery Arrangements (NDRRA). On 24 June 2016 the Commonwealth Minister for Justice, Hon Michael Keenan MP announced additional Natural Disaster Declarations for four (4) other Local Government Areas.

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, 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)

### NSW Disaster Relief Grants

Disaster Welfare Services administers the Disaster Relief Grants Program which provides assistance to disaster affected households to contribute toward the replacement of essential household contents, and make structural repairs to the home to render it safe and habitable. People with limited financial resources and no insurance may be eligible for a grant under this program.

As at 7 July 2016 there was 170 requests for assistance from across the State being assessed for eligibility for a disaster relief grant. The majority of these requests have come from the Central Coast, Tweed/Coffs Harbour and South West Sydney. Disaster Welfare Alumni Officers have conducted more than 145 home visits to storm affected households.

To date approximately 15 grants have been paid, with \$18,000 granted for household contents and \$660 for structural repairs. It is noted that these are still early figures as the assessment of applications for disaster relief grants continues some months after a disaster event.



### NDRRA Category C Primary Producer Grants

Category C Primary Producer Grants are an exceptional circumstances financial assistance measure that can be activated over and above the assistance already being provided under the Natural Disaster Relief and Recovery Arrangements. Stringent impact levels and criteria are set by the Commonwealth.

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

The NSW Government has forwarded to the Commonwealth Government the NDRRA Category C Grants applications of up to \$10,000 for eligible primary producers for shellfish and banana crops in the following LGAs.

<b>Agriculture – Bananas</b>	<b>Aquaculture - Shellfish</b>
Ballina Coffs Harbour Kempsey Nambucca Tweed	Bega Valley Byron Eurobodalla Nambucca Shoalhaven Tweed

### Disaster Recovery Allowance

The Disaster Recovery Allowance (DRA) is an additional financial assistance measure that can be activated by the Commonwealth over and above the assistance already being provided under the Natural Disaster Relief and Recovery Arrangements.

The DRA is administered by the Commonwealth Department of Human Services (Centrelink) and provides income support payments to employees, small business persons and farmers who experience a loss of income as a direct result of the June East Coast Low event. The DRA provides fortnightly payments for up to 13 weeks, equivalent to the applicable rate of Newstart or Youth Allowance, depending on the person's circumstances.

On 28 June 2015, the Minister for Justice Michael Keenan announced that the DRA would be available in the LGAs that had received a Natural Disaster Declaration.

## Media & Communications

The Office of Emergency Management does not have a permanent media/communications position. This event saw the OEM access existing arrangements with the Department of Justice and NSW Rural Fire Service where three media and communications staff from the Department of Justice (1) and NSW Rural Fire Service (2) formed part of the State Recovery Team, supporting the work of the SERCON and the Recovery Coordinator. There was a modest amount of media and communications activity, peaking immediately after the storm.

Consideration should be given to the further development of a communications and engagement strategy for major disaster events. This should be built upon the existing partnerships that have been developed between the Office of Emergency Management and the Department of Justice Strategic Communications Branch during the 2015 and 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 OEM. It is recommended that this be progressed as a priority to provide guidance for local government and include the roles of State and Local Government working together, key messaging and Facts Sheets.

### **Recommendation 7:**

The Office of Emergency Management:

- considers the 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.

The Emergency NSW website was used as the single information point, where information was regularly reviewed and updated to ensure the information was targeted at impacted communities. This was time consuming but necessary.

While the Emergency NSW website is a central point of information, it must be recognised that local councils often have a direct connection to local communities and have a critical role in communicating to affected communities.

Northern Beaches and Wollondilly Councils provided their communities with information through the development of webpages that were regularly updated. Northern Beaches Council provided information at <http://www.northernbeaches.nsw.gov.au/storm-recovery> which included:

- a webpage that stepped community members through beach closures
- an interactive map on pathways and walking track closures
- frequently asked questions covering a range of topics to assist the community.

Wollondilly Shire Council provided information at <http://www.wollondilly.nsw.gov.au/resident-services/storm-information/> which included:

- information about recovery services
- information about grants and allowances
- information about the Mayor's Relief Fund
- information sheets for residents and small businesses
- food safety information for small businesses after a storm.

Northern Beaches and Wollondilly Councils should be commended for making the information readily accessible to the community.

During the recovery operation, the media team conducted an audit of all webpages of councils in the 41 disaster declared areas and an inconsistency was discovered in some of the messaging provided. This in part could be due to community information being managed in one area of council and the communications channels managed elsewhere. Some councils were proactive and had accurate 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 all council websites had the Emergency NSW web link.

### Transition to Longer Term Recovery

Coordinated recovery activities for this storm event commenced on 7 June 2016 with the appointment of the State Recovery Coordinator and the establishment of Recovery Committees and Working Groups established in the affected areas. The majority of issues arising from this storm were managed through the Recovery Committees over five weeks, from 7 June 2016 – 8 July 2016. The State Recovery Coordinator concluded his duties on 8 July 2016. There are a number of ongoing recovery issues that Recovery Committees and Working Groups will continue to oversee. Resolution of these issues are being led by the appropriate NSW Government Agencies as outlined in the State Recovery Action Plan at Annexure C.

## Appendices

### Appendix A: Terms of Reference – State Recovery Coordinator, East Coast Low Event

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 recent severe weather events across the State, The NSW Government has appointed Mr David Owens APM to perform the role of State Recovery Coordinator. The State Recovery Coordinator will:

- Coordinate the recovery process at the State level, working with and supporting local and regional recovery efforts,
- Oversee the conduct of a State Recovery Needs Assessment,
- Develop and maintain a State Recovery Action Plan (with an agreed transition strategy) that aligns with local assessments and plans,
- Act as a conduit between the Local and Regional Recovery Committees, the community and the State Government, and act to resolve issues that cannot be settled locally,
- Assist with facilitation and coordination of non-government and private sector organisations' services involved in the recovery process,
- Ensure that relevant stakeholders, especially the communities affected, are involved in the development and implementation of recovery objectives and strategies and are informed of progress made,
- Brief the Premier, Deputy Premier and Minister for Emergency Services and other elected representatives on the recovery, and
- Provide high level public communications on the State's recovery efforts.

The State Recovery Coordinator will report through the Deputy Secretary, Liquor, Gaming and Emergency Management and the Secretary of the Department of Justice (the SERCON) to the Minister for Emergency Services and the Cabinet Committee on Counter Terrorism, Emergency Management and Community Safety.

The Coordinator will be supported in his duties by the Office of Emergency Management in the Department of Justice.

The State Recovery Coordinator will provide a report after 2 months on the progress of the recovery.

## Appendix B: State Recovery Coordinators Schedule of Activities

State Recovery Coordinators Schedule of Activities		
Date	Location	Activity
08/06/16	Collaroy	Visit Collaroy re inspection of beachfront properties and speak with residents
09/06/16	Picton	Visit and inspection of damage to CBD with State Member, Mayor and members of Local Recovery Committee  Attend Wollondilly Local Recovery Committee
12/06/16	Collaroy	Visit Collaroy and speak with residents  Visit Mona Vale Recovery Centre
14/06/16	Coffs Harbour	Meeting/Briefing with: <ul style="list-style-type: none"> <li>• Project Manager Regional Projects, Department of Primary Industries (Crown Lands) (lease manager for the Jetty area).</li> <li>• Director, North Coast DPC</li> <li>• State Member for Coffs Harbour</li> <li>• Mayor</li> <li>• Water Police</li> <li>• General Manager, Coffs Harbour City Council</li> <li>• Local Emergency Management Officer, Coffs Harbour City Council.</li> </ul> <u>Coffs Harbour Marina/Jetty</u>  Inspection of damage and meeting with Operations Manager, Star Marinas and General Manager, Coffs Harbour Fisherman's Cooperative  Meeting with local operators fishing and commercial operators  <u>North Coast Region Recovery Committee meeting</u>  <u>Visit Banana farm</u> Speak with owner & Cooperative member re damage  <u>Visit Blueberry farm</u> Speak with owner re damage to blueberries

<b>16/06/16</b>	Eden	<p><u>Eden Woodchip Mill:</u> Meet General Manager and inspection of damage and temporary arrangements with South East NSW DPC, Region Emergency Management Officers.</p> <p>Visit Quarantine Bay re inspection of damage</p> <p><u>Bega Valley Shire Council:</u> Meeting with Mayor, General Manager, LEOCON, LEMO and Transport Utilities Group</p> <p><u>Southern Region Recovery Committee meeting</u></p> <p><u>Tathra Wharf</u> Inspection of damage to wharf, café and museum. Speak with owners.</p>
<b>20/06/16</b>	Picton	Visit Picton to speak with Mayor, LEMO and business owners.



# East Coast Low June 2016

## State Recovery Action Plan

**Action Plan prepared on:**

7 July 2016

**Document control:**

Version 1

**Distribution list:**

Name	Position	Organisation	Date
Feargus O'Connor	State Emergency Recovery Controller	OEM	
Dave Owens	State Recovery Co-ordinator	OEM	
Rachel Nibbs	Deputy State Emergency Recovery Controller	OEM	
Daniel Simpkins	Department of Premier & Cabinet	DPC	
Lisa Braid	Department of Premier & Cabinet	DPC	
Heidi Stratford	Department of Premier & Cabinet	DPC	

An East Coast Low affected the NSW coastline between 04-06 June 2016 and resulted in widespread damage and coastal erosion.

A State Recovery Coordinator was appointed by the Premier and the following Recovery Committees were established to assess and plan recovery activities:

- North Coast Regional Recovery Committee
- Illawarra/South Coast Regional Recovery Committee
- Northern Beaches Local Recovery Committee
- Wollondilly (Picton) Local Recovery Committee

Recovery Action Plans have been developed for each region by each of these Recovery Committees. This State Recovery Action Plan outlines priorities that require State level support.

This is a working action plan that will be regularly updated to reflect completion of actions and emerging priorities.

Social			
	Objective	Actions	Agencies
1	<b>Disaster Relief Grants</b>  Storm affected households have access to information about available assistance measures	Continue to: <ul style="list-style-type: none"> <li>promote information through websites, social media and media outlets</li> <li>conduct outreach in affected communities</li> <li>operate the Disaster Welfare 1800 Assistance Line</li> </ul>	Office of Emergency Management Family & Community Services Centrelink

Infrastructure			
	Objective	Actions	Agencies
1	<b>Picton: Broughton Pass</b>  Broughton Pass is reopened to traffic as soon as possible	Wollondilly Council has convened a Taskforce to coordinate and progress the repair of Broughton Pass.  Wollondilly Council has engaged NSW Government Public Works to undertake rectification Project	Wollondilly Council NSW Public Works Roads Management Authority Sydney Water Office Environment & Heritage Environment Protection Authority
2	<b>Coffs Harbour Marina</b>  The Marina is returned to full operation as soon as possible	The Coffs Harbour Recovery Working Group will continue to oversee the progress on the Marina's repair and return to normal business.	Coffs Harbour City Council Department of Industry (Regional Development) representing small business / tourism

			Department of Industry (Crown Lands) NSW Public Works – manager of contract for Northwall upgrades  Lease manager of the Marina
--	--	--	--

Economic			
	Objective	Actions	Agencies
1	<b>Assistance Measures</b>  Primary Producers and Small Business owners can access information about available assistance measures	Continue to <ul style="list-style-type: none"> <li>Promote assistance measures via websites, social media and media outlets.</li> <li>Small Biz Bus visiting affected communities</li> </ul>	Office of Emergency Management  NSW Department of Primary Industries  Office of the Small Business Commissioner
2	<b>Picton Small Businesses</b>  Businesses in Picton are supported to return to trading as soon as possible	The Office of the Small Business Commissioner continues to: <ul style="list-style-type: none"> <li>survey local businesses using the “Disaster Recovery Diagnostic Tool” to gather information about the impacts on businesses caused by the storm damage</li> <li>make available Small Biz Connect Services and Workshops.</li> </ul>	Office of the Small Business Commissioner
3	<b>Agriculture and Aquaculture</b>  Agriculture and aquaculture industries are supported to return to normal operation as soon as possible	<ul style="list-style-type: none"> <li>An NDRRA Category C application for grants up to \$10,000 for the banana and shellfish industries has been submitted for Commonwealth approval.</li> </ul>	<ul style="list-style-type: none"> <li>Office of Emergency Management</li> <li>Regional Recovery Committees</li> <li>NSW Department of Primary Industries</li> </ul>

Environment			
	Objective	Actions	Agencies
1	<b>Coastal Erosion Management</b>  Councils implement Coastal Erosion Policy Framework and Reforms	The Office of Environment & Heritage has made available a coastal engineer to assist councils with expert in-kind advice on coastal engineering and guidance in applying for OEH Coastal and Estuary Grants.	Office of Environment & Heritage Local Councils
2	<b>Collaroy homes affected by coastal erosion</b>  Residents between Stuart and Ramsey Streets Collaroy are able to return to their homes as soon as possible	Northern Beaches Local Recovery Committee (Chaired by Northern Beaches Council) is overseeing the actions required to allow residents to return to their properties: <ul style="list-style-type: none"> <li>• Landholders are proceeding with demolition and removal of damaged structures.</li> <li>• Landholders are required to obtain a certification of structural integrity for properties</li> <li>• Sydney Water is developing a temporary and long term solution for reconnection of sewer pipes under affected properties.</li> </ul>	Northern Beaches Council Landholders of affected properties Sydney Water

Recovery Transition Strategy				
	Objective	Actions needed	Actioned by	Timeframe
1	Handover of Recovery Coordinator responsibilities.	Recovery Coordinator handover to OEM Recovery Team for ongoing coordination of recovery issues requiring State support and action.	Recovery Coordinator	9 July 2016

## Appendix D: The North Coast Local Land Services High Priority On-Ground Projects

North Coast Local Land Services (LLS) implements high priority on-ground projects to improve the health and productivity of farms and the environment. While these projects are not primarily targeted to support emergency preparedness, response and recovery, these on-ground actions are designed to increase the resilience of farms and the environment to natural disasters and other threats.

North Coast LLS also provides advice to farming and community groups to improve farm productivity and environmental health. Unfortunately, North Coast LLS is not able to offer individual site inspections or on-site advice in response to farm productivity, land management or environmental issues. However, if it is clear that a number of farmers or community members are experiencing similar issues, North Coast LLS will try to arrange a group event to provide appropriate information.

### **Erosion Management Action Plans:**

North Coast Local Land Services (NCLLS) has secured funding for growers to have Erosion Management Action Plans (EMAP) developed to improve water management in macadamia orchards through capacity building and planning to reduce land degradation.

The key aims of the project are to improve water quality by reducing erosion, improving orchard productivity with sustainable practices, promote the adoption of best practices through Integrated Orchard Management (IOM), increase groundcover and improve catchment condition. Maps and plans are developed using LIDAR to produce 3-D imagery of properties to identify priority sites for the implementation of a range of on-ground works that will help to reduce erosion. These could include for example, earthworks, canopy management to increase groundcover or tree removal in flow lines to improve water movement within the orchard.

In conjunction with the mapping, each orchard will receive an action plan that will outline the priority issues covering drainage, canopy and orchard floor management. The plan is developed during individual property visits involving an inspection of the orchard and discussions with landowners and other advisors.

### **The Southern SEL Soil Health Project:**

The Southern SEL soil health project includes a drone survey over 380 hectares of macadamia plantations in the Nambucca/Valla area to capture HD, NVID and LiDAR photogrammetry to be used to develop drainage and erosion management plans. The DPI and industry's "Macadamia integrated orchard management guide 2015" identifies canopy, orchard floor and drainage as the three pillars of good management for macadamias. Research has shown the significant adverse impact of soil loss from macadamia orchards with the consequent exposure of the macadamia proteoid roots leading to production loss and increased tree decline. The LiDAR data will allow the landholders to conduct 'what if' analyses for a range of potential rainfall events. They can then run scenarios for removal of trees to make grassed watercourses or construction of diversion banks to direct water flow to not only minimise erosion on farm but also improve water quality leaving the farm. Other improvements may be graded banks or interrow drains. The data gathered and its relevant analysis can better inform the landholder on potential outcomes of high impacting storm events.



**Blueberry Project:**

The Blueberry project in partnership with the Coffs Harbour Regional Landcare has developed drainage and erosion control plans for 7 local BB farmers as part of the 15/16 Contract. One of these projects was selected for implementation. Delivery of additional plans and on ground works for 16/17 contract have not been finalized.