

# Natural disasters: Strategies and responses

## Key issues for the 58th Parliament

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May 2023



## Key points

- Recommendations from inquiries into the NSW bushfires of 2019–20 and the floods of 2022 have influenced reforms which affect the prevention, preparation, response and recovery phases of natural disasters.
- The intensity of natural disasters in recent years has propelled advancements in research and technology, particularly on topics that apply to multiple types of disasters, such as using remote sensing and cultivating community resilience.
- Current government policies acknowledge the benefits of mitigation measures to reduce the impact of natural disasters. Mitigation projects include the Northern Rivers Resilience Initiative which is underway, and Labor’s pre-election announcement of the Western Sydney Floods Resilience Plan.
- The flood and bushfire inquiries supported furthering a risk-based approach to flood planning and development on bushfire prone land. At a National Cabinet meeting in December 2022, the premiers agreed that planning ministers would develop a national standard for considering disaster and climate risk as part of land use planning.
- Housing initiatives after the bushfires and floods responded to the need for temporary accommodation and the reconstruction of permanent housing. Local councils were given greater flexibility to allow temporary caravan parks and camping grounds, and to grant development consent for repair or replacement of dwellings.
- The NSW Reconstruction Authority is a new permanent agency, created by legislation in late 2022. Its responsibilities include coordinating development in disaster-affected areas, rebuilding infrastructure and supporting the recovery of communities.
- The flood inquiries recommended streamlining the application process for financial relief for people affected by disasters. An audit report which found the administration of bushfire grants lacked integrity prompted the new Labor Government to introduce legislation aimed at making the approval process more ethical.

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# 1. Introduction

In the 4 years since the 2019 state election, natural disasters have caused substantial and widespread damage in NSW. In this paper, a natural disaster means a naturally occurring, rapid onset event that causes serious disruption to a community or region.<sup>1</sup> The frequency and geographical extent of these events across the state's 128 local government areas (LGAs) in recent years is illustrated in Table 1. On multiple occasions, around half or more of the LGAs were the subject of a natural disaster declaration.<sup>2</sup>

This paper focuses on 2 types of natural disasters: bushfires and floods. The 'black summer' bushfire season of 2019–20 ran for an unprecedented period between July 2019 and March 2020.<sup>3</sup> The bushfires burnt 5.5 million hectares of the state, caused 26 fatalities and destroyed 2,476 homes.<sup>4</sup>

Heavy rainfall associated with La Niña contributed to major flooding in November 2021 and again in February–April 2022 and July 2022. As a result of the flooding in February, March and July 2022, over 5,000 homes were uninhabitable, nearly 8,000 people were living in emergency accommodation and 9 people died.<sup>5</sup> The flood height in Lismore in February 2022 reached 14.4 metres, breaking previous records.<sup>6</sup> The annual rainfall of Sydney city in 2022 was the highest since records began.<sup>7</sup>

Reflecting the scale and impact of these events, there was an increase in spending on natural disasters in the 2021–22 financial year compared to the previous year. In 2021–22 the budgeted cost for declared natural disasters was \$1.9 billion, compared to \$725 million in 2020–21. Actual expenditure by the state on disaster response increased to \$1.4 billion in 2021–22, up from \$569 million in 2020–21 (an increase of \$815 million or 143%).<sup>8</sup>

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<sup>1</sup> Royal Commission into National Natural Disaster Arrangements, [Report](#), October 2020, p 5; and Resilience NSW, [NSW Disaster Assistance Guidelines](#), 2021, p 7, accessed 19 May 2023. The events listed by these sources include bushfire, earthquake, flood, storm, cyclone, landslide and tsunami, but exclude drought as it is not a rapid event.

<sup>2</sup> In NSW the Minister for Emergency Services is responsible for natural disaster declarations: Resilience NSW, [NSW Disaster Assistance Guidelines](#), 2021, p 7, accessed 19 May 2023.

<sup>3</sup> D Owens and M O'Kane, [Final Report of the NSW Bushfire Inquiry](#), July 2020, p 1.

<sup>4</sup> Audit Office of NSW, [Bushfire Recovery Grants](#), 2023, p 6.

<sup>5</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume One: Summary report](#), July 2022, p 2.

<sup>6</sup> Lismore Council website, [History of Lismore Flood Events, 1870-2022](#), accessed 10 March 2023.

<sup>7</sup> Measured at Observatory Hill, the annual rainfall of 2530mm broke the previous record set in 1950. The records date to 1858: Australian Government, Bureau of Meteorology, [Greater Sydney in 2022](#), 7 February 2023, accessed 10 March 2023.

<sup>8</sup> Audit Office of NSW, [State Finances 2022](#), 22 December 2022, p 24.

**Table 1: Chronology and distribution of natural disaster declarations by local government area in NSW, 2019-2022<sup>9</sup>**

Month and year <sup>10</sup>	Name of declared disaster	LGAs listed (5 or more)
February 2019	Eastern NSW storms	6
July 2019	NSW north coast bushfires	7
August 2019	NSW bushfires	50
September 2019	Sydney and southern highlands storms	6
November 2019	NSW storms	10
January 2020	NSW storms and floods	83 <sup>11</sup>
April 2020 <sup>12</sup>	Western NSW storms and floods	9 <sup>13</sup>
July 2020	NSW storms and floods	8
August 2020	NSW storms and floods	16
October 2020	NSW storms and floods	8
December 2020	NSW storms and floods	19
February 2021	NSW storms and floods	7
March 2021	NSW storms and floods	78
November 2021	NSW severe weather and flooding	61 <sup>14</sup>
January 2022	Southern NSW storms and floods	21
February 2022	NSW severe weather and flooding	62
June 2022	NSW severe weather and flooding	51
August 2022	Southern and central west NSW flooding	28
September 2022	NSW flooding	75 <sup>15</sup>

Source: NSW Government, Department of Premier and Cabinet, [Natural disaster declarations](#) webpage.

In response to these natural disasters 2 independent inquiries were conducted: one into the 2019–20 bushfire season, and one into the February–March 2022 flood event. In addition, the Legislative Council held a committee inquiry into major flooding in 2022 (Box 1). These

<sup>9</sup> The information in Table 1 was compiled from the NSW Government, Department of Premier and Cabinet, [Natural disaster declarations](#) webpage, accessed 13 April 2023. The online listings are grouped into financial years, whereas the above table lists dates within the calendar years of 2019, 2020, 2021 and 2022, for events which occurred in 5 or more Local Government Areas (out of a total of 128 LGAs in NSW). The many disaster declarations that were made for fewer than 5 LGAs are not shown in the table.

<sup>10</sup> The event occurred from the month listed onwards, except where otherwise stated.

<sup>11</sup> This figure excludes Lord Howe Island which is listed in the declaration.

<sup>12</sup> This listing combines 2 separate declarations for 3-4 April and 10-12 April 2020.

<sup>13</sup> The total of 9 LGAs (Bogan, Central Darling, Cobar, Coonamble, Gilgandra, Lachlan, Parkes, Warren and Warrumbungle) is an overlapping combination of the 2 events in April 2020; the declaration for 3-4 April applied to 5 of the LGAs, while the declaration for 10-12 April applied to 6 of the LGAs.

<sup>14</sup> Excludes "Unincorporated Area of NSW".

<sup>15</sup> Excludes "Unincorporated Area".

inquiries supported initiatives in detecting and combatting bushfire and flood events, and their recommendations have influenced the current approach to natural disaster planning and management in NSW.

This paper examines some of the challenges, developments and potential reforms that were canvassed by the inquiries and also traces the implementation of the recommendations.

The issues identified in the inquiries are organised according to the 4 stages of an emergency outlined by the [State Emergency and Rescue Management Act 1989](#) (NSW):<sup>16</sup>

1. **Prevention:** identification of hazards, assessment of threats to life and property and measures to reduce potential loss
2. **Preparation:** arrangements or plans to deal with an emergency or its effects
3. **Response:** combatting an emergency and providing immediate relief
4. **Recovery:** returning an affected community to its proper level of functioning after an emergency.

Discussing the issues within this framework is not intended to imply that an issue is confined to only one stage; issues may cross over into more than one stage.

This paper does not examine the causes of natural disasters, although climate change is referred to as a factor influencing policy formulation. Insurance issues connected with natural disasters are also outside the paper's scope.

Implementation of the recommendations from the 3 NSW inquiries, as well as other actions taken in response to the disasters, is ongoing. The laws referred to in this paper were current at 26 May 2023.

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<sup>16</sup> The stages appear at section 5 and the wording is summarised here.

### Box 1: Key NSW inquiries into natural disasters

#### NSW Bushfire Inquiry

D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, July 2020 (hereafter ‘bushfire inquiry report’)

An independent expert inquiry was conducted into the 2019–20 bushfire season by Dave Owens (a former Deputy Commissioner of Police) and Professor Mary O’Kane (former NSW Chief Scientist and Engineer). The final report was publicly released in August 2020 and made 76 recommendations.<sup>17</sup> All were accepted by the NSW Government and 57.5% were completed by the end of September 2022.<sup>18</sup> As at that date, the Perrottet Government had announced funding of more than \$830 million to address the inquiry’s recommendations.<sup>19</sup>

#### NSW Flood Inquiry

M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022 (‘independent flood report’)

An independent inquiry into the February–March 2022 flood event was conducted by Professor Mary O’Kane and Michael Fuller (former NSW Police Commissioner).<sup>20</sup> The report was delivered in July 2022 (publicly released on 17 August 2022) and made 28 recommendations.<sup>21</sup> The NSW Government supported 6 outright, while 22 were supported in principle with further work required on implementation.<sup>22</sup>

#### NSW Legislative Council Flood Inquiry

Select Committee on the Response to Major Flooding across New South Wales in 2022, *Response to major flooding across New South Wales in 2022*, August 2022 (‘Legislative Council flood report’)

The Legislative Council held a committee inquiry into major flooding in 2022, with the report tabled in August.<sup>23</sup> The report made 37 recommendations; the NSW Government supported 17 outright and 20 in principle.<sup>24</sup>

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<sup>17</sup> D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, 31 July 2020.

<sup>18</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 6. The figure of 57.5% takes into account sub-recommendations.

<sup>19</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 6.

<sup>20</sup> NSW Government, *2022 NSW Flood Inquiry* webpage, accessed 15 March 2023.

<sup>21</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume One: Summary report; Volume Two: Full Report*, July 2022.

<sup>22</sup> *NSW Government Response to the NSW Independent Flood Inquiry*, no date, on *2022 NSW Flood Inquiry* webpage, accessed 15 March 2023.

<sup>23</sup> Parliament of NSW, Legislative Council, *Select Committee on the Response to Major Flooding across New South Wales in 2022*, Inquiry webpage, and *Report*, August 2022.

<sup>24</sup> *NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022*, tabled 9 November 2022.

## 2. Prevention stage

### 2.1 Research and technology

Research and technology contribute to improving the methods of predicting and preparing for natural disasters, and then assessing the extent of the damage and rebuilding after the event. Although advancements in research and technology can affect every stage of a disaster, preventative work is crucial. A selection of research and technology issues are considered below. The selection is not exhaustive and particular attention is paid to developments which apply to multiple types of disasters, such as remote sensing technology. Several projects involve input from Australian Government agencies and will be conducted over a long timeframe.

#### 2.1.1 Research centres

The independent bushfire and flood inquiries both recommended that the government establish NSW as a world centre of disaster research and technology development.<sup>25</sup>

In response to the 2019–20 bushfire season, the NSW Government announced a commitment of \$69.8 million over 4 years to promote research, development and new technology in preparation for bushfires.<sup>26</sup> For example, the Bushfire Response Research and Development Mission fund, which is administered by the Office of the NSW Chief Scientist and Engineer, includes the:

- Bushfire Commercialisation Fund to enable small and medium enterprises to develop and attract private investment for products related to bushfire technologies
- Bushfire Technology Pilots Program to enable companies to field-test and pilot their products and services with frontline NSW bushfire and emergency agencies.<sup>27</sup>

The government also announced funding for the creation of the NSW Bushfire and Natural Hazards Research Centre at a cost of \$8 million over 5 years. The research centre is to be led by Western Sydney University (WSU), with additional input from 5 other universities.<sup>28</sup>

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<sup>25</sup> D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, Recommendation 5 and pp 99-101; M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, Recommendation 2 and pp 73-75. [NSW Government Response to the NSW Independent Flood Inquiry](#) supported Recommendation 2 in principle and referred to bushfire achievements, p 2.

<sup>26</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 8.

<sup>27</sup> NSW Government, Chief Scientist and Engineer website, [Bushfire Response R&D Mission](#) includes links to the [Bushfire Technology Pilots Program](#) and the [Bushfire Commercialisation Fund](#), accessed 25 May 2023.

<sup>28</sup> Western Sydney University, [Western Sydney University to lead NSW Bushfire and Natural Hazards Research Centre](#), 19 January 2023; and Department of Planning and Environment, [Brightest minds to guide disaster response](#), media release, 19 January 2023; accessed 19 May 2023.



The initiative builds on the existing bushfire research of the Hawkesbury Institute for the Environment at WSU.<sup>29</sup>

A national organisation, Natural Hazards Research Australia, was established in July 2021 with funding for 10 years provided by the Australian Government. Natural Hazards Research Australia continues the work of its predecessor organisation, the Bushfire and Natural Hazards Cooperative Research Centre.<sup>30</sup>

### 2.1.2 Other bushfire projects and technology

The bushfire inquiry report recommended that the government invest in long-term ecosystem and land management monitoring, modelling, forecasting and evaluation (Recommendation 36).<sup>31</sup> The government response referred to several research projects including the Applied Bushfire Science Program which is working on 'establishing the foundations of a long-term ecosystem and land management framework.'<sup>32</sup> In addition to collecting environmental information and data, this program will engage with Aboriginal participants to recognise their cultural knowledge relating to bushfires.<sup>33</sup>

An Audit Office of NSW report in 2023 examined new technology used by the NSW Rural Fire Service (RFS) and the performance of the RFS fleet. Developments in 2022 that were referred to in the report and the RFS response include:<sup>34</sup>

- Implementation of the Athena artificial intelligence technology platform which uses data filtering methods, risk modelling and machine-learning technologies to predict the location and behaviour of fires
- Use of drones to supplement aerial firefighting, assisting with livestreaming of bushfire conditions, obtaining thermal data and supporting situational awareness of firefighters
- Night trials using helicopters for fire-bombing operations and helicopters equipped with infrared technology to identify potential dangers at night during emergencies

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<sup>29</sup> Previous research projects included developing a computer tool to assess the effectiveness of prescribed controlled burning: [Hawkesbury Institute for the Environment](#) website, "Answering Burning Questions", accessed 19 May 2023.

<sup>30</sup> The resources on the [Natural Hazards Research Australia](#) website include the report, [Understanding the Black Summer bushfires through research](#), January 2023. The report was based on findings of the [Bushfire and Natural Hazards Cooperative Research Centre](#), whose [Inquiries and Reviews Database](#) can still be accessed (as at 26 May 2023).

<sup>31</sup> D Owens and M O'Kane, [Final Report of the NSW Bushfire Inquiry](#), 2020, pp 239-247.

<sup>32</sup> Resilience NSW, [NSW Bushfire Inquiry 2020: Progress Report](#), July to September 2022, p 28.

<sup>33</sup> NSW Department of Planning and Environment, [Applied Bushfire Science Program](#) webpage, accessed 19 May 2023.

<sup>34</sup> Audit Office of NSW, [Planning and managing bushfire equipment](#), 27 February 2023, pp 7, 20. The RFS response is at Appendix 1.

- Examination of the design of fire vehicles to improve the protection of firefighters travelling in them by the Monash University Accident Research Centre.

While noting these developments, the report also concluded there were shortcomings in planning and research by the RFS in relation to the firefighting fleet, including the lack of an overarching strategy to guide the planning, procurement and distribution of the fleet. In particular, the RFS had not changed its approach since the 2019–2020 season to planning for, or assessing, the operational capabilities of the fleet. It had not conducted future-focused fleet research or planning into technologies that matched fleet capabilities to emerging fire risks.<sup>35</sup> The report found there was a strong case for more research into new fleet technologies, as distinct from replacing ageing firefighting assets with the same asset types or upgrading the older fleet assets with new safety features.<sup>36</sup>

The Audit Office recommended that by the end of 2023, the RFS should:

...develop a fleet enhancement framework and strategy that is informed by an assessment of current fleet capability to respond to fire incidents, and research into the most appropriate technologies and appliances to address emerging and future fire risks across NSW.<sup>37</sup>

### 2.1.3 Remote sensing technology

Remote sensing technology has application in both bushfire and flood contexts. For bushfires, it involves sensors in locations such as towers, drones and aircraft to collect and process data and spatial information to assess fire risk, conditions, extent and behaviour.<sup>38</sup> The bushfire inquiry report recommended that the use of remote sensing technology should be maximised and accelerated (Recommendation 4).<sup>39</sup>

The government responded that this recommendation was achieved in 2022 through the RFS trials of Cessna Citation V aircraft equipped with thermal imaging systems which have superior ability to scan large areas and detect and track bushfires, as well as the participation of the RFS in Forestry Corporation NSW trials in early fire and smoke detection using camera and satellite systems.<sup>40</sup>

The independent flood inquiry report confirmed that remote sensing technology can be used to collect information across each phase of a flood:

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<sup>35</sup> Audit Office of NSW, [Planning and managing bushfire equipment](#), 27 February 2023, p 5.

<sup>36</sup> Audit Office of NSW, [Planning and managing bushfire equipment](#), 27 February 2023, p 15.

<sup>37</sup> Audit Office of NSW, [Planning and managing bushfire equipment](#), 27 February 2023, Recommendation 1, p 10. The RFS's response to Recommendation 1 is at p 39.

<sup>38</sup> D Owens and M O'Kane, [Final Report of the NSW Bushfire Inquiry](#), 2020, p 87.

<sup>39</sup> D Owens and M O'Kane, [Final Report of the NSW Bushfire Inquiry](#), 2020, p 98.

<sup>40</sup> Resilience NSW, [NSW Bushfire Inquiry 2020: Progress Report](#), July to September 2022, p 8. For further information on the Citation aircraft see: NSW Rural Fire Service, [Latest tech takes to the air](#), *Bushfire Bulletin*, Vol 44(1), 2022, p 24.

- **Pre-flood:** to inform preparations for potential flood events, for example, through monitoring of sub-surface water levels and satellite sensing for large-scale weather and terrain changes
- **During a flood:** includes the use of meteorological, spatial and sensory information to trigger a warning of an emergency, for example, flow sensors to monitor sudden surges of flood waters and thermal imaging for rescue assistance
- **Post-flood:** includes verifying flood extent and assessing damage, for example, using aerial imaging to analyse structural and environmental damage.<sup>41</sup>

The inquiry heard of difficulties in using remote sensing technology during the floods, including the weather affecting the collection of aerial imagery.<sup>42</sup> However, the inquiry noted that progress had been made with remote sensing, including work by:<sup>43</sup>

- **NSW Department of Customer Service Spatial Services team:** the Spatial Services Emergency Information Coordination Unit maintains a data sharing system on behalf of the emergency management sector. A spatial information library combines data from more than 200 source agencies. The data is 'bundled' into an interface which generates maps, produces situation reports and allows users to undertake spatial analysis for activities like evacuation, search and rescue. The spatial data encompasses all areas of emergency planning, response and recovery, and is used by a wide range of state agencies.<sup>44</sup>
- **NSW Smart Sensing Network:** this network formed in 2016 and is funded by the NSW Government.<sup>45</sup> Representatives from government agencies, industry and academia apply smart sensing to a broad range of areas and develop solutions to challenges in fields such as environment, energy, resources, agriculture, health and transport. In August 2022 the network hosted a workshop at Western Sydney University to explore smart sensing opportunities for flood prediction and response, with a view to generating collaborative projects.<sup>46</sup>

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<sup>41</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, p 67.

<sup>42</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 68-69.

<sup>43</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, p 71.

<sup>44</sup> Department of Customer Service [Spatial Services](#) website, particularly the [Emergency management](#) webpage, accessed 19 April 2023.

<sup>45</sup> [NSW Smart Sensing Network](#) website, accessed 19 April 2023.

<sup>46</sup> NSW Smart Sensing Network, Smart Sensing for Flooding Codesign Workshop, [Summary Report](#), September 2022, accessed 4 May 2023.

#### 2.1.4 Rain and river gauges

The independent flood inquiry noted that the rain and river gauge network is a 'patchwork' of NSW, Australian Government and local government gauges, rather than an integrated network for the primary purpose of flood monitoring. The inquiry found that the design of the current rain and river gauge network is not fit for purpose, with issues concerning their location, ownership, maintenance and coordination.

The inquiry advocated that the river gauge network needs to be significantly enhanced, particularly with better sensor intelligence for monitoring local flash flooding, and appropriately maintained, preferably under leadership from the Bureau of Meteorology.<sup>47</sup> Consequently, the inquiry recommended that the NSW Government work with the Australian Government to improve the rain and river gauge network (Recommendation 1).<sup>48</sup>

Supporting the recommendation in principle, the government responded that the Department of Planning and Environment and Department of Regional NSW would work with the Bureau of Meteorology on the maintenance of gauges and transfer some gauges to the Commonwealth.<sup>49</sup>

The federal Minister for the Environment and Water, Tanya Plibersek, announced in May 2023 that the Australian Government would spend \$236 million over the next decade to create a national flood warning network, involving the purchase and upgrade of flood gauges in disaster prone areas. The Bureau of Meteorology owns about a third of Australia's flood gauges and the rest will be modernised and brought under its control, starting with Queensland which is the most disaster-affected state.<sup>50</sup>

#### 2.1.5 Community resilience

Another disaster-related area of research is community resilience. The Australian Disaster Resilience Index is a tool for assessing the resilience of communities to natural hazards and is designed to provide input into policy, strategic planning and community engagement activities at national, state and local government levels.<sup>51</sup> The capacities for disaster resilience are made up of 8 themes (called subindex factors) that capture different dimensions of disaster resilience such as emergency services, planning and the built environment, and social and community engagement. All of the areas in NSW classified as having a high capacity for disaster resilience are in metropolitan and inner regional

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<sup>47</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 69, 72.

<sup>48</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 72-73.

<sup>49</sup> *NSW Government Response to the NSW Independent Flood Inquiry*, p 2.

<sup>50</sup> L Nothling and L Waterson, [Flood gauges to be upgraded as part of \\$263 million disaster warning network](#), ABC news online, 15 May 2023.

<sup>51</sup> Australian Disaster Resilience Index [website](#), accessed 26 April 2023. The index was developed by the University of New England and the Bushfire and Natural Hazards Cooperative Research Centre.

locations; none of the high capacity areas is in an outer regional, remote or very remote location.<sup>52</sup>

The Sydney Environment Institute at the University of Sydney is undertaking research on strengthening community resilience and preparation for ongoing climate disasters.<sup>53</sup> The research is funded by a project grant through the NSW Disaster Risk Reduction Fund.<sup>54</sup> One of the projects, titled 'Self-organising Systems to Minimise Future Disaster Risk', focusses on the organisation of spontaneous community networks of support in the wake of shock climate events. These informal self-organising networks function mostly with no official institutional support from councils, state, or federal governments.<sup>55</sup> The project addresses 2 large risks which can undermine spontaneous community responses to disasters in the future, including:

- Loss or lack of use of community knowledge in the immediate aftermath of disasters, or in preparation for future shock events
- Loss of community faith and support for local and state institutions, such as the community anger at the federal and state governments after both the black summer bushfires and recent flood events.

## 2.2 Mitigation measures

Mitigation involves measures taken in advance of disasters to reduce their impacts.<sup>56</sup> These measures can apply at a policy level as well as to physical infrastructure such as building a levee.

Supporters of investment in mitigation include the insurance industry and scientific organisations. The Insurance Council of Australia (ICA) has called on states to prioritise the protection of communities most exposed to extreme weather risk. The ICA advocates that improved policy settings, particularly at a local and state level, are needed to ensure better

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<sup>52</sup> Natural Hazards Research Australia, Australian Disaster Resilience Index, [Map and data](#), report generated on 5 May 2023. The report uses Australian Bureau of Statistics classifications, specifically Statistical Area Level 2 (SA2). In NSW there are 517 SA2s; with 67 of low capacity, 267 of moderate capacity and 183 of high capacity for disaster resilience. SA2 differs from a local government area and is designed around a single gazetted suburb or rural locality. However in major cities, suburb size is variable and smaller suburbs may be clustered together or large suburbs may be broken up: ABS website, [Statistical Area Level 2](#), accessed 5 May 2023.

<sup>53</sup> Sydney Environment Institute, [Climate disaster and adaptation](#) webpage, accessed 5 May 2023.

<sup>54</sup> The Disaster Risk Reduction Fund was established in 2020 under the National Partnership Agreement on Disaster Risk Reduction (an agreement between the Commonwealth, States and Territories), with joint NSW-Australian Government funding: NSW Government, [Disaster Risk Reduction Fund](#) webpage, accessed 16 March 2023.

<sup>55</sup> Sydney Environment Institute, [Self-organising Systems to Minimise Future Disaster Risk](#) webpage, accessed on 23 February 2023.

<sup>56</sup> Productivity Commission, [Natural Disaster Funding Arrangements](#), 2014, Volume 1, p 56.

land use planning decisions so that in the future communities no longer require costly investment in mitigation.<sup>57</sup>

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) cites evidence demonstrating that the benefits of resilient infrastructure outweigh the costs of rebuilding, even if this entails more initial outlay.<sup>58</sup> A team at the CSIRO has devised an approach to infrastructure development called Enabling Resilience Investment which builds risk mitigation into future investments.<sup>59</sup> Other CSIRO research includes a report in response to the 2019–20 bushfires that recommends methods to ‘embed resilience’ into infrastructure zoning and development.<sup>60</sup>

### 2.2.1 Mitigation in state policies

A number of broad or overarching NSW Government policies and strategies acknowledge the importance of mitigation measures as fostering resilience to natural disasters.

Examples include:

- **State Infrastructure Strategy 2022–2042:** refers to the importance of investing in asset maintenance, better replacement of assets (instead of ‘like-for-like’ replacement), back-up systems and contingencies, resilience assets (infrastructure assets specifically designed to improve resilience to shock events), and resilience initiatives. Examples include the Hawkesbury-Nepean Valley Flood Risk Management Strategy which combines ‘infrastructure interventions’ and non-infrastructure actions.<sup>61</sup>
- **NSW Critical Infrastructure Resilience Strategy, 2018:** promotes the resilience of essential services through improvements to infrastructure resilience (resilience built into assets, networks and systems), organisational resilience (organisations, personnel and processes supporting infrastructure) and community resilience (role of community in fostering its own resilience and contributing to critical infrastructure resilience).<sup>62</sup>

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<sup>57</sup> Insurance Council of Australia, *Insurance Catastrophe Resilience Report 2021-22*, p 19. See also Insurance Council of Australia, *Accelerating Climate Action: Policy recommendations for government*, 2022.

<sup>58</sup> R Wise, *The benefits of proactively planning for infrastructure resilience*, ECOS (CSIRO magazine), Issue 295 – Resilience, 13 October 2022, citing research by the Queensland Reconstruction Authority.

<sup>59</sup> Further information on this approach is available at the [Enabling Resilience Investment](#) webpage, accessed 22 February 2023.

<sup>60</sup> CSIRO, *Climate and Disaster Resilience*, 2020, pp 11-12 and Recommendation 24. Other research projects are referred to on the CSIRO [Disaster resilience](#) webpage, accessed 22 February 2023.

<sup>61</sup> NSW Government, *State Infrastructure Strategy 2022-2042*, May 2022, Chapter 5: Embed reliability and resilience, pp 82-94 and Recommendations 16-21.

<sup>62</sup> NSW Department of Justice, Office of Emergency Management, *NSW Critical Infrastructure Resilience Strategy*, 2018, pp 9, 12-17.

- **NSW Climate Change Adaptation Strategy, 2022:** acknowledges that climate change can increase the intensity or frequency of natural disaster events.<sup>63</sup> The strategy sets a priority of embedding climate change adaptation in NSW Government decision making, policies and plans.<sup>64</sup> Examples provided of action on climate change adaptation include flood risk management, such as the Hunter Valley Flood Mitigation Scheme.<sup>65</sup>

The functions of the NSW Reconstruction Authority under the [NSW Reconstruction Authority Act 2022](#) include leading mitigation activities and developing and implementing methodologies for mitigation activities.<sup>66</sup> One of the key priorities is the requirement for the authority to prepare a state disaster mitigation plan, to be approved by the minister.<sup>67</sup> The purpose of the plan is to provide guidance about the mitigation of disasters in NSW, and it is to address matters including:

- Identifying potential strategies and actions for reducing the impact of disasters
- Assessing the impacts of climate change on disasters
- Determining priority projects for regions to mitigate the impact of disasters
- Monitoring and reporting on implementation of the strategies and actions within the plan.<sup>68</sup>

The NSW Reconstruction Authority (or another ‘relevant entity’) will also be required to prepare a disaster adaptation plan, stating what specific projects, strategies or actions the authority/relevant entity will undertake to prevent or minimise the impact of disasters.<sup>69</sup> The Act requires councils and other planning authorities to have regard to the disaster adaptation plan and the state disaster mitigation plan, and also for the NSW Reconstruction Authority to ensure that it exercises its powers (such as coordinating reconstruction works) consistently with the disaster mitigation and adaptation plans.<sup>70</sup>

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<sup>63</sup> NSW Government, [NSW Climate Change Adaptation Strategy](#), June 2022, pp 6, 7.

<sup>64</sup> NSW Government, [NSW Climate Change Adaptation Strategy](#), June 2022, Priority 4, from p 30.

<sup>65</sup> The mitigation scheme involves a series of levees, floodgates and drains that reduce potential damage by controlling the velocity, direction and depth of floodwaters. This takes into account the prospect that flooding will continue as the climate changes, thereby helping Hunter Valley communities and ecosystems adapt to climate change: p 17.

<sup>66</sup> Section 10(1)(a).

<sup>67</sup> Section 10(1)(e) and section 30. The ‘status information’ at the start of the Act confirms the responsible ministers are the Minister for Emergency Services and the Minister for Planning and Public Spaces.

<sup>68</sup> Section 31. See also the NSWRA website, [Related questions](#), accessed 17 March 2023.

<sup>69</sup> Sections 35 and 36. A ‘relevant entity’ is defined to mean a government agency, a local council, a state-owned corporation, or other entity prescribed by the regulations: Schedule 4 Dictionary.

<sup>70</sup> Section 38 and clause 7 of the [NSW Reconstruction Authority Regulation 2023](#). See also NSW Reconstruction Authority, [NSW Reconstruction Authority Regulation – Regulatory Impact Statement](#), April 2023, p 17.

The Second Reading Speech stated that the requirement to prepare a state disaster mitigation plan and disaster adaptation plans:

...will ensure that disaster mitigation and prevention strategies are embedded into strategic land use plans at the local, regional and State levels. The alignment between planning for disasters and planning for places will be an integral part of how we design our cities and towns into the future.<sup>71</sup>

The NSW Reconstruction Authority is discussed further in this paper in section 5.2.

### **2.2.2 Mitigation through road infrastructure and evacuation access**

Investing in road infrastructure was referred to in the flood and bushfire inquiries. Road infrastructure also relates to the issue of evacuation, which is relevant at multiple stages of emergency management. For convenience in this paper, most of the discussion of evacuation routes and modelling will appear here under the prevention stage, being relevant to reducing loss of life or property, although evacuation plans are also relevant to the preparation stage. Evacuation centres will be discussed under the response stage, as they are a form of immediate relief in an emergency.

The flood and bushfire inquiries made several recommendations relating to road infrastructure and evacuation access. The bushfire inquiry report discussed road access in the context of risk assessment, with reference to bushfire risk management plans.<sup>72</sup> These plans are prepared by local bushfire management committees and identify community assets (such as schools and hospitals) at risk of bushfire, as well as outlining a 5-year program of treatments (such as hazard reduction burning and emergency planning).<sup>73</sup> The bushfire inquiry recommended development of a formal bushfire risk assessment process for all state roads to identify high-risk communities where access will be affected in the event of a fire; and auditing bushfire risk management plans for the inclusion of critical road infrastructure (Recommendation 31). The government response stated that these concerns were met during 2022 by the development of a bushfire risk assessment process to identify high-risk communities, as well as the auditing and updating of bushfire risk management plans to identify critical road infrastructure and alternative route options in the event of road closures.<sup>74</sup>

Recommendation 26 of the independent flood inquiry advocated that the government develop a state-wide road evacuation plan and identify communities at high risk, such as

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<sup>71</sup> Legislative Assembly, Hansard, NSW Reconstruction Authority Bill, [Second Reading Speech](#), Minister for Planning and Minister for Homes, 9 November 2022.

<sup>72</sup> D Owens and M O'Kane, [Final Report of the NSW Bushfire Inquiry](#), 2020, pp 208-209, 213.

<sup>73</sup> NSW Government, [Bushfire Management Committee Handbook](#), 2020, p 9. Local bushfire risk management plans are available on the NSW RFS website, [Bushfire Risk Management Plans](#), accessed 5 May 2023.

<sup>74</sup> Resilience NSW, [NSW Bushfire Inquiry 2020: Progress Report](#), July to September 2022, pp 24, 25.



rural communities connected by a single road.<sup>75</sup> Recommendation 13 of the Legislative Council flood inquiry was that the NSW Government work with local government to identify alternative routes to vulnerable roads, and that state and federal governments fund construction of these routes to improve evacuation and access in times of disaster.<sup>76</sup> In response, referring to both recommendations, the NSW Government affirmed it would work with local councils and affected communities to improve road infrastructure planning and protection from hazards, and that Transport for NSW would continue to prioritise upgrades where alternative evacuation points are limited.<sup>77</sup> Recommendation 26 was also referred to in the funding announcement in December 2022 that allocated \$6.5 million to enhance Hawkesbury-Nepean Valley flood evacuation modelling.<sup>78</sup>

In July 2022, Labor announced the Western Sydney Floods Resilience Plan, which included committing \$200 million to identify, plan and commence work on critical evacuation roads and bridges across Western Sydney. Labor leader Chris Minns stated that selected road upgrades would be undertaken in consultation with local councils and other key stakeholders to have the most significant impact, and that the funding would need to be spent within 2 years to ensure immediate action to protect communities.<sup>79</sup>

### 2.2.3 Flood mitigation policies

The NSW Government's flood prone land policy sits within the Flood Risk Management Manual, which was updated in 2022. The primary objective of the policy:<sup>80</sup>

...is to reduce the impact of flooding and flood liability on communities and individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods, utilising ecologically positive methods wherever possible.

To achieve this objective, the policy promotes 'a high government priority for flood risk mitigation programs', although it notes that the 'management of flood prone land is, primarily, the responsibility of councils.' The policy also supports a 'flexible merit-based approach to be followed by councils in dealing with development or redevelopment of flood prone land', so that proposals are not 'unreasonably disallowed or restricted'.<sup>81</sup>

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<sup>75</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 307-311.

<sup>76</sup> Legislative Council, *Response to major flooding across New South Wales in 2022*, August 2022, p 63.

<sup>77</sup> *NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022*, p 3.

<sup>78</sup> Premier of NSW et al, *NSW Government invests \$200 million to implement flood inquiry recommendations*, media release, 14 December 2022.

<sup>79</sup> NSW Labor Party, *NSW Labor's \$225 million Western Sydney flood resilience plan to minimise future flood events*, media release, July 2022, accessed 9 April 2023.

<sup>80</sup> *Flood Risk Management Manual*, 2022, p 1.

<sup>81</sup> *Flood Risk Management Manual*, 2022, pp 1, 2.

An updated Flood Prone Land Package<sup>82</sup> commenced in July 2021 including a:

- New planning circular on flooding in land use planning – outlining some of the statutory requirements<sup>83</sup>
- Guideline on flooding in land use planning – for councils regarding flood-related development controls.<sup>84</sup>

The updated flood package aims to assist councils to better manage flood risk, whereas previously the 1-in-100 year flood standard allowed development to occur in floodplains that posed a risk to the physical and economic safety of communities.<sup>85</sup>

#### 2.2.4 Flood mitigation measures such as modelling and levees

The Western Sydney Floods Resilience Plan announced by Labor in July 2022 included flood mitigation measures such as \$24 million to build new levees to protect communities from large scale flooding at Peachtree Creek, McGraths Hill and Pitt Town.<sup>86</sup>

The Northern Rivers Resilience Initiative, which is supported by the National Emergency Management Agency (NEMA) and the CSIRO, includes flood modelling and other mitigation projects. The first phase, which has been completed, involved the CSIRO conducting a review and submitting 2 reports to NEMA in relation to prioritising projects in the Northern Rivers and analysing the flood event of February–March 2022.<sup>87</sup> A longer process will develop modelling for the purpose of recommending long-term flood mitigation actions for the Richmond River Catchment, with a report and ‘fully calibrated model’ due by December 2024.<sup>88</sup>

Australian Government funding of \$150 million for the Northern Rivers Resilience Initiative ‘will be signed over to the NSW Government to manage the agreed projects.’<sup>89</sup> In February

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<sup>82</sup> NSW Government, [Flood Prone Land Package](#) webpage, accessed 17 March 2023. See also commentary on the Flood Prone Land Package in M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 270-71.

<sup>83</sup> Department of Planning, Industry and Environment, [Planning circular \(PS 21-006\) Considering flooding in land use planning: guidance and statutory requirements](#), accessed 10 May 2023.

<sup>84</sup> Department of Planning, Industry and Environment, [Considering flooding in land use planning - guideline](#), July 2021, accessed 10 May 2023.

<sup>85</sup> NSW Department of Planning, Industry and Environment, [Flood-prone land package: Summary of submissions from public exhibition](#), July 2021, p 1, accessed 10 May 2023.

<sup>86</sup> NSW Labor Party, [NSW Labor’s \\$225 million Western Sydney flood resilience plan to minimise future flood events](#), media release, July 2022, accessed 9 April 2023.

<sup>87</sup> The CSIRO reports are: T Weber et al, [Rapid project prioritisation for flood resilience in the Northern Rivers region](#), November 2022; and J Lerat et al, [Characterisation of the 2022 floods in the Northern Rivers region](#), November 2022. Both reports appear on the National Emergency Management Agency, [Northern Rivers Resilience Initiative](#) webpage, accessed 20 April 2023.

<sup>88</sup> Australian Government, National Emergency Management Agency, [Northern Rivers Resilience Initiative](#) webpage, accessed 22 May 2023. At that date, the webpage stated: “Scenario testing will take place in 2025”.

<sup>89</sup> H Gilmore and C Naylor, [High-tech defence system to protect flood weary Northern Rivers](#), *Sydney Morning Herald*, 23 February 2023.

2023 the first 16 projects in the initiative, with a total of \$50 million in funding, were publicly announced. The projects involving mitigation measures included upgrades to pumps and pump stations in Lismore, a new pump system in East Murwillumbah and box culverts to improve drainage in Grafton. Some projects covered the 7 LGAs of the Northern Rivers, including a regional assessment of evacuation routes and options for infrastructure upgrades.<sup>90</sup> The timing of the next group of projects and the allocation of the remaining \$100 million will be indicated on the Northern Rivers Resilience Initiative website.<sup>91</sup>

### 2.2.5 Debate about raising Warragamba Dam for flood mitigation

Raising the wall of Warragamba Dam for flood mitigation purposes in the Hawkesbury-Nepean Valley has been a controversial proposal that has prompted political and community debate in recent years, particularly in the context of flooding in 2021 and 2022.

The Perrottet Government had planned to raise the dam wall by 14 metres, to temporarily store floodwaters upstream and release them in a controlled manner. The government intended to seek 50% funding for the project from the Australian Government.<sup>92</sup>

Some of the milestones in the project in recent years were:<sup>93</sup>

- January 2019: Hawkesbury-Nepean Flood Risk Management Strategy Taskforce published an evaluation that recommended raising the dam wall<sup>94</sup>
- September 2021: Environmental impact statement (EIS) was released for public consultation<sup>95</sup>
- October 2021: Interim report of the Legislative Council Select Committee on the Proposal to Raise the Warragamba Dam Wall expressed concerns about environmental issues and the consent of Indigenous people<sup>96</sup>

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<sup>90</sup> Australian Government, National Emergency Management Agency, [First projects announced under northern rivers resilience initiative](#), Joint media release (with Paul Toole MP), 23 February 2023.

<sup>91</sup> Australian Government, National Emergency Management Agency, [Northern Rivers Resilience Initiative](#) webpage, accessed 22 May 2023. At that date the website stated that the remaining \$100 million in mitigation and resilience projects would be announced “in due course”.

<sup>92</sup> T Rabe, ‘[People before plants](#)’: NSW government charges ahead with dam wall raising, *Sydney Morning Herald*, 5 October 2022, accessed 3 February 2023.

<sup>93</sup> For further background on the project see: C Gelling, [Operating Warragamba Dam for flood mitigation: current legal and regulatory barriers](#), e-brief 3/2022, NSW Parliamentary Research Service, November 2022.

<sup>94</sup> Infrastructure NSW, Hawkesbury-Nepean Flood Risk Management Strategy, [Taskforce Options Assessment Report](#), January 2019.

<sup>95</sup> SMEC on behalf of WaterNSW, [Environmental Impact Statement – Warragamba Dam Raising](#), Chapter 4 Project Development and Alternatives, 10 September 2021.

<sup>96</sup> Legislative Council Select Committee on the Proposal to Raise the Warragamba Dam Wall, [Interim report](#), October 2021. The committee recommended that the proposal not proceed if it could not maintain the integrity of the Blue Mountains World Heritage Area (Recommendation 9) and if Aboriginal parties did not give consent (Recommendation 11); and that the NSW Government implement flood mitigation strategies and planning policies to reduce the number of people, homes and businesses at risk from future catastrophic flooding in the

- October 2022: The wall raising proposal was declared to be critical state significant infrastructure, to streamline the assessment process and give the Minister for Planning final approval of the project<sup>97</sup>
- November 2022: WaterNSW's preferred infrastructure report outlined benefits of the project such as a significant reduction in the extent of major flood events and the impact on residential properties, as well as improved evacuation opportunities. However, it noted that raising the wall had the potential to diminish environmental values and cause substantial impact to highly significant rock art sites<sup>98</sup>
- 12 December 2022: Deadline for community submissions to WaterNSW's report
- March 2023: Prior to the state election it was reported that the Department of Planning and Environment considered that WaterNSW had inadequately responded to concerns about the impact of raising the dam on cultural heritage, biodiversity risk assessments and international obligations under the World Heritage Convention and the Blue Mountains World Heritage listing.<sup>99</sup>

In opposition, NSW Labor did not support raising the wall of Warragamba Dam. In July 2022, Labor leader Chris Minns expressed a preference for lowering the maximum capacity of the dam's storage (that is, lowering the maximum water level), while ensuring the replacement of any lost capacity in drinking water.<sup>100</sup>

In pre-election costings, the Parliamentary Budget Office reported an estimated cost of construction of \$1.95 billion to raise the wall by 14 metres, based on information from Infrastructure NSW.<sup>101</sup>

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Hawkesbury Nepean Floodplain (Recommendation 4). The [Government response](#), March 2022, stated with regard to Recommendation 4 that the Hawkesbury-Nepean Valley Flood Risk Management Strategy would complement the wall-raising (pp 5-6). The Government response in relation to Recommendation 9 referred to the EIS and other reports (pp 8-9); and in relation to Recommendation 11 referred to consultation with registered Aboriginal parties (pp 9-10).

<sup>97</sup> NSW Department of Planning and Environment, [Warragamba Dam proposal declared Critical State Significant Infrastructure](#), media release, 5 October 2022, accessed 3 February 2023; and J Kidd, [NSW Premier Dominic Perrottet declares raising Warragamba Dam wall a 'critical' project to fund](#), ABC News online, 5 October 2022.

<sup>98</sup> WaterNSW, [Preferred Infrastructure Report](#), November 2022, p 108. The purpose of the preferred infrastructure report is to describe changes to the project since the public exhibition of the EIS and to respond to public submissions and to issues raised by the Department of Planning and Environment.

<sup>99</sup> M Maddison, [Warragamba Dam raising in jeopardy after agency response fails on several fronts](#), *The Australian*, 6 March 2023.

<sup>100</sup> NSW Labor Party, [NSW Labor's \\$225 million Western Sydney flood resilience plan to minimise future flood events](#), media release, July 2022, accessed 9 April 2023.

<sup>101</sup> Parliamentary Budget Office, 2023 ALP election policy costings, [Cancel Warragamba dam wall raising: C726 Costing](#), 20 March 2023, accessed 18 May 2023.

In April 2023, the Minister for Water, Rose Jackson, stated that the Labor government would not proceed with the project and instead would build levees and improve evacuation routes and emergency communications in the Hawkesbury-Nepean Valley.<sup>102</sup>

In May 2023, Premier Chris Minns stated that the dam may require remediation works due to ‘geotechnical risks’, leading to media reports that such work could potentially affect the height of the wall.<sup>103</sup>

## 2.3 Enhancing the planning system

### 2.3.1 Current NSW planning laws

The current planning framework in NSW refers to natural hazards in legislation, instruments and policies, including from a prevention or mitigation perspective. A selection of provisions that apply to bushfires and floods are summarised in Table 2.

**Table 2: Planning framework relating to natural disasters in NSW**

Statute, instrument or policy	Examples of provisions
<b>Bushfires</b>	
<a href="#">Rural Fires Act 1997</a>	Objectives of the Act (section 3) include prevention and mitigation of bushfires Part 3: local bushfire risk management plans set out strategies to reduce the risk of bushfires towards community assets Part 4, section 100B: authorises some development on bushfire prone land
<a href="#">Planning for Bush Fire Protection (2019)</a>	This guide applies to land designated as bushfire prone land and provides guidance for councils, planners and developers on: <ul style="list-style-type: none"> <li>• Strategic land-use planning to ensure that new development is not exposed to high bushfire risk</li> <li>• Creating new residential and rural residential subdivision allotments</li> <li>• Special fire protection purpose developments (occupied by at-risk members of the community such as nursing homes)</li> <li>• Bushfire protection measures for new buildings</li> <li>• Upgrading and maintaining existing development</li> </ul>
<a href="#">Environmental Planning and Assessment Act 1979</a>	Section 4.14: Development consent for development on bush fire prone land Section 10.3: Planning certificates – relevant matters are under the regulation (see below)

<sup>102</sup> L Chung, ‘Big weight off the shoulders’: Warragamba Dam wall-raising shelved, *Sydney Morning Herald*, 19 April 2023.

<sup>103</sup> P Hannam, Warragamba Dam walls may need to be raised for ‘safety reasons’ despite Labor’s vow to drop plan, *The Guardian*, 16 May 2023.

Statute, instrument or policy	Examples of provisions
<a href="#">Environmental Planning and Assessment Regulation 2021</a>	<p>Schedule 2, clause 11: Matters required to be specified in a planning certificate include a statement if the land is designated as bushfire prone land by the NSW RFS Commissioner</p> <p>Schedule 2, clause 10: Requires the planning certificate to state whether any of the land is affected by a council (or other public authority) policy that restricts the development of the land due to the likelihood of bushfire (and other events besides flooding)</p> <p>Part 14, clause 272: Development that is excluded from bushfire prone land requirements</p>
<b>Floods</b>	
<a href="#">Environmental Planning and Assessment Act 1979</a>	<p>Section 4.15: Matters for consideration in determining a development application include a development control plan (with a council flood policy, flood study or floodplain risk management study attached)</p> <p>Section 10.7: planning certificates – relevant flood-related matters to be specified in the planning certificate are under the regulation</p>
<a href="#">Environmental Planning and Assessment Regulation 2021</a>	<p>Schedule 2, clause 9: matters required to be specified in a planning certificate include if the land is subject to flood-related development controls</p>
<p>Flood Prone Land Policy (within <a href="#">Flood Risk Management Manual</a>, 2022)<sup>104</sup></p>	<p>Presents general principles and a process for floodplain risk management in NSW</p>
<a href="#">Flood Prone Land Package</a>	<p>The package includes:</p> <ul style="list-style-type: none"> <li>• <a href="#">Standard Instrument (Local Environmental Plans) Amendment (Flood Planning) Order 2021</a>, with a 'flood planning' clause that councils are required to use in their Local Environmental Plan<sup>105</sup></li> <li>• <a href="#">Considering flooding in land use planning - guideline</a> – guidance for councils</li> <li>• <a href="#">Planning circular (PS 21-006)</a> about matters to be specified in a planning certificate issued under section 10.7 of the EP&amp;A Act for flood prone land</li> </ul>
<b>General relevance</b>	
<a href="#">Environmental Planning and Assessment Act 1979</a>	<p>Part 3 authorises the system of regional strategic plans, district strategic plans and local strategic planning statements (as described below)</p>
<a href="#">Greater Cities Commission Act 2022</a>	<p>The principal objectives of the Greater Cities Commission include encouraging development that is resilient, including in relation to climate change, and development that takes into account natural hazards: section 9(e)</p>

<sup>104</sup> The [Flood Risk Management Manual](#), 2022, replaces the [Floodplain Development Manual](#), 2005, as the NSW Government manual relating to the management of flood liable land.

<sup>105</sup> [Standard Instrument \(Local Environmental Plans\) Amendment \(Flood Planning\) Order 2021](#) inserted clauses 5.21 and 5.22 into the [Standard Instrument \(Local Environmental Plans\) Order 2006](#).

Statute, instrument or policy	Examples of provisions
<a href="#">Greater Sydney Region Plan</a> (2018)	Strategic policy prepared by the Greater Sydney Commission that sets a 40-year vision (to 2056) to manage growth and change for Greater Sydney in the context of social, economic and environmental matters. Relevant objectives include objective 37: exposure to natural and urban hazards is reduced.
District Plans (2018): <ul style="list-style-type: none"> <li>• <a href="#">Western City District Plan</a></li> <li>• <a href="#">Central City District Plan</a></li> <li>• <a href="#">Eastern City District Plan</a></li> <li>• <a href="#">North District Plan</a></li> <li>• <a href="#">South District Plan</a></li> </ul>	These 5 plans set out a 20-year vision and give guidance on implementing the Greater Sydney Region Plan across Greater Sydney's 5 districts. Consistent with the region plan, the district plans include a planning priority to adapt to the impacts of urban and natural hazards and climate change. Some district plans address specific hazards such as flooding.
Local Strategic Planning Statement <sup>106</sup>	Every local council in NSW is required to prepare a strategic planning statement to implement actions in the regional and district plans. The statement needs to set out the 20-year vision for the LGA, demonstrate how change will be managed and identify local priorities including a planning priority to adapt to natural hazards and climate change. <sup>107</sup>
State environmental planning policies (SEPPs)	SEPPs are environmental planning instruments prepared by the Department of Planning and Environment. SEPPs deal with matters of state or regional environmental planning significance. Some SEPPs address natural hazards, such as <a href="#">SEPP (Resilience and Hazards) 2021</a> , which applies to coastal zones, and <a href="#">SEPP (Housing) 2021</a> which has some provisions in relation to bushfires and floods (e.g. Part 10 on temporary emergency accommodation).
Local environmental plans (LEPs)	LEPs are prepared by councils to guide planning decisions. Some LEPs include model provisions relating to flood planning and some include provisions that address hazards relevant to their LGAs such as bushfires. <sup>108</sup>
<a href="#">Standard Instrument (Local Environmental Plans) Order 2006</a>	The Department of Planning and Environment developed a Standard Instrument LEP to prescribe the form and content of LEPs. Some provisions are compulsory (such as flood planning: clause 5.21) while others are optional (such as repairing or replacing a dwelling after a disaster: clause 5.9).

<sup>106</sup> The requirements for local strategic planning statements are outlined under section 3.9 of the [EP&A Act](#). See also: Department of Planning and Environment, [Local Strategic Planning Statements: Guidelines for Councils](#), 2018, accessed 25 May 2023.

<sup>107</sup> For example, Northern Beaches Council, [Towards 2040](#), Local Strategic Planning Statement, March 2020, Priority 8: Adapted to the impacts of natural and urban hazards and climate change, pp 83-86.

<sup>108</sup> For example, [Hawkesbury LEP 2012](#) prohibits the erection of dwelling houses on certain land that is flood planning land: clause 4.2A.

Statute, instrument or policy	Examples of provisions
Development control plans (DCPs)	Prepared by local councils to provide details to support the planning controls in the LEP. Some DCPs include provisions relating to natural hazards. <sup>109</sup>

Source: Adapted from Department of Planning and Environment, [Planning for a more resilient NSW: A strategic guide to planning for natural hazards](#), November 2021, Appendix D.

### 2.3.2 Recommendations from inquiries

The bushfire inquiry report confirmed that development was not prohibited on bushfire prone land. The NSW RFS Commissioner designates land as bushfire prone under the [Environmental Planning and Assessment Act 1979](#) (EP&A Act).<sup>110</sup> The NSW RFS guide, [Planning for Bush Fire Protection](#), applies to such designated land.<sup>111</sup> The guide requires giving consideration to the application of a range of 'bushfire protection measures' according to the development type and level of bushfire risk.<sup>112</sup> The Australian Standard for construction of buildings in bushfire prone areas is referred to in [Planning for Bush Fire Protection](#).<sup>113</sup> However, the bushfire inquiry report stated there were no provisions in the EP&A Act and planning instruments 'to prohibit development in areas where bushfire risks are too great and cannot be mitigated.'<sup>114</sup>

The bushfire inquiry report contained some recommendations for broad reform of the planning system in relation to bushfires:

- That the government adopt a risk-based approach to routine inspection of local bushfire prone developments to ensure that every local development on bushfire prone land is prepared for future bushfire seasons (Recommendation 28). The government responded that the *Rural Fires Act 1997* was amended in November 2020 to give the NSW RFS Commissioner new powers to audit implementation of bushfire risk management plans, and new teams have been established in NSW RFS that are responsible for auditing compliance with bushfire plans.<sup>115</sup>
- That the government develop a new NSW bushfire policy similar to the NSW Flood Prone Land Policy. This would take a strategic planning approach to transition

<sup>109</sup> For example, Chapter 4 of the [Forbes Development Control Plan 2013](#) addresses flooding and flood affected land, while Part C4 of the [Blue Mountains Development Control Plan 2015](#) addresses bushfire.

<sup>110</sup> Section 10.3. See also NSW RFS, [Planning for Bush Fire Protection](#), November 2019, at 2.2, p 18.

<sup>111</sup> NSW RFS, [Planning for Bush Fire Protection](#), November 2019, adopted by clause 271 in Part 14 of the [Environmental Planning and Assessment Regulation 2021](#) on 1 March 2020.

<sup>112</sup> Bushfire protection measures are specifications that need to be satisfied to improve safety and property protection from bushfire, including asset protection zones (buffer zones between hazards and buildings), access, landscaping, construction and design: see [Planning for Bush Fire Protection](#), 2019, particularly Chapter 3.

<sup>113</sup> For example at pp 18, 21, 29.

<sup>114</sup> D Owens and M O'Kane, [Final Report of the NSW Bushfire Inquiry](#), 2020, p 189.

<sup>115</sup> Resilience NSW, [NSW Bushfire Inquiry 2020: Progress Report](#), July to September 2022, p 21.



those buildings and places at greatest risk to more appropriate uses, including potential acquisition, and provide greater certainty when deciding where new development should be located (Recommendation 27).<sup>116</sup> The government response stated that NSW RFS and the Department of Planning and Environment will design a new bushfire planning framework, which will incorporate a strategic planning approach. A progress report and interim bushfire policy is due to be delivered by the end of June 2023. Implementation of a bushfire prone land package is expected to be finalised by the end of June 2026.<sup>117</sup>

The flood inquiries in 2022 reinforced the importance of a risk-based approach to flood management. As the Legislative Council report stated:

[L]and-use planning and development must take a risk-based approach to floods. Currently, planning and development follows a standard 1-in-100 year flood standard. Stronger policy and alternative approaches are required to reduce the need to build in vulnerable locations and to plan for a transition of development away from flood prone land. A failure to consider floods and fires before building new homes has the potential to perpetuate the losses experienced in the past five years and exacerbate the problems in future.<sup>118</sup>

In terms of recommendations specific to flood planning:

- The Legislative Council flood inquiry recommended that the government increase its investment in flood mitigation and preparation and support local government to do the same, such as by increasing assistance to councils and ensuring that land use planning take a risk-based approach (Recommendation 35).
- The independent flood inquiry recommended that the government, through the NSW Reconstruction Authority, revise flood planning level calculations in high-risk catchments. These revisions should be completed within 3 years and factored into all development applications, and thereafter a review should take place at least every 5 years (Recommendation 18). This recommendation ‘firmly endorses a risk-based approach to determining the flood planning level and proposes that this determination be brought back to state level as the responsibility of the new NSWRA (as councils are generally not adequately resourced or organised) ... for all the state’s high-risk catchments, informing these calculations by whole-of catchment studies.’<sup>119</sup>

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<sup>116</sup> D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, p 186.

<sup>117</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 20.

<sup>118</sup> Legislative Council, *Response to major flooding across New South Wales in 2022*, August 2022, p 127.

<sup>119</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 287, 290.

The government gave the same response to both recommendations, expressing its support for 'improved flood planning, in particular for high-risk catchments.'<sup>120</sup>

More broadly, the independent flood inquiry recommended that, given the complexities of the NSW planning system, the government simplify disaster provisions. This includes ensuring councils and planning authorities are directed to incorporate disaster response and resilient settlement outcomes in long term strategic plans (the Greater Sydney Region Plan, district plans and local strategic planning statements – as outlined in Table 2) (Recommendation 21).<sup>121</sup> The government supported the recommendation in principle but stated that further consideration needed to be given to the implications of this recommendation, in consultation with the communities to be affected.<sup>122</sup>

The Legislative Council flood report recommended that the NSW Government work with local government, industry and sustainable planning experts on policy initiatives in the planning system that will help deliver more resilient and sustainable homes and buildings (Recommendation 36). The government responded that it is working towards implementing a range of land use planning responses including simplifying the planning system natural disaster provisions, ensuring a risk-based approach to flood planning levels, preparing disaster adaptation plans for towns and relocating communities most at risk.<sup>123</sup>

Disaster adaptation plans for all towns were recommended by the independent flood inquiry (Recommendation 19). This concept involves collecting all relevant disaster planning and disaster evacuation provisions within a single disaster adaptation plan to be prepared for each town and region. As a result, one document would be the main source of referral for checking and updating all disaster risks. Recommendation 19 envisaged the NSW Reconstruction Authority working with local government to create the disaster adaptation plan in accordance with the [NSW Climate Change Adaptation Strategy](#). For towns at high risk, the inquiry advocated that the disaster plans should be completed within 3 years, and for the rest of the state within 5 years. The disaster plans should be used to resolve existing rezonings currently on hold, especially in north-western Sydney, and to inform options in the Northern Rivers region including relocation, land swaps and buy

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<sup>120</sup> [NSW Government Response to the NSW Independent Flood Inquiry](#), Recommendation 18, p 7; [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), Recommendation 35, p 6.

<sup>121</sup> The inquiry made various technical suggestions such as consolidating laws by moving the flood-related clauses 5.21 and 5.22 from the [Standard Instrument \(Local Environmental Plans\) Order 2006](#) (as well as clause 5.9 allowing houses to be rebuilt after a natural disaster without obtaining further consent) into the [State Environmental Planning Policy \(Resilience and Hazards\) 2021](#), which currently applies only to coastal land, and to create specific flood planning provisions as a new chapter in the SEPP. As flood related provisions span a number of planning instruments (and the standard instrument) it would be helpful to consolidate them, along with the above-mentioned clauses, into a new chapter in the [SEPP \(Resilience and Hazards\) 2021](#): M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, pp 283, 295.

<sup>122</sup> [NSW Government Response to the NSW Independent Flood Inquiry](#), p 9.

<sup>123</sup> [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), p 6.

backs, while future residential developments in the Hawkesbury-Nepean Valley should be discouraged.<sup>124</sup> The government supported this recommendation in principle but again stated that further consideration needed to be given to the implications, in consultation with affected communities.<sup>125</sup>

### **2.3.3 Development of a national standard**

In 2022 the federal Minister for Emergency Management, Murray Watt, called for reforms to the 'complex system' of state and council planning laws to stop houses being built in high-risk floodplains or bushfire zones.<sup>126</sup> At a meeting of the National Cabinet on 9 December 2022, the premiers and chief ministers agreed that planning ministers would develop a national standard for considering disaster and climate risk as part of land use planning and building reform processes. It was announced that 'First Ministers agreed that the days of developing on floodplains needs to end.' Planning ministers will report back to National Cabinet in 2023.<sup>127</sup>

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<sup>124</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 292, 293.

<sup>125</sup> [NSW Government Response to the NSW Independent Flood Inquiry](#), p 8.

<sup>126</sup> M Foley and T Rabe, [New laws needed to stop building houses in flood, bushfire zones: federal minister](#), *Sydney Morning Herald*, 18 November 2022.

<sup>127</sup> Prime Minister of Australia, [Meeting of National Cabinet](#), media statement, 9 December 2022, accessed 10 May 2023.

## 3. Preparation stage

### 3.1 Emergency management arrangements

Emergency management in NSW follows a tiered structure of committees and plans at state, regional and local levels. The state is comprised of 11 emergency management regions, which in turn are made up of LGAs.<sup>128</sup>

#### 3.1.1 Emergency legislation and EMPLAN

The State Emergency Management Committee is established by the [State Emergency and Rescue Management Act 1989](#) (SERM Act) to provide leadership, direction and advice for strategic and operational emergency management in NSW. The committee is composed of representatives from emergency services and other government agencies including the commissioners of NSW Police, NSW State Emergency Service (SES), NSW RFS, the chief executive of the NSW Ambulance Service, and other representatives determined by the minister.<sup>129</sup> The committee's functions include providing the minister with strategic policy advice and advice on all matters relating to the 4 stages of emergencies.<sup>130</sup>

Regional and local emergency management committees are also established under the SERM Act. Their functions include reviewing emergency management policy and practice across the region or LGA, preparing and reviewing local and regional emergency management plans, and developing, conducting and evaluating training.<sup>131</sup>

The [State Emergency Management Plan](#) (EMPLAN) is also created under the SERM Act to ensure a coordinated response by all agencies having responsibilities and functions in emergencies.<sup>132</sup> EMPLAN describes the governance arrangements, roles and responsibilities of NSW agencies.<sup>133</sup> The combat agency, meaning the lead agency which is primarily responsible for controlling the response to each different form of emergency is

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<sup>128</sup> The 11 emergency management regions are: Sydney Metropolitan; North West Metropolitan; South West Metropolitan; Central West; Far West; Hunter and Central Coast; Illawarra; New England; North Coast; South Eastern; and Riverina Murray.

<sup>129</sup> [SERM Act](#), section 14.

<sup>130</sup> [SERM Act](#), section 15.

<sup>131</sup> [SERM Act](#), sections 23 and 29. The role of local councils at each stage of a natural disaster is described in: Audit Office of NSW, [Local government business and service continuity arrangements for natural disasters](#), February 2022, p 7.

<sup>132</sup> [SERM Act](#), section 12.

<sup>133</sup> NSW Government, [NSW State Emergency Management Plan](#) (EMPLAN), December 2018, section 107.

also identified by EMPLAN.<sup>134</sup> Separate sub-plans supporting EMPLAN exist for specific types of emergencies.<sup>135</sup>

The independent flood report found the existing state emergency management arrangements detailed in EMPLAN were sound, but that there were failings in the response by emergency agencies in the 2022 floods and deviations from the formal emergency management arrangements. The report noted that '[p]oor organisational culture will consume good emergency management arrangements.'<sup>136</sup>

### 3.1.2 Key roles and combat agencies

A key aspect of the NSW approach in the SERM Act and EMPLAN is the role of the emergency operations controller at the state, regional and local level. The state emergency operations controller (SEOCN) is a member of the NSW Police Force senior executive.<sup>137</sup> The SEOCN's responsibilities during an emergency include:

- Establishing and controlling a state emergency operations centre as a central hub that brings officers from all NSW response agencies together
- Controlling and coordinating emergency response operations at a state level if the SEOCN is the designated controller or if no alternative agency has been designated as the combat agency, or supporting the combat agency if one has been designated
- Providing advice to the minister about emergencies, including the need to declare a 'state of emergency'
- Ensuring initial impact assessments are completed following an emergency to inform recovery arrangements.<sup>138</sup>

The region emergency operations controller (REOCN) is the region commander of police in each of the 11 emergency management regions in the state and has very similar responsibilities at a regional level to the SEOCN.

The local emergency operations controller (LEOCN) is a senior police officer stationed within the LGA. The LEOCN sits on the local emergency management committee and sets up local emergency operations centres.

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<sup>134</sup> Annexure 3 of [EMPLAN](#) lists the 'responsible agency' for each type of emergency.

<sup>135</sup> For example, NSW Government, *State Bush Fire Plan: A Sub Plan of the State Emergency Management Plan*, December 2017; and *New South Wales State Flood Plan: A Sub Plan of the State Emergency Management Plan*, December 2021.

<sup>136</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 111, 112.

<sup>137</sup> [EMPLAN](#), section 135.

<sup>138</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, p 86.

The combat agency is primarily responsible for controlling the response to a particular emergency. Table 3 summarises key information on combat agencies for the main types of natural disasters occurring in NSW.

**Table 3: Combat agency arrangements for natural disasters in NSW**

	<b>Bushfire</b>	<b>Flood / storm / tsunami</b>	<b>Other natural disasters<sup>139</sup></b>
<b>Combat agency</b>	NSW RFS <sup>140</sup>	NSW SES <sup>141</sup>	NSW Police (in role of SEOCON if no other agency specified)
<b>Leadership role</b>	RFS Commissioner	SES Commissioner	NSW Police, Deputy Commissioner Emergency Management
<b>Primary statute</b>	<a href="#">Rural Fires Act 1997</a>	<a href="#">State Emergency Service Act 1989</a>	<a href="#">State Emergency and Rescue Management Act 1989</a>
<b>Responsibilities include</b>	<p>Preventing, mitigating and suppressing bushfires</p> <p>Issuing public warnings about bushfires and bushfire threats</p> <p>Protecting persons, property, infrastructure and other assets from fires</p> <p>Establishing district service agreements with local councils regarding the use of firefighting fleet assets.<sup>142</sup></p>	<p>Protecting persons from danger to their safety and health</p> <p>Protecting property from floods, storms and tsunamis</p> <p>Establishing flood warning systems</p> <p>Coordinating the evacuation of affected communities</p> <p>Carrying out rescue operations</p> <p>Disseminating information relating to floods, storms and tsunamis.<sup>143</sup></p>	<p>Controlling and coordinating emergency response operations at state level where SEOCON is the designated controller or there is no designated combat agency</p> <p>Providing advice to the minister including on whether or not to declare a state of emergency.<sup>144</sup></p>

<sup>139</sup> Other natural disasters where no agency is specified in legislation or EMPLAN include an earthquake, landslide or dust storm. Further types of emergency situations are referred to in: Annexure 3 of EMPLAN, 2018; and Department of Health, [Natural Hazards](#), 2014.

<sup>140</sup> Note that the RFS's responsibilities in relation to bushfires cover 95% of NSW, while Fire and Rescue NSW is responsible for urban fire response and rescue services in the cities and large townships that constitute the remaining 5% of NSW: [Fire and Rescue NSW](#) website, accessed 17 March 2023; and Audit Office of NSW, [Planning and managing bushfire equipment](#), 27 February 2023, p 3.

<sup>141</sup> The SES is designated as the combat agency by section 8(1) of the [State Emergency Service Act 1989](#).

<sup>142</sup> [Rural Fires Act 1997](#), sections 9 and 12A.

<sup>143</sup> [State Emergency Service Act 1989](#), sections 8 and 12.

<sup>144</sup> [EMPLAN](#), section 405; and [SERM Act](#), section 19.

## 3.2 Communications and warnings

Recurring challenges with communications occurred during the bushfire and flood events from 2019 to 2022. Selected issues are canvassed here, including alternatives to the loss of telecommunication services, the use of local knowledge and social media, and the provision of multi-language information.

### 3.2.1 Reliability of communications

The bushfire inquiry heard that the failure of communication systems at critical points in the 2019–20 bushfires caused distress, vulnerability and isolation.<sup>145</sup> Power outages resulted in loss of communications because appropriate backup systems were not in place.

The flood inquiries conveyed the importance of clear, consistent, timely and accurate communication prior to and during a disaster.<sup>146</sup> Communication problems were highlighted in the Northern Rivers region when some emergency websites crashed, callers could not get through on some emergency phone lines, and multiple evacuation orders were issued for the same area but with different deadlines. Messaging from local, NSW and Australian government agencies used different terminology, images and colours for actions, contributing to a sense of confusion.<sup>147</sup>

There were also no national roaming agreements between carriers to enable people to make calls, send messages or access data during emergency events. The bushfire inquiry recommended that the NSW Government work with other Australian governments and relevant power and telecommunications bodies to secure alternative power sources and facilitate cross-carrier roaming arrangements for public access of basic text, voice and data services during the emergency period in areas directly affected (Recommendation 30).<sup>148</sup>

The independent flood inquiry noted that the roaming problem was primarily due to commercial considerations rather than practical barriers.<sup>149</sup> The NSW Telco Authority advised the flood inquiry that it supported the emergency roaming recommendation from the bushfire inquiry. The NSW Government also made a supportive submission to an inquiry by the Australian Competition and Consumer Commission that covers this issue and which is due to report its findings this year.<sup>150</sup>

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<sup>145</sup> D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, pp 12, 198, 330.

<sup>146</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, p 134 and Recommendation 7; Legislative Council, *Response to major flooding across New South Wales in 2022*, August 2022, p 60.

<sup>147</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 141, 142.

<sup>148</sup> D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, pp 203-205.

<sup>149</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, p 162.

<sup>150</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 162-163. At the direction of the federal Minister for Communications, the Australian Competition and Consumer Commission (ACCC) is

The independent flood inquiry repeated the recommendation that the NSW Government facilitate cross carrier roaming arrangements. This was part of Recommendation 9, that the NSW Government work with the Australian Government and relevant telecommunications bodies to minimise outages and disruption to essential services, including by ensuring there are sufficient backup options (such as diesel generators), and to ensure that providers of essential services are members of the emergency management committees at state, regional and local level.<sup>151</sup>

Similarly, the Legislative Council flood inquiry recommended that the government consult with providers to investigate ways to minimise the complete loss of telecommunications services in natural disasters, including by the distribution of satellite phones (Recommendation 8).<sup>152</sup> Responding to both flood reports, the government stated that it would work with the Australian Government and service providers to minimise disruption to essential services.<sup>153</sup>

Another option was referred to by Labor leader Chris Minns in announcing the Western Sydney Floods Resilience Plan in mid-2022. He stated that a Labor government would purchase 4 'Cells on Wheels' stations for use in emergencies at a cost of \$1 million. These self-powered mobile phone towers can be deployed to disaster areas to replace towers that have been damaged or destroyed.<sup>154</sup>

In May 2023 the Australian Government announced funding in the federal budget for a national emergency warning and alerts system that would overcome some of the deficiencies that occurred during the NSW bushfires and floods.<sup>155</sup> Initiatives included:

- A national messaging system (NMS) using mobile technology to issue alerts and warnings to mobile phones and devices during a crisis or emergency event in near real time, irrespective of the mobile service provider. It is anticipated that the NMS will be designed, built and tested over the next 18 months, becoming operational by late 2024.
- Public safety mobile broadband (PSMB) – \$10.1 million was committed to establish a taskforce to drive the delivery of a mobile broadband service that would

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conducting an inquiry into telecommunications towers and associated infrastructure in regional areas, including the feasibility of temporary roaming arrangements during natural disasters and emergencies. The inquiry is to be completed by 30 June 2023: ACCC, [Regional mobile infrastructure inquiry 2022-23](#), webpage, accessed 17 March 2023. See also the [NSW Government submission](#) to the inquiry, August 2022.

<sup>151</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, p 167.

<sup>152</sup> Legislative Council, *Response to major flooding across New South Wales in 2022*, August 2022, p 61.

<sup>153</sup> *NSW Government Response to the NSW Independent Flood Inquiry*, p 4; *NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022*, p 2.

<sup>154</sup> NSW Labor Party, [NSW Labor's \\$225 million Western Sydney flood resilience plan to minimise future flood events](#), media release, July 2022, accessed 6 April 2023.

<sup>155</sup> Australian Government, Minister for Emergency Management, [Better communications to keep communities safer in disasters](#), media release, 2 May 2023, accessed 3 May 2023.



provide emergency agency responders with voice, video and data communications. This means a dedicated mobile broadband service for emergency services to use, including fast access to information, images and analytics, facilitating situational awareness and cross-border communications. This initiative follows an independent review of the PSMB in 2022<sup>156</sup> and a key recommendation of the 2020 Royal Commission into National Natural Disaster Arrangements.<sup>157</sup>

### 3.2.2 Local knowledge and community engagement

The importance of drawing upon local knowledge was highlighted by the flood inquiries. The Legislative Council flood inquiry found it would be beneficial to have local community input into public communication of flood warnings and evacuation orders. The report recommended that the SES, in partnership with the Bureau of Meteorology, investigate ways in which local communities and local media can play a stronger role in flood predictions and warnings (Recommendation 6).<sup>158</sup> The government response stated that the SES is exploring research and collaboration opportunities with the Bureau of Meteorology and other agencies to improve flood predictions and warnings and better use local knowledge.<sup>159</sup>

The independent flood inquiry report noted the shift in recent years in how people access information, towards 'proactively seek[ing] it through apps, social media and websites as well as more traditional channels.' Coupled with the problems suffered by some traditional forms of communication, social media played a critical role in the distribution of information in the 2022 floods.<sup>160</sup> Recommendation 7 of the inquiry noted that, in recognition that the community will revert to social media platforms to self-organise when government is unable to respond, the NSW Government should consider how to work with social media companies and online communities to ensure consistent messaging during an emergency.<sup>161</sup>

Facilitating community access to localised and customised information was a beneficial feature of the 'Fires Near Me' smartphone app. Originally it supplied information on the presence of bushfires in NSW, fire danger ratings and links to emergency information. The

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<sup>156</sup> Australian Government, Public Safety Mobile Broadband Strategic Review, [Final Report](#), October 2022; and [Australian Government Response to the Public Safety Mobile Broadband Strategic Review Final Report](#), January 2023.

<sup>157</sup> Royal Commission into National Natural Disaster Arrangements, [Report](#), October 2020, Recommendation 6.4 and pp 170-172; and Australian Government, Department of Prime Minister and Cabinet, [A national approach to national disasters](#) (Government response), November 2020.

<sup>158</sup> Legislative Council, [Response to major flooding across New South Wales in 2022](#), August 2022, p 60.

<sup>159</sup> [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), p 2.

<sup>160</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, pp 131-132.

<sup>161</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, p 146. The [NSW Government Response to the NSW Independent Flood Inquiry](#), Recommendation 7, does not appear to specifically address this point, p 4.

app was heavily relied on by the public in the bushfire season of 2019–20: there were 2.74 million new downloads of the app between 1 July 2019 and 23 February 2020, and 5 million searches in just one day of catastrophic fire danger (12 November 2019). Improvements were suggested in the bushfire inquiry report (Recommendations 67 and 68).<sup>162</sup>

The independent flood inquiry recommended that, to improve community confidence in government messaging and warnings, a single NSW disaster app should be developed (Recommendation 8). The app would supplement official information with local knowledge and community observations.<sup>163</sup> An extension of the app was jointly developed by the Department of Customer Service, the SES and RFS. The Hazards Near Me app was launched in February 2023.<sup>164</sup>

Academic researchers such as Timothy Kariotis have also encouraged governments to ensure that social media platforms can integrate into broader disaster response systems and that agencies engage with ‘crowdsourced information’. He argues that:

Governments can and should play an enabling role for communities to develop collective intelligence. Providing the infrastructure and resources for collective action could contribute to the bigger picture of disaster resilience.<sup>165</sup>

Another aspect of engaging with communities in natural disasters relates to improving channels of communication with culturally and linguistically diverse (CALD) communities, including increasing their participation in distributing in-language information. In 2022 this issue was examined by a Legislative Assembly committee which found that collaboration between government and CALD community organisations and networks is essential to effective crisis communications.<sup>166</sup> The committee’s recommendations included that the NSW Government:

- Investigate ways to improve the involvement of CALD and Aboriginal and Torres Strait Islander communities in crisis planning and communication, such as through a community advisory taskforce, or membership of local emergency management committees (Recommendation 1)
- Work with CALD communities to co-design future crisis communications (Recommendation 3)

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<sup>162</sup> D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, pp 364-371.

<sup>163</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 146, 321; [NSW Government Response to the NSW Independent Flood Inquiry](#), p 4.

<sup>164</sup> NSW State Emergency Service, [Flood alerts at your fingertips](#), media release, 15 February 2023, accessed 23 February 2023.

<sup>165</sup> T Kariotis, *Digital Government and Disaster Responses*, Governing During Crises Policy Brief No. 20, University of Melbourne, May 2022, pp 6, 7.

<sup>166</sup> Parliament of NSW, Legislative Assembly Committee on Community Services, [Improving crisis communications to culturally and linguistically diverse communities](#), January 2023, Finding 2.

- Work with Aboriginal community-controlled organisations to develop a targeted, culturally appropriate crisis communications strategy for Aboriginal and Torres Strait Islander communities (Recommendation 5)
- Increase funding for community and multilingual broadcast media (Recommendation 6).

The government response to this inquiry report is due on 19 July 2023.

### 3.3 Training

The bushfire inquiry recommended training initiatives to increase the capacity of fire authorities to fight the ‘megafires’ seen in the 2019–20 season (Recommendation 6). In response, the Resilience NSW progress report outlined the training completed by 2022 which included dedicated training for firefighters in extreme fire behaviour, increasing the number of trained fire behaviour analysts, and training more meteorologists in fire behaviour through collaboration between NSW RFS and the Bureau of Meteorology.<sup>167</sup>

The role of ‘community first responders’ was examined by the independent flood inquiry. These were members of the public who made a spontaneous contribution when formal arrangements between agencies were stretched in the 2022 floods, including using private vessels to undertake rescues. The inquiry recognised the ‘need to empower local communities’ particularly in high-risk flood and fire locations, and that ‘support and recognition of these informal networks must be provided by the state as these networks will continue to proliferate.’ The inquiry found that the community can be an effective first responder in disasters if properly supported through grant initiatives by the government. It recommended that the NSW Government create a community first responders program, funding appropriate community equipment and training, particularly in high-risk catchments along the east coast, and that an Indigenous first responder program should also be developed (Recommendation 6).<sup>168</sup>

In December 2022, the NSW Government announced almost \$200 million in new funding to implement a number of the recommendations from the independent flood inquiry. Responding to Recommendation 6, the government allocated \$11.9 million to support volunteerism, including training community members who may become spontaneous volunteers in a disaster.<sup>169</sup>

In the same announcement, the SES received a funding boost of \$89.4 million. The SES confirmed that this would fund enhancements to flood rescue training, including more than

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<sup>167</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 9.

<sup>168</sup> M O’Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 126, 127.

<sup>169</sup> Premier of NSW et al, *NSW Government invests \$200 million to implement flood inquiry recommendations*, media release, 14 December 2022.

80 additional training positions to support SES volunteer training, more multi-agency flood rescue training and exercises each year, and the ability to train 1,800 additional flood rescue qualified operators. Some of the funding would also be used to enhance the ways in which the SES engages with and trains spontaneous volunteers.<sup>170</sup>

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<sup>170</sup> State Emergency Service, [NSW SES welcomes \\$89 million funding package](#), 16 December 2022, accessed 22 February 2023.

## 4. Response stage

### 4.1 Evacuation issues

The decision to evacuate is made by the combat agency for the natural disaster, although the NSW Police Force has discretion to undertake emergency evacuations at any time if considered necessary.<sup>171</sup> Various evacuation issues were discussed in the bushfire and flood inquiries; 2 topics are highlighted here.

#### 4.1.1 Evacuation centres

Evacuation centres provide people affected by disasters with basic needs including accommodation, food and water. In NSW the local emergency management committees, in consultation with combat agencies, are responsible for identifying appropriate sites for potential evacuation centres. The management and running of official evacuation centres is a multi-agency activity. At the time of the 2022 floods, the agencies involved were the Department of Communities and Justice, NSW Health, Resilience NSW, NSW Police Force, and other agencies on request.<sup>172</sup>

The bushfire inquiry made a number of recommendations concerning evacuation centres. Recommendation 70 was that, to ensure evacuation centres are fit for purpose, the local emergency management committees (working at that time with Resilience NSW) should require that a risk assessment be undertaken of potential evacuation centre locations, including identifying alternate sources of power for use by the centre.<sup>173</sup> The government response noted that the State Emergency Management Committee would review the NSW evacuation management guidelines.<sup>174</sup> An independent review of evacuation centres was also undertaken for Resilience NSW.<sup>175</sup>

In the independent flood inquiry a common theme in submissions relating to the Northern Rivers floods was that it was unclear who was in charge at evacuation centres. This

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<sup>171</sup> *SERM Act*, section 60L.

<sup>172</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, p 147.

<sup>173</sup> D Owens and M O'Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, p 377.

<sup>174</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 44; and the [Evacuation Management Guidelines](#) (2014).

<sup>175</sup> The review of evacuation centres (by former Deputy Police Commissioner Dave Owens) was referred to in: Legislative Council, [Response to major flooding across New South Wales in 2022](#), August 2022, Recommendation 15 and p 64. The [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), p 3, stated that the review was received by the government. It could not be located online at the time of writing (April 2023).

resulted in deficiencies with decision making, communication breakdowns, duplication or poor tracking of tasks, and erosion of trust in government.<sup>176</sup>

The independent flood report recommended reallocating evacuation centre management and coordination from Resilience NSW to the Department of Communities and Justice because its functions involve dealing with people in crisis (Recommendation 5). The government supported this recommendation and in December 2022 announced \$16.8 million to assist the Department of Communities and Justice in its delivery of disaster welfare functions, including evacuation centres.<sup>177</sup>

#### 4.1.2 Indigenous evacuation support

Consulting Indigenous communities in evacuation planning and the inclusive delivery of services at evacuation centres were concerns in the bushfire inquiry. Recommendation 72 stated that, to ensure Aboriginal people can access appropriate support during evacuation:

- Local Aboriginal communities should be included in emergency planning and preparation.<sup>178</sup> The government responded that this was fulfilled in 2021 by Aboriginal Affairs NSW delivering a pilot project with 4 Aboriginal communities to support emergency planning and preparedness, and by amending the *Rural Fires Act 1997* in November 2020 to expand membership of the NSW RFS Bush Fire Coordinating Committee to include representatives from the NSW Aboriginal Land Council and the Native Title Service Provider for Aboriginal Traditional Owners, and a proponent of cultural burning.<sup>179</sup>
- All staff delivering services in evacuation centres should be culturally competent. The government response was that this would be addressed in the review of the evacuation management guidelines (referred to above in relation to Recommendation 70).<sup>180</sup>

The independent flood inquiry reiterated that all staff delivering services in government and non-government evacuation centres should be culturally competent, which may require additional training.<sup>181</sup> Recommendation 6 included ensuring that Aboriginal community

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<sup>176</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 147, 150. Similarly, the Legislative Council flood inquiry found that evacuation centres lacked coordination and leadership: Legislative Council, *Response to major flooding across New South Wales in 2022*, August 2022, Finding 10, pp 63, 64.

<sup>177</sup> Premier of NSW et al, *NSW Government invests \$200 million to implement flood inquiry recommendations*, media release, 14 December 2022.

<sup>178</sup> D Owens and M O'Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, pp 379-380.

<sup>179</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 45.

<sup>180</sup> Resilience NSW, *NSW Bushfire Inquiry 2020: Progress Report*, July to September 2022, p 45.

<sup>181</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 153-154.

liaison officers are part of local emergency management committees and are present at evacuation centres to better serve Indigenous communities.<sup>182</sup>

## 4.2 Other operational and leadership issues

### 4.2.1 Command centres and collaboration

Collaboration between emergency agencies was a recurring issue in the bushfire and flood inquiries. The bushfire inquiry reported that the NSW RFS State Operations Centre at Sydney Olympic Park facilitated cross-agency collaboration, and that the centre had been adapted for non-bushfire events including as the headquarters for the COVID-19 response.<sup>183</sup>

Fire control centres (FCCs) act as the primary local command centre through which the operations of rural fire districts are conducted. They accommodate administration, training and other emergency management facilities. During a bushfire, FCCs often have the capacity to act as an emergency operations centre (EOC). This is the established centre from which an emergency operations controller controls an emergency operation or coordinates support to the combat agency.<sup>184</sup> The bushfire inquiry recommended that, to improve cross-agency communication and coordination, NSW RFS should review the FCCs in areas that were heavily affected by fire and identify places that would benefit from having a purpose-built FCC co-located with an EOC (Recommendation 61).

The government response stated that the NSW RFS completed a review which identified 13 FCCs that would benefit from priority upgrades. In September 2022, the government announced \$71 million in funding for 8 new FCCs in high fire risk areas in Armidale, the Clarence Valley, Cooma, Hawkesbury, Moruya, Mudgee, Narrabri and Tumut. The announcement anticipated that the co-located FCC and EOC facilities would improve day-to-day operations, facilitate access to the latest technology and keep the community informed.<sup>185</sup>

### 4.2.2 SES operational issues

The SES was the combat agency in the flood events of February, March and April 2022. The challenges it faced, particularly in the Northern Rivers region, included the distance between

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<sup>182</sup> M O'Kane and M Fuller, 2022 Flood inquiry, *Volume Two: Full Report*, July 2022, pp 127-128. The [NSW Government Response to the NSW Independent Flood Inquiry](#), Recommendation 6, does not specifically address this point, stating at p 3: 'The NSW Government recognises the important role community plays in responding to natural disasters. It will consider opportunities to build on existing initiatives to better support, empower and invest in communities' ability to do this.'

<sup>183</sup> D Owens and M O'Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, pp 347-48; and K Aubusson, [RFS bushfire command control transformed into coronavirus war room](#), *Sydney Morning Herald*, 19 March 2020.

<sup>184</sup> D Owens and M O'Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, pp 344, 345.

<sup>185</sup> NSW Government, [New Hawkesbury hub for fires and floods](#), media release, 26 September 2022.

the events and the command centre, and incorporating local knowledge into decision making. The SES headquarters, called the SES State Control Centre, is located at Wollongong.<sup>186</sup> By contrast, the State Emergency Operations Centre, where the Minister for Emergency Services, other government officials and the media were based, is located at Sydney Olympic Park. The independent flood report stated that this 'was problematic at times, given inconsistent interaction between the 2 centres'.<sup>187</sup> The inquiry also heard that the SES State Control Centre's involvement in managing the Northern Rivers flood response was often without local knowledge or input.<sup>188</sup> Similarly, the Legislative Council flood inquiry recommended that the SES realign its focus to harness local knowledge and coordinate more closely with other rescue agencies.<sup>189</sup>

At the time of the flood inquiries, the SES was organised into 5 zones: Metropolitan (located at Rhodes), Northern (located at Metford), Western (Dubbo), Southern (Wagga Wagga) and South Eastern (Goulburn).<sup>190</sup>

An increase in the number of zones was part of a funding boost to SES operations announced by the NSW Government in June 2022. There are now 7 zones, with the addition of North Eastern (located at Lismore) and North Western (Tamworth).<sup>191</sup>

The funding announcement of \$132.7 million for the SES included:<sup>192</sup>

- \$58.7 million to upgrade 18 critical priority unit facilities
- \$43 million to create the 2 additional SES zones (by splitting the northern and western zones)
- \$11.7 million to establish zone headquarters in the 2 new zones with control centre capabilities that can manage particularly complex (Level 3) incidents<sup>193</sup>
- \$18 million to upgrade existing zone headquarters to Level 3 incident control centres.

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<sup>186</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, pp 112, 188.

<sup>187</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, p 112.

<sup>188</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, pp 112-113.

<sup>189</sup> Legislative Council, [Response to major flooding across New South Wales in 2022](#), August 2022, Recommendation 1 and pp 18-20, 28.

<sup>190</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, p 188.

<sup>191</sup> SES website, [Our Zones](#), accessed 5 May 2023.

<sup>192</sup> NSW Government, NSW Budget 2022-23, [Record investment in emergency services](#), media release, 21 June 2022, accessed 5 May 2023.

<sup>193</sup> The capacity to respond to Level 3 emergencies is a reference to the Australasian Inter-service Incident Management System. A Level 1 incident is relatively minor and able to be resolved through the use of local or initial response resources. A Level 2 incident is more complex in size, resources or risk. A Level 3 incident is characterised by degrees of complexity that will usually require the incident controller to delegate operations, planning and logistics functions: [AIIMS 2017](#).



It is expected that 40 permanent staff roles would be created for the Tamworth zone headquarters, while Lismore will gain a new incident control centre.<sup>194</sup>

#### **4.2.3 Appointment of Deputy Commissioner Emergency Management**

Both flood inquiries recommended that the NSW Police Force be formally allocated responsibility to oversee and coordinate the emergency response to future natural disasters in NSW.<sup>195</sup> The appointment of the Deputy Commissioner Emergency Management as a fifth deputy commissioner in the NSW Police Force was announced in December 2022.<sup>196</sup> The position will permanently serve as the State Emergency Operations Controller (SEOCN). This arrangement of having a Deputy Commissioner of Police serve in a dedicated SEOCN capacity was previously trialled in 2021 during the COVID-19 pandemic. The independent flood inquiry found the leadership and decision making of this role can assist in building community confidence and significantly improve implementation of emergency management arrangements across different emergencies.<sup>197</sup>

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<sup>194</sup> NSW SES, [New SES North Western Zone Established](#), media release, 20 February 2023; and D Mahe, [Lismore to get incident centre in more than \\$130 million funding boost for NSW SES](#), ABC news online, 13 June 2022; both accessed 22 February 2023.

<sup>195</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, Recommendation 3, pp 96, 115-116; Legislative Council, [Response to major flooding across New South Wales in 2022](#), August 2022, Recommendation 3, p 29.

<sup>196</sup> NSW Liberal Party, [NSW Government invests \\$200 million to implement flood inquiry recommendations](#), media release, 14 December 2022.

<sup>197</sup> M O'Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, p 115. The NSW Police Force took an extended role in the pandemic for logistical and security reasons, whereas NSW Health would usually be the combat agency in a pandemic and initially adopted this role at the outbreak of COVID-19: F Hunter, [Show of force: How NSW Police took command to combat COVID-19](#), *Sydney Morning Herald*, 28 November 2020.

## 5. Recovery stage

### 5.1 Housing issues

Housing is a key challenge for many people after a natural disaster, from the need to secure temporary housing to the reconstruction of permanent housing. The recovery process for property owners, tenants and people in informal living arrangements can be hampered by housing vulnerability, which refers to housing conditions associated with socio-economic disadvantage, such as residential overcrowding, poor quality housing, and informal or insecure tenure. Housing vulnerability disrupts livelihoods in communities affected by disaster, accentuates inequalities, has a detrimental impact on the economic and social recovery of affected communities, and undermines community resilience.<sup>198</sup>

#### 5.1.1 Measures in response to the 2019–20 bushfire season

After the bushfires some residents experienced difficulties with rebuilding or repairing dwellings originally constructed under previous planning instruments where development consent could not be granted to reconstruct a new dwelling under current planning controls.<sup>199</sup> Accordingly, to give local councils in NSW greater flexibility to help homeowners rebuild after a natural disaster, an optional clause was introduced into the [Standard Instrument \(Local Environmental Plans\) Order 2006](#) in June 2021.<sup>200</sup> The clause allows councils to grant development consent to repair or replace a dwelling that was damaged or destroyed by a natural disaster despite any provisions in the relevant local environmental plan which would otherwise prevent this.<sup>201</sup>

However, the independent flood inquiry subsequently expressed concern that ‘in relation to flooding, reliance on this clause puts people back into harm’s way without any consideration of mitigation measures.’<sup>202</sup>

The NSW bushfire inquiry did not make recommendations explicitly dealing with the provision of temporary or permanent housing to replace housing damaged or destroyed by a bushfire. This was because the inquiry’s terms of reference focused on bushfire

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<sup>198</sup> R van den Nouwelant and A Cibir, [The impact of housing vulnerability on climate disaster recovery: The 2022 Northern Rivers Floods](#), UNSW City Futures Research Centre, October 2022, pp 6-7. Housing stress in flood-affected locations, particularly in regional areas, is examined by M O’Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, p 296.

<sup>199</sup> Department of Planning, Industry and Environment, [Proposed Clause for Natural Disasters](#), Policy consultation paper, August 2020, accessed 13 April 2023.

<sup>200</sup> Clause 5.9 was inserted into the order by the [Standard Instrument \(Local Environmental Plans\) Amendment \(Natural Disasters\) Order 2021](#). Clause 5.9 was also inserted into numerous individual Local Environmental Plans by the [State Environmental Planning Policy Amendment \(Natural Disasters\) 2021](#).

<sup>201</sup> NSW Department of Planning and Environment, [Natural Disasters Clause](#) webpage, accessed 10 May 2023; Natural Disaster Recovery: Optional Clause for Natural Disasters, [Frequently Asked Questions](#), June 2021; [Natural Disasters Clause: Guidance for implementation](#), November 2020.

<sup>202</sup> M O’Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, p 283.

preparedness and response, rather than the recovery process.<sup>203</sup> However, some recommendations were made in relation to planning and development (as described above at section 2.3 in relation to Recommendation 28).

The Bushfire Housing Assistance Service was established to support residents who were temporarily or permanently displaced during the bushfires by providing access to emergency accommodation, private rental bonds and advance rent payments.<sup>204</sup> Emergency and temporary accommodation to 8000 people was provided between November 2019 and April 2020.<sup>205</sup>

Temporary accommodation pods were used after the 2019–20 bushfires in several LGAs, in partnership with the privately-funded Minderoo Foundation and supported by charities. Up to 200 pods were made available, enabling residents to stay in rent-free accommodation on their own land, looking after property interests and livestock, for up to 2 years while rebuilding took place.<sup>206</sup> However, extensions beyond this period were required in some areas, with the agreement of local councils. Reasons for delay included COVID-19 restrictions, building supply issues and contractor availability.<sup>207</sup>

Disaster relief grants were available for eligible applicants to repair or rebuild residences after the 2019–2020 bushfires (outlined in section 5.3.3).

Other issues that affect housing reconstruction after a bushfire, such as insurance and Bushfire Attack Level ratings, are beyond the scope of this paper.

### 5.1.2 Measures in response to the 2022 floods

In the 2022 floods, temporary housing was the immediate priority. On 17 April 2022 the NSW Government announced \$350 million to establish temporary housing ‘villages’ for homeless people across the Northern Rivers region. The temporary villages were expected to operate for up to 2 years while communities rebuilt. The first site consisted of 25 pods on a sports field in Ballina.<sup>208</sup>

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<sup>203</sup> D Owens and M O’Kane, *Final Report of the NSW Bushfire Inquiry*, 2020, pp 1, 6-7.

<sup>204</sup> NSW Government, [Housing support available for bushfire impacted residents](#), media release, 9 January 2020, accessed 14 April 2023.

<sup>205</sup> D Snow, [The fighting force behind the bushfire recovery effort](#), *Sydney Morning Herald*, 2 May 2020; and NSW Liberal Party, [Temporary housing pods continue to roll out across NSW](#), media release, 18 April 2020, accessed 9 March 2023.

<sup>206</sup> NSW Liberal Party, [Temporary housing pods continue to roll out across NSW](#), media release, 18 April 2020; and Resilience NSW, *Annual Report 2020-21*, p 15, accessed 9 March 2023.

<sup>207</sup> C Fenwicke, [Recovery pods extension endorsed to keep roofs over locals’ heads](#), *About Regional*, 9 June 2022, accessed 9 March 2023.

<sup>208</sup> J Lapham and E Rennie, [NSW government funds housing modules for communities affected by flood in Northern Rivers](#), ABC news online, 17 April 2022, accessed 9 March 2023.

The Southern Cross University temporary housing site was operational in November 2022, consisting of 52 self-contained units which could accommodate up to 200 people.<sup>209</sup> Community housing provider North Coast Community Housing is responsible for allocating the units and managing day-to-day village operations. Other temporary housing sites managed by North Coast Community Housing include a site at Ballina (on land owned by TAFE NSW) consisting of 53 units able to accommodate 186 people. This site has been operational since December 2022.<sup>210</sup>

Caravans are another form of temporary housing. The at-home caravan program in the Northern Rivers started in Woodburn in June 2022, after a proposed temporary housing site was found to be unsuitable due to future flood risks.<sup>211</sup> The program involved the NSW Government offering caravans to residents in eligible areas whose homes were uninhabitable due to flood damage. The caravans were provided at no cost under a 6 month hire agreement. Caravans were initially supplied through Camplify, an online van-sharing platform that sourced caravans from registered caravan owners to assist with the flood recovery effort.<sup>212</sup>

The Legislative Council flood report recommended that the government accelerate the caravan program and ensure it was an option for all residents displaced by the February-March 2022 floods (Recommendation 25). In supporting this recommendation, the government response reported that the program had expanded across the Northern Rivers, and by 28 October 2022, 210 caravans had been delivered.<sup>213</sup>

Other measures to facilitate the supply of temporary accommodation due to natural disasters (recognising that the need for this was exacerbated by the COVID-19 pandemic) included:

- **Temporary caravan parks and camping grounds:** the [State Environmental Planning Policy \(Housing\) 2021](#) (Housing SEPP) allows caravan parks or camping grounds to be established without development consent to provide temporary, emergency accommodation for people who have been displaced by a natural disaster.<sup>214</sup> A

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<sup>209</sup> NSW Government, [Lismore site now a temporary home for flood-impacted residents](#), media release, 30 November 2022, accessed 23 February 2023; reported on *The Lismore App*, [Lismore's SCU temporary home site now open for flood-impacted residents](#), 30 November 2022.

<sup>210</sup> NSW Government, [Ballina temporary housing village](#), media release, 22 February 2023, accessed 23 February 2023.

<sup>211</sup> No author, [At-home caravans arriving for flood-impacted people on the Northern Rivers](#), *Lismore City News*, 17 June 2022.

<sup>212</sup> NSW Government, [At-home caravans program](#), fact sheet, accessed 15 February 2023.

<sup>213</sup> [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), Recommendation 25, p 5.

<sup>214</sup> Part 10 of the [Housing SEPP](#), which was inserted by the [State Environmental Planning Policy Amendment \(Disaster Recovery\) 2022](#).

public authority such as a local council<sup>215</sup> can establish these temporary emergency caravan parks and camping grounds, which are not subject to the usual requirements under the planning system or local government framework and can operate for up to 5 years.<sup>216</sup>

- **Moveable dwellings:** People who have been displaced from their homes because of a natural disaster can install a moveable dwelling such as a caravan or mobile home on their land (or on other land with the landowner's consent) for up to 2 years without the need for council approval.<sup>217</sup> The council can extend the period beyond 2 years through local approvals policies under the [Local Government Act 1993](#).<sup>218</sup>

In April 2022 the \$70 million Aboriginal Housing Office fund was announced. The Aboriginal Housing Office is a statutory body established under the [Aboriginal Housing Act 1998](#). The joint funding from the Australian Government and NSW Government relates to the Northern Rivers and has 2 components:

- A flood recovery program (around \$61 million) that focuses on restoring and rebuilding Aboriginal community-owned social housing and community-owned buildings that support social cohesion. Applicants must be a registered Aboriginal housing provider.
- Aboriginal Housing Office assets (around \$9 million) for the new supply and construction of approximately 21 units owned by the Aboriginal Housing Office in disaster declared areas, with allowance for special needs.<sup>219</sup>

Land swaps and voluntary buybacks are other options that were addressed by the flood inquiries. The independent flood inquiry recommended identifying and prioritising those communities most at risk from future disasters for whom relocation may be appropriate or necessary. The inquiry supported establishing new settlements and considering how to repurpose floodplains for community benefit, such as for recreation and energy production (Recommendation 22). The Legislative Council flood inquiry recommended that the government consider investing in supporting relocations, land swaps and providing fair and

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<sup>215</sup> See the definition of 'public authority' under section 1.4 of the [EP&A Act](#).

<sup>216</sup> The usual requirements for development consent and council approval are set out, respectively, under section 131 of the [Housing SEPP](#) and section 68 of the [Local Government Act 1993](#).

<sup>217</sup> Department of Planning and Environment, Frequently Asked Questions, [Temporary emergency accommodation](#), April 2022, accessed 13 April 2023. Accommodating a person displaced by a natural disaster is one of the exemptions for installing moveable dwellings without approval under clause 77 of the [Local Government \(Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings\) Regulation 2021](#). This regulation was not new; it remade the [Local Government \(Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings\) Regulation 2005](#).

<sup>218</sup> Department of Planning and Environment website, [Temporary accommodation](#) webpage, accessed 10 May 2023. Chapter 7, Part 3 of the [Local Government Act 1993](#) deals with adoption of local policies.

<sup>219</sup> Budget Estimates, Portfolio Committee No.5, Emergency Services and Resilience, Flood Recovery, Hearing [transcript](#), 2 September 2022, p 46.

adequate compensation for landowners who wished to relocate from severely flood-impacted areas (Recommendation 26). The government response to both recommendations supported in principle the relocation of people most at risk, while noting the long-term nature of this objective and the immediate priority of the Northern Rivers region.<sup>220</sup>

The Northern Rivers Resilient Homes Fund package, worth \$800 million, was launched in October 2022 to support eligible homeowners in flood prone areas to raise or retrofit their homes or have them voluntarily bought back.<sup>221</sup> The fund comprises 2 programs:

- **Resilient Homes Program** (\$700 million co-funded equally by the Australian Government and NSW Government) offers eligible homeowners one of 3 available measures, based on expert property assessments, flood impact severity data, safety risks and potential future flood levels:<sup>222</sup>
  - Home buybacks – the homeowner receives a payment for the purchase of their house and land
  - Home raising – funding to elevate liveable areas above a property-specific flood level
  - Home retrofit – funding to replace and/or repair liveable areas, using flood resilient materials to reduce the impact of future flooding
- **Resilient Land Program** (\$100 million fully funded by the NSW Government) identifies flood-safe land that may be suitable for redevelopment to help relocate Northern Rivers residents impacted by the 2022 floods.<sup>223</sup>

In February 2023 the media reported that the first round of voluntary buybacks had been offered to homeowners in the highest-risk flood zones, with 190 people initially contacted

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<sup>220</sup> [NSW Government Response to the NSW Independent Flood Inquiry](#), Recommendation 22, p 9; [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), Recommendation 26, p 5. Some concerns were reported in the media that a voluntary buyback scheme was not extended to residents in the Hawkesbury-Nepean floodplain: F Coleman, [Hawkesbury home owners snubbed by government buyback scheme](#), *Hawkesbury Gazette*, 7 November 2022, quoting the federal member for Macquarie and the Hawkesbury mayor; accessed 19 May 2023.

<sup>221</sup> [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), Recommendation 26, p 5.

<sup>222</sup> Information from Department of Regional NSW, [Resilient Homes](#) webpage, accessed 19 May 2023.

<sup>223</sup> Expressions of interest for the Resilient Land Program closed in February 2023: Northern Rivers Reconstruction Corporation, [Timeline](#), accessed 25 May 2023.

by the Northern Rivers Reconstruction Corporation to arrange a buyback assessment.<sup>224</sup> By the end of April 2023, over 250 home buyback offers were made.<sup>225</sup>

An online dashboard displays fortnightly updates on the above programs, including the level of registrations, the distribution by LGA and other information.<sup>226</sup> As at 22 May 2023, 6471 people had registered for the Resilient Homes Program and 831 are eligible for a home buyback.

The Northern Rivers Reconstruction Corporation manages the rebuilding of Northern Rivers communities by coordinating planning, rebuilding and construction work across multiple government agencies. The corporation formally came into effect in July 2022 and was established under the [Growth Centres \(Development Corporations\) Act 1974](#).<sup>227</sup>

The Lismore Flood Recovery Planning Package commenced on 13 February 2023 and is intended to accelerate the approval of new homes and raising of existing homes in parts of Lismore. It is therefore also envisaged to support the Resilient Homes Program.<sup>228</sup> Relocation of houses will be facilitated by the 'complying development pathway' which will allow houses to be raised above the flood planning level where a site assessment has confirmed it is safe to do so. This simpler approval pathway involves a complying development certificate being issued by the council or a private certifier, rather than a full development application process. Complying development certificate applications for house-raising will also require:

- A certificate of eligibility from the Northern Rivers Reconstruction Corporation or the NSW Reconstruction Authority. Homeowners may register their properties with the corporation which, following an assessment, may issue a certificate that grants eligibility for the complying development pathway to ensure that only properties deemed to have a low flood risk are eligible to use the pathway
- A certificate from a professional engineer certifying certain flood-related matters, including floor levels, materials, flood resistance and impacts on the flow of floodwater

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<sup>224</sup> M Cross, [Resilient Homes buybacks begin for homeowners in Northern Rivers floods zones](#), ABC News online, 22 February 2023, accessed that day.

<sup>225</sup> Northern Rivers Reconstruction Corporation, [Timeline](#), accessed 25 May 2023. The notes on the timeline state that all residents who registered with the Resilient Homes Program would be contacted about their eligibility by the end of the second quarter of 2023, and those who receive a buyback offer can take as long as they need to consider the offer.

<sup>226</sup> NSW Government, [Resilient Homes](#) webpage, 25 May 2023 issue date, showing numbers as at 22 May 2023.

<sup>227</sup> More information on the NRRC is available on: Department of Regional NSW, [Northern Rivers Reconstruction Corporation](#) webpage, accessed 13 April 2023.

<sup>228</sup> Department of Planning and Environment, [Lismore Flood Recovery Planning Package](#) webpage, accessed 10 May 2023. The commentary on the webpage states that the complying development pathway is intended to 'speed up the rollout' of the Resilient Homes Program.

- Compliance with all the relevant development standards for house raising that are included in the [Lismore Local Environmental Plan 2012](#).<sup>229</sup>

The independent flood inquiry also recommended that, to ease the housing stress in flood prone areas, the government invest additional funds in increasing the stock of social and affordable housing (Recommendation 24).<sup>230</sup> Social researchers and charitable organisations have supported this stance.<sup>231</sup>

## 5.2 NSW Reconstruction Authority

The NSW Reconstruction Authority has replaced Resilience NSW as the lead agency for disaster recovery.

Resilience NSW was created on 1 May 2020, after the bushfires, and it replaced the Office of Emergency Management.<sup>232</sup> The response and recovery role of Resilience NSW in relation to the 2022 floods included:

- Supporting the State Emergency Operations Centre
- Managing evacuation centres
- Leading the State Recovery Committee
- Undertaking recovery operations under direction of the State Emergency Recovery Coordinator
- Administering the Disaster Relief Account for reimbursement of extraordinary costs incurred by NSW Government agencies to deliver disaster assistance
- Brokering funding support from the Australian Government, private and not-for-profit partners.<sup>233</sup>

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<sup>229</sup> Schedule 3.

<sup>230</sup> The [NSW Government Response to the NSW Independent Flood Inquiry](#), p 10, referred to options to support the delivery of increased social and affordable housing across the state and, through the NRRC, in Northern Rivers communities.

<sup>231</sup> For example, R van den Nouwelant and A Cibin, [The impact of housing vulnerability on climate disaster recovery: The 2022 Northern Rivers Floods](#), October 2022 (UNSW City Futures Research Centre with project partners such as Mission Australia) advocated that the local housing context in the Northern Rivers, including rental stress and long waiting lists for social housing, should inform planning for disasters. The authors argue that a more robust social housing supply would reduce the disruption of natural disasters and reduce the pressure on the private rental sector following natural disasters, while temporary social housing such as hostels would contribute to the pool of emergency accommodation (pp 39-40).

<sup>232</sup> Premier of NSW, [RFS Commissioner Fitzsimmons to lead new Resilience NSW agency](#), media release, 6 April 2020; Resilience NSW, [Annual Report 2020-21](#), pp 3, 8; both accessed 18 May 2023.

<sup>233</sup> M O’Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, p 119.



Both flood inquiries recommended that changes should be made to Resilience NSW.<sup>234</sup> Subsequently Resilience NSW was abolished by an administrative arrangements order.<sup>235</sup> As the independent flood report recommended, the functions of Resilience NSW that were reallocated to other agencies included:

- Disaster preparedness and support, disaster emergency management policy and service delivery went to the new permanent Deputy Commissioner of Police Emergency Management
- Disaster recovery and renewal management and coordination went to the NSW Reconstruction Authority
- Evacuation centre management went to the Department of Communities and Justice
- Grants administration went to the Department of Customer Service and Service NSW for immediate relief, and to the NSW Reconstruction Authority for longer term recovery.<sup>236</sup>

The independent flood inquiry recommended that the government establish a permanent agency, the NSW Reconstruction Authority, dedicated to disaster recovery, reconstruction and preparedness, with a statutory basis modelled on the legislation for the Queensland Reconstruction Authority (Recommendation 15).<sup>237</sup> The Queensland legislation was initially brought to the attention of the Minister for Planning by the Member for Lismore, Janelle Saffin MP.<sup>238</sup>

The [NSW Reconstruction Authority Act 2022](#) commenced in full on 16 December 2022.<sup>239</sup> An ongoing chief executive was appointed in February 2023.<sup>240</sup>

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<sup>234</sup> The independent flood inquiry recommended that Resilience NSW be “reshaped” as a more streamlined agency: Recommendation 5, pp 118-123. The Legislative Council flood inquiry recommended that the government consider abolishing Resilience NSW: Recommendation 2, p 28.

<sup>235</sup> [Administrative Arrangements \(Administrative Changes—Miscellaneous\) Order \(No 10\) 2022](#), clause 4, commenced on 16 December 2022.

<sup>236</sup> M O’Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, Recommendation 5, pp 121-123.

<sup>237</sup> M O’Kane and M Fuller, 2022 Flood inquiry, [Volume Two: Full Report](#), July 2022, pp 243-249. The government responded that it would introduce legislation for the establishment of the agency by the end of 2022: [NSW Government Response to the NSW Independent Flood Inquiry](#), Recommendation 15, p 6.

<sup>238</sup> Legislative Assembly, Hansard, NSW Reconstruction Authority Bill, [Second Reading Speech](#), Minister for Planning and Minister for Homes, 9 November 2022.

<sup>239</sup> The provisions that established the NSW Reconstruction Authority, the Advisory Board and allowed the appointment of staff and some limited planning powers, commenced on assent on 28 November 2022: section 2(a). The remaining provisions, including the Authority’s substantial powers under Parts 4 to 8, commenced on 16 December 2022: [proclamation](#), LW 16.12.2022. The Act is accompanied by the [NSW Reconstruction Authority Regulation 2023](#).

<sup>240</sup> Former CEO of Infrastructure NSW, Simon Draper, was appointed as the first permanent CEO of the NSW Reconstruction Authority: NSW Government, [NSW Reconstruction Authority CEO appointed](#), media release, 14 February 2023, accessed 16 February 2023.

The authority will not be responsible for handling emergencies; the emergency services organisations will continue to lead the response to natural disasters, and the combat agencies will remain responsible for issuing evacuation orders and response-related activities in an emergency.

The authority's responsibilities include:<sup>241</sup>

- Creating and implementing the state disaster mitigation plan
- Giving advice as needed to councils and government agencies on disaster adaptation
- Supporting communities to help recover from a disaster
- Coordinating development in disaster-affected areas
- Acquiring and subdividing land for rebuilding communities
- Rebuilding infrastructure
- Administering the NSW Reconstruction Authority Fund.

The requirement for the authority to prepare a state disaster mitigation plan is outlined with mitigation policies at section 2.2.1 of this paper.

The authority will have powers to expedite development if required, including carrying out development and compulsory acquisition of land.<sup>242</sup> As the Second Reading Speech explained:<sup>243</sup>

The Minister's declaration of areas and projects will enable the authority to exercise functions to expedite decision-making processes and to step in to manage projects and development where necessary to avoid delays in delivering critical development or to pause development that is inappropriate in the face of a disaster. Additionally, the authority will be able to acquire land, both by agreement and by compulsory acquisition, where that land is within a declared disaster prevention area or reconstruction area. Specifically, the authority will be able to plan for and advise on the development of infrastructure and new housing, and the relocation of affected communities.

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<sup>241</sup> Sections 10 and 22 of the [NSW Reconstruction Authority Act 2022](#); and the NSW Reconstruction Authority website, [Our work](#), accessed 16 February 2023.

<sup>242</sup> The Authority may carry out development on land in the circumstances outlined by section 12. The power to acquire land by agreement or compulsory acquisition is authorised by section 45.

<sup>243</sup> Legislative Assembly, Hansard, NSW Reconstruction Authority Bill, [Second Reading Speech](#), Minister for Planning and Minister for Homes, 9 November 2022.

Further, the authority has the power to direct a government agency, state-owned corporation, local council or other entity to take particular action.<sup>244</sup> This is intended as a 'reserve power' to be used infrequently.<sup>245</sup>

The authority will only resort to using such powers when lives are at stake and when immediate action is required to combat an impending or unfolding disaster, and only to the extent necessary to alleviate the threat. It is likely that the authority will rarely need to rely on those powers. However, they are an essential element in the ability of the authority to respond to a disaster or an impending disaster quickly and efficiently...

It should also be noted that the [NSW Reconstruction Authority Act 2022](#) states that the functions of the authority are not intended to limit functions granted to agencies by the state emergency management plan (EMPLAN).<sup>246</sup>

To ensure that one agency is responsible for reconstruction after natural disasters, the Northern Rivers Reconstruction Corporation, which has been rebuilding in flooded communities in northern NSW, will be transitioned into the NSW Reconstruction Authority in 2023.<sup>247</sup> The Second Reading Speech clarified the different status that the authority will have, compared to the Northern Rivers Reconstruction Corporation:

...the Northern Rivers Reconstruction Corporation is a development corporation that can carry out activities such as construction, subdivision and land acquisition, but it still needs to obtain planning approval from the Department of Planning and Environment for this type of work. The [NSW Reconstruction] authority will have a direct relationship with the planning Minister and some powers to amend environmental planning instruments when needed in order to streamline the planning approval process. The authority will work with the Northern Rivers Reconstruction Corporation to ensure its work continues and can respond effectively to community need, but with quick and ready access to planning functions and relationships as a result of the role of the authority. This joined-up approach will couple the on-the-ground experience of the Northern Rivers Reconstruction Corporation with the powers and functions of the new authority...until a transition plan is in place.

### 5.3 Grants and financial assistance

In addition to the funded programs already mentioned (such as the Aboriginal Housing Office fund), there are numerous forms of grants and financial assistance that are designed

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<sup>244</sup> Under section 13, the Authority may give a written direction to a relevant entity to take action, only if the Authority is satisfied that the action relates to a disaster (or likely disaster) and is necessary to give effect to the primary object of the Act (promoting community resilience through disaster prevention, preparedness, adaptation, recovery and reconstruction), as well as being appropriate in all the circumstances.

<sup>245</sup> NSW Reconstruction Authority Bill, [Second Reading Speech](#), Minister for Planning and Minister for Homes, 9 November 2022. See also the commentary on section 13 in the [NSW Reconstruction Authority Regulation – Regulatory Impact Statement](#), April 2023, p 7.

<sup>246</sup> [NSW Reconstruction Authority Act 2022](#), section 10(2).

<sup>247</sup> Department of Planning and Environment, NSW Reconstruction Authority website, [Related questions](#), and [NSW Reconstruction Authority CEO appointed](#), media release, 14 February 2023; both accessed 16 February 2023.

to respond to particular disaster events or for different types of recipients, including for primary producers or small business.

In outlining the grants summarised below, prominence is given to those that were still available at February 2023. Therefore, the grants solely provided in response to the 2019–20 bushfire season are not documented in detail.

### 5.3.1 Bushfire grants and audit report

Grants provided in response to the 2019–20 bushfire season included the:

- Bushfire Community Recovery and Resilience Fund (administered by Resilience NSW)<sup>248</sup>
  - Stream 1: Short-term projects for priority, disaster-declared local councils (payments of \$250,000 or \$100,000 were available to eligible councils)<sup>249</sup>
  - Stream 2: Grants for community groups, councils, joint organisations, non-government organisations, and not-for-profits in the LGAs that were disaster-declared during the bushfires to fund social recovery and preparedness (funding from \$20,000 to \$300,000)
- Bushfire Industry Recovery Package of immediate financial assistance (\$140 million) to 6 targeted primary industries that were significantly affected by the bushfires (apiculture, aquaculture, dairy, forestry, horticulture and viticulture).<sup>250</sup>

The Bushfire Local Economic Recovery Package is discussed in more detail here because it was the subject of an audit by the NSW Audit Office released in February 2023.<sup>251</sup> The lessons from the audit are relevant to the administration of other types of grants in future.

The Bushfire Local Economic Recovery Package (BLER) was established as part of the \$4.4 billion bushfire support program co-funded by the Australian and NSW Governments for bushfire recovery, response and preparedness in NSW. BLER funding was intended to support employment in bushfire affected regions, strengthen community resilience and reduce the impact of future natural disasters.

The BLER program consisted of 3 funding rounds:

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<sup>248</sup> NSW Reconstruction Authority, [Bushfire Community Recovery and Resilience Fund](#) webpage, accessed 17 May 2023.

<sup>249</sup> Local councils were determined as ‘priority social recovery councils’ which were identified through ‘indicators including capturing residential impact, small business support needs and percentage of land scarred by the bushfires’: Resilience NSW, Bushfire Community Recovery and Resilience Fund, [Phase Two Stream 1 Guidelines](#), with relevant councils listed on p 2, accessed on 23 May 2023.

<sup>250</sup> Department of Regional NSW, [Bushfire Industry Recovery Package](#) webpage, accessed 17 May 2023.

<sup>251</sup> NSW Audit Office report, [Bushfire recovery grants](#), February 2023. Information was also obtained from the Department of Regional NSW, [Bushfire Local Economic Recovery](#) webpage, accessed 17 May 2023.

- Round 1 – early funding which was split between:
  - Fast-tracked priority projects (22 projects valued at \$107.8 million) with a purpose to deliver immediate and significant economic impact, and a focus on local infrastructure
  - Sector development grants (52 projects worth \$73.2 million) intended to assist job retention and creation and support industry sustainability and supply chain efficiencies, particularly in forestry, horticulture and agricultural sectors.
- Round 2 – open round (195 projects worth \$283 million) to support economic and social recovery at a local and regional level. The aim was to distribute funding to LGAs which did not receive it in Round 1.
- Round 3 – final package of projects and initiatives (falling outside the audit’s scope).<sup>252</sup>

The NSW Audit Office found that the Department of Regional NSW did not effectively administer the fast-tracked stream of the BLER program. The report concluded that the administration process lacked integrity, including that it did not have sufficiently detailed guidelines, and the assessment process for projects lacked transparency and consistency.<sup>253</sup> There were significant gaps in the documentation of decision making throughout this funding stream. At the request of the Deputy Premier's office, a minimum threshold of \$1 million was applied to the grants without a documented reason and without being part of the program guidelines. The department advised the Audit Office that the \$1 million threshold was introduced as there were a range of other funding programs available that were targeted towards smaller bushfire recovery projects, and some of the projects excluded through application of the threshold were subsequently funded from other programs.<sup>254</sup> The \$1 million threshold resulted in the exclusion of all projects in electorates held by the Labor Party, including the Blue Mountains.<sup>255</sup>

The audit report found that the department's administration of the sector development grants stream had a detailed and transparent assessment process. However, conflicts of interest were not effectively managed, and the department did not effectively engage with stakeholders during the grants process. The department's administration of the open round included a clearly documented, detailed and transparent assessment framework that was

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<sup>252</sup> NSW Audit Office report, [Bushfire recovery grants](#), February 2023, pp 5-9.

<sup>253</sup> For example, there was no documentation of the decisions and approvals that led to the development of the initial package of 35 projects. The department advised that the decisions on which projects to include occurred in undocumented meetings. This was in breach of the department's record keeping responsibilities (p 15).

<sup>254</sup> NSW Audit Office report, [Bushfire recovery grants](#), February 2023, p 4.

<sup>255</sup> NSW Audit Office report, [Bushfire recovery grants](#), February 2023, p 15. It should be noted that this is slightly different to the distribution of the final 22 funded projects: 21 of the 22 final funded projects were in Coalition-held electorates, amounting to 88.4% of funding (p 18).

followed throughout. The department also implemented probity arrangements in the open round, although some weaknesses in the department's approach to conflicts of interest remained.<sup>256</sup>

The allocation of funding under the open round was targeted primarily at highly impacted LGAs which met the intention of the program.<sup>257</sup> There were also good aspects of monitoring and evaluation, including that the department provided payments to grantees only after they could demonstrate that they had completed the agreed milestone.<sup>258</sup>

The report recommended that for all future grant programs, to promote integrity and transparency, the Department of Regional NSW should:

- Establish and follow guidelines that align with relevant good practice guidance including accountabilities, key assessment steps and clear assessment criteria
- Ensure a communications plan is in place, including the communication of guidelines to potential applicants
- Ensure staff declare conflicts of interest prior to the commencement of a grants stream, and that these conflicts of interest are recorded and managed
- Ensure regular monitoring is in place as part of funding deeds
- Document all key decisions and approvals in line with record keeping obligations.<sup>259</sup>

### 5.3.2 Flood assistance and related issues

The flood inquiries examined problems experienced by applicants in accessing financial assistance. The Legislative Council inquiry recommended:

- Overhauling processes that traumatised applicants by having to endure multiple interviews (Recommendation 20)
- Ensuring that applicants could continue to receive assistance for as long as needed (Recommendation 21)
- Ensuring that Service NSW assessors were available 'on the ground' to assess and approve grant applications (Recommendation 22).<sup>260</sup>

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<sup>256</sup> NSW Audit Office report, *Bushfire recovery grants*, February 2023, p 4.

<sup>257</sup> NSW Audit Office report, *Bushfire recovery grants*, February 2023, p 29.

<sup>258</sup> NSW Audit Office report, *Bushfire recovery grants*, February 2023, p 31.

<sup>259</sup> NSW Audit Office report, *Bushfire recovery grants*, February 2023, p 5.

<sup>260</sup> Legislative Council, *Response to major flooding across New South Wales in 2022*, August 2022, pp 88-89.

The government response supported these recommendations<sup>261</sup> and referred to Recommendation 10 of the independent flood inquiry, which stated that the government, through Service NSW and other agencies, should provide greater financial, administrative and other support services, including streamlining accessing of relief and grant delivery. Linked to this recommendation, the government in December 2022 announced \$1.8 million in funding for Service NSW to enhance customer support for disaster-affected individuals and businesses by streamlining grants delivery.<sup>262</sup>

Two of the flood grants relating to the 2022 flood or storm events are the back home grant and the disaster relief grant (the latter is described at section 5.3.3 of this paper). Recipients could receive one grant or the other.<sup>263</sup>

The categories of back home grants address the condition of housing or the replacement of essential contents:

- \$20,000 for owner-occupiers to repair or replace essential household items and/or restore housing to a habitable condition
- \$15,000 for owner-investors to restore housing to a habitable condition
- \$5,000 for tenants to repair or replace essential household items or relocate these items to a new residential property.

Application deadlines are staggered through 2023, depending on the flood or storm event to which the application relates, and other conditions apply.<sup>264</sup>

As at September 2022, just over \$100 million worth of back home grants had been approved in the Northern Rivers in response to 7,000 applications. This included \$34.25 million of grants in Lismore reflecting 2,469 applications, and \$11.66 million of grants in Ballina reflecting 1,009 applications.<sup>265</sup>

Assistance for small business in the floods includes the Flood Disaster Recovery Small Business Grant and concessional loans for small business. Small businesses and not-for-profit organisations could apply for recovery grants of up to \$50,000, as part of the jointly

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<sup>261</sup> [NSW Government Response to the NSW Parliamentary Select Committee on the Response to Major Flooding across NSW in 2022](#), p 4.

<sup>262</sup> Premier, Deputy Premier et al, [NSW Government invests \\$200 million to implement flood inquiry recommendations](#), media release, 14 December 2022, accessed 8 March 2023.

<sup>263</sup> Service NSW website, [Apply for the flood recovery Back Home grant](#), Eligibility (see Notes), accessed 8 March 2023.

<sup>264</sup> Service NSW website, [Apply for the flood recovery Back Home grant](#), accessed 8 March 2023.

<sup>265</sup> Budget Estimates, Portfolio Committee No.5, Emergency services and resilience, flood recovery, Hearing [transcript](#), 2 September 2022, p 46.

funded Commonwealth-State Disaster Recovery Funding Arrangements.<sup>266</sup> The grant can go towards cleaning up, repairs, re-stocking and reopening, the cost of safety inspections, materials needed to resume trade, disposing of debris and spoiled stock, or leasing temporary space.<sup>267</sup>

In late 2022, the NSW Rural Doctors Network raised concerns that the \$50,000 small business grants were insufficient for Lismore healthcare providers who were affected by the floods.<sup>268</sup> The Australian Government and NSW Government each agreed to contribute \$2.5 million in targeted support for eligible health providers in Lismore.<sup>269</sup>

### 5.3.3 Non-specific disasters

Disaster relief grants can be applied for in relation to any event that has been declared a natural disaster if:

- The applicant is an owner or tenant who lives in a property that was damaged by a natural disaster
- The damaged property is the principal place of residence, not an investment property
- The applicant is a low-income earner
- It has been less than 6 months since the disaster.

The grant helps with replacing essential household items, essential structural repairs or full rebuilding of properties that are unable to be lived in.

The grant is not available when a claim can be made under insurance or where damage is minor and repairs are not essential to live in the property.<sup>270</sup>

Disaster assistance for primary producers also applies to any declared natural disaster, with options including:<sup>271</sup>

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<sup>266</sup> Prime Minister of Australia, [Flood-impacted small businesses in New South Wales get targeted disaster assistance](#), media release, 22 November 2022, accessed 17 May 2023.

<sup>267</sup> NSW Government, [Small business flood grant now open](#), media release, 14 July 2022, accessed 16 February 2023.

<sup>268</sup> M Ward, [Nine months on, Lismore's health services still unable to rebuild](#), *Sun Herald*, 18 December 2022; B Herbert, [Lismore's flood-affected doctors plead for government support 10 months after disaster](#), ABC news online, 19 December 2022, accessed 9 March 2023.

<sup>269</sup> NSW Rural Doctors Network website, Latest News, [Flood funding for Lismore primary care providers](#), 20 February 2023.

<sup>270</sup> Service NSW website, [Apply for the Disaster Relief Grant](#), accessed 8 March 2023.

<sup>271</sup> NSW Government, Rural Assistance Authority, [Disaster Assistance](#) webpage, accessed 17 May 2023.



- Special disaster grants of up to \$75,000 in declared LGAs (deadlines depend on different events in different areas)<sup>272</sup>
- Disaster relief loans which are low interest loans of up to \$130,000 (with applications for the February 2022 flood event open until 30 June 2023).<sup>273</sup>

#### 5.3.4 Supporting local councils

Assistance for local councils includes the Floodplain Management Program which provides financial support to local councils to help them manage flood risk in their communities.<sup>274</sup> Floodplain management grants are awarded on a yearly basis and the program funded 65 projects totalling \$9,956,299 in 2022–23.<sup>275</sup> The Department of Planning and Environment supports local councils to prepare floodplain risk management studies and feasibility studies for works. Other specific types of projects include a flood warning system review, design of flood evacuation routes, and flood awareness signage.<sup>276</sup>

The objective of the Local Government Recovery Grants Program is to deliver flexible and streamlined funding to disaster-declared local councils to support economic and social recovery at a local level. The grants are jointly funded by the Australian Government and NSW Government and administered by the Office of Local Government.<sup>277</sup> A payment of up to \$1 million is available to each eligible council which agrees to submit a program of works within 3 months of receiving funding, and then to provide quarterly updates. The projects are to be completed by 30 June 2024.<sup>278</sup>

Eligible ratepayers in the 7 Northern Rivers LGAs where properties were directly affected by the February and March 2022 storms and floods will receive council rates relief for the 2022–23 financial year. The rates are for land (not payments for waste and sewage services) and can relate to a residential, commercial or farm property. Relief is available for properties which have been assessed by the SES and deemed damaged or destroyed by the relevant floods, and properties which were approved for a grant or support program (such

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<sup>272</sup> NSW Government, Rural Assistance Authority, [Special disaster grants](#) webpage, accessed 17 May 2023.

<sup>273</sup> NSW Government, Rural Assistance Authority, [Disaster relief loans – primary producers](#) webpage, accessed 17 May 2023.

<sup>274</sup> Department of Planning and Environment, [Floodplain Management Program](#) webpage, accessed 17 March 2023.

<sup>275</sup> Department of Planning and Environment, [Floodplain management grants](#) webpage, accessed 17 March 2023.

<sup>276</sup> The list for 2022-23 is available on the [Floodplain management grants awarded and project summaries](#) webpage, accessed 17 March 2023.

<sup>277</sup> Office of Local Government website, [Local Government Recovery Grants Program](#), accessed 9 March 2023; and Prime Minister of Australia, [Flood-impacted small businesses in New South Wales get targeted disaster assistance](#), media release, 22 November 2022, accessed 17 May 2023.

<sup>278</sup> Examples of eligible and ineligible projects are contained in the Program Guidelines on the [Local Government Recovery Grants Program](#) webpage.

as a back home grant). Service NSW makes the payment directly to the local council on the ratepayer's behalf.<sup>279</sup>

### 5.3.5 Grants reform legislation

On 11 May 2023, the new Labor Government introduced a bill in the Legislative Council which will amend the [Government Sector Finance Act 2018](#) to require that:<sup>280</sup>

- A Minister must not approve a grant (to which the Grants Administration Guide applies<sup>281</sup>) unless satisfied that the grant is an efficient, effective, economical and ethical use of money and it 'achieves value for money'. This amendment is influenced by a recommendation from an investigation by the Independent Commission Against Corruption (ICAC) into 'pork barrelling'.<sup>282</sup>
- A person must have regard to the key principles of grants administration specified in the Grants Administration Guide when approving or declining a grant to which the guide applies.

The bill passed on 25 May 2023 and provides for a commencement date of 1 July 2023.<sup>283</sup>

In the Second Reading Speech to the bill, the Special Minister of State, John Graham MLC, also foreshadowed introducing new requirements for disaster relief grants. He stated:<sup>284</sup>

We committed that if we formed government, we would ensure that all major natural disaster relief packages are automatically referred to the Auditor-General. All grants will be forwarded for review within three months, and fast-track grants will also be subject to performance reviews.

This proposal was influenced by recent reports such as the NSW Auditor-General's report on bushfire recovery grants.<sup>285</sup>

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<sup>279</sup> Service NSW website, [Northern Rivers council rates relief 2022-23](#), accessed 17 March 2023.

<sup>280</sup> [Government Sector Finance Amendment \(Grants\) Bill 2023](#) (first print), inserting section 10.3A.

<sup>281</sup> NSW Government, [Grants Administration Guide](#), September 2022, contains overarching principles that apply to all government grants and imposes specific requirements that must be complied with when administering grants.

<sup>282</sup> ICAC, [Investigation into Pork Barrelling \(Operation Jersey\)](#), August 2022, Recommendation 2 and pp 38, 43-44.

<sup>283</sup> Section 2.

<sup>284</sup> Legislative Council, Hansard, Government Sector Finance Amendment (Grants) Bill, [Second Reading Speech](#), 11 May 2023.

<sup>285</sup> NSW Audit Office report, [Bushfire recovery grants](#), February 2023. The ICAC report, [Investigation into Pork Barrelling \(Operation Jersey\)](#), August 2022, recommended that the NSW Government consider the Auditor-General conducting regular performance audits of grant schemes that involve a high risk of pork barrelling:

Recommendation 21, p 54. See also J Kennedy, [NSW Labor vows to legislate against pork-barrelling in allocation of grants](#), ABC News online, 5 February 2023.

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Rowena Johns

Research Paper No. 2023-09

[Corrected version, August 2023]

ISSN 2653-8318

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