

**Submission Number: NND.001.00819**

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What is your submission based on? I am making this submission based on my professional knowledge, qualifications or experience or on behalf of a group or organisation

What is your area of professional expertise?

If you are lodging your submission on behalf of a group or organisation, what is the name of the group or organisation? Wollondilly Shire Council

**Your Submission**

In your experience, what areas of the bushfire emergency response worked well?

- The Size of the Black Summer event

The Green Wattle Creek Fire escalated in the first 10 days due to access issues to remote rugged inaccessible terrain and it is acknowledged access issues will always be challenging. Wollondilly Shire Council applauds the multi-agency approach to the containment of the Green Wattle Creek fire with 14 different agencies having been involved in protecting the Shire. As many of these agencies have small teams it is acknowledged a great effort was applied to contain the fire however it was challenging and stressful for many involved.

- The Southern Highlands Bushfire Management Committee (BFMC)

Wollondilly Shire Council has been very fortunate that it has had the support of the Southern Highlands Bushfire Management Committee (BFMC) in delivering vegetation management works throughout the Shire. The 19/20 program was fully delivered prior to the fire season, and works were actioned in areas that later burnt. It clearly shows that the assessments did align with likely fire activity. The Southern Highlands BFMC works very well and we believe is a model group, however additional funding would always support the delivery of hazard reduction activities in the region.

Increased expenditure on mitigation and resilience is supported. There is a significant positive cost-benefit ratio from mitigation work which supports enhanced funding for mitigation. Greater use of cost-benefit analysis in mitigation and resilience program selection is also supported.

- Wollondilly Local Emergency Management Committee (LEMC)

Wollondilly Local Emergency Management Committee undertakes regular workshop sessions in planning and preparedness and Council has regular training in grant recovery and standing up an EOC.

- Relationships between Agencies

Wollondilly Shire Council experienced a very good working relationship with RFS and their plant procurement officer (Great job [REDACTED]!!). Both Council and the RFS were proactive in their approach and resources were lined up in anticipation of needs. This is attributed to the relationship building practices developed over time between Council and the Local RFS Officers.

- Activate Wollondilly Framework

In 2016 the Activate Wollondilly Framework was developed as a strengths based approach to disaster preparedness and recovery aimed at building a resilient community in the Wollondilly Local Government Area. This project brought key stakeholders together to review the actions following the east coast low impact on Picton in June 2016 and was awarded the 2018 Resilient Australia award.

The framework enabled a deliberative dialogue between residents, stakeholders, Council and emergency services and focused on building capacity and cohesion. The approach created a safe space to debrief after a major disaster and opened communication between community and council in regards to recovery and response. By keeping the community at the centre of the recovery discussions the deliberative dialogue pulled in local knowledge and expertise. From this coordinated recovery model forum outcomes were incorporated into the key strategies of the Community Strategic Plan and the Wollondilly Disaster Recovery Plan. The framework also enabled a review of the Wollondilly Local Disaster Recovery Plan, an ongoing Community Recovery and Resilience Committee has been established and developed an emergency preparedness toolkit including an emergency management guide for the Wollondilly area.

The framework and process identified gaps in service provision and responses and identified improved strategies to combat future disasters. The result of this framework and process positioned Council to respond in a coordinated and effective approach in the recent "Black Summer" and 2020 storm events. The Activate Wollondilly framework is to be used to undertake the community debriefing sessions and workshops as a result of the recent Bushfires and Storm events to help inform the development of the Wollondilly Long Term Community Recovery and Resilience Plan. This plan will guide a strategic and action focused approach to programs and activities regarding community recovery and resilience, assist in determining the pace and speed of recovery and the strategic approach to help community, community groups and small business continuity.

- Wollondilly Long Term Recovery and Resilience Plan

The development of the Wollondilly Long Term Community Recovery and Resilience Plan will identify both initial help and support long into the future and will be an evolving and living document that will be community focused, led and implemented. This will assist Council with a strategic approach to how recovery in Wollondilly will happen over time as a result of the recent bushfire and storm events.

- Local Community Recovery Hub located at Balmoral

As a result of the impact of the fires on the Villages of Buxton and Balmoral, a Community Recovery Hub located at the Balmoral Village Hall was also established by the local CWA and a volunteer from the RFS. This Community Recovery Hub is truly a community established and led initiative that both Wollondilly and Wingecarribee Councils have supported. The Hub has become a central focus for community recovery where locals are helping locals in their long term recovery journey. Information sharing, a point for resource distribution and a central place to gather and share experiences has been a focus of the Community hub.

- Assistance from Australian Defence Force and International agencies

Reinforcements from all over Australia were called in to assist fighting the fires and relieve exhausted local crews in New South Wales. Wollondilly Shire Council acknowledges and is grateful the Australian Defence Force was mobilised to provide support to the firefighting effort and to provide manpower and logistical support. Once settled in this support worked extremely well. Firefighters, supplies and equipment from Canada, New Zealand, Singapore and the United States, among others, helped fight the fires, especially in New South Wales. This was much welcomed.

- Loss of wildlife and threatens species

Wollondilly Shire Council acknowledges the significant loss of wildlife and threatens species through the Black Summer event and the significant number of native animals that have unfortunately suffered through the severe wildfires. Issues relating to wildlife management and species conservation, including biodiversity, habitat protection and restoration was adequately assessed through the hazard reduction process.

**In your experience, what areas of the bushfire emergency response didn't work well?**

- The sheer size of the "Black Summer" event and stretched resources

The sheer size of the "Black Summer" event significantly stretched the available resourcing throughout the state. The fires burnt an estimated 18.6 million hectares, (186,000 square kilometres), destroyed over 5,900 buildings (including 2,779 homes) and tragically took the lives of at least 34 people. An estimated one billion animals have been killed and some endangered species may have also been driven to extinction.

The availability of resourcing for the Green Wattle Creek fire was impacted by the number of fires burning across the Country, the sheer size of the Green Wattle Creek fire, the nature of the fire activity, and the entry and egress issues into the Burratorang Valley. This impacted on the ability to deploy aircraft sooner, due to competing fire fronts. The deployment of aircraft sooner may have assisted in lessening the impact of the fire.

- Managing Business as Usual During an Emergency.

Only in the sense that whilst the emergency is happening most agencies are focussed on supporting each other through the LEMC, anything that assist agencies in delivering their normal operational work and assists in assisting with the emergency is paramount. Policy and legislation should assist each level not hinder.

- Need for enhanced coordination efforts in communication processes.

There is a need for better communications and systems for public information and warnings. Allocating dedicated district personnel specifically to monitoring progress of the fire, and updating social channels, apps and community messaging would be of great benefit in providing timely information with appropriate levels of local detail.

Mixed messages were experienced in the Green Wattle Creek fire between police on the ground and the information supplied by the RFS, particularly in relation to road closures. There also needs to be major improvements in how road closures are managed through the live traffic app. Implementing recommendations from Green Wattle Creek After Action Review is recommended.

Media management during disaster operations at the local level needs to be coordinated with State and Regional announcements.

Some communication issues were experienced at the Emergency Control Centre and between agencies and this can be contributed to the sheer size of the fire and the enormous pressure placed on a small teams.

More resourcing would be welcomed for additional technical communication expertise during an event along with an ongoing coordinated expert communications officer attached to the Local Emergency Management Committee to increase the focus on preparedness campaigns and communication training, particularly in relation to online and social media communication methods for all responding agencies and the local community.

- Concerns with evacuation processes.

With over 50,000 people living in Wollondilly Shire on the urban fringe with limited public transport options there is predominately 1 mode of transportation (private vehicle) to evacuate and move. Both the southern and northern ends of our Shire have only 1 access point (dual carriage way – one lane each direction).

This raised concern and it was demonstrated during the bushfires in relation to grid locked evacuation routes particularly threatening our villages of Buxton, Tahmoor, Thirlmere and Picton. When emergency warnings were issued residents trying to flee the fires were caught in traffic which was at a standstill. By sheer luck we narrowly avoided the loss of any more lives due to the sheer number of residents trying to leave their homes. Had weather conditions been different, the fire could have reached the road from Buxton to Picton and lives would have been lost as they were in the 2009 Victorian Black Saturday fires with people trapped in their cars. A Picton Bypass has been investigated by the RMS for some time now and had this Bypass been in place traffic could have freely flown out of the significantly bushfire prone areas at the south of Picton.

Warragamba is particularly vulnerable to natural hazards and is cut off from safe evacuation routes in bush fire and flood events. Wollondilly Shire Council's adopted Local Strategic Planning Statement also calls for the need for a second crossing of the Nepean River in the northern part of the Shire. This would improve the community's resilience against natural disasters including, bushfire flooding, or for other emergency events relating to the dam and hazardous infrastructure such as the chlorination plant located at Warragamba. Our evacuation demands are unknown, but we are aware that the traffic modelling suggests the Blaxland Crossing Bridge is over capacity based on normal functioning in the future.

The logistics of evacuation and the lack of time to be properly organised was a challenge due to the sheer size of the fire, the fact the fires were moving so quickly and were so unpredictable. It was impossible to get the people where we needed them to be and some residents took

matters into their own hands and at one stage a road was closed unbeknown to us.

#### - Climate impact issues

Broadly, climatic patterns and localised weather systems appear to be the most significant influencing factors for bushfire behaviour. Several years of widespread drought and many years more of below average rainfall was a key factor contributing to the intensity and extent of the fires. Dry conditions at the time were also a major influence on the intensity of the fires. Appropriate levels of funding and resourcing assistance to Local Government would be welcomed to meet urgent climate change mitigation and adaptation requirements for the short and long term protection and benefit of communities.

#### - Procurement of Resources

Issues with procurement arose when there was "a changing of the guard" when another entity took over this part of procurement. When this occurred the entity came in, took control and dismissed all the engaged contractors and moved to their own list of contractors. This created a lot of confusion in the first instance and a lot of unrest for contractors who were already working these jobs. Continuity is an important factor in response and recovery processes and guidelines and procedures should reflect this approach.

#### - Request for the Australian Defence Force to be called in sooner to assist.

Wollondilly Shire Council acknowledges and is grateful the Australian Defence Force was mobilised to provide support to the firefighting effort and to provide manpower and logistical support.

The experience of "the red tape" to implement ADF resourcing was a challenge. The onerous task of completing forms numerous times was frustrating and a challenge for over stretched officers on the ground. When the ADF arrived the Local Emergency Control structures were ignored with the Local Emergency Management Officer disregarded on many occasions. In many incidents the ADF did not want the jobs they were allocated, they were not organised and local contractors found them a challenge to work with. (Sheeys Creek Road incident). They were not suited to the jobs that we requested

#### - Governance Challenges with Community lead recovery during the response

It is well documented that recovery should commence at the same time response activities are occurring. This was actively encouraged as part of the Wollondilly Local Recovery Plan. There we heightened frustrations and some community angst with the initial establishment of the Community led Recovery hub due to emerging leadership issues. Governance challenges have arisen for a community led response and this can be attributed to limited guidelines, policies, processes, awareness and training to assist community groups and emerging community leaders. More resourcing and support for emerging community leaders and general community preparedness and training would be welcomed.

#### - Community awareness and training in response and recovery issues through Community led initiatives

On the 28 February 2020 Council facilitated a workshop that was led by [REDACTED]. [REDACTED] is a national expert on leading recovery for communities who have experienced trauma, particularly from bushfire. [REDACTED] validated the approach Council is taking with the debriefing sessions and workshops and the development of a Long Term Community Recovery and Resilience Plan that will be community led and determined. At the workshop [REDACTED] confirmed communities need to be able to come to their own decisions, in their own time and described how healthy strategies from recovery from fire must include psychological recovery as well as re-building structures.

The workshop highlighted the well-intentioned desire to relieve peoples' sadness by "fixing stuff and building stuff" and trying not to get caught up in a "fast equals effective bricks and mortar view of recovery". The overwhelming impact of disaster touches every aspect of people's lives and it can take a long time, for communities to re-group, for people to grieve and take stock, and to try to make sense of what has happened and what the future might hold.

Funding to assist in the development of the Wollondilly Long Term Community Recovery and Resilience Plan would be welcomed. This plan will identify both initial help and support long into the future and will be an evolving and living document that will be community focused, led and implemented. As stated previously this plan will guide a strategic and action focused approach to programs and activities regarding community recovery and resilience, assist in determining the pace and speed of recovery and the strategic approach to help community, community groups and small business continuity. This will also assist Council with a strategic approach to how recovery in Wollondilly will happen over time as a result of the recent bushfire and storm events.

#### In your experience, what needs to change to improve arrangements for preparation, mitigation, response and recovery coordination for national natural disaster arrangements in Australia?

##### - Emergency Management Planning

The main objective of emergency planning is to reduce injuries, protect the community and maintain business continuity. Having a reliable, up to date emergency preparedness plan and recovery plan in place is critical for the safety and welfare of our communities. Often the responsibility of planning and managing the emergency preparedness role is an add-on to many individuals' roles and responsibilities.

Natural Disasters in Peri-Urban areas are no longer low-probability events. The view of low-probability equates to low-priority which makes it very difficult to generate public or political will to provide adequate funding and collaborative processes for emergency preparedness.

Funding provided to disaster prone Councils for specialist Emergency Management Planning positions within Council would be welcomed.

Wollondilly Shire Council supports increased funding for managing bushland for ecological fire risk, eg cultural burning methods, not just reactive hazard reduction management for fire risk to life and property.

##### - Resource allocation and how funding support is applied

There is a need for substantial ongoing funding for natural disasters from Federal and State resources to sustain councils as often there is an unmanageable burden on Council's faced with substantial damage to infrastructure. This has been experienced recently in regards to a major road failure on Burragorang Road Oakdale. It is not feasible for local government to generally make provision for natural disaster contingent liabilities in budget frameworks given the potential size of such events relative to a council budget.

Wollondilly Shire Council would welcome easier and faster support for councils and other agencies to recover funds spent through a disaster. Processes for funding reimbursement are often complex and lengthy and this is demonstrated in current negotiation processes still occurring in

regards to the 2018 Warragamba storm which used \$170,000 of Councils budget. The completion of forms and paperwork are complex and there is limited to non-existent training and assistance in this process. Council would welcome more training and assistance in this space so councils can appropriately claim for the loss of income. There is a role here for both State and Commonwealth in recovery assistance by delivering training.

- Coordinated and Shared training opportunities

Regular training in grant recovery and more training in being in an EOC would assist in response and recovery efforts. Training should happen on a regular basis and collaboratively across agencies. Information sharing and coordination is often limited and it has been observed many individuals are concerned with obtaining information from others rather than providing their information to others.

Incentives for sharing information, understanding each other's work-processes and the usability of information systems would be welcomed. In addition training and the development of checklists to identify and address the sharing of relevant information under pressure, the empowerment of and control by individuals and the redesign of information sharing processes from debriefing sessions is recommended.

Training on collaboration and the understanding of unpredictable, dynamic and complex nature of the environment in which multiple groups of professionals need to collaborate would be welcomed.

- Clean-up issues

The Wollondilly Community have expressed the need for faster response for clean-up and financial assistance including recovery support for agencies and government land managers post fire (clean up and tidy up of vegetation and ruined assets). Resourcing of clean-up directed and facilitated at a local level by Local Government would be desirable however it is acknowledged the sheer size of the Black Summer event has hindered this approach.

- Addressing changes Bushfire Attack Level (BAL) and loss of entitlement to rebuild

Council is already receiving inquiries for the rebuild of houses and out-buildings lost through the Bushfire event. Our residents are keen to rebuild and get life back to some level of normalcy. There is likely to be a tension between the desire to rebuild destroyed buildings quickly through the complying development process and long-term bushfire planning. The State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 (Codes SEPP) provides a pathway to enable quick rebuilds through the use of private certifiers without the need for a full development application. This process also relies on the issuing of Bushfire Attack Level (BAL) certificates where land is bushfire prone. If the BAL is too high, development applications will need to be lodged with a more detailed (and costly) Bushfire Risk Assessment Report. Wollondilly Shire Council has a case where a family may not be able to re-build their home as they are now classed in the "Flame Zone", apparently this is due to council land that is in between the paper road and an adjoining property that was also lost in the fire. In this case they previously were zone BAL 40, and were allowed to build however now assessed as "full flame zone" due to council land that joins their property is not maintained. This is causing some trauma with first losing their family home but now to be told they cannot re-build is only providing them with added trauma. This will not be an issue in isolation given the extent of homes and out-buildings lost across NSW. Currently there is no voluntary buy back schemes in NSW such as is in Victoria. Wollondilly Shire Council would support the development of policy from a State or Federal level in regards to this issue.

- Adaptation of Bushfire risk mitigation

Resourcing to implement community awareness and education around the benefits of bushfire risk mitigation strategies such as bunkers, rooftop sprinkler systems, fire resistant housing material and frames and smart housing design is recommended.

It is recommended prefab materials should be reviewed and tailored to meet Australian bushfire conditions.

- Standardisation and funding of land management and hazard reduction measures

Wollondilly Shire Council supports the standardisation of land management and hazard reduction measures and would welcome more preparedness and resilience responsibilities initiatives to ensure people are actively reducing hazard. Preparation and preparedness at a property level was generally low and more focus needs to be placed upon property owners to adequately protect their properties, rather than relying on external agencies to manage large areas of bushland which it is all but impossible to stop from burning. Wollondilly Shire Council has received requests from residents to construct APZs on adjacent properties. Upon inspection of these resident's own property they often have gardens underneath timber decking with woodchip mulch, plants against windows and vines growing up timber verandah posts. Under these circumstances no amount of APZ clearing on their property or an adjacent property could protect them from the effect of ember attack.

The unusually warm and dry conditions over the cooler months were a significant barrier to undertaking safe and effective hazard reduction. There were also a number of occasions in the Wollondilly Local Government Area (LGA) where hazard reduction burns were postponed as the allocated resources were required to fight wildfires in August. Such a situation would have been unheard of in other recent years.

Organisations involved in the Bushfire Management Committee rely heavily on funding through various RFS programs to undertake their hazard reduction activities. This funding is overall well managed. However the timing of ministerial funding announcements and the amounts and activities to be funded is often unpredictable and inconsistent. Funding cycles do not correlate well with the bushfire danger periods, with announcements often being made in late spring/early summer and guidelines preventing reimbursement of any works undertaken before the announcement. This makes it difficult for Agencies to allocate their own budgets before the bushfire danger period commences as there is uncertainty around which priority activities will be funded by RFS. It is widely reported that the delays primarily happen at a ministerial level.

- Review of the RFS 10.50 vegetation clearing scheme.

The extreme fire season experienced by residents in Wollondilly, saw that many properties which had undertaken clearing in accordance with the NSW RFS 10.50 vegetation clearing scheme still impact of the fires. Council is recommending that the application of these laws be reviewed and perhaps further discretionary measures need to be added for areas in extreme fire danger, or in areas where topography or prevailing conditions may exacerbate the impact of fire.

Council's environmental staff do not support an increase vegetation removal distances in the RFS 10/50 Guideline. Ecologically this would be bad news for the local biodiversity which needs more protection not less. Some residents already 'use' the guideline to carry out excessive vegetation clearing, including of endangered ecological communities without approval.

- Suitability of bushfire prone land for residential use

Developing new subdivisions in bushfire prone areas may not be appropriate. Allowing development in areas that are bushfire-prone,

particularly where buildings are effectively built into the bush, could possibly be creating unmanageable problems for the future.

With no guarantee as to the effectiveness of bushfire-proofed houses, the focus should be on evacuation and shelters. Policy makers such as NSW RFS, Building Ministers' Forum and the Australian Building Codes Board may need to either require a policy of early evacuation or mandate fire shelters in bushfire-prone areas.

#### - National Construction Code (BCA)

The National Construction Code (BCA) requires new homes (Class 1 buildings) built in "bushfire-prone" areas to be built to either Australian Standard 3959, the National Association of Steelframed Housing standard, or a "performance solution", which, in the opinion of a qualified person, complies with the performance requirements of the code. It also applies to Class 2 buildings (apartments) and Class 3 buildings (hotels and guesthouses) in bushfire-prone areas. The code does not apply to community buildings, such as schools.

#### - Australian Standard 3959 does not fireproof buildings.

It is not generally understood that any building that is exposed to an intense bushfire will probably burn down, whether it complies with Australian Standard 3959 or not.

Australian Standard 3959 actually states:

Although this Standard is designed to improve the performance of buildings when subjected to bushfire attack in designated bushfire-prone areas, there can be no guarantee that a building will survive a bushfire event on every occasion. This is substantially due to the unpredictable nature and behaviour of fire and extreme weather conditions.

More importantly, while a building constructed to Australian Standard 3959 might be less likely to burn down, Australian Standard 3959 may not protect the people within the building. In a significant number of cases even houses constructed to the highest standard are irreparably damaged and need to be demolished or substantially rebuilt after a bushfire event. If a house is under threat by bushfire, the best advice is to evacuate early, whether it complies with Australian Standard 3959 or not. By encouraging residents to believe they can defend a structure compliant with Australian Standard 3959 may put more people at risk than if they were simply told to evacuate. Residents and firefighters defending houses have accounted for a large number of the lives lost this fire season.

Council also applies the Building Attack Levels as defined in Australian Standard 3959 and as a common practice applies BAL 29. A significant issue in terms of biodiversity is the amount of vegetation clearance that needs to occur based on current requirements. Higher BAL's requirements might need to be considered to protect biodiversity values as well as other circumstances such as accommodating the required APZ on the applicable property. It is acknowledged that higher BAL requirements would increase building costs. This fact needs to be considered when people choose to live in bush areas for life style benefits including enjoying the natural environment. Staff come across lots of people who make such a choice and then want to destroy the bush or destroy it on a neighbour's property.

#### - Hazard reduction issues and dry fuel on the ground

Council thanks the Southern Highlands Team for the level of hazard reduction prior to the Bushfire event. More preparedness in regards to hazard reduction would have been welcomed however there is doubt this would have changed the outcome.

Much focus is placed on landscape scale fuel reduction through hazard reduction burning. However under catastrophic bushfire danger conditions fire can still travel quickly through areas of low fuel load. Intensity is reduced but can still be highly dangerous under these conditions and it is certainly not a silver bullet. This message must be communicated to the general public who expect it to provide a level of safety that is not realistic. The recent Black Summer event demonstrated grasslands also fuel fire. Greater consideration towards a non-reactionary planning response would be welcomed during and post recovery with regards to vegetation and planning controls. While it is a human natural reaction to remove any and all vegetation to remove all risk, we will in effect create a further urban heat island affect issue (at the cost of Health and Wellbeing).

Land clearing is another activity that is commonly seen as a solution to managing fire risk and at a local scale it can appear effective. However when this is applied at a landscape scale it may worsen the climatic and weather conditions which are the main drivers of fire behaviour. Removal of trees increases ground temperatures and reduces humidity, resulting in dryer surface fuels earlier in the day. It also increases wind speed at ground level and at a landscape scale contributes to desertification in the long term.

#### - Planning Issues

Wollondilly Shire Council would welcome a consistent application of planning for bushfire protection across all agencies. At the pre-development phase there needs to be a better balance between the living needs of people and their property, and the immediate needs of the natural environment; that is more attention given to the latter. The health and wellbeing of people is more dependent on the existence of a sustainable ecosystem than is appreciated.

Consideration of reducing housing densities or the exclusion of housing development in areas fringing bushland and high fire risk areas would be welcomed. For example the State government approved South East Wilton development is surrounded by native bush with lots allowed very close to the bush.

There is a current disconnect regarding the cumulative effect of Regional and State led greenfield and infill housing supply in the Wollondilly Shire which leads to a misunderstanding of the network constraints to be resilient to natural disasters such as flooding and bushfire. The challenge for planning is bushfire risk is looked at, at a precinct level, subdivision level and a local DA level. These are sufficient measures, except that the broader cumulative network and additional growth is not measured, reviewed or monitored.

Council assesses and approves Development Applications in accordance with the Planning for Bushfire Protection Guidelines which includes enforcing requirements regarding APZs. Asset Protection Zones in accordance with these guidelines have limited effect in protecting properties during extreme fire conditions such as those experienced during the 2019/20 summer. There is also minimal enforcement of compliance with bushfire conditions in development application determinations due to a lack of adequate staff resourcing. More resources would be welcomed for APZ inspections and their enforcement. An option to fund inspections through a State fee given to Local Government to cover the cost of inspections in high fire risk areas.

When considering appropriate locations for development, there needs to be acknowledgement which areas are exposed to natural hazards as well as man-made hazards such as chlorination plants, and plan for appropriate buffers and safe evacuation. Before Council can consider

planning proposals for local growth in the Shire, Council will develop an appropriate emergency management approach to these hazards. This response will be informed by a study to be prepared in partnership with emergency services agencies. This type of study should be conducted across all bushfire prone areas.

- funding for evacuation plans and across agency delivery

As there were also issues and concerns with the evacuation of residents assistance, combined cohesive State leadership and State led funding would be welcomed to undertake an informed Shire wide evacuation study (with localised understanding and context), particularly based on any further increase in housing within the Wollondilly Shire.

Improved Commonwealth funding for evacuation plans and across agency delivery would be helpful and possibly support on fire trails, as many agencies share the "trail" but it's up to specific agencies and landowners to maintain them. Perhaps some tenure blind crew or service would assist in maintaining these similar to the State Mitigation crews.

While there was a positive local government response for planning with development applications more assistance from the State level would be welcomed in the delivery of timely decisions with regard to regulated fees for Long Service levies and Planning levies.

- Effective and timely reviews of mapping by RFS

More resource allocation would be welcomed at a State level to provide effective and timely reviews of mapping by RFS to ensure up to date mapping is available and the applicable controls are in place. Some LGAs wait months or years for review and sign off. Wollondilly submitted its new mapping in October 2019 for review. We understand it will be at least several months before this is completed.

Providing resources to compare past hazard reduction and wildfire burn areas to fire intensity mapping from 2019/20 fire season to assess its correlation with fire intensity at a landscape scale is recommended. This should be a fine level study that considers past fire intensity and interval where possible. Post recovery, the sharing of data and mapping (i.e., where fires occurred) with planning within Councils would also assist in future planning considerations for local Councils.

- Implications of State code based approvals

Implications of State code based approvals do factor in State and Regional disasters and as a result, funding and resourcing is left to local government on an ad hoc basis. It is noted that there was some State led work on flooding and evacuation in the Hawkesbury Nepean, and Bushfire evacuation or hazards analysis and evacuation at this regional scale would be worthy of consideration, particularly in the peri-urban and urban fringe areas most at risk.

- Land management responsibility vs resource allocation

In terms of land management responsibility vs resource allocation, the observation of Wollondilly Council staff who attend the Bushfire Management Committee meetings is that Crown Lands are particularly understaffed in the area, with National Parks also having major issues in terms of having adequate staff numbers and budget to manage huge areas of hazard vegetation. Council manages a relatively small amount of bushland and fire trails but also under resourced to manage bushland, APZs and roadsides to the required standard in bushfire prone areas, and implement community engagement programs.

In addition to activity based funding, such as the RFFF program which varies from year to year, it would be highly beneficial to provide a consistent annual baseline funding to organisations to support bushfire related positions, ensuring there are always adequate staff with a dedicated bushfire focus to manage those essential functions.

Wollondilly Shire Council strongly supports the betterment concept in regards to repairs and/or replacement of infrastructure but considers that current funding arrangements do not provide an appropriate incentive. Wollondilly Council supports ongoing programs on both betterment and mitigation, with equal shares between the Commonwealth and State with some funding contribution from local government. However, the local government share should be flexible, up to a limit, depending on the capacity of the individual council involved.

**Is there anything else you would like to tell the Royal Commission?**

- Wollondilly Shire context in relation to the inquiry:

Our Community experienced extreme bushfire season in 2019-2020, resulting in devastating loss of life, property and wildlife, and environmental destruction across the nation. The bushfires have profoundly affected communities across Wollondilly and across Australia resulting in the engagement of the responsibilities and powers of State and Territory Governments as well as those of the Commonwealth Government.

Changing global climate impacts have been experienced in Wollondilly and carries risk for the environment and ability to prevent, mitigate and respond to bushfires and other natural disasters. Action should be taken in the development of adaption plans, to address the consequences of longer, hotter, drier seasons and severe weather events

Wollondilly recognises while all levels of government will review various operational aspects of the 2019-2020 bushfire season there is a need to focus on national coordination, conducted jointly between Commonwealth and State and Territory Governments to give Australians confidence that natural disaster coordination arrangements are the best they can be.

- Living with climate impact issues and the resilience of our community

The climate is impacting the environment, community and economy through extreme weather patterns like bushfire, drought, flooding and higher temperatures. For Wollondilly, this can impact the health and wellbeing of residents, the unique environment, the viability of agriculture and industry, and the costs associated with providing and maintaining infrastructure.

Climate impact issues are becoming a reality for our communities with increased frequency and/or severity of extreme weather, being experienced across Wollondilly's PeriUrban Landscape. This was evidenced by the 2016 East Coast low that resulted in severe flooding in Picton, heatwaves in South West Sydney on the 7 January of 2018 (47.3 °C) and 4 January 2020 (48.9 °C) where Penrith (20kms from Warragamba) recorded its hottest days on record making both dates the hottest place on Earth on at the time.

Wollondilly has an extensive bush fire hazard interface, with Nattai National Park and Blue Mountains National Park covering the western part of the Shire and Dharawal National Park and the Sydney Drinking Water Catchment Area located in the south-east.

These large tracts of vegetation means that 88% of the Shire is identified as being prone to bush fires. Outside these areas, many towns and villages are vulnerable to being isolated where the only evacuation routes are through bush fire-prone land in major fires.

Other areas, such as Wallacia, Picton and Menangle have a long history of infrequent, but sometimes serious, flooding.

Broadly, climatic patterns and localised weather systems appear to be the most significant influencing factors for bushfire behaviour. Several years of widespread drought and many years more of below average rainfall was a key factor contributing to the intensity and extent of the fires. Dry conditions at the time were also a major influence on the intensity of the fires. Appropriate levels of funding and resourcing assistance to Local Government would be welcomed to meet urgent climate change mitigation and adaptation requirements for the short and long term protection and benefit of communities.

Wollondilly 2040 – A vision for the future of Wollondilly, Council's adopted Local Strategic Planning Statement, has identified the need to:

- continue to review and update the Bush Fire Prone Lands map,
- review and update the DCP to ensure greater certainty of sustainable outcomes for new development
- revise the Sustainable Wollondilly Plan and update actions
- review the LEP for opportunities to better manage natural and manmade hazards
- extend the Wollondilly Community Environmental Education Program
- continue working with the Department of Planning, Industry and Environment on delivering sustainable precincts in growth areas, and
- prepare a study in partnership with emergency service agencies to evaluate the threats and risk level from both natural and manmade hazards and establish appropriate management.

Council would welcome resourcing to assist in the implementation of these initiatives and our continued effort to create education and awareness programs around climate impacts for the community to support disaster recovery and community resilience.

If weather patterns and subsequent fire seasons continue in the current trend, which appears likely based on-ground evidence and expert advice, it is certain that additional air and ground equipment and more personnel will be required. This is being echoed by everyone involved, from volunteers to scientists and staff of all levels. Adequate resources for earlier hazard reduction mitigation is essential, for while very large areas of the country have burned there is much more remaining which could create similar situations, as soon as later this year.

- Loss of wildlife and threatens species

Wollondilly Shire Council acknowledges the significant loss of wildlife and threatens species through the Black Summer event and the significant number of native animals that have unfortunately suffered through the severe wildfires. Issues relating to wildlife management and species conservation, including biodiversity, habitat protection and restoration was adequately assessed through the hazard reduction process.

Providing appropriate resources to assist wildlife to survive would be welcomed e.g. food and water. More information available to the public on appropriate support actions would also be welcomed as well intentioned actions can do more harm to wildlife than good. Issues such as appropriate food for affected fauna, appropriate watering devices need to be considered so they become waste when no longer in use.

- Loss of habitat and tree damage

The Wollondilly Shire has experienced high intensity wildfires previously. However the sheer scale of this event is without precedent, as is the loss of habitat that resulted. One particular standout is the damage seen to trees, particularly those with hollows, during this fire season. During past fire events tree damage was largely superficial with relatively few tree failures, minimal cleanup and hazardous tree removals required.

The Green Wattle Creek fire resulted in hundreds of tree failures and hazardous tree removals per km of affected road network and resulted in the tragic death of two volunteer firefighters. Having undertaken thousands of tree assessments in fire affected areas in the Wollondilly LGA, tree management staff attribute this increase in tree damage to the long term dry conditions leading up to the event and its effect on moisture held within the timber. Traditionally when a fire moved through the live timber area the trees contained high enough moisture levels that they did not to burn readily. In the recent fires the timber was dry enough that in many cases it behaved more like dry seasoned firewood. Staff observed numerous instances of metre plus diameter trees being completely burned away leaving only a hole in the ground. In these cases essential habitat that has taken decades to form was destroyed in a matter of hours.

There should be a state-wide moratorium on the removal of hollow bearing trees without approval. Also restrictions around mulching those which are removed should be put in place. Grants should also be made available for creation of artificial hollows within remaining trees. Fires cause negative impacts on local ecosystems in a number of other ways. Fires that have a higher frequency than the natural fire regimes of ecological communities can have a high impact on such ecosystems. It is therefore important that these fire regimes be considered whenever possible during the planning and implementation of hazard reduction activities.

- Soil erosion and weed management

More soil erosion is a common after-effect following the loss of vegetation ground cover and living roots. With subsequent rain valuable soil needed for plant regeneration is rapidly washed in streams and rivers thereby adversely affecting water quality for aquatic life and human catchment water. The latter is an especially important issue in this LGA that contains large dams of water for Sydney.

Weed regrowth after fires is a serious land management issue with adverse impacts on agricultural and horticultural production. It has often been observed by our staff that weeds come back quicker than native plants thus creating land management issues in both natural and human-modified environments. Additional funding is needed after fires for weed control and replanting to promote rapid regrowth of the natural biodiversity and to reduce the impact of erosion. The Australian Association of Bush Regenerators has some good information <https://www.aabr.org.au/>

Funding allocation for training in bush regeneration would be welcomed along with consistent funding of this work so the training can be applied. Unpredictable, inconsistent and reactive funding is a serious problem.

- Native plant recovery

To better enable native plant recovery (and the fauna that depend on them) more investment is needed into collecting and storing seed to ensure that species are preserved and that there are stocks for planting restoration exercises after the fire. One way to do this would be for the State government to contract fund Council nurseries to undertake this work.

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