

Emergency Services Foundation (ESF) Scholarship 2017

"Identify whether people who live in different environments prepare, respond and recover differently to emergencies and why?"

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Identify whether people who live in different Environments prepare, respond and recover differently to Emergencies and why

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A full list of the Agencies, Organisations and Individuals who assisted me throughout my application and study tour can be found in the Appendences on page 45 under Appendix A.

Executive Summary

Fires, Floods and Storms are some of Australia's most devastating emergencies. This Report explores whether people who live in the path of these emergencies prepare, respond and recover differently dependent on where or how they live and what types of emergencies they are exposed to.

Research conducted through the Emergency Services Foundation Scholarship, included a 24-day tour of NSW in 2017, meeting with Emergency Service Organisations, Schools, home occupiers, Military, and specialist professionals with the intent of discovering if data gathered could be transferable to benefit Victoria, its communities and Emergency Service Organisations.

The research used door-knocks, community consultations, interviews, and group activities to answer the above posed question by seeing if personal views, backgrounds, genders, age groups, religions/cultures, geographical locations or previous hazard education affected preparation, response and recovery.

The results of the research clearly indicate that different environments do affect the way individuals and communities prepare, respond, and recover to and from emergencies.

Key findings indicate that some communities within levees are complacent about preparing for floods despite living in a high-risk area – because they expect the levee to offer them 100% protection. So, residents that state this answer are clearly not prepared, relying on the levee for their protection. This was seen more in Communities with larger levees or with home occupiers that had their own levees.

The study tour also explored whether education and engagement programs would be most effective if they targeted specific areas, communities, age groups, genders, cultures, religions, etc. And whether learnings from NSW could help guide the implementation of the Victoria SES Community Resilience Strategy through networking with Emergency Service Organisations (ESO) and communities to become more resilient and pro-active in the designing of how they prepare, respond and assist with recovery efforts of their communities for emergencies.

Study Tour Objectives

Study tour objectives were linked in accordance with the VICSES Community Resilience Strategy 2016-2019. To Build Capacity, Increase Collaboration and Foster Connections.

- Visit communities that have various hazard risk issues, have experienced recent emergencies or have identified "successful" programs and discover how they prepare for, respond to and recover from emergencies. – Build Capacity.
- 2. Discover how Emergency Agencies assist and connect with these communities and whether preparation, response and recovery differs depending on where they are situated. Increase Collaboration.
- 3. Research whether personal views of individuals or communities differ to emergencies based on culture, age, gender and habitation. Foster Connections.
- 4. Determine if "hazard education" and/or community-led programs used in these communities could be transferable to benefit and improve Victorian emergency service agencies and its communities in becoming a more resilient and robust state. Increase Collaboration.

Background

Victoria

Victoria has had its equal share of Natural Disasters throughout time from Bushfires, Floods, Storms and Drought just to name a few. The Emergency Management Manual contains the principal policies, emergency planning and management arrangements as outlined in *Emergency Management Act 2013* for Emergency Preparedness, Response and Recovery.

Emergency Management Victoria (EMV) EMV shares responsibility with the emergency services and government departments for ensuring Victoria's emergency management system is effective, community focused and sustainable.

In Victoria Emergency Service Organisations are known as Control Agencies whereas in NSW they are Combat Agencies. Emergency Service Organisations in Victoria that are responsible for the Emergencies that I researched include;

Flood – Victorian State Emergency Service (VICSES) Storm – Victorian State Emergency Service (VICSES Fire – Country Fire Authority (CFA)

So, if I researched what the general public were prepared for? Could that vary based on their age, gender, culture, religion, up-bringing and geographical location? What they'll respond to, prepare for and recover from and how?

It is true that most people are more prepared for a fire than any other natural disaster. When asked why this was people believed that you could feel and see the effects of fire whereas other emergencies like a flood for instance wasn't perceived the same way as a fire because it was 'just water'.

If we understand how the community prepares and reacts then we can tailor make our education programs to suit our areas, making for safer communities and better prepared high-risk communities.

New South Wales

New South Wales is a larger state than Victoria and prone to more fires and storms than Victoria. The community of New South Wales as a whole, lives with a variety of natural and technological hazards. The more common hazards are floods, severe storms, and bushfires but other events such as exotic animal disease, major aircraft crashes, and earthquakes are possible. Most incidents are handled using standard procedures. However, if an event requires a significant and coordinated response, then this is termed an emergency.

The key element of emergency management planning in NSW is the *Emergency Management Plan (EMPLAN)*. The objective of EMPLAN is to ensure a coordinated response by all agencies having responsibilities and functions in emergencies. New South Wales Emergency Service Agencies that are responsible for the Emergencies that I researched are

- Flood New South Wales State Emergency Service
- Storm New South Wales State Emergency Service.
- **Fire** Fire and Rescue NSW and New South Wales Rural Fire Service (RFS)

By visiting NSW, I was determined to discover if the information I gathered could put people in Victoria in a better headspace, teaching them to be more prepared to leave if advised to evacuate earlier rather than later, to discover how communities build up their resilience, which can assist us by bouncing back quicker and knowing who is vulnerable. The data gained could be used to build intelligence tools to better decide decisions in planning.

So why NSW, well as stated above NSW has many types of similar emergencies to communities in Victoria, so it seemed logical to review a place that was similar to our own State to learn from each other and see if people, communities and other Organisations prepared, responded and recovered differently or the same from emergencies based on where and how they live, and to utilize our combined research to help each other and discover which resources belong where and Why? It was also practical to keep this research in the bounds of Australia as the environments and cultures of other countries can be significantly different to ours and the information gathered may not have been as useful or relevant to our own environments.

Methods

Meetings, exercises and Door- knocks were conducted with and in consultation with

- Emergency Service Organisations,
- Schools,
- Military,
- specialist professionals,
- home occupiers

with the intent of discovering if data gathered could be transferable to benefit Victoria, its communities and Emergency Service Organisations.

The research also examined factors such as personal views, backgrounds, genders, age groups, religions/cultures, geographical locations or previous hazard education responses to see if they affected a person's preparation, response and recovery in different types of environments.



Other methods were also presented to me whilst on tour which gave me an insight into

why people may prepare, respond and recover differently dependent on where they lived or even worked.

Some of which included;

- How you were trained to do the task/job? This is seen more through the Emergency Service Organisations
- Skill and knowledge levels of Emergency Service Volunteers and Staff, both for current state members and interstate transfers and assistants.
- Cultural understanding of Australia.

A full list of the questions asked to Organisations, Agencies and Individuals in NSW can be found in the Appendix. During my Study Tour, I spoke to a total of 128 Residents, with an overall household count of 372 people.

Environments Researched

Environments that I researched on my study tour included:

Geographical:

Bushland

Bushland included hills, scrub and

forests, both in rural and Urban environments.

Locations I toured that had Bushland included Wagga Wagga, The Rock, Kapooka, Cessnock, Kitchener and Port Stephens

Rivers/Creeks



Rivers/Creeks were any stream of continuous water flowing through towns and communities.

Locations that I toured that had Rivers/Creeks included Forbes, Fairholme, Maitland, Cowra, Bedgerabong, Uranquinty and Wagga Wagga

Urban

Defined as a town over the size of 500 people.

Locations that I toured that were classified as Urban Included Wagga Wagga, The Rock, Forbes, Parkes, Cessnock, Kitchener, Hinton and Cowra





Rural

Defined as farmland, small communities and open plains.

Locations I toured where these were present included Kapooka, Fairholme, Bedgerabong, Uranquinty and Gooloogong

Floodplains

Floodplains were open fields, generally flat and low-lying. Not far from creeks of rivers with regular water flows.

Locations I toured that were on Floodplains included North Wagga Wagga, Uranquinty, Fairholme, Bedgerabong, Forbes and Maitland



Coastal

Defined as where the land meets the sea, or a town or community is within 5km of the sea.

I did not physically visit any part of the coast however, I did have interviews over the phone and in person with Individuals from the coast including; Newcastle, Port Stephens and Whyalla.



Levees

Levees are embankments built to prevent the overflow of water.

Locations I toured that had Levees were Wagga Wagga, Uranquinty, Forbes and Maitland.

Hill (Isolation)

Defined as gentle slopes that may be above floodplains and also includes mounds/raised areas where houses sit up above floodplains.

This photo was from the 2016 floods where the community of Testers Hollow became Isolated.



Generational:

Up-bringing

Up-bringing has many different meanings but usually relates to early education as a child with a particular way of being raised.

The Oxford Dictionaries definition states Up-bringing to mean; "The treatment and instruction received by a child from its parents throughout its childhood".

https://en.oxforddictionaries.com/definition/upbringing

Can the way we are raised and where we grow up determine the way we prepare, respond and recover from emergencies?

Gender

The word gender has been used throughout the centuries as a grammatical term, referring to classes of noun designated as masculine, feminine, or neuter in some languages. Although the words gender and sex are often used interchangeably, gender more often refers to cultural and social differences and sometimes encompasses a broader range of identities than the binary of male and female.

Does this make a difference when we are deciding on our preparation plans, responses and recoveries to Emergencies?

Age Groups

An age group or groups can be people of a similar age or within a particular range of ages.

For Example;

I classified the participants in my study into the following age groups:

<20's, 20's, 30's, 40's, 50's and 60+.

Cultural:

Residential

Most people who come to Australia know that it is large, with dangerous snakes and spiders and we all seem to live at the beach. However, what many do not know is how to deal with our Natural Disasters. And where people decide to settle can determine a different type of emergency hazard, for each area around Australia is different and has its own types of Emergencies/Natural Disasters.

I discovered whilst speaking to Emergency Service Organisations and home occupiers, that people new to an area, whether from overseas or interstate, had little knowledge of the area's natural disasters.

For example;

• A couple from Japan said they knew how to handle an earthquake or a tsunami and could help others who did not know. Except that, they had no idea what to do for a bushfire, even though they were living in a high-risk area. When asked what they would do if they had a bushfire and they just said they would run away up the hill, like they would for a tsunami, not realizing the danger this could put them in.

See Recommendation 2 for possible solutions.

Work-place

Culture is the character and personality of your Organisation. It is what makes your Organisation unique, being the sum of its values, traditions, beliefs, interactions, behaviors, and attitudes.

Within Emergency Services Organisations a strong positive workplace culture is essential. It drives engagement and leadership, it shows employees and volunteers how to communicate and interact with each other both internally and externally. A good workplace culture can mean a great relationship with each other and other Organisations and this can help enormously when out doing operational tasks with other Organisations or working together in a communicational way, including for major Emergencies. However, does this mean we are great preparers in our home life or are we just experts in our work life?

Emergencies Researched

Fires

Bushfires, Grassfires and House Fires

Floods

Flash flooding, Coastal flooding, Dam/Levee Failure, and riverine flooding.

Storms

Coastal, dust and wind storms, cyclones, thunder storms and in-land storms.

Although not part of my primary focus area, I also gained some valuable information on earthquakes, drought, medical and criminal emergencies. The amount of information on these categories was significant in comparison to that of the primary focus areas.

Results

Does where you live really determine how you prepare, respond and recover from Emergencies? This is the question that I set out to find out. In short yes it does. (See graft below for Confirmation)

Preparation:

Residential



What people are prepared for mostly based on their geographical location;

- Coast Storms
- Urban Fires (House fire, Grass Fire and Bushfire)
- Rural Fires
- Hill (Isolation) Fires
- Rivers/Creeks Floods
- Levees Floods
- Flood Plains Floods
- Bushland Fires

The evidence shows that people who live in different types or certain types of environments do prepare differently because they live in an environment that has mostly these types of emergencies.

The most prepared place that I found along my tour was a small broken off suburb of Cessnock called Kitchener. Kitchener has a population of around 1000 people with no shops other than the local hotel.

The town is surrounded by bushland, pine and gum tree mostly with only 1 major road in or out of the town. The closest town is Cessnock which is 10km north.

The town also has their own fire pump and water supply housed there with some of the residents trained in basic fire prevention and attack. The local Cessnock Fire and Rescue Crew regularly go out there to check on the hydrants, however some of the locals do this also.

Members of the Cessnock Fire and Rescue accompanied me when I spoke to residents of Kitchener. We found that everybody that we spoke to indicated that they were all prepared for a fire and some for a flood.

Every year the town is threaten by bushfires hence the reason that everyone is prepared, they are used to it. However, unlike others that I spoke to on my trip not one person said that they would stay and defend. As they all quoted

"Life is more important than property, property you can replace, life you cannot".

This is just however for preparation. The most unprepared Environment for any emergency that I researched based on geographical location was:

Levees – 40% of those that I spoke to were not prepared at all for an Emergency. The main reason was that they either lived in a levee or had their own, many also answered that they raised their houses up and that they believed was enough to protect themselves, they had no other plans.

Does this mean that just by having a levee or raising your house up off the ground that you are prepared for an Emergency? Because this 40% believed this to be so.



I was also however fascinated to discover whether the homeless prepared for Emergencies. After speaking to a representative of the Australian Red Cross I discovered homeless people are not unintelligent, just displaced in life so when an emergency strikes they will tend to move to a new location, if their current one is impacted or damaged. So basically, homeless people can be the most prepared people for an emergency, as they know that their livelihoods will be impacted if they stay. However, they are more prone to long-term chronic health issues during these events.

It was also discovered that sometimes homeless people are the best Community Champions for local knowledge as they know their town/community the best because they live it in a very different way giving them the insight to areas and knowledge of their community that may not be known to residents that have homes.

See Recommendation 11 for possible solutions to help the homeless feel more involved and respected in their Communities.

Organisational (Meetings and Training nights)

Regarding how Organisations prepared their communities for emergencies I focused on two questions in particular when speaking Organisations and Individuals.

These were

1. Why do you believe that your Organization is so prepared/unprepared for an Emergency?

From this question the response was quite good, most Organisations had

- Risk Management Plans,
- Knew of their high-risk areas,
- Had identified their Landholders and Stake Holders,
- Worked closely with Council and other Emergency Service groups to aid and assist each other with educating or aiding the general public whenever duty calls,
- Are constantly training for different types of scenarios and emergencies, field days are a big part of their education towards the Community.

However, some things could also throw them off guard that can lead to future problems.

For Example,

• The NSWRFS states that many people burn off at the wrong time of the year. Many people are unaware that you cannot do this and that it can actually accelerate the growth of vegetation and make a fire worse during the normal fire season because it has more growth to fuel it. A danger with people burning off, particularly farmers, can be the potential to burn down power-poles resulting in power losses for other Rural and Urban environments. Depending upon the season. This can cause severe and sometimes deadly results for the vulnerable and older community members.

See Recommendations 1 and 5 for possible solutions to this issue.

2. From your experience do you believe that there are any environments (Culture, Religion, Age, Gender and Geographical Locations) that prepare, respond and recovery differently and why?

Answers were reflective of today's lifestyles, for the younger generation it was stated many times that they were computer literate and therefore understood more about Emergency Apps and how to get information easily. Yet were also harder to educate as they became bored easily.

Another major factor was that unless members of the public are up with the technologies of the modern world, they would find it more difficult to prepare, respond and recover from an emergency as advances in technology are always improving.

The last major factor that came into most answers was the vulnerability of some communities. We have to remember that Australia has an aging population, a high multi-cultural society that may not know of all our dangers or understand warnings. These groups would prepare, respond and recover differently as they either require the support of community members or have limited understanding of the risks in their communities.

Overall and in general we all seem to be good risk managers of everyday life because we do it all the time (like driving a car), but major natural disasters or emergencies that do not happen all the time we don't really think about these much until they happen, unless we live in areas that are constantly prone to such emergencies. Some individual responses to different types of environments can be seen below.

Culture

"Farmers, are very good flood planners because they live on the low lands, they are also good at response because they go through lots of little floods and they learn how to move their machinery and stock to higher grounds, if they didn't they would lose their livelihood and assets. But they are not good at warnings". – *Chas Keys, former Deputy-Director General for NSWSES*

"Out towards the western parts of NSW, there are many indigenous cultures and sometimes the RFS are called out there to handle a lot of juvenile offences of lighting camp fires at any time of the year to cook their foods". – Cameron Bird, Community Engagement Officer, Mid-Lachlan Region, NSWRFS.

Age

"Progress Association, are more active, older farmers are also more active, younger generation are not as aware and locals are more resilient". – Raechel Squires, Community Engagement Coordinator, Hunter Region, NSWSES

"Mature generations are better prepared from personnel or family experience and are more likely to engage in Community/Emergency Programs, whereas younger people don't think it will happen to them". – Glenn Evans, Executive Officer for Floodplain Management Australia (FMA)

Gender

"Men of the land have a better understanding of what happens on the land so they are better prepared for what could happen than Men in Urban environments, however when it comes to evacuation Men in general will not always go preferring to stay and defend but sending away the wife and kids". – Glenn Evans, Executive Officer for Floodplain Management Australia (FMA)

"What the NSWRFS has found is that females are often the quiet listeners, receptive/adaptive to change, the ones that want to learn and know what to do and will most times be the ones to nag their husbands until they do it." – Jonty Bruce, Operations Officer, Riverina Zone, NSWRFS

Geographical Location

"Sometimes the smaller the town the more they help each other out, they know everybody in town, yet at the same time these people can be hard to engage with, especially if you are a big hot shot from the city, they will listen more to a local such as a Fire Captain for advice on Recovery than an outsider". – *Deb Bate, Biosecurity, Emergency Services* & TSRs, Forbes Local Land Services.

For a full list of questions that I asked Organisations and Individuals can be found in the Appendix.

Response:

Residential

"Response" was a very different type of Environment for many people. This is where some people put their preparation into place, whereas others who had great preparation techniques decided to not respond at all but defend.

From evidence shown in my door knocking sessions many residents were prepared for certain types of emergencies and this they believed fell into the response phase

For example: One lady I spoke to said she was prepared for an emergency but would not evacuate if told to by Authorities because she believed that having a levee was enough to save her, whereas another Lady I spoke to had no preparations in place at all except to leave when advised to.

This was the part of my study tour where I saw the greatest difference in people's attitudes and how they perceived different types of emergencies.

Many people would say it would depend on the emergency or the circumstances as to whether they would take on the advice of authorities as to whether to evacuate.

Top 10 reasons why people chose not to leave included:

- "We have a Levee bank."
- "It would depend on the Emergency if it's a fire yeah I'll leave but if it's a flood well that's just water what's so wrong with water?"
- "If I think it was deemed necessary."
- "I'd stay and defend but get the wife and kids to safety."
- "Would wait for it to get right up to my house before I would leave."
- "Would need a very good reason to leave such as proven immediate danger."
- "I've lived here my whole life I think I know more than the authorities do".
- "I won't evacuate, I'm isolated but okay."
- "I have animals and they come first I won't leave if I have to stay to protect them."
- "It would depend on the river height."

Local knowledge and pride seemed to go a long way especially with long-term residents and those from rural communities.

Younger families and generations seemed to rely heavily on knowledge of the local area from long standing members. And took what information they said into account.

Each environment that I researched seemed to have a specific emergency that only they would evacuate for, except for rural communities.

I found that living on the land had great benefits and many would believe that they lacked resources because they lived out of town.

Although, what I found was that they had more resources than any other environment because they had no choice but to. Living in remote or rural communities you had to be more resilient and more resourceful. You cannot just call your local SES if you become isolated in a flood - you must find other avenues to assist you.

In one community I visited called Bedgerabong, 30 km west of Forbes was one such community. They had some major floods go through in 2016 and experienced crop fires almost every summer. The Mid-Lachlan NSWRFS works heavily with local farmers in this area with the Grain Harvesting Guide.

Whilst in the Bedgerabong Community I visited the local school and spoke with each of the grade levels about emergencies from a child's point of view. Learning at the same time how much information is passed not only through the generations but from child to adult.

The below table shows some positive (safe) and negative (dangerous) responses when speaking to the children about the 2016 floods and how they were prepared for, responded to and recovered from emergencies and what were some of the things that they did in responding to the flood emergency.

Positive - Safe	Negative - Dangerous
Dad decided not to travel through	We had injured and trapped livestock
the floodwaters we went the long	that we had to tow across the
way home	floodwaters by a trailer or boat
I helped put the chickens up higher away from the floodwaters	We played in the water a lot, one of my friends used a surfboard and the back of their boat
I remember going to help the entire community sandbag an old man's house.	The road was flooded so Dad used the truck to get me to school.

Although many children knew how to prepare their homes for Flood, Storm and Fire emergencies they also performed higher–risk activities that are normally frowned a pond today and could be extremely dangerous.

My findings from this school visit include:

- Some animals were not being moved in time e.g. see photos of sheep in boat below.
- Lots of kids were playing in floodwaters dangerous behavior
- The community spirit is much higher than high population areas with people helping each other out, even if they are not known to each other. They all chip in and help.
- Children stated that their parents would not use cars to drive through the floodwaters because they'd get swept away. Though they would then resort to larger vehicles like trucks and tractors to get to places they needed to.



(At least they had the sense to put a life jacket on the sheep)

The response from the children and rural communities showed they just get in there and get the job done. It does not matter whose resource it is the community spirit comes out and they share what they have.

I know I stated that animals seem to need rescuing a lot, I believed it was because they were proud and believed perhaps that the river would not reach them. When speaking to a lot of the farmers, especially those of remote area's most of the time it was more because they did not get the same amount of warnings timeframe as their urban counterparts.

Many remote or rural areas lack in phone and internet reception. They must rely on satellite phones or radios and they cannot always have those on them.

After speaking to the farmers and the rural generations, I thought it might be interesting to get their complete opposites points of view, as I had already proven living in different types of emergencies means that you prepare differently so would they respond differently too.

So, I visited an Urban Primary School back in Forbes asking the same questions to an urban of children.

We spoke to Grade 3 children and their top 3 positive (safe) and negative (dangerous) answers were:

Positive - Safe	Negative - Dangerous
Mum helped a car out of floodwaters	We had no power and no T.V we
	were so bored
I helped put sand in sandbags	Dad drove through the flooded
	waters
We went and stayed with family and	We used our bogey boards and
friends	played in the floodwaters

We then discovered what they would do if they were in a flood and their responses were very different to those in remote and rural communities which just goes to show that if you have more available to you, are you then more complacent?

The top 5 responses from the children were;

- "Call the SES and say we are stuck in our house, need help and would give them our street and number".
- "I would go to the SES and get lots of sandbags or if I forgot my money I would go out of my house".
- "I would call the SES on 'ooo'.
- "I would get someplace high and call for help"
- "I would leave the house with my family"

The responses from urban and rural were very different. So not only does where you live and the resources available determine how you prepare, these factors can also determine how you respond. Therefore, does having more resources available make us lazy? And does where you live determine your up-bringing and ways of doing things in life? For a full list of the children's responses from each school see Appendix I.



(Artwork from class P-2 at Bedgerabong Public School)

Overall when evaluating my results from speaking to residents in different environments on Response what I discovered was;

Bushland

64% of those prepared for a fire would evacuate if told to, whereas only 18% would leave for a flood and only 9% would evacuate for a storm. The main reason was they got more bushfires than floods and perceived them as more of a threat to their livelihoods.

River/Creek

26% would evacuate for a flood with both a Storm and Fire having the same percentage of 10% of evacuation rate, more people in this environment would prefer to wait and see before deciding to act with 23% for a flood and 10% for a fire.

Urban

17% would leave for a flood, 13% for a fire and 9% for a storm, residents in urban areas were under the impression that they were safe and so preferred to stay with 13% for both flood and storm and 11% for fire. The rest of the percentages insisted on "the wait and see", depending on the circumstances with many stating that they lived in town so why worry about any of it.

Rural

These figures were all over the place with an equal share in each group with some saying they would leave, yet most said it would depend on the emergency and whether they could just do something about it themselves.

For example

Many local farmers are also a part of the local fire brigade or have their own tanks of water on the backs of their trucks and utes so if a fire were to start they could use their generators and pumps and put the fire out for themselves or grade up the paddocks to prevent the fire getting any further.

32% stated it would depend on the emergency as to whether they would leave. With most of them saying if it was a fire they would just stay and defend and for a flood just wait it out.

Floodplain

Most people I spoke to live on floodplains and, as expected were more prepared for a flood. Unlike some other of the environments (minus bushland and coast) they would also evacuate if told to for a flood with 37% saying they would go, another 10% would leave for a storm and 15% for a fire. This environment also had one of the lowest percentages of people who would stay and defend with only 14% staying and that is across all emergencies or just 6% for a flood emergency. When asked why they would leave most stated, like the Bushland district of Kitchener, that life is more important than property.

Levee

Levees was a fun environment to cover. There were many different types of Levees from owner-occupier, purpose-built and temporary ones such as sandbag walls that were left and had become overgrown and therefore the residents determined them as levees.

For a flood, 46% would not evacuate their homes believing that the purpose of the levee was to protect them. Whereas for a fire 50% would leave. More education is definitely needed on what a levee is? and the main reasons that they are built.

When we presented the 'what if?' scenarios to the residents on what they would do if their levee broke or overtopped, they had no answers on what they would do just saying "it won't break".

Coastal

From research conducted, if you live on the coast, you are prepared for all kinds of emergencies, from scrub bushland fires to flash floods to cyclones. And when it comes to evacuation they do not muck around, especially for storms.

100% of those we spoke to claimed they would evacuate for a storm as living on the coast these can be deadly. 58% said they would leave for a flood as the waters may not always reach you and 36% stated they would leave for a fire.

(See Recommendation 9 for possible solutions for the evacuation response system for all emergencies)

Organisational:

Fire

The two major Organisations that respond to Fire are the Rural Fire Service and Fire and Rescue NSW. Fire and Rescue being is more urban based/focused with Rural Fire Service being rural.

Both Organisations primarily respond to bush/grass and fires. They also support other agencies during floods, assisting with Sandbags and door-knocking residents, and also assist with searching for missing people.

The RFS also has many large Control Centers that house multiple agencies, equipment, vehicles and courses for Fire Emergency Response.

For Example: The Lower Hunter Fire Control Centre is East Maitland is the largest in the Hunter Valley, during the April 2015 super storms all telecommunications and power was lost across the whole valley however the Center was the only operational station that had both phones and power because they have a huge back up battery power unit that runs all power and phones off a separate line and system, therefore keeping Firefighting Brigades and other Emergency Response Organisations with the abilities to respond to and assist the general public.

Flood

Flood is primary responded to by the NSWSES. Still, there are smaller community groups such as the "Uranquinty Community Safety Group" who respond to floods in communities that the local SES Units cannot get to if they are isolated or access denied.

These smaller groups are made up of community members and are equipped with caches full of specialist equipment to deal with flood emergencies such as safety cones, portable lighting, sandbags, marquees, torches, radios, ladders, flood maps, tarps, first aid kits, eta. Both the NSWSES and these smaller groups respond to floods by assisting their communities with evacuations, sandbagging homes/businesses, lifting furniture up higher and diverting water.

NSWSES is the Primary Organisation and as such has more roles. **For Example,** NSWSES can also issue warnings to communities on the possible threats through the BOM and river heights.

One of the main problems that NSWSES stated when they had assistance from outside states was lack of local knowledge. This became a problem when locals asked them questions of where places were, or whether a particular road was open, for them not being a local or knowing the area meant that they could not answer and this became not only a disadvantage for them but it angered the locals as they expect you to know everything, even if your out of area. In their minds you are the Emergency Services - you are supposed to know everything.

See Recommendation 3 for a possible solution to this problem.

Storm

NSWSES is the primary Response Agency for storm. They do get support from:

- Agricultural and Animal Services
- Energy and Utility Services
- Public Information
- Welfare Services
- NSW Rural Fire Service

In a storm, NSWSES can respond and do things such as tarping, removing fallen trees or branches from buildings, or move to make access, rescue people and domestic animals, and help residents to sandbag properties from flashing flooding incidents.

Recovery

Residents;

From environments researched for Preparation, Response and Recovery, it was found that;

Those that have lived through an emergency seem to be the ones that are the most prepared, will evacuate if told to because they know the danger and risk that is coming, and are the ones that recover the best because they know what to expect from past experience. Many know that to live in a high-risk area means that they must be prepared for all this and will gladly do so to have the type of lifestyle that they want.

The problem they believe that exists is when people from outside areas come in and have no idea about the risks, they can put others in danger when they do not act.

(See Recommendation 2 for possible solutions)

However, some people in certain types of environments who live in a high-risk area as discussed do not prepare or respond to emergencies because they believe they are safe, so why should they need to know about recovery? This is a question I was asked a lot by one category of residents of a particular geographical location. For this reason, I altered some of the questions to put before them a "What if?" scenario to see how they believed they would recover if they were to experience an emergency.

One particular environment where residents believed they would not recover well and still do not was those who lived inside the levee systems. Although a lot of residents have insurance the premiums had doubled or tripled to a cost that many stated they would soon have to cancel their insurance because they just couldn't afford to pay them.

For Example, one man in North Wagga stated that since the 2016 flood that his insurance premiums had gone up from \$2000 per year to \$8000.

So, without any financial aid to assist with clean up, they would rely heavily on Military and Emergency Service Organisations help and the support of family and friends. (See Recommendation 4 for possible solutions)



(Chart above shows how residents believed they would recover from an emergency)

A more detailed description of some of the answers for how people would recover after an Emergency included:

- Insurance
- Depend on the level of devastation
- With the help of friends and family
- Just get on with it and clean up
- I wouldn't recover, I'd move
- Unsure as I haven't been through one
- With the assistance of Military and Emergency Services personnel
- Community Support
- Counselling
- I think I would be devastated and very emotional so not well

Organisational

Recovery is not always heard of and many residents did not really know what services were available to them after an emergency, except for insurance and counselling.

The only residents that seemed to know a bit more about recovery were those that lived in a flood or bushfire prone area. However, there are many available Services available that specialize in recovery.

I explored a few of these services to find out how they assist the New South Wales community with recovery. Those I spoke to that are involved in recovery are

- New South Wales Rural Fire Service
- Wagga Wagga City Council
- New South Wales State Emergency Service
- Local Land Services (Forbes Branch)

These Services all cover different areas of recovery and for different emergencies and people.

New South Wales Rural Fire Service

Floods: Hose down homes, businesses, roads and bridges with antiseptic and sometimes help to remove damaged furniture.

Fires: Go back to local farms and repair fences that they may have had to cut for better access to the frontlines of the fire. They will also clear burnt tress of roads so that the roads can be opened up again.

General: Will hold recovery meetings where residents can raise issues, provide aviation support such as the use of helicopters for people to get out and inspect their properties and/or stock, and give logistical support for isolated communities such as providing food, medications, toiletries and pet/animal food.

Wagga Wagga City Council

In relation to recovery from a flood event, the Wagga Wagga City Council will provide;

- Free tip fees
- Financial Support Grants
- Counselling.
- Skip Bins
- Bob Cats

Local Land Services (Forbes Branch)

Local Land Services (LLS) work under DPI (Department of Primary Industries) who are a compact agency. LLS also provide Agricultural and other forms of Support to Farmers and other leading Agricultural Agencies from

- Welfare for animals such as dogs and cats
- Issuing warnings
- Moving your stock and pumps.
- Arranging safe refuges for stock in times of drought, floods and fires.

They can also arrange for financial assistance and advice, advice for controlling weeds that may have been brought down by floodwaters and assist with removal and recovery of deceased animals.

New South Wales State Emergency Service

NSWSES are not usually directly involved with the Recovery aspect of things. They do offer plenty of advice and have a Recovery Guide to help people during the recovery after a flood and a storm.

Some of the advice they can provide include;

- Personal Support Services available
- Your personal well-being
- What to do if your pets are missing
- Whether the water is safe to drink
- Mud and debris in the house
- And is it safe to return to their houses

Conclusion

So, what did I discover?

Where you live and how you live can determine how you prepare for, respond to and recover from an emergency. Yet I was still unprepared for the responses that some residents stated and some Organisations did when dealing with emergencies.

For Example

Public perception (emotional) and re-direction. People not wanting to understand that it is sometimes where you live that is the fault, they do not seem to understand that living on a floodplain means that when it floods, you in turn will also be flooded. On saying this though I also found out that it is not always the residents who are at fault for where they live.

For Example

In NSW, there is no requirement for notification if the property has been flooded in the last 12 months. The seller of a property must attach a Section 149 Certificate to the contract of sale which, among other things, states whether there are any flood-related development controls that apply to the property. However according to locals this information is not given out.

(See Recommendation 8 for a possible solution)

I discovered that those who live on the land and coast to be more resilient and prepared for an emergency than anywhere else because they are prone to more natural disasters, particularly those in rural communities as they have less services available to assist them except for each other. People who live inside levees can be complacent and do not understand what the actual purpose of the levee systems are. But as they are regularly flooded or isolated are able to be efficient and content with waiting out a flood.

Although for a response phase those who live in Bushfire risk areas, I found to be the most responsive preferring to leave rather than defend. It was people in this environment that also stated they would recover better as they are affected by bushfires on a regular basis. On a Generational point of view, the older generations tend to have the local knowledge and skills known to protect their assets. They are skeptical of change and not very technologically savvy, usually refusing to leave their homes as they believe that their past experience will be enough to get them through. Yet sometimes by not having enough family or friends close by they are unable to get to aid for them to evacuation.

(See Recommendation 7 for a possible solution to aiding people during evacuations)

Whereas the younger generations are really knowledgeable in the use of Emergency Apps, websites, eta, and would properly just evacuate if told to do so. Yet they lack experience and knowledge of the local area and do not seem to have the same level of interest in gathering information about emergencies in their area.

From a gender point of view, I observed that men are the ones that prefer to stay and defend, and can be more receptive to change, whereas women are the better listeners and persuasive to get the message to their partners, children eta.

Finally, from a cultural perspective, those whom have moved to Australia from overseas have brought with them a great deal of knowledge from their Countries on how to deal with certain emergencies, which could be very useful to other Regions around Australia that may suffer from those Emergencies. Still they can be unfamiliar with the area that they settle in and the types of emergencies that may exist within that Region. Therefore, making their safety a high priority, especially if they do not speak English or cannot communicate to anyone else.

An important piece of information that I uncovered was that my Survey Questions that I asked to residents were suitable for all types of emergencies, not just the ones I was researching. So, with this information we could create a Survey sheet on a Multi-Agency Scale for gathering information that all agencies could share with each other, instead of each agency having various questions and lots of different data scattered throughout our systems.

(See Recommendation 6 for a possible trial for this idea)

Recommendations

All Emergencies

Recommendation 1:

Create Inter-agency/Community Workshop Days for Vulnerable Communities

Many Community members still to this day have no idea what each Emergency Agency is responsible for or what they even do in a disaster. If we run a disaster conference (say for 1 day) in Vulnerable Communities and invite relevant local Community Members, local Councils, Emergency Service Groups, Clubs and Organisations could we improve this community's knowledge of what is available to them?

The first part of the day could include each agency talking about their roles and responsibilities and the second half of the day could be about Recovery and who was responsible for that. Agencies and Community members could be split into groups and work on a recovery plan for their community based on their knowledge of their community. The whole idea for the day may be to increase knowledge of the roles of the different agencies and individuals and at the same time increasing community Knowledge of what resources and knowledge they have and can use in their own community.

(Source: Interview with a representative of the Australian Red Cross told of how this program transformed Holbrook in NSW into a better planned Community for emergencies. Her response is in Appendix D**).**

Recommendation 2:

Create a fact sheet/familiarization course on Disasters in the Area for all new Residents/Refugees that come into or move to specific areas.

How you might be able to engage with new arrivals to an area, working through real estate agents, support services for migrants or refugees. As stated under *Environments Researched* "Culture" many people new to an area can sometimes not know about the dangers that the area holds, unless told by locals when they move there.

This is seen more for refugees settling in our country, where they do not always know or have the knowledge of the specific dangers that we face in particular areas. They may believe that if one place has a fire then so will their spot, whereas really, they may be in a flood zone. A suggestion from some of the non-Australian Born Residents that I spoke to said it would be great to get an information package when deciding where to live about the dangers of Natural Disasters likely for the area that they are planning on moving to.

(Source: Conversation with a Japanese family in the Hunter Valley who were unaware of the dangers that the Hunter Valley processed and felt scared for their family because no one told them about the specific area they were moving too, like many others they just believed Australia to be hot, dry, with gorgeous beaches and forests with lots of space, and the occasional poisonous snake).
Recommendation 3:

Provide fact sheets available for Emergency Service workers that are deployed to areas outside their response zone, with facts/figures, eta. Relevant to that particular area.

Many Volunteers/Staff that are deployed into other areas do not always know a lot about that area. It seems that many times they may be asked questions from the general public that they do know the answer to, yet the general public still expects them to know because they are the ones in the uniform.

For example, you may be directing traffic and they may ask if Henry's Road is open or use the local terminology for a name such as we are on "Three Chain Road", you try to look it up and you end up elsewhere because the technical name is "Federation Way".

A Fact sheet or Information pack should be given out to those being deployed so that when they enter into these areas they know some of the basic information, and/or only be sent to areas that will not require a lot of information.

Information packs could have information such as;

- Who to report to and their phone numbers
- A map of the local area
- Local names for roads v's actual names of roads

Preparation of these fact sheets for local responders could be integrated into our local knowledge policy or JSOP 02.04 For Bushfire – Local Knowledge.

(Source; NSWSES Units: (Maitland and Gooloogong), as stated in Methods I discovered a method of communication that did not exist in certain places and was a concern and problem when these areas dealt with emergencies. Which was the skill and knowledge levels of Emergency Service Volunteers and Staff both for current state members and inter-state transfers and assistants not existing).

Recommendation 4: Develop a program for real life scenarios.

It has been seen time and time again that unless you have been through an emergency then you are not prepared for one. Without simulating real-life scenario, may help people to understand the dangers.

As I understand. EMV has just created a Virtual Reality Program for preparing people for what it is like in a fire Emergency. This is a great initiative to reach the younger generation as technology is their life. However how to teach everyone else without the trauma?

(Source; Door-knocking results of why residents were unprepared for an emergency)

Recommendation 5: Continue distribution/education of area specific flood/storm/fire guides

For vulnerable and isolated residents where access to internet or phone services are limited so that residents are;

- Aware of the dangers for their own communities
- Have numbers or places they can contact within their area to get aid
- Aware of what to expect for each particular type of emergency (this could include river heights where the water may inundate their properties or isolate them and at what level)
- May have a map of vulnerable residents or areas that are particularly vulnerable for a type of emergency

Currently a lot of areas are State based not community-based. Expect for many Victorian towns where local flood guides have been established. However, there are other emergencies where it is still only state based information. The Guides also need to be brief and to the point.

(Source; NSWRFS do not currently have any community-based information guides. All information that goes to everyone across the state is state based. Local Farmers in Fairholme in NSW said if information was community-based it would be more practical and relevant to their own area and way of life**)**.

Recommendation 6: Create and Trial a Multi-Agency Style Survey

Create a regularly auditing system basically of certain areas with a set number of door knocking days of those areas per year to see whether people's circumstances or perception of risk had changed and if so why?

I found that the survey questions that I asked were relevant to all Emergencies so it could be used as the basic door knocking questions to be asked across all Agencies. If we visited a high-risk area twice per year or just an area at random we could discover:

- Things we do not yet know
- Why they were unprepared or so prepared
- That we are wasting resources where they are not needed.
- We may find Community Champions

I sent out a request to see if other agencies in Victoria wished to assist with a pilot trial of doing a Multi-Agency Specific Survey for all emergencies. Currently, eight VICSES Units and Three CFA Brigades have indicated a willingness to participate in such a trial.

VICSES Units include: Wodonga, North East Victoria Regional Support, Warragul, South Barwon, Lilydale, Warracknabeal, Marong and Bairnsdale.

CFA Brigades: Oxley Flats, Eaglehawk and Drouin West Trial date is yet to be confirmed.

(Source; Door-knocking Survey used for Research trip, see Appendix P for a copy of the Survey, as you will see the Survey questions are not specific to any-one Emergency but could mean anything).

Recommendation 7:

Investigate options for family/friends to assist vulnerable people in areas that are to be evacuated.

Research from talking to many older generations showed that work needs to be done to ensure that friends and family can help in the process of evacuating friends and family during Emergencies. Could be a pass or some other form of doctrine be given out to family or friends to allow them a certain amount of time to get in and help their friends/family evacuate.

The council/emergency services could have a list of vulnerable residents that would require this help. The list would include family/friends that would be of assistance to them in an emergency. They could then just present their Driver's License of proof of identity to get in and aid their family/friends.

(Source; Speaking to the older generations of locals, they were concerned about their wellbeing and their properties that they were unable to do anything for themselves without assistance. One lady I spoke to in North Wagga Wagga claimed that family was not allowed in to help her evacuate so she couldn't raise anything up and had to leave with only her cat. Her house was inundated by floodwaters and took 14 months to replace and for her to get back into her home).

Recommendation 8:

Investigate options for how home buyers could be better informed about flood risks before purchasing.

More has to be done earlier about when clients purchasing a property about risks in the area. Under current legislation in NSW there is no requirement for notification if the property has been flooded in the last 12 months.

Recommend a review into whether real estates have to inform the intended buyer about the dangers to the individual about purchasing a property in a high-risk area. And investigate how the information, if given to the buyer before they bought, would save lives and damage to property or devalue the community assets. This recommendation is more relevant to existing homes pre-2006 for a bushfire and those choosing to buy in a flood prone area.

(Source; Uranquinty Community Action Group, See Appendix B for Information about this Community and the problems they have around real estates**)**.

Recommendation 9: Consider installing emergency alerting 'traffic lights' and 'sirens' where appropriate.

For Example:

The Company that I work for (Uncle Toby's) has a 2-stage process for evacuation for Emergencies with different siren sounds for both.

- Intermittent siren means to get ready to evacuate, plan and prepare
- Continuous siren means get out now in the safest possible manner.

Education is high with all personnel knowing what each sound means, with evacuation drills taking place at a minimum of once per year. All new personnel or visitors to the site must undertake the induction training package in which this information is distributed, and current employees do a yearly update. Evacuation information such as what the sirens mean and where to go are placed in each production line area.

I do not suggest that have information hanging up all over towns and communities however different sounds and lengths of sirens that carry over long distances could be a benefit for all those within the community. With the correct information people would know the difference between a fire siren and an emergency one.

ALL EMERGENCIES;

As seen and suggested in many parts of Victoria, Emergency Sirens, particularly those from Fire Stations, can be confusing and are not always done right.

When speaking to many locals throughout NSW they stated that fire sirens or cyclone sirens are usually the same and can sometimes have people, especially the older generation panicking as they think that an emergency is happening when really it may just be the local fire station calling their fire fighters to the station.

Suggestion;

Have an Emergency Siren installed at the local Fire Station and the Community Educated on different siren types. This is another idea that has been seen across both States. If people can hear an emergency warning, then they can head straight to the town's Evacuation center for further information.

Many vulnerable community members would prefer this when compared to having people door knock and many also do not know how to use the internet. Education would be needed though to teach them the difference between a fire warning and an emergency warning. (Source: From speaking to residents through door-knocking).

(Source: FLOOD – LEVEE BANK SYSTEMS

The NSWSES in conjunction with the Millers Forest Progress Association established the Millers Forest-Duckenfield Flood Response Plan September 2017, Version 2. Section 3.1 of such plan mentions an Early Warning System for residents/businesses living inside the Maitland Levee System. They created a system of lights which is placed on major roads. The lights are used to convey messages using lights not words. All those living within the Levee System are educated on what each light colour means. The following colours indicate to Residents/Businesses what to expect.

AMBER – "GET READY".

• Residents should commence their flood preparedness actions as detailed in their personal Flood Plans and listen for messages passed on through the Telephone Tree.

RED – "LEVEE BREAK".

• The lights will turn red when the levee bank has been breached. It is no longer safe to move around the area. Properties have become inundated with flood water.

GREEN – "ALL CLEAR".

• Water is no longer running over the levee bank. Residents should check for road closures and ensure they apply safety measures when moving around properties or cleaning up.

Perhaps this should be investigated for all residential areas that exist within a levee bank system. It would benefit all age groups, genders, cultures eta as its simple and you do not need to translate its meaning).

Recommendation 10: For Levees that are degrading to be fixed. (Not necessarily raised in height, but repaired)

Repair of and education on what levees are for, levees aren't bullet proof. Many Levees are built and then left, many now have bike tracks on them, houses on the side, been turned into BMX tracks for the local school kids, have dips in places or are actually overgrown sandbag walls (not levees at all, and could dissipate)

(Source; Appendix B – Findings from Uranquinty Community Action Group).

Recommendation 11: Homeless people be recruited as Community Champions to teach residents on how to prepare for and how to respond to an Emergency.

IDEA: Create a trial of getting homeless people a chance to get re-connected with their Communities by inviting them to assist with Emergency Situations, whether that be helping to prepare for them, assisting with evacuations or aiding with recovery efforts. **(Source;** Meeting with Australian Red Cross, see Appendix D for Questions asked**).**

List of Abbreviations

AIIMS	Australian Inter-Agency Incident Management System
BOM	Bureau of Meteorology
BUI	Build up Index
CALD	Cultural and Linguistically Diverse
CBD	Central Business District
CFA	Country Fire Authority
CPP	Community Protection Plans
DHHS	Department of Health and Human Services
EMPLAN	Emergency Management Plan
EMV	Emergency Management Victoria
EOC	Emergency Operational Center
ESF	Emergency Services Foundation
ESO	Emergency Service Organisation
FMA	Floodplain Management Australia
ICC	Incident Control Center
КМА	Kapooka Military Area
LECON	Local Emergency Controller
LLS	Local Land Services
LMO	Local Media Officer
NCC	Newcastle City Council
NE	North East
NSWRFS	New South Wales Rural Fire Service
NSWSES	New South Wales State Emergency Service
P-2	Prep to Grade 2
RCOW	Rural City of Wangaratta
SES	State Emergency Service
SMS	Short Message Service
VRA	Volunteer Rescue Association
VICPOL	Victoria Police
VICSES	Victoria SES

Reference List

- New South Wales State Emergency Service <u>www.ses.nsw.gov.au</u>
- The NSWSES Home Emergency Plan <u>www.seshomeemergencyplan.com.au</u>
- NSWSES Flood Safe Information <u>www.floodsafe.com.au</u>
- NSWSES Storm Safe Information <u>www.stormsafe.com.au</u>
- Millers Forest Duckenfield Flood Response Plan September 2017 Version 2
- Local Land Services information for Fire Recovery www.lls.nsw.gov.au/emergency/bushfires/bushfire-recovery-resources
- Grain Harvesting Guide https://www.rfs.nsw.gov.au/ data/assets/pdf_file/0005/46526/Grain-Guide-Fact-Sheet.pdf
- New South Wales Rural Fire Service <u>www.rfs.nsw.gov.au</u>
- Door-knocking Results
- Interviews with Agencies and Individuals Found in Appendices.
- Australian Red Cross <u>www.redcross.org.au</u>
- Floodplain Management Australia <u>www.floods.org.au</u>
- Maitland City Council Flood Information <u>www.maitland.nsw.gov.au</u>
- Cowra Shire Council <u>www.cowracouncil.com.au</u>
- Wagga Wagga City Council <u>www.wagga.nsw.gov.au</u>
- Forbes Shire Council <u>www.forbes.nsw.gov.au</u>
- Training nights/Exercises with NSW Emergency Service Organisations Cessnock VRA, Cessnock Fire & Rescue, Cowra SES, Fairholme RFS, Forbes SES, Gooloogong SES, Gooloogong RFS, Lachlan SES Region, Lower-Hunter Fire Control Centre, Maitland SES, Mid- Lachlan RFS, Parkes SES, Peak Hill SES, Port Stephens SES, The Rock SES, Wagga Wagga SES & Wagga Wagga VRA.
- Bedgerabong Public School visit
- Forbes Public School visit

Appendices

Appendix A

ORGANISATIONS/AGENCIES;

VICTORIA

Boorhaman CFA

Department of Health and Human Services

Emergency Management Victoria

Emergency Services Foundation

Moyhu CFA

North East Victoria SES Regional Headquarters

North East Victoria SES Support Unit

Oxley Flats CFA

Rural City of Wangaratta

Rutherglen SES

Uncle Toby's

Victorian State Emergency Service

Wangaratta SES

Wangaratta CFA District 23

Wangaratta Police

OTHER: Communities

Boorhaman	Moyhu
Beechworth	Wangaratta
Cheshunt	Whorouly
Greta West	

NEW SOUTH WALES

Australian Red Cross – Greater Western Region

Bedgerabong Public School

Cessnock Fire and Rescue

Cessnock Volunteer Rescue Association VRA

Cowra SES

Fairholme Rural Fire Service

Forbes Local Land Services

Forbes Public School

Forbes SES

Gooloogong SES

Grenfell SES

Hunter Valley NSWSES Headquarters

Kapooka Army Base

Lachlan NSWSES Headquarters

Lower Hunter Fire Control Centre

Maitland SES

Mid-Lachlan Rural Fire Service

NSW State Emergency Service

Parkes SES

Port Stephens SES

Riverina Rural Fire Service

The Rock SES

Uranquinty Community Action Group

Wagga Wagga City Council

Wagga Wagga Rescue Squad

Wagga Wagga SES

Waugoola Rural Fire Service

OTHER: Communities

Bedgerabong	Gooloogong
Cessnock	Maitland
Cowra	Parkes
Fairholme	The Rock
Forbes	Uranquinty
Kitchener	Wagga Wagga

INDIVIDUALS

Alex Varley	Volunteer, Maitland SES, NSWSES
Andrew Arnold	Community Education Coordinator, CFA
Andrew Gissing	Director Government Business & Resilience, Risk - Frontiers
Andrew Mckee	Senior Sergeant, Victoria Police
Ben Benacci	Senior Advisor, Community Connections, VICSES
Bradley Stewart	Community Engagement Officers, Riverina, NSWRFS
Bronwyn Chapham	Volunteer, Wangaratta SES, VICSES
Cameron Bird	Operational Officer, Mid- Lachlan Region, NSWRFS
Catherine Russell	Unit Controller, Wangaratta SES, VICSES
Chas Keys	Former Deputy-Director General for NSWSES
Craig Lapsley	Emergency Management Commissioner, EMV

Danielle Bourke	Regional Engagement Officer, Australian Army
Diane Farmer	Volunteer, Wangaratta SES, VICSES
Diane Lippet	Safety Advisor, Kapooka Military Area
Glenn Evans	Executive Officer, Floodplain Management Australia
lan Sheldrick	Volunteer, NE Region SES Support Unit, VICSES
Katherine Haynes	Senior Researcher, Risk Frontiers
Keith O'Brien	Assistant Chief Officer, NE Regional Manager, VICSES
Lance Werner	Senior Sergeant, Hume Regions, Victoria Police
Liz Frazer	Volunteer, Wangaratta SES, VICSES
Jamie McCaffrey	Emergency Management Project Coordinator, RCOW
Jonty Bruce	Operations Officer, Riverina Zone, NSWRFS
John Richardson	National Coordinator for Emergency Preparedness, Red Cross Australia
Daniel Mahoney	Unit Controller, Wagga Wagga SES, NSWSES
Mal Waters	Safety Advisor, Uncle Toby's
Michelle Thomas	Volunteer, Wangaratta SES, VICSES
Mick Daws	Brigade Support Team, Hume Region, CFA
Nathan Evans	Emergency Planning Coordinator, City of Newcastle Council
Neil Ottaway	Volunteer, Wangaratta SES, VICSES
Neil Payn	Acting Regional Manager, NE Region, VICSES
Paul Faulkner	Principle, Bedgerabong Public School, NSW
Paul Hargraves	Regional Emergency Management Inspector, Hume Region, Victoria Police
Pauline Williams	Regional Training Officer, Hume Region, Victoria Police

Philip Hudson	Unit Controller, Port Stephens SES, NSWSES
Raechal Squires	Community Engagement Coordinator, Hunter Region, NSWSES
Ray Johnston	Unit Controller, Cowra SES, NSWSES
Robert Walshaw	Unit Controller, Forbes SES, NSWSES
Sally McCarron	Health and Wellbeing Manager, Hume Region, DHHS
Stephen Warren	Regional Manager, Mid-West Region, VICSES
Sue Sheldrick	Community Resilience Coordinator, NE Region, VICSES
Susan Davie	Community Connections Manager, VICSES
Tim Lidden	Captain, Wagga Wagga VRA
Tim McCurdy MP	Member for Ovens Valley, Victorian Parliament
Trevor White	Former Chief of Operations, VICSES

Appendix B

Findings from Uranquinty Community Action Group

On the afternoon of Sunday 1st of October myself and a Volunteer from the NSWSES Wagga Wagga Unit went out to Uranquinty (11km south west of Wagga Wagga) to speak with the Uranquinty Community Action Group about what they are and do. Upon arrival, we were shown the cache, which houses most things that they would need for a flood emergency, including from an operational and incident control center point of view.

For an incident control center, they have the use of the men's shed which they share the land with. The cache is also located on this site which is also the highest point of land inside the town so that during major floods they are not flooded and they are also within the bounds of the levee. Whereas unfortunately the local Fire Station Floods

The reason for the Action group being created was;

• During big flooding events, the town is cut off at both ends and Emergency services are unable to get to them, the local fire brigade can help to an extend but even they cannot drive through the floodwaters to help evacuate people and there is no place that a helicopter can land to assist either. The town decided it needed to be more independent.

So, the Group was started in 2014 after two major floods went through the town in 2010 and 2012. The group has 8 regular members, however during major events it extends out to the whole town. They had organised discussions with Wagga and The Rock SES Units, and with a generous grant from NRMA, they created a cache with supplies in it that they would need for an emergency (primarily Flood). They were also provided with some basic training on how to use the equipment given to them.

These supplies included things like;

• Cones, safety gear, portable lighting, sandbags, marquees, torches, radios, a ladder, fire extinguishers, maps, tarps, tables, chairs, note books, first aid kit eta.

See an image of Cache below;



Some of the things we discovered about this group and community was;

- This Action group is also a pilot course that if successful will be rolled out in other small towns across NSW.
- The town does have a small Levee, which was built in 1987, but has since fallen into disrepair, it is uneven in places, with big holes in it and other parts of it was once a sandbag wall which has been left to become overgrown.
- Council are doing works to fix the storm water drains to help get the water out quicker, at present they are working to remove trees and dirt that has built up in these drains over years.
- A lot of the locals have tractors and trucks which can be used for getting extra sandbags to residents that need them and for helping to evacuate people.
- They also do a lot of preparation with their community, alerting people of hot days, total fire bans or possible wet days and what to do and where they may be able to go. They have the use of a bull horn so they can tell people what to do and be heard.

- They have spotters spread out in the community and in the farm land beyond to alert them of incoming floods, storms and fires.
- We also discovered that If people must evacuate their homes they can go to the neighbour-hood center to register that they are leaving their houses and where they are going, or they can go to the town hall where welfare facilities are being set up by the Red Cross.

Residents and this Action Group would like to see;

- The Levee fixed and extended to protect some 30 homes that get impacted first as there is no levee to protect them.
- Real Estates and past owners informing people before they buy in the area that they are buying a house that will and has flooded in the past. According to residents, under current legislation real estates do not have to do this if the house has not flooded in the last 12 months. Most new comers to the area learn this after they have bought the house. The group gets blamed for this a lot.
- A more detailed plan about how long they have until they will be impacted. For flooding they do know that they need so many mills of rain and a wet catchment area, yet they are still to work out how long they have until the water reach them. They are still working on setting up the group so that it covers off all emergencies and not just floods.
- More area's to be cleaned out like under the bridge.
- Flaps in drainage area's to be fixed so that it cannot allow water back in as it does during big events, leaving RFS and council having to waste time and resources pumping water back out all day and night.
- A town siren put in to alert of upcoming dangers (currently this is a project in progress).



The photo below shows the map of the town (example 1)

The photo below shows a map of the town (Example 2), the red is the deeper area's and the blue is the shallower areas. The area marked with Yellow lines is the Levee Bank. The water at one point rushed through this area so badly that it ruined the road and it has since never been fixed see example 3 & 4 for more details.



(Picture above shows uneven spots in the levee)





Appendix C

Visit to Wagga Wagga Rural Fire Service

Key Questions

1. What Emergencies does the Wagga Wagga RFS Respond to?

Primarily;

• Fire Protection;

So, responding to all fires in rural areas in the Riverina. They have 65 Brigades, their boundary is defined by local government areas of Coolamon, Wagga Wagga, Junee and Lockhart, this includes 1.2 million hectares of land 90% of which is privately owned and a total population of approximately 77,000 people with about 90% of them in Wagga Wagga

Secondarily;

• Good Will Tasks;

This includes things like; unlocking people from public toilets, cats stuck in trees, motorists getting bogged, basically almost anything the community wants.

2. Why do you believe you are so prepared/or unprepared for these Emergencies?

Prepared: They have a <u>Bushfire Risk Management Plan</u> that they have in place. In this they have things like Identification of landholders and stake holders, assets, risk of bushfires and grassfires and in which places and factors such as weather and climate change.

They also use a tool called APZ – Asset Protection Zone, which in conjunction with council when new suburbs are built you must comply with the local council and RFS's rules about building in a high danger/at risk area. This can add cost to the building of your property.

Unprepared: People burning off at the wrong time of the year, this in fact can actually accelerate growth and make a fire worse if it starts as it has more fuel to feed it. Most of this is farmers in the local area. A small fact from this is that year to date they lost a total of 120 power poles alone due to farmers burning off.

Some communities can be less prepared than others because they have never been directly impacted by a fire, NSWRFS has found that communities that have been through a fire or some form of emergencies are those that are prepared, have their kits ready and plans in place. They have stated that it can be very hard sometimes to educate people and communities where this has never happened.

3. How do you currently get information on how to prepare and get your community ready for Emergencies? And is there another way in which you would like to receive information in the future?

Information comes out of State where they have a list of people who research idea's, programs, strategies eta and then share the ideas/outcomes with regional centres and Brigades. The state puts a lot of funding into having this information developed. From the results they create a state strategy.

Sometimes some of the best information (although it's tragic to say comes after an emergency has happened). **For example,** After the 2006 fire at Junee, residents began to listen more to information and warnings, the main reason (and this I have found and heard from so many people now) is that unless a person has lived through an emergency then they will not listen to what Authorities have to say, and if they do not want to listen then you are just wasting your resources with the wrong information at the wrong time. This is still a challenge as to how to improve this.

On a RFS Level however information has helped to;

Prepare by

- On severe days doing ring arounds to Brigades in their region to make sure that they are prepared for the potential dangers ahead, have enough equipment and resources for the day (Volunteers, trucks eta).
- Check fire ratings
- Target your audiences. (E.G. you're not going to preach about bushfires in winter). Still preach it but change your messaging a little so instead teach about housefires in winter. And then in summer go back to bush/grass and camp fires.

Unprepared for and working on;

- Communities not wanting to listen (have discovered who they are)
- Age/Gender

4. What Emergencies do you help out with for evacuation purposes? And how do you go about doing this?

In NSW Police are the only ones that can enforce evacuation. However other agencies do not as it's deemed too dangerous. SES issue alerts to evacuate and RFS send out emergency warnings. Only as an last resort will the RFS get people out.

www.emergency.nsw.gov.au/Documents/publications/guidelines/Guideline_Ev actuation-Management.pdf

5. Do you find that there are some communities that are more prepared, responsive or recover better than others? Name these and why you believe this to be so?

Yes, Better Prepared

• E.G. Beckom and Pleasant hills.

Because they have human resilience, these areas are physically well protected and were erected past 2006, so they have all the new building codes for living in a bushfire risk zone, (BOW Score/Bushfire Attack Zone). For this they must comply with certain standard like, fly screen doors made from metal not plastic so that embers do not get caught and start to burn or radiant heat causes it to melt.

Under council and RFS regulations now, all new homes built in bushfire high risk areas must comply with these regulations, which can sometime double the cost of building your house.

Not as prepared/unprepared:

• E.G. Madong and Tarcutta

Because they have become complacent. Although fires regularly threaten the towns/communities it has never actually impacted them. So therefore, they believe it never will.

6. Do you have any successful programs that help with preparation, response and recovery, that may be able to assist other communities? And how do these programs work?

Locally: No

State-wide: Yes (Burn Plan)

- Get thoughts from communities by going out and talking to communities.
- Create community preparation/protection/survival maps of that community (including both residents and businesses) with symbols/signs and place on map in a different colour for each like: Impact Zone, Flame Zones and Ember attacks.

(https://www.rfs.nsw.gov.au/sitesearch?query=community+protection+plans&collection=nsw-rfs)

Learnings from past Emergencies:

AFAC – National Program for fire danger ratings with all key agencies on board. This reason for this re-development is because according to RFS only 2% of people in NSW know what the Fire Danger Rating signs are and mean.

7. What about older communities, gender, culture and age does any of these factors affect the way people respond?

Yes, mostly with farmers.

A lot of farmers tend to see smoke and defend on mass, this can be good but can complicate things. RFS have stated that sometimes they get abused by farmers because they saved their house. For a farmer a house is not their asset their sheds, land, machinery and livestock are and to them that can in most cases be more important than their homes.

As you cannot always make a living off your house. (E.G. A house on a rural property may be worth \$200,000 whereas the land, machinery and stock may come to a value of \$500,000. So even if they sold their house it still wouldn't replace their machinery).

And if they have burnt out paddocks they have nothing to feed their stock, no machinery, they basically have nothing to work their land and with no stock nothing to make an income off.

Farmers also have different views on fires. For RFS they cannot just go put out a fire until somebody calls Triple o. Whereas a farmer will just rock up with private fire trucks or pumps on the back of vehicles (Sometimes with children on the back) and place the fire out without calling Triple o. They are 'have to' firefighters, like with anything needed doing on their farms they just get out and do it.

In regards to cultures within the RFS. 2200 listed volunteers within the Riverina Region are over the age of 50, with less than 2% under the age of 20. On the demographic of it this is because rural communities' kids are getting off farms as soon as they can and going to Universities in Town, leaving the older generation to be in the Brigades and run the farms.

Older; The older generation on outback communities is growing as kids do not want to work the farm, so will this mean that there are more vulnerable people to worry about if a disaster strikes. Most older generation though also have a certain level of resilience especially those in rural communities, they will 9/10 get to a fire quicker and put it out or chop up at tree that has fallen down across the road, (Have to Firefighters)

Male; Are usually the more stubborn ones, don't like change, (I've been doing it this way for 50 years why change?).

Female; What the RFS has found is that females will often be the quite listeners, receptive/adaptive to change, and are the ones that want to learn and know and will most times be the ones to nag their husbands until they do it. Go through the backdoor so to speak.

Kids; Children have also been known to change their parents view through things they have learnt at school. And in most cases in rural environments often show these skills. E.G. Lake Rowan Fire findings 2016.

8. How do you receive feedback from your communities about programs and Emergencies?

From;

- "After Action Reviews" Volunteers and their experiences.
- Community Meetings (these can be quite negative)
- Community Engagement Events (get people coming up and chatting about past events/emergencies).
- Media (a lot of people will go to media with either complaints or good new stories, either TV or Social Media like Facebook and Twitter).
- Advocate (people who publicly support or recommend a particular cause or policy).
- 9. When organising community events/activities do you involve other Emergency Service Groups? And is this the same for Emergency Response or Requests for Assistance?

Yes, they work a lot with Fire Rescue NSW, NSWSES, VRA, Ambulance and Police for example;

- At the Henty Field Days.
- For organising logistics and Planning for major emergencies such as floods and fires.
- Use the same radio networks with VRA, Police and Ambulance and use these to network more for events and emergencies
- Have workshops with other agencies to organise emergency planning and what needs to be done to help each other.

10. And tell us about your networking strategies?

There is a bushfire network community that acts as a support agency. Otherwise the RFS will go out and talk to communities and meet the people to see what they need and make contacts.

At risk Fire area taken to

The RFS took me and showed me an area called Gelston Park which is a part of the Lake Albert district of Wagga Wagga that is a high danger fire area for them.

The Community has only 1 road in with no public access past a certain point. There are some fire access roads however you need a truck or decked out 4WD to get through. But, there is a RFS Brigade out here.

Houses in this community are built up on the hills, most are hidden from view. There is lots of open spaces, still vegetation grows wild. Vegetation includes pines, rocks, shrubs and grass.

It is an at-risk area for grass fire because:

- Vegetation grows very close to the roads so there would be no place for residents/ persons to shelter from radiant heat if needed.
- With a large amount of rocks on the hills it makes access to fire fighters hard.
- There are lots of fire corridors for the fires to increase.
- With only 1 main access road in and out for residents which is a dead-end road, therefore they may not be able to leave if the fire is blocking their way.

Some of the other fire corridors that exist in Wagga last from Springvale to East Wagga, with the widest section being at Kooringal. For a storm response however, the area that is affected the most is Lake Albert, as this area dips down into the valley it acts like a wind tunnel, the local SES gets calls out there a lot.



Kooringal – Fire Corridor

Appendix D

Meeting with Australia Red Cross – Greater Western Region NSW

Key Questions

1. How do Emergencies such as Fire/Flood & Storms impact on disadvantaged families and the homeless? And what do they need?

Impact for larger towns are minimal. Impact for smaller regional areas is greater and the local response is better in that they help each other – small communities rely on each more. They mainly struggle to get resources.

The homeless tend to move to a new location if their current location is impacted or damaged, they basically go somewhere else.

Disadvantaged families can access assistance through St Vincent De Paul and Salvation Army. They may also be eligible for monetary assistance from the government depending on their individual circumstances. Their primary need is to be linked and connected to local community-based organisations for assistance.

2. Are there any special/successful programs that your organisation run that help communities prepare, respond and recover from or for Emergencies?

At a National Level there is the Pillowcase Plan/Project and Preparedness Week. Preparedness week in September each year includes the REDiPlan 4 steps;

- Prepare your mind anticipate how you and your family are likely to feel, think and respond in, during and after an emergency.
- Start a conversation speak to your family, friends and neighbour about what emergencies may happen and how you can help each other out in, during or after an emergency.
- Protect what matters What do you want to protect? Make a list so that if an emergency were to happen you would know what you wish to take with you when/if you leave your property. E.G. medicines, family, Insurance, photo albums eta.
- Get packed and ready to go Have an emergency kit ready, with items in it that may help you survive during or recover after an emergency.

At a Local Level in Preparedness Week they use Red Cross Volunteers to go doorknocking to connect with their neighbours and ask them if they are prepared. They also run preparedness workshops for service providers which help them to better assist their clients to be prepared.

Currently they have a project for CALD Communities in the Griffith, Leeton and Wagga area to train Community Champions to talk to people in their community about preparedness within their community and be the local contact for a community when there is an emergency. They would also be used within a community as a resource to find out about the community and what services are available. For Example:

• Vulnerability and SES/RFS

The Red Cross is currently introducing more roles for its Emergency Service Volunteers, for preparedness and response, by supporting them to link with other agencies, having preparedness volunteers and more presentations.

3. Do you find that you assist more in Rural or Urban environments and why?

Rural does have a higher percentage but this is because they do not have the same infrastructure and/or resources available, therefore this does seem to give them more resilience to emergencies compared to their urban counterparts. Yet sometimes the assistance does not always go to where the need is most.

4. Can you tell me of any programs or special memories that you are proud of and why?

Yes, the Disaster Conference and follow up workshop which was organised by The Holbrook Inter-Agency Group (2013). This was organised 12 months after the 2012 floods. The Interagency group felt the Service Providers and the community had no idea what each agency was responsible for or what they even did in a disaster. They also did not understand who was responsible for a disaster in the response and recovery phase. Everyone seemed to know their own roles but not what other Emergency Service groups did. What came out of this was that it was decided to run a disaster conference for the town of Holbrook. A working group was set up and they organised a 1-day conference. The first part of the day was all about each agency talking about their roles and responsibilities.

And the second half of the day was about recovery and who was responsible for what. Agencies were split into groups and to work out a recovery plan for the community. Everyone was invited from local community members, local Council, Emergency Service Groups, Clubs and Organisations. The whole idea of the day was to increase knowledge of what everyone did, and at the same time increasing the communities' knowledge of what they have and can use in their own town.

A follow up workshop was also organised with the local council and local community members and service providers to devise a local recovery plan for Holbrook. This project won a highly commended award for a Resilience Australia Award-NSW and they had achieved something very worthwhile has the Community was involved until the very end.

5. And what about older communities, religious groups, culture, age, gender and environments, does this affect how a program runs or doesn't run and the same with Emergencies, do you encounter problems and/or issues in certain categories of people, who are the best for preparation, response and recovery and who are the worst? And why?

Yes, but ensuring that you target your audience. Otherwise it makes no difference to response or preparation. If requested the Red Cross has pamphlets in other languages and they work closely with the Red Cross Migration Support Program. Some of the problems encountered is that their culture leads to a lack of understanding of the Australian way of doing things such having Army/Police door knocking to evacuate the centre of Wagga when it was thought the levee may be breached.

Refugees didn't engage or attend the evacuation centre due to not knowing or understanding what it was about and what organisations did to support them in an evacuation centre. We assist clients from India. Pakistan, Afghanistan and Iran across the Murray Riverina Region.

Appendix E

Meeting with Wagga Wagga City Council

Key Questions

1. How does the soil salination issue affect emergencies in Wagga? And how many different types of soils reside within the Council area?

Salinity is not a big issue for emergencies more for Infrastructure and the environment. Most problems to soil salinity has come from urban areas from ripping up the soil, trees and natural vegetation to build houses. There is currently a vegetation management plan being pushed to begin.

Some areas of Wagga have huge salt piles where not a lot grows, vegetation is low and other areas have heavy clay, even after weeks with no rain water can be found just under the surface. To keep watch of these issues the council has an instrument called a 'Peizo Meter', which is basically a pipe that goes into the ground and reads how high the water table is compared to the actual water level.

If salt is found within 2 meters of the ground surface then you get problems with Infrastructure. To deal with a community within Wagga that has this issue the Council have de-watering pumps, that pumps any excess water back into the evaporation basins or river/sporting ovals but only firstly after going through chlorination.

Houses within this community (Calvary), have been damaged by salt, you can see this in brick homes, and the vegetation around the community. This is more what you would expect to find in an outback dry area, the trees and shrubs are more native to Australia and even the lawns are either fake or very little actually exists. A lot of Residents have their own small bores under their houses and pumps to get excess water out, if they did not excess water would seep into their yards and under their houses causing infrastructure problems. Calvary is an older part of Wagga which did not have any salinity problems until the 1940's, when infrastructure was built further up the catchment, this changed when they started ripping up vegetation, trees and soils. And then if you go just 4 blocks over towards the River the main road into Wagga has a natural heavy clay base which stops the salt from going any further, meaning the river is then protected from salinity.

2. What are the major problems you see from an environmental disaster that have you believe need to be fixed and how do you believe you can fix these?

Flooding - This issue has come from vegetation being stripped and urban housing being built up, where flooding naturally went, now flows differently because of these issues and flood places that were once dry. From a rural perspective there are decisions around what can and cannot built on a floodplain and what rules come with that. **For Example:** North Wagga, new houses must be raised and can only be built on an old block. Or you can either live in the old house on a current block or pull it down and start again. There is also a development control for vegetation. No new blocks can be purchased.

3. Can you tell me of any programs that you are proud of in your Organisation or another that worked well and have you measured it and how?

Sewerage Treatment Project – Made old sewerage tanks into a conservation wetland. This project has minimised flooding impacts and helps the environment. The original tanks had the tops knocked off them and made into roads to make it easier to access the wetlands and improves how the water flows through the area.

The project took 5 years to plan and then a further 12 months of building, much of which was making sure all the contamination was out of the ponds. There are five ponds in total, two of which act more like a back wash for floodwaters and three of which are all connected and can also be isolated to separate if needed for

- Population Control
- If one pond is contaminated it can be closed off

• For floodwater control

Each pond has got air raiders – to put a bit of air back into the ponds to stop too much algae from growing. And valves have also been put in to put water back into ponds, so that when they overtop for a flood the water is more evened out. Each pond also has deep cannels so if needed you can get something out (a type of fish), which then makes it easier to catch them. When the project was completed they also released a total of 20,000 fish into the ponds, there are also turtles, ducks, spoon bills and various other birds.

Plus, natural vegetation in and around the ponds for breeding grounds and food. The wetlands are also a great community hub with local school groups using it for educational purposes and fitness persons using it for recreation. However, no fishing, swimming or boating is allowed and you must walk in to gain access to the wetland reserve.

4. What have been the big challenges or learnings that you have come across from past events?

Public Perception (Emotional), re-direction. People not wanting to understand that it is sometimes where you live that is the fault, they do not seem to understand that living on a floodplain means that when floods come you will get flooded.

5. Do emergencies such as floods improve or worsen the soil value? What steps are being made to improve the soil around Wagga?

If there is not enough vegetation then yes it can degrade the soil. And wash away large areas of land.

6. Do emergencies affect infrastructure improvements and land planning? They do, such as;

- Having floodgates in place
- Levee banks
- Sewerage pipes under river (isolated and concealed)
- Develop control plans.

Appendix F

Meeting with Forbes Local Land Services

Key Questions

1. Emergency Management where agriculture and animals are impacted

Response; vets and security offices can move deceased stock. E.G. After the St. Iven Fire LLS helped out a lot with helping to provide burial pits to place deceased stock into and set up pens for injured stock to be treated.

Recovery; LLS set up teams to hand out newsletters, advice of where farmers could go and what to look out for eta.

2. How have past emergency events affected farmers, agriculture and animals

Animal Health;

- Increase of disease risks
- Problems with nutrition, not enough grass available or having to change their food source until grass re-grew or waters receded.
- Decisions for the farmers about whether they keep them or sell them based on injuries, poor health or not enough food to support them.

Pastures;

- Assessments of what pastures the farmers have and seeing if there are any feeding gaps
- Using emerging pastures, with sometimes neighbours who are on higher grounds supporting other people's stock as a source of food until waters go down.
- Pasture toxicity.

Infrastructure;

- Lack of roads including local roads (feed/milk trucks unable to get through to collect milk forcing farmers to throw a lot out).
- Fencing, fixing burnt out fences to keep stock in. (Blaze Aid is good with this activity).

Clean Up/Contamination;

- What have agencies dropped onto roofs to put out fires
- Farm dams full of ash
- Chemicals, sewerage in floodway's, creeks and irrigation systems.

Biosecurity;

- Pesticides, diseases
- Wondering Stock
- 3. Did you discover however any improvements to come out of this?

We have after action reviews using the 4W's – What worked well? What did not? What will we do the same? And what we will change? They are currently tweaking their systems, training staff up for regular training and having an oncall roster for more extreme or at-risk times such as Christmas or bushfire seasons, to know who is around and available.

4. Within your region what are the worst/best prepared and responsive areas and why do you believe this is so? (Culture, age, local knowledge eta.)

Some are resilient, mostly those in flood areas, that have local knowledge of their areas or folk lore. These are mostly in rural areas. Whereas those more in urban areas are the 'do nothing's' who wait for help. Yet some people in rural area's also do not always think ahead to what they may need. E.G. They own a horse, but do not have a horse float for transporting them if they have to leave.

5. What areas recover best and why? And How do you engage with farmers for emergency preparedness, response and recovery? (programs, talks eta).

Sometimes the smaller the town the more they help each other out, they know everybody in town. Yet at the same time these people can be hard to engage with, especially if you are a big hot shot from the city, they will listen more to a local such as fire captain for advice on recovery than an outsider. In these cases, if you want to give them some information on recovery and the things that are available to them you are better giving that information to the Fire Captain for him/her to speak out/give out to the community.

For an urban environment, engaging people can also be hard but for a different reason, it's getting the momentum for people to turn up, you must be able to make a community meeting/workshop sound in many ways "Appealing or Sexy" to gain their interest.

Appendix G

Visit to Lachlan Rural Fire Service

Key Questions

1. What Emergencies does the Lachlan RFS Respond to?

Primarily;

- Bush/Grass/House Fires, but mainly grass.
- And supporting car accidents

Secondarily;

- Support other agencies with floods
- And the odd search.
 - 2. Why do you believe you are so prepared/or unprepared for these Emergencies?

Prepared: They have a <u>Bushfire Risk Management Plan</u> that they have in place. In this they have things like Identification of Landholders and stake holders, assets, risk of bushfires and grassfires and in which places and factors such as weather and climate change. They also determine what works and focus a lot on training. Most of which is based around tackling grassfire, house fire dangers and car fire hazards.

They also have a lot of field/exercise days like their annual mechanical works and burning which is done in Spring before the hot weather starts. This is never done in Summer.

Unprepared: Although Farmers do permit systems well, it can be hard to capture information from them as some rural brigades never contact RFS and do not hear much about what they do, particularly isolated communities.

Most things they choose to do themselves, but the gap here is that when disaster strikes and they do call out for help, it can be harder for the RFS to know exactly how to help, as they do not have that local knowledge of the area, they are missing that information.

3. How do you currently get information on how to prepare and get your community ready for Emergencies?

They communicate with Regional Staff on what they have to do such as:

- Attend Forums
- Research Projects
- Share information with other agencies.

4. And is there another way in which you would like to receive information in the future?

Social Media; This is not used much because they must be careful what they say. Many times, what they say is not the same as other agencies. To do this it should be the same message by all agencies, so when one-person posts know matter what website or social media group that people are looking at it will not matter as it all should be the same. So, if the message is wrong at least all are at fault and not just one agency (criticism is not targeted).

They would also like to get more feedback from residents on how they can get more information from them and how they can help them more. And lastly would like to get more western or regional information that things from Sydney. Information that is more relevant to where they live.

5. What Emergencies do you help out with for evacuation purposes? And how do you go about doing this?

For floods we assist the SES, fires are RFS. Police are the only ones that can put in evacuation orders. The RFS assisted SES with the evacuation of the 2016 Forbes floods by doorknocking residents.

6. Do you find that there are some communities that are more prepared, responsive or recover better than others? Name these and why you believe this to be so?

Yes, Better Prepared;

• E.G. Forbes

Here the town has a very good look at it and people know what to do, they have been through enough floods to know.

Not as prepared/unprepared:

• E.G. Condobolin

In this town they struggle (lower demographic), they do not have as much income and many farmers loose assets from crop fires and flooding on a regular basis. They also have a lot of new comers to the area often and long-term residents do not share their knowledge of the landscape and its emergencies. They also have a high population of Aboriginals. (Not an issue, just an observation)

Other; A lot of people in the west underestimate the hazards that that part of the world has. A lot of residents will base whether they stay or not on what the current weather situation is or past experience.

7. Do you have any successful programs that help with preparation, response and recovery, that may be able to assist other communities? And how do these programs work?

Locally: Getting less common, the service is now more talking as one, with everyone doing the same thing and spreading the same message know matter where you live. However, the Lachlan region is trying to work on some Community Protection Plans specific to each area.

State-wide: Yes

- The national fire danger ratings, the consensus of people know what it means but it's not used as much in the west as councils have to pay for them and somebody has to go and change them all the time, there are not enough resources to do this in rural communities. Most farmers however seem to know if it's a bad day, based on past experience and growing up learning and observing the land. The RFS will also send messages to Brigades if it's going to be a total fire ban day so they can prepare themselves and warn others in their communities.
- emergency warnings (Advice, watch and act and evacuate), app used is Fires near me.

8. What about older communities, gender, culture and age does any of these factors affect the way people respond?

Within the Service; There seems to be a lot more women getting involved and the rural brigades seem to be made up from a collection of farmers.

Outside of the Service; The average age group of farmers is 60+ as young ones grow up and go off to university and do not look back. And those who live further out west may have an aging population but are as tough as nails when it comes to responding and recovering to emergencies.

Cultural; Out towards Condobolin there are many indigenous cultures and sometimes the RFS are called out there a lot to handle juvenile offences of lighting camp fires at any time of the year to cook their foods.

9. How do you receive feedback from your communities about programs and Emergencies?

From;

- Pushbacks from state driven stuff
- Getting out to community meetings like the Grain Harvesting Guide.
- Senior Volunteer Officers
- Through our 'Get Ready' Weekends (Open Days)

10. When organising community events/activities do you involve other Emergency Service Groups? And is this the same for Emergency Response or Requests for Assistance?

Yes from;

• Community Event stuff like; Emergency services Days, Incident Exercises together and from communities inviting us to come along to their events.

11. And tell us about your networking strategies?

In the Brigade Structure;

- Senior Volunteers go out and talk to other clusters and see how they are going?
- In town, we have a good communication with local groups and media
- And regularly talk with Community Groups.
Appendix H

Familiarisation Afternoon with Fairholme RFS

Fairholme is a small farming community just over 70km west of Forbes. The community sits on a floodplain and skirts the Lachlan River in places, the community every few years floods, with waters sitting around for weeks as it has nowhere to go on the flood surfaces. Many farmers here loose crops and livestock.

The Community is also prone to grassfires, this they believe that they handle better as many of the farmers here are in the local brigades. The vegetation includes Yellow and Grey box gum trees in clumps and crops include wheat, bailey, oats and canola.

There is a small mountain range nearby called Mount Manna, which also has a brigade, but have never really seen the mountain it go up in flames.

Most Fires out here are started by;

- Lightning Strikes
- Machinery like tractors slashing, angle grinders eta.
- Uni joints from trucks
- And electric Fences

Fires will not always spread that fast it depends on the winds and the types of grass that it is trying to burn. E.G if bailey grass is flat, the fire will just skirt over the top and leave the rest of the grass there. But one of the main reasons is that stock keep the vegetation low.

Myself and a representative from the Mid-Lachlan RFS visited this community On Friday 6th of October to meet up with the Fairholme RFS Brigade, to have a bit of Familiarisation of their tanker.

For RFS Brigades out this far, they do not train every week (A different thing I noticed to SES), they meet usually only annually. So, the point of our visit was to make sure they hadn't forgotten how to use the truck and the equipment on it.

It was noted that they do not train more because they find it hard to get there, they have farms to run. One barrier too is that a lot of people are no longer owner occupier in the area anymore, there seems to be a lot of contractors that do not live in the area.

A few problems with this include;

- Recruiting new people is hard when they are not locals
- Contractors may not understand the land, and what to do when an emergency does strike.

During a fire emergency whoever is nearest to the brigade will get the fire truck. There was a time when all farmers had their own water tanks and pumps on the back of their Utes, but they had said to me that you can no longer do that due to liability cases, many farmers have been caught out around NSW for doing just that.



Some of the major hazards they have in this area of the world are;

- No mobile phone coverage. There is a tower at Mount Manna but it is only for voda phone, if you have any other provider you will not get coverage. And landlines are not always reliable, during heat days phones can get cut. One farmer quoted "my landline has been off for 3 weeks, we are still waiting for them to fix it, I'm just lucky that I have my satellite phone otherwise I wouldn't be able to get word out if desperate".
- The Fire Truck. If the truck is not started regularly and the pumps tested, then in times when it is needed could potentially cost in lives and property.

The Lockhart Shire is responsible for the maintenance of the truck, but it doesn't seem to get done enough. And the locals do not know how to fix everything. So, in conclusion what would happen if you had these problems on a fire danger day or a car accident? What would they do?

I asked them this very question. They stated that they would get the nearest fire truck to respond.

- This also raises a hazard, not enough training, Brigade members only train once per year if that, and the rest is done on the job. So, when they do get together for a familiarisation of the truck they can have problems. Such as the pumps not working.
- Another hazard for both floods and fires is the Island Creek next to the river which is full of logs that have been washed down from previous floods and left scattered and stuck between the trees. When the creek gets low, and if a fire were to start in there, there is so much fuel that it could burn for days and spread rapidly throughout that fire corridor causing houses, that bank onto the river or live on the island to be at major risk. And for a flood could cause water to back up and spread to places that normally do not get flooded.

What the farmers would like to be able to do is clear the excess wood, But State Water will fine anyone who tries. This area also comes under their jurisdiction, they are responsible for caring for this part of the creek but do nothing.

Appendix I

Findings from Public School Visits



(Photo above is of the Bedgerabong Public School)

During my study tour I visited two Public Schools in two different types of environments to see if there were any differences in how the children prepare, respond and recover from emergencies.

The first School I visited was in a small rural community called Bedgerabong which is around 30km west of Forbes in the Mid-Lachlan Regions of NSW. It's a small school averaging around thirty kids per year.

As I was also accompanied by the Forbes SES Unit we were able to speak with all the Grade levels, running age-appropriate activities to find out the answers we desired.

The first group we spoke to were the Grade 5/6 students we separated them into groups, with each of us taking a group and subject, after ten minutes we would stay with the same subject but move to another group and so on.

The subjects we covered were; Fire, Storm and Flood. And within each Subject we asked the children:

- How they prepared for a Fire, Storm and Flood?
- What they did when the Fire, Storm, Flood arrived?
- And How they helped to clean up after the Fire, Storm, Flood had passed?

Answers:

Fire	Prepare	Respond	Recover
	Have an escape route	Ring 'ooo'	Clean up
	Fire Breaks	Escape away	Help others
	Clean Gutters	Stop, Drop & Roll	Restore life
	Soak Grounds	Take Belongs	Assist neighbours
	Fire Equipment		
	Listen to warnings		
	Leave early		

Storm	Prepare	Respond	Recover
	Clean Gutters	Keep pets calm	Ring Insurance
	Peg trampoline down	Stay inside	Call SES
	Take pets inside	Call 132500	Clean up yard
	Clean up yard	Start generator	Check neighbours
	Put car undercover	Towels on windows	Check livestock
	Pot plants inside	Find safe place	Check machinery
	Close windows		

Flood	Prepare	Respond	Recover
	Buy Groceries	Home Schooled	Clean Up
	Sandbag Home	Help Sandbagging	Check Livestock
	Emergency Kit	Assist Neighbours	Fix fences

Grade 3/4

We got the children to sit in a circle and tell us a story about what they remember they did from the big floods in 2016. However only the child holding the Paddy Doll could talk, preventing any children talking over each other.

Some of the answers include;

- I filled sandbags to go on the levee bank
- A tree fell on the levee bank making water rush everywhere.
- We were isolated on an island.
- Water damaged the road
- We had to get the animals out by boat
- Dad went up in the helicopter to check on the animals
- Dad had to take me to school in the tractor

Grade K/2

For the Kinder to Grade 2 students we asked them to write us a story and draw a picture about the big floods they had in 2016. The class teacher helped them to write a story by having them start off with the sentence of "During the floods" to get them started. One of these stories you can see on page 26. However, some of the other stories they told us were;

"During the floods we got trapped" "During the floods we played lots in the floodwaters" "During the floods we couldn't get to school"

We discovered that children in rural environments are kind, care for one another, look out for their neighbours, just want to get in there and help and are not



afraid of hard work. It was a real pleasure to meet these children and listen to how they help their community.

In the Afternoon when then travelled back into town to Forbes Public School, unlike Bedgerabong it is not in a rural environment but an urban one and the school has approximately three hundred kids instead of thirty, so we were unable to speak with all grades, so we decided to focus on Grade 3.



(Photo above is of the Forbes Public School – Grade 3 students)

We tried the same game that we had played with Bedgerabong Grade 3/4, however discovered that not many children were engaging with this or too shy to say anything, so we changed tactics and asked them to write us a story instead about the floods that hit Forbes in 2016. Their answers were very different than those in the rural environment. Some of which were;

- "Mum helped a car out of floodwaters"
- "I was on the TV"
- "There was no power so we were bored"
- "I couldn't get to school"

We also had some children that did not know what they did, so we gave them the choice of telling us what they would do if they were in a flood their responses were;

- "I'd call the SES and say we were stuck in our house and needed help"
- "I would go to the SES and get lots of sandbags or if I forgot my money I would go out of my house"
- "I would get up high and yell for help"
- "I would call the SES on ooo".

In both environments answers were both good and bad, however one large thing I noticed was the rural children seem to be more resilient because they do not have the same services as urban children do available to them. As you may have noticed from the answers above and the stories children wrote to us, rural children are more worried about how they will get to school, their livestock and helping Dad, whereas urban children mostly stated that they would call the SES, drive through the floodwaters or go boogie boarding.

This does show the they know about the SES and what they do, which is great. However, it may also show that if the SES did not exist that they may be in strife. It was a pleasure however meeting students and teachers from both schools, I learnt a lot from each and hope in turn that they learnt something from us.



Appendix J

Meeting with Hunter Valley NSWSES Region

Questions I asked

1. I would like to know if you have any successful programs that may benefit Victoria and other Emergency Agencies. And how you made these programs work?

They have a program running to measure vulnerable people/businesses, which is a

face to face program. They locate vulnerable people by networking with councils, farmers and community members and speak to them about the challenges they may face in an emergency situation.

For example, In the Upper Hunter Region there are many Dairy and thoroughbred farmers, that have stock and property on floodplains, they speak with them about what they can do or should do to protect their property and stock so that if a flood arrives they know what they are doing and where themselves and their stock will go.

2. Also, whether you have any difficulties with informing other Cultures eta, of the dangers of emergencies and whether you have any challenges in communicating with them?

A lot of people are wary of Uniform, especially those that have come from war torn countries. Many people from Middle Eastern Cultures, say you cannot speak to a woman at the house, only a man and sometimes a man will also not speak to a woman, so it's good to have a man in your team who can do all the talking. 3. I would like to discover if you have any environments that prepare, respond and recover differently and why, to include all environments (Culture, Religion, Age, Gender and Geographical Location)

Culture – Unsure
Religion – Unsure
Age – Progress Association, are more active, older farmers are also more active, younger generation are not as aware and locals are more resilient.

Gender – No difference noticed

Geographical Location- Those in the outer reaches are far more active because they do not have the same level of services available to those in urban environments.

4. And I would also love to see anything you are proud of, any past flood/storm damaged areas and how they recovered, any issues eta.

April 2015 – How the Region responded.

X-mas Ever 2016 storms – Everyone Jumped on board to get it all sorted for xmas day.

Appendix K

Questions from Newcastle City Council

1. Have you discovered in your life or do you know of any successful programs/events that you are proud of or have been involved in or worked in? And explain a little about them?

Yep Newcastle City Council have a flash flood warning system that is pretty good.

2. What have been some of your big challenge you have had over your career and how you managed and measured it?

Showing up to work every day and sitting in an office is a big challenge for me. Seriously I find it stifling that humans have to endure being in a box and staring at a screen for the majority of their waking hours. I have managed it by getting outdoors three times a day and connecting with the natural environment by riding to work, walking in the park barefoot and swimming in the ocean. I have successfully managed it by being loyal at each place of employment for at least 5 years. I have tried other workplaces such as construction sites for 4 years and they can also be challenging even though you are outdoors there are limitations such as working in a scaffold, on hot tin roofs and in dust infested buildings. This might not be relevant in many people's opinions to the subject, but I think it is most relevant to any type of work. If you can adapt to the developed world and wish to produce quality work for the life of your career then you should implement practices that keep you cool, calm and healthy.

3. From your experiences have you discovered that people prepare, respond and recover differently dependant on where they live, their age, gender, religion or culture and why you believe this is so? Now that the world is increasingly connected across all age groups with smart phones I think there is little difference between ability to prepare, respond and recover unless you do not have access to information age devices or are part of the developing world. I think the major factor is whether the person has experience with emergencies or natural disasters in their lifetime.

Emergencies can be as broad as a critical injury for a member of the family to being caught in a fire at a shopping centre. I think if one has a little experience in anything then they shall be better prepared and respond more appropriately for the next one.

There are also vulnerable communities that are exceptions such as the elderly, low socio-economic or disabled. These group would prepare, respond and recover differently as they either require the care of others or have limited understanding of the risks in their neighbourhood (unless they had previously experienced a flood)

4. How you measure and map preparedness, vulnerability and Resilience for flood, storm and fire emergencies.

I use the data provided by the ABS that is available through a portal on our website breaking down vulnerable communities and the like.

5. What does the Newcastle City Council do to help residents prepare, respond and recover to Flood Emergencies?

We undertake education campaigns to raise awareness and keep an up to date webpage to inform residents of the flood risk in their community. We also partner with SES to educate people at special events.

6. And how does your working role help out in Flooding Emergencies?

I plan for floods by implementing appropriate development controls and undertake flood studies to reduce flood risks as part of public works and major developments. Newcastle is undergoing major redevelopment at present and we are working with state government to improve drainage and overland flows across the city and ensuring the flood risks are reduced for rare flood events.

NCC has also implemented a flash flood warning system and work closely with SES to make the system assist them in responding during an emergency with little warning time and potentially life-threatening flood risk across the city.

Other

7. Is there anything that you believe would benefit Victoria in relation to Community Preparedness, Response and Recovery for Flood, Storm or Fire Emergencies?

Same thing I would recommend for any location across the globe – "it's all about community".

Appendix L

Meeting with Chas Keys (NSWSES)

"Mitigation means reduce not eliminate"

Key Questions and Discussions

1. Any successful programs/events that you are proud of or have been involved in or worked in? and how you went about measuring these programs/events?

Chas spent 14 years dedicating his life to flood management strategies, toured the state talking to locals and writing flood plans.

He developed books:

- Making communities safer in times of flood.
- Maitland City of the Hunter
- 2. Discuss what have been some of your big challenges or learnings you have had over your career and how you managed and measured it?

Challenge:

- Movability in the SES culture for response. They tend to respond without thinking first. Without first planning and preparation. Most seem to be more attracted to the boat than the map.
- Pre warning messages, for before a flood, not enough are given out and they are disputed at the wrong times.
- Governments are also challenging, "They need to spend on mitigation so that it saves on relief" (a cultural problem). They are putting more people into Maitland CBD by building houses up, however this means that during an evacuation the SES will be the ones that get stuck with evacuating more people.
- 3. From your experiences have you discovered that people prepare, respond and recover differently dependant on where they live, their age, gender, religion or culture and why you believe this is so?

No differences for people in flood prone areas, it is very hard to get people to evacuate early. If people see the floodwater and the scrubs burning then that is when they are going to choose to evacuate not before, but by this stage it is too late. Most will choose not to leave earlier in case they are robbed.

Except for farmers who are very good flood planners because they live on the low lands. They are good also at response because they go through lots of little floods and they learn how to move their machinery and stock to higher grounds, if they did not then they would lose their assets and their livelihood. But they are not good at warnings.

And then urban people think in their own lifespan. People in present day do not have recent experiences of floods, so they do not see the need to evacuate.

So, in general we are all good risk managers of everyday life because we do it all the time (like driving a car), but natural disasters that do not happen all the time, well we do not think about these much until they happen or if we are in an area that is prone to these disasters and happen regularly.

4. Can you tell me the relationships between flood warnings and peoples response?

Few and weak, in general people do not respond. **For Example**, evacuation statistics, the higher the percentage would mean SES have done a good job.

Appendix M

Meeting with Glenn Evans (FMA)

Key Questions and Discussions

1. Any successful programs/events that you are proud of or have been involved in or worked in? and how you went about measuring these programs/events?

Yes,

- **Production of the book** "Maitland City on the Hunter Fighting Floods or Living with them" with Chas Keys (Author) was a ground breaker. Writing the book was something that hadn't been done before.
- Organising the 40th Anniversary of the 1955 Flood. In preparation for this event we engaged with the local NBN TV Station to play a sequent each night leading up to the event to attract the interest of people, had the local council and other Emergency Service Groups involved to assist on the day and beforehand with spreading the news. The event attracted 10,000 people, we had photos, army ducks, a parade eta, with the success of the day being shown in all the newspapers. It was such a great day that we decided to try every 5 years with a smaller scale event and then a larger one every 10 years.

The 50th Anniversary was also pretty successful too, however although the 60th anniversary in 2015 was successful they found the same anticipation had been lost to the younger generation as the memory for them was not there, a black and white photograph had not the same amount of wow factor, also the Media were not as heavily involved as previous years.

2. Discuss what have been some of your big challenges or learnings you have had over your career and how you managed and measured it?

Challenges;

- To Convince people to consider all risks and not just the big ones.
- Councils, where to build, not build especially for built up areas.

- Real Estate agencies not passing on information (They do not want to be known as a flood town, even though they are a flood town).
- Appropriate roads to get out of isolated or at-risk areas if needed and made easily accessible for Emergency Services.
- Having a community educated and know what to do in an emergency.
- If people cannot personally see the risk, they will not do anything about the risk until it is too late.
- 3. From your experiences have you discovered that people prepare, respond and recover differently dependant on where they live, their age, gender, religion or culture and why you believe this is so?

Yes,

Live: <u>"Hinton"</u> which is a little village filled with retirees, farmers and older generations have been through floods, they have connections upstream to let them know what is happening and always have plenty of supplies. During major events they do not ask for the same level of help as other areas that are also isolated, for the fact that they have that knowledge and are willing to share it, even with the new comers that come to the area.

"Lismore" however once known to be extremely resilient has since fallen. Since the levee was put up, they believe that they do not need to prepare, or evacuate because the levee will protect them. Levee's seem to have the tendency to make people believe that they are safe and so they become complacent. A common name for this is the "levee effect".

Age: Mature generations are better prepared from personal or family experience and are more likely to engage with Community/Emergency Services Programs, whereas younger people do not think it will happen to them. As mentioned before it is harder to teach younger people about historic events, most of the time we must show them pictures in colour, coloured pictures they seem to understand more as their generation, black and white are the old days, they are past that cannot happen again.

Gender: Men, of the land, have a better understanding of what happens on the land so they are better prepared for what could happen than men in urban or town environments, however when it comes to evacuation men in general will

not always go, preferring to send the women and children away whilst they stay and defend the property.

It is not always clear why, however what is clear and a fact, is that when the emergency becomes real especially for flood emergencies most fatalities have been because men who have decided to drive through floodwaters.

Religion; Ethnic background is an issue, however there are not a lot of non-English speaking backgrounds within the Hunter Region, so the problem only arises occasionally where you may just need something as simple as a translator.

Culture: The behaviour of some people cannot always be judged just sad, when not thought through. **For Example**, "a lot of people in the June 2007 Maitland floods drowned in their own houses because they decided to stay and wait it out, when the flood kept rising they went up to the next level and so on until they ended up in their roofs. With no way of smashing out of their roofs many drowned".

4. Can you tell me the relationships between flood warnings and peoples response and how the Government manage flood risk?

People have to be confident that the information is accurate and if what that information claims does not happen then the less likely people will take notice of it in the future.

I have also found that people who communicate the warnings are not always using the terminology of the local areas so it keeps people disengaged.

Another problem that I saw was during the June 2007 Floods when we had a lot of inter-state help, it is not the fault of those whom came to help, but they were not given enough knowledge of the area's they were in. So that when locals asked them questions or information of the area, they were not able to answer as they did not know. So, people stopped asked Emergency Services for help or information as they believed that they could not rely on them for the correct information.

NOTE: "Remember even if you are from another area, people in the Community see you as the leaders and expect you to know **everything**. So, for future reference if you are deployed someplace you are unfamiliar with learn a bit about the area you are going to and ask to be put in a place where you can assist that may be less demanded for information".

Appendix N

Visit to Lower Hunter Fire Control Centre

This center is the largest in the Hunter Valley Region. It has a very large equipment shed that houses equipment. Vehicles, a catering kitchen and lounge, an outside training area, several helicopter pads, a large outside recreation area, training rooms, administration area and a large-scale Incident Control Center.

Included in the ICC are four big touch screens. First one is for mappings, second for Incident reports and current events and information, third for keeping an eye on social media and the fourth one planning/spare. There are thirty-nine operational brigades in this region with three more support brigades. The training for the Bushfire Course is done here.

One of the biggest problems in this area in young firefighters. "The RFS make becoming a firefighter look so good and more interesting than it is, as most find out when they graduate it can be slow and dull at time. Especially if they are placed into a quite brigade do they become jealous of those that have more to do than them, so they go out and light a fire just so that they can attend one, this is a common problem and the last young one to do this was caught and sent straight to prison".

Discussions and Key Questions

1. Learn how a control centre operates during fire emergencies and how this can help your communities.

There are three different types of Classes for levels of fire emergencies;

- Class 1; This is a local level involving just RFSNSW, RFS & Parks.
- Class 2; Is more a Multi-Agency incident, with a single ICC
- **Class 3**; Under Section 44 of the NSW Rural Fire Act this incident you need the Commissioner to appoint and ICC.
- 2. Discover any successful programs or stories from past experiences that have benefited people, communities and other agencies.

Programs;

Apps: The last 15-16 years from a State perspective all Community Ed campaigns have been about planning and implementing. Like the invention of the "Fires near me" App. Each district I am sure has their own success stories. For this area on February 2017 fire, people actually took notice of the hot conditions and took action early, within the Lower Hunter area.

Active Brigades: There are many brigades within the Lower Hunter that do not get as much work as others, this makes members less motivated and can lose interest and leave. So, the idea was thought that these brigades could support crews that are active through the night or get them to do the community education and fundraising events. We also encourage our brigades to be their own motivators and lead their teams, not rely on office staff at Lower Hunter to do this for them.

CPP (Community Protection Plans): Talking to households to make sure that they have a plan and know how to use it, doing things such as clearing their blocks of rubbish, making sure everyone knowing how to call emergency services, clearing away dead leaves, having a safe place, knowing their exit routes and where you would all meet if you became separated.

Stories - General

- The Richmond Vale fire. No buildings were lost from what the firefighters accounts because the properties had well maintained asset protection and plans in place, people in this area were listening and doing.
- Kitchener is a small village just outside Cessnock, which have been impacted a lot in the last 20 to 30 years, as they live smack bang in the middle of a fire path. They are self-standing with big back up batteries and generator systems.
- Blackhill Primary School, are a good example that you can do it, recently they had to put their plan in place when a fire threatens the school, they self-evacuated getting all the children onto buses and to a safe place, sending text messages and phone calls to the parents of the situation and where they could pick their children up from.

• In the April 2015 super storms, telecoms and power were lost, however this centre was the only Emergency Service station that was operational with both phones and power. Because they have a huge back up battery power unit that runs all power and phones off a separate line and system

The current Structure for Community Engagement came after Black Saturday fires in Canberra. They developed a warning system through social media partnering with Telstra. They had neighbourhood meetings, letterbox drops, street meetings, went to schools, gave advice to everyone on how to prepare and got local emergency services involved in the residential planning and preparation.

3. Discover if some Communities are more resilient to fire and why you believe this is so?

Yes, any community that has been affected in the past by fire are better prepared because of that experience.

Some extreme risk areas include:

- Wollombi, Eagle Reach and Bucketty, these are huge development areas that are close to each other, they have high fuel loads and major fires affect them every 15 to 20 years. Lots of weekenders live here and their properties are high on the ridge, getting these people educated and engaged can be difficult as finding where they are can be difficult.

Low risk areas include:

- **Maitland** and **Dungog**, these are bush/grass and floodplain and farming areas, they have a low fire frequency with only small pockets of vegetation and flooding on regular basis.

4. Discover if culture impacts decisions and whether there are larger numbers of cultural groups in specific areas

They work hard with Aboriginal Land Councils by inviting them to meetings, to help them to make decisions and liaison with Fire Brigades. This area does have some migrants but not a lot. Mostly Anglo-Saxon. And there doesn't seem to be a big language barrier here.

5. Talk about your AIIMS Structure if relevant and How you share information through all Sections.

All players will be in the same room so passing information would be easy, we also have regular department heads meetings and scheduled meetings with other sections.

6. When does relief and recovery start and how do you go about this?

Right at the beginning, the need to start the Emergency Operational Centre (EOC). We try to bring the LMO (local media officer) and LECON (Local Emergency Controller) at the beginning of the incident, this way we get a quicker response at the beginning and they can start the recovery planning.

7. If there is anything else that you believe may benefit my project or Victoria I would be most interested to see or if there is anything you would like to know from Victoria I would be happy to help.

Victoria because of their acceptance of risk, they have an engaged level of service that they have been exposed to. Rural areas may be less supplied than those in town, they know when they go into town they will need for example 1 months' worth of milk or bread.

You will need to engage with farmers because they have that knowledge. We rely on farmers for knowledge and water from their dams. By having that engagement with farmers, they know why and respect you when you draw water out of their dams, if you do not engage and just take you will lose that respect. You need that and their local knowledge.

But all levels of community still need to be engaged, just dependant on where they live and what they have.

And,

"If we send out emergency alerts through SMS we need to educate people on what they mean and ensure that they are all the same across all agencies,".

Appendix O

Visit to Cessnock Fire and Rescue

GENERAL AND RESPONSE:

Cessnock Fire and Rescue are a paid Emergency Service's Organisation. They have four full-time day workers and the other 22 are on call 24/7.

The main threat for Cessnock are grass and house fires. They do also respond out to Kitchener (a town about 10km down the road of approximately 1000 people), which is prone to bushfires and floods, although they are not flooded during floods, just isolated as there is only one road going through the town, so only two ways of getting out which both get cut off during a flood.

Within the Cessnock Local Council there are eight Fire Rescue Stations and seven Volunteer Rural Fire Stations. Sometimes the Cessnock Fire and Rescue crew will assist the RFS in their areas with fire related emergencies.

EDUCATION AND FUNDRAISING:

Every year they do a certain level of Community Education which includes:

- Home Fire Checks: checking smoke alarms, install smoke alarms and give them an information pack.
- School Visits and implementing programs like Pre- Ed (Kinder), Fire-Ed (Primary School), RescuEd (High School) and Senior Ed (Retirement Homes). Full details about these programs can be found at the bottom of these findings.
- BUI hydrant checks: and at the same time speak with residents about their Fire plans.
- Attend Community Activities like Relay for Life and grape stomping.
- Cold Door-knocking
- Community Fire Unit: These are local community members who walk around town, checking hydrants and they have their own fire trailer ready to go within the Community. They are also trained to an extend on the basic firefighting skills for when there is a fire. Kitchener is one such community around Cessnock that has this.

PROGRAMS THAT ARE RUN IN SCHOOLS:

The importance of educating and protecting children from the dangers and trauma that can be caused by fire, especially fires in and around the home, is widely recognized. Accordingly, Fire & Rescue NSW's firefighters have been visiting local schools and teaching fire safety to children through the School Ed programs for many years.

Pre-ED:

Pre-ED targets preschool students throughout NSW and focus on teaching children about:

- 1. Safe fires/Unsafe fires
- 2. Firefighters Can Help You
- 3. Crawl Low in Smoke
- 4. Stop, Drop, Cover and Roll
- 5. Know and carry out their evacuation procedure

The program requires firefighters, preschool teachers and parents to all take a role in this program.

Fire-Ed:

The Fire ED program takes place over four stages that are designed to be taught over a period of approximately a fortnight. The program requires firefighters, teachers and parents to all take a role in this program. This program is targeted at Primary School aged children.

Stage 1

Firefighters from your local fire station will visit your school to talk about the above four messages (approximately 60 minutes)

- 1. Safe fires/Unsafe fires
- 2. Firefighters Can Help You
- 3. Crawl Low in Smoke
- 4. Stop, Drop, Cover and Roll

Stage 2

In the fortnight following the firefighters visit to the school, teachers will use their teacher's resource kit which includes a series of follow up lesson plans and activities to work on with the students, in class or at home, to reinforce the lessons learnt.

Stage 3

There is also a children's pack which contains information for parents. This explains the program and covers further discussion points and activities to be undertaken at home. Parents are encouraged to complete the Fire ED parents feedback form following the program.

Stage 4

Approximately two weeks after the Fire ED presentation, teachers are asked to assess the students' retention of the fire safety knowledge covered in the lessons and then forward a copy of the results to the Fire and Rescue NSW by completing the Fire ED teachers feedback form.

RescuED:

RescuED is a road safety and education initiative of the Fire & Rescue NSW where firefighters with experience in motor vehicle rescue, deliver an innovative motor vehicle accident prevention program to potential learner drivers in high schools.

RescuED aims to reduce the frequency and severity of the tragedy and trauma caused by motor vehicle accidents within 17 — 25-year old's. It also represents an extension of our community risk management activities beyond fire safety into road safety and reaches an important audience of potential learner drivers in high schools.

RescuED targets high school students in Years 9-10. Unfortunately, every year too many young people die driving. While young drivers made up approximately 14% of all NSW drivers, they constitute approximately 30% of those killed or injured in vehicle accidents across the State each year.

In addition, each year statistics in NSW reveal that:

- Young males are three times more likely to be in a crash than young females
- Young males are three times more likely to suffer fatalities than young females
- Young females are more likely to be hospitalized for injuries than males
- Young females are three times more likely to be in a crash than older females

The RescuED program is a 1 hour 50-minute presentation delivered by rescue trained firefighters of the Fire & Rescue NSW onsite at schools. The presentation should be used in the context of an ongoing PDHPE program for Years 9-10 students (Stage 5).

The presentation consists of a number of activities:

- Activity 1: Rescue extrication demonstration
- Activity 2: Video case study
- Activity 3: Discussion causes and consequences
- Activity 4: Risk reduction what could you do?

Senior Ed:

FRNSW's (Fire Rescue New South Wales) resources and programs targeting the seniors' community are titled under the banner of Senior Ed which is the collection of improved resources to make the delivery of community engagement to this vulnerable group easier to coordinate by fire officers.

FRNSW through its network of 341 fire stations delivers the Smoke Alarm and Battery Replacement Program (SABRE) to seniors and engages this 'at risk' community through fire safety presentations and displays.

The Senior Ed resources that assist FRNSW fire officers to educate the seniors' community in fire prevention and preparedness include:

• 'Fire Safety for Seniors' - a speaker tool-kit featuring a DVD with an interactive multimedia presentation, a session plan and a facilitator guide.

 'Better Safe than Sorry'- a short public safety film which outlines essential fire safety steps seniors should take around their homes. The film is narrated by Henri Szeps, the co-star of the award-winning ABC TV series Mother and Son, and the DVD can be borrowed from public libraries and downloaded from this website.

FRNSW statistics reveal that seniors (people aged 65 and over) are the highest fire fatality risk group in the community. Since 2006, one in four fire-related deaths in NSW have been from this age group. Given their high fire risk, it is vital that older people and those who provide both formal and informal care to them are aware of basic home fire safety. Older people:

- May be affected by mobility issues, which reduce their capacity to escape quickly if a fire occurs in their home
- May be likely to economize and use older appliances, such as portable heaters and electric blankets
- Have difficulty installing and maintaining working smoke alarms

Appendix P

Survey Questions asked to Residents

Name of Town?

Number of Occupants in House?

Geographical Location of House? (Floodplain eta)

Any pets/animals?

Are they Australian born? If not where were they born?

What age group they belong to? (60+ eta)

Their Gender?

Are they Currently prepared for an Emergency? (If no why not, if yes list precautions taken to be prepared?)

What types of emergencies they are prepared for?

Why they believe they are so prepared/unprepared for an emergency?

How they currently get information on how to prepare? Or how they would like to receive information on how to prepare in the future?

Would they evacuate their homes if told to do so? Or would it depend on the type of Emergency? (If no why not? Or if depends on the Emergency Why?)

If they did evacuate where would they go? And how would they get there?

Would they require any assistance in evacuating?

After an emergency how well they believed that they would recover?

END