

WILDFIRE PROGRAM REPORT

Mid Coast Council

Rural Community Wildfire Resilience

Federal Government's Black Summer Wildfire
Recovery grants program



INTRODUCTION

This report analyses the rural community-based wildfire resilience program administered by Mid Coast Council through a Federal Black Summer Grant. The community-based wildfire resilience program was centre around two high risk communities, Scone and Bungwahl, that has undergone wildfire resilience programs in the last 10 years.

The rural community-based wildfire resilience program involves approximately 30 individuals in each location which participate in an introductory face-to-face survey, a series of workshop and validation survey to inform the research component. Online surveys were distributed to wider audience to provide statistical baseline for analysis.

Each community is different in terms of wildfire history; demographics; number of absent landowners, 'newcomers' and vulnerable people; landscape; land-use; geographically disbursement; type of pets/animals; distance from large cities; access to resources; communication; community activities; jobs; tourism; social economic standing. These differences present challenges in wildfire prone localities (Fairbrother *et al.*, 2019). The values and attitudes of new residents towards wildfire may be different to those of established locals (Mcgee and Russell, 2003; Akama *et al.*, (2014), Luck *et al.*, 2010; Drozdowski, 2016).

Cooper *et al.*, (2020) reports that an understanding of the ways in which collective narratives about disaster events are developed at a locality level is required, to enable landowners to shape their perceptions of wildfire risk and views on what constitutes "good information". Requirements to tailor information and community engagement, leveraging local community pathway to achieve social mobilisation, active participation that results in community applying wildfire protection measures to build community resilience and shared responsibility.

Significant, to this program is the elements surrounding rurality. Rural culture is frequently described as one of self-reliance and self-empowerment (Cooper *et al.*, 2020), where people were used to meeting their own needs without help from the outside (Mcgee and Russell, 2003) with a consequence of a culture of self-reliance is a mistrust of outsiders, particularly those from "the city" (Fuller *et al.*, 2000) with the resulting complications when wildfire authorities are considered outsiders.

Cooper *et al.*, (2020) analysis the power dynamics between state agencies and local communities with assessments of disempowerment and views by rural populations, which impact on wildfire risk. There is great complexity, however, in the ways in which community engagement informs residents' perceptions of wildfire risk, assessments of the usefulness of information and ultimately wildfire-related behaviours.

Detailed studies between 2009 and 2014 have revealed that despite wildfire education programs undertaken by fire agencies, households still have generally low levels of pre-wildfire risk perception, planning and preparation and of those with a wildfire plan few are well-prepared to implement that plan (Cooper *et al.*, 2020). Challenges in wildfire risk communication still persist in practice, including challenges relating to community engagement (Inspector-General for Emergency Management, 2019).

BACKGROUND

The rural community-based wildfire resilience program was led by Mid Cast Council and Landcare Fire Ecology Education with assistance from NSW RFS Hotspots, NSW RFS Local and district offices.

The author of this report completed a literature review on the wildfire risk and rural communities and monitor participants through a staged engagement process based. The literature identified contemporary techniques to establish behaviour changes and identify limitations and barriers to applying wildfire protection measures within rural communities.

The outcome of the literature review identified eight broad themes in wildfire community engagement.

LITERATURE REVIEW

Community profiling

Community (or stakeholder) profiles are a useful way of developing an understanding of the people in a geographical area or a specific community of interest. This understanding can assist in the development of a community engagement plan and influence who the key stakeholder groups are and how a project develops.

From a wildfire perspective, the vulnerable people should be the targeted group. Vulnerability may be categories by age, mental capacity, language/cultural group, living arrangement and residential location.

A principle aim of community profiling is to identify the community connectors that will assist in maintaining support for the engagement program.

NUDGE theory

Theory of Planned Behaviour (TPB), Extended Protection Motivation Theory (EPMT) are well established evidence based (McLennan *et al.* 2013) and have been the dominate processes utilised within wildfire engagement.

The basis of these processes is to achieve behaviour change for the ultimate outcome, in this case, risk reduction in a wildfire event. Although the theories are sound in application, it is clear that communities are not changing behaviour entirely towards ultimate outcomes through single engagement program.

Consideration should be given to 'small wins' over time in behaviour change within the community, nudging behaviour to a better outcome. With repeated exposure to the theme, and repeated 'nudges' towards better outcomes moving towards the ultimate outcome over time.

Undertake engagement when the community is receptive

Effective community engagement must be an interactive process involving dialogue, information sharing and decision making. This can only be achieved when the community is willing and able to accept information to make behavioural change. From a wildfire, research has illustrated communities are most receptive follow a wildfire event or during periods where a large fire is possible (summer and deep drought).

Stories and lessons learnt from other community members

Removing authorities from this process is important, as they are not often view as peers within the community. One of the most effective ways to learn is to share vision and values and stories with likeminded people (the community) building relationships and trust. Allowing ample opportunity, and restricting authorities during this process will foster a learning environment to assist in the uptake of risk values.

Issues of evacuate or stay and defend

Research has shown that multiple barriers affect people from making the decision to either stay and defend or leave early. This includes lack of understanding of 'shared responsibility' between landowners and fire agencies, competing life priorities, other values such as pets and livestock, inability of return to home if evacuation is undertaken, and what preparation should be undertaken for an undefended building to survive. If defending the property, what the extent of personal capacity, equipment required, and preparation works are significantly underestimated.

The tools used to understand wildfire risk

Understanding of wildfire behaviour and fire scenario that will affect them personally and the broader community leading to the ability to understand wildfire risk and adequate application of wildfire protection measures (Asset Protection Zones, landscaping, water supply, access, construction standards and hazardous materials).

The ability to utilising interactive tools and hands-on learning techniques to develop wildfire scenarios to inform and enable community to appreciate wildfire behaviour to determine action triggers and identify what scenarios and circumstances increase risk has proved very beneficial in community engagement.

Communities understand what wildfire protection measures

Once the tools to understand wild risk has been developed, bring the community to a stage where they can appreciate what mitigation actions will reduce risk and will increase resilience, personally and in the community to wildfire events. Enable communities to apply wildfire protection measures and develop an understanding how these protection measures work, provide them with the knowledge and understanding to practical and pragmatic own risk.

Broader elements of livestock, pets and rural specific issues

Rural culture can be described as one of self-reliance and self-empowerment where community meet their own needs without help from the others. This can lead to a culture of mistrust of outsiders, and heavy self-reliance and rural communities feel disempowerment of their views and abilities when 'outside' fire agencies are operational in the community.

There is complexity within rural communities that play into how rural community engage, perceptions of wildfire risk, and wildfire-related actions, which impact on wildfire risk mitigation behaviours.

Extra resources are required within community engagement of rural communities to consider broader elements of livestock, pets and rural specific issues such as lack of communication, distance, limited infrastructure and resource.

COMMUNITY ENGAGEMENT PROGRAM

The program included 4 workshops targeting 2 communities (Stroud and Bungwahl).

Workshop 1 Objectives: Landscape and Fire Engagement

- Introduce or revise landholders on the basics of fire, plants responses to fire, wildfire risk and prescribed burns.
- Find out what the community wants to know in regard to fire management – program to focus on mainly wildfire risk, biodiversity conservation or both.

Workshop 2 Objectives: Preparing for wildfire.

- Educate landholders on how to prepare their property for wildfires.

- Using an interactive activity; the SIM table, and individual property Fire Management Plans.

Workshop 3 Objectives: Planning to use fire.

- Educate landholders on how to plan and conduct prescribed burns.
 - Using an RFS burn plan template.

Workshop 4 Objectives: Field Day – Planning to use fire.

- Show landholders what a prescribed burn plan looks like on a local property.
 - Use a burn plan drafted by BEMC.

The below table provides the dates and attendance to the workshops.

Location	Date	Total of Attendees
Bungwahl Workshop 1	28/11/2022	15
Stroud Workshop 1	30/11/2022	27
Stroud Workshop 2	20/02/2023	23
Bungwahl Workshop 2	21/02/2023	29
Stroud Workshop 3	27/02/2023	20
Bungwahl Workshop 3	28/02/2023	17
Bungwahl (Wootton) Workshop 4	08/12/2023	15
Stroud Workshop 4	09/12/2023	27

1-ON-1 SITE VISIT FOR WILDFIRE PROTECTION MEASURES

15 participants (5 stroud and 10 Bungwahl) nominated for 1-on-1 site visit to discuss wildfire protection measures and plan a small, prescribed burn within the property.

POST PARTICIPANT SURVEYS

The 15 participants that self-nominated for the 1-on-1 site visits were interviewed over the phone to enable them to indicate their thoughts on the program.

Each participant was reminded of the aim of this program which was *'to assist rural communities to reduce wildfire risk on their property, while protecting biodiversity'*.

The following questions were asked of each participant for each of the workshops:

1. Do you know more about wildfire risk following the workshop?
2. What elements of wildfire risk did you gain from this workshop?
3. What parts of the workshop were beneficial?
4. What parts were not beneficial?
5. What do you want to see more of?

DISCUSSION

This report undertakes a critical analysis the rural community-based wildfire resilience program against eight target areas identified within the literature review, and how these target areas were delivered within the program. The below themes were consistent identified within the post-participant surveys:

- Group size was appropriate, although some group activities could have been broken into smaller groups.
- Found the program very beneficial in understanding of wildfire risk, although only a couple of people reported behavioural change (i.e., have physically undertaken further wildfire risk mitigation preparation activities).
- SIM table was highly beneficial (although due to large participant size, not all could view the table). This enabled participants to have a better understanding of wildfire risk.
- Preparation of property plans for the participants was highly beneficial. This enabled participants to concentrate on their site-specific issues, adding contour line would be beneficial on these maps.
- Beneficial to hear other community members stories about their experience during and after a wildfire. Some participants acknowledge RFS involvement was high.
- The 1-on-1 meeting was highly beneficial. This enabled participants to move the theory of the program into personal application, although more work required to move the theory component of the program into the ability for landowners to visualise and move this into practical and personal application for their specific scenario.
- Participants found the prescribed burn field day extremely useful and positive. Many participants indicated want to be involved in a trail burn to test if they were comfortable with fire (this is an excellent outcome).
- By far, most participants underestimate the risk of wildfire. The program changed some participants pre-program position of to stay-and-defend, leaning towards to evacuation following the program.

As a consultant I come from a neutral position (not a regulator such as RFS/Council) which I think was very beneficial, as the individual could express thoughts without fear of reprisal (such as veg clearing), which I could then steer them to acceptable alternatives.

The movement of the 4th Bungwahl workshop to Wootton did not support the nudge objective, as only 1 Bungwahl participant attended the 4th workshop. Maintaining the workshop in the same locality is essential to ensuring community are progressively moved along the risk matrix to a better outcome.

Adequate community profile is a large project and could be undertaken individually through a grant process. Developing this profile to inform following engagement programs like this. Receptiveness to engagement programs is highest following an event. It may have been found that other communities within the council district that were heavily impacted by the 2019/20 fires, could have been more receptive to this type of program. Investigate mechanisms for government funding to be made available immediately following a wildfire event to facilitate recovery and resilience building.

Although the program co-ordinator indicated that the stroud community were a leader in the development of the program direction, only the Bungwahl community illustrated >5% statistically significant participation (although did not attend the 4th workshop). Maximum 29 participants for Stroud and 27 for Bungwahl in consideration of the 2021 census providing a population of 780 in Stroud and 250 in Bungwahl equating to 3.4% for Stroud and 11% for Bungwahl.

CONCLUSION AND RECOMMENDATIONS

Overall, the response from participants was extremely positive, supportive, and excellent outcomes in changing attitudes was recorded. The challenge is to incorporate techniques within the program to result in behaviour change through increasing the practical application of the theory component.

Although the program adequately reached the aim of this program which was *'to assist rural communities to reduce wildfire risk on their property, while protecting biodiversity'*, specialist trained engagement coordinators utilising contemporary frameworks such as *The Australian Generative Model of Community Engagement for Preparedness* should be considered for future programs.

Increased level of pre-program community profiling and organisation is essential and will enable the program to better target the participants and change the delivery of the program from theory-based learning to practical learning.

Engaging with the local fire authorities prior to the program and indicating that for them to take 'a back seat' and in some cases being absent from the work shop is important to ensure the most is achieved through the community engagement program.

The following program is provided for consideration that incorporates the outcomes of the literature review and the participant surveys.

Workshop 1 Objectives: Landscape and Fire Engagement

There was two defined groups, long-term rural landowners, and tree changes, each with different response to workshop 1.

long-term rural landowners found workshop 1 was a lot of talking, long power points, but said the information was relevant. The tree changes found the information useful and applicable.

Maintain the engagement narrative of asking participants 'what do you want to know' instead of telling them 'this is what you need to do'.

Maintain a broad level of wildfire knowledge, as many participants were interested in wildfire elements on the fringe of the programs' aims and objectives, such as wildfire planning requirements (wildfire construction, asset protection zones, water availability, wildfire survival kits).

Develop subsets of community group related to wildfire risk and undertake community profiling to determine which subset the participants fall into. Determine the appropriate engagement strategy for these groups of participants.

Provide online e-learning tools (or hard copy for participants that may not have internet access) to replace the majority of workshop 1. Request the participants complete the e-learning modules and take notes prior to attending. Request participants to write questions down, and an opportunity will be available to ask 'questions'/clarifications' at the introductory workshop.

Provide property plans to participants, with learning booklet (reflecting the e-learning portal) if requested.

Move interactive activity such as the SIM table, and individual property Fire Management Plans to workshop 1. Provide breakout groups 5-6 and work around the following breakout subjects:

- SIM table – Software within program needs to be updated to Australian fire behaviour,
- Property Plans – add contour maps and better aerial imagery,
- E-learning modules – supported by a booklet with areas to take notes/comments,
- Wildfire risk (include the rural issues when dealing with rural communities).

Provide a small workbook that prompts participants to write down what was learnt in that session targeting the aims and objectives of the program. These notes will be beneficial for post program review.

Indicate that the program is looking for participants to self-delegate their property for the workshop site visits in workshop 3. This will require the project managed to review the opportunities to determine the best properties for workshop 3.

Workshop 2 Objectives: Preparing for wildfire and biodiversity

Working from the basic understanding provided in workshop 1 move to the specific program aims and objectives and hold break-out sessions of small groups with expert subject matter facilitators. Three themes that could be considered are:

- Property plans.
- Wildfire protection measures and risk.
- Biodiversity impacts.
- Introductory to how to plan and conduct prescribed burns.

Workshop 3 Objectives: Field Day – Fire and biodiversity

In a location close to the participants (local NPWS Nature Reserve or Council reserve) undertake a walking tour of the vegetation describing the impacts (positive and negative) of fire on the environment, that includes fire ecology, biodiversity and cultural outcomes.

Workshop 4 Objectives: Field Day – Wildfire Risk and planning to use fire.

Choose two properties that offer good and bad fire protection and prescribed burn opportunities. Undertake a walking tour of the house/assets and prescribed burn area for each and discuss the benefits and disadvantages of each scenario. This would be a single day commitment and participants will be required to ensure they are appropriately prepared. The aim of this workshop could be:

- Educate landholders on how to prepare their property for wildfires.
- Discuss ecological issue with burning.
- What are the key elements for undertaking a prescribed burn.
- Bushfire survival kits and PPE.

1-on-1 Program

By this stage, the facilitator should be able to identify vulnerable people within the group. Targeting these vulnerable people with a 1-on-1 site visit, where wildfire risk and planning to use fire can be discussed on their property in detail.

Workshop 5 Objectives: Field Day – Undertake small landscape burning.

Worth with the local fire agency, select an appropriate site throughout the program to undertake a simple burn. The ideal situation is 100m by 100m grasslands with a slope of 5 degrees. The burn area is broken into 4 burn small areas with mineral earth and slash line containment established. Small burns can be applied illustrating ignition sequence, strategies, safety measures, PPE, fire ground equipment etc. The participants should be encouraging to be actively involved in the burning under supervision.

Regards,
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