

Bushfire Smart Program

Fire and Risk Mitigation through Community education

Case study: Program Bushfire Smart, The Pine Rivers Shire.

by

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Abstract

This paper is a case study of the Bushfire Smart Program. This program was developed as a local partnership between Pine Rivers Shire Council (PRSC), the Queensland Fire and Rescue Service Rural and Urban Divisions (QFRS), The Southeast Queensland Fire and Biodiversity Consortium (FABC), Queensland Parks and Wildlife Service (QPWS), Griffith University and to deliver bushfire community education to reduce risk exposure. This partnership delivered arguably Queensland's most successful grass roots bushfire community education program.

Funding for the program came from the Australian Government Department of Transport and Regional Services (DOTARS), Queensland Government Department of Emergency Services (DES) and PRSC under the Disaster Mitigation Program

The program was delivered to the communities by the local rural fire brigades, with the support of the various agencies.

Pine River Shire council staff, QFRS full time staff and FABCON taught local Rural Fire Service volunteers how to deliver and facilitate community education in their own communities. The PRSC, RFS and FABC then encouraged the process further by adding incentives by way of financial rewards for each community education activity performed. The project encouraged local community self-determination in disaster prevention and fire mitigation. That is, community education run by the community, for the community.

This program differed from many other bushfire community education programs because of its holistic approach, the way it targeted the education program using Geographical Information System (GIS), its cooperative multi-agency approach, its focus on training and supporting facilitators at the local level and its use of financial incentives.

This paper outlines the process used and then discusses the successes, problems and issues relating to the bushfire smart project.

Introduction.

The Bushfire Smart program is a multi-agency community education program. Its aims are to increase the public safety and reduce risk exposure to land management agencies. The Bushfire Smart program differs in some aspects from many other community education programs. The program incorporated the use of Geographical Information Systems (GIS) to target education and awareness to "at risk" properties, a multi-agency approach and financial incentives for local volunteer's bushfire brigades to help deliver the community education. The

program has been running for 2 years and has had success in attracting a large percentage of the target audience to the workshops.

Background

Pine Rivers Shire is located in South East Queensland adjacent to north Brisbane. The Shire lies between Brisbane Forest Park (D'Agular Range) and Moreton Bay, in an area that was once largely farming and dairy. Pine Rivers Shire now includes rural residential and medium density development with forested areas managed by a variety of land management agencies including Queensland Parks and Wildlife Service (QPWS), South East Queensland Water Corporation (SEQ Water), Pine Rivers Shire Council (PRSC) and Brisbane City Council (BCC).

The Pine Rivers Shire (PRS) was hazard mapped using the Queensland Department of Emergency Services (DES) standard methodology for bushfire hazard assessment State Planning Policy 1/03 (SPP1/03). This methodology resulted in 92 % of the Shire being mapped as either medium or high risk.

History

Pine Rivers Shire Council developed a Fire Management Strategy in 2000. The Strategy recommended that fire management plans be prepared for Council's parks and reserves. During the fire management plan process it became apparent that unacceptable levels of risk to residents and the risk of litigation against Pine Rivers Shire Council existed.

The Bushfire Safe project was started as a holistic approach to bushfire mitigation and covered such areas as town planning, reserve planning, agency coordination, communications, asset and infrastructure, the creation of fire breaks and fire trails, and prescribed burns. During the Bushfire Safe Project, it became evident that normal mitigation techniques such as fire breaks and fire trails, in many locations, were not a viable option due to topography. Generally, private dwellings were too close to park boundaries for asset protection zone to be kept within their own land and topography did not allow the use of fire trails, asset protection zones or prescribed burns. Unfortunately this situation applied to such a large number of Bushland Reserves that another method of risk mitigation was needed and from this need a community education program was added to the Bushfire Safe Project called the Bushfire Smart Program.

PRSC Parks Staff realised that the problem was not unique to their reserves, and approached the other key stake holders, (Queensland Parks and Wildlife Service (QPWS), Queensland Fire and Rescue Service (QFRS) Rural and Urban Divisions, South East Fire and Biodiversity Consortium FABC) for support. These key stakeholders agreed to support the Bushfire Smart Program.

Methods

Setting up the program.

The program as set up as a cooperative effort between PRSC, QFRS (Rural and Urban), QPWS, FABC with advice from BCC. The program was funded by PRSC through the Federal

Government Department of Transport and Regional Services (DOTARs) Natural Disaster Mitigation Program.

It was decided in the key stakeholders meeting, that the QFRS would deliver the community education, as it was considered that the public sees both volunteer and full time fire fighters as “experts” in fire mitigation. Therefore there would be less resistance to the community education information provided. Furthermore the QFRS Rural Division already had existing structures in place that could help deliver the community education.

The Bushfire Smart program training package was then developed. Fortunately QFRS had recently developed a community education package call Bushfire Prepared Communities, and it provided a good base from which to develop the education material. The FABC made some minor changes to the package, regard to the environmental and fire ecology information. The original package was developed to be delivered in a hall or home rather than a park or street. But even with these short comings the package provided an excellent base to start from, each agency added to QFRS package.

It was decided to train 2 persons from each of the 7 brigades in the Shire on how to deliver and facilitate community education. As a part of this training PRSC, QPWS, QFRS full time staff and FABCON representatives worked through the package with local Rural Fire Service volunteers on how to deliver and facilitate community education in their own communities.

PRSC then encouraged the process further by adding monetary incentives for each community education activity performed. In short the project encouraged local community self-determination in disaster prevention and fire mitigation by training the local facilitator. In turn they educated their communities. That is, community education run by the community for the community.

Administration, GIS and logistic support was given to the volunteers by PRSC, QPWS and FABCON.

The Process

Land management agencies choose the area to be targeted for community education and then negotiated the date of the workshop with the local volunteer fire brigade. PRSC then used GIS to target individual at risk properties and sent a personally address invitation to each house. The householder details were obtained from the rates database. The QFRS then delivered the community education workshop to the area identified at risk with the land agencies in attendance to answer site specific questions. The local rural fire brigade was given a financial contribution for each workshop they delivered.

The GIS process

The GIS program was an important tool that maximized the return for effort as it helped target the program and reduce staff labor and time with the workshop marketing process.

The fire hazard layer was overlaid with The Parks and Reserves layer, this helped to identify parks in high hazard areas.

Those parks that were identified had bushfire management plans developed, highlighting areas where normal mitigation techniques would not work or would be cost prohibitive.

Any private properties that fell partly within a 150m buffer zone of these parks were also targeted. The targeted properties ownership details were exported from the PRSC database and a standard letter was addressed to each resident.

This resulted in every household getting a personally addressed letter. The personalized letter is believed to have helped increase community participations rates.

Results

The results indicate a very successful program with 16 community education functions held across Pine Rivers Shire. Each of the 7 brigades did one large community workshop and one street meeting at an extreme risk site. The QFRS (Urban) also carried out 2 workshops.

As a result of the Bushfire Smart Program, residents from 381 of the Shire's most at risk properties have undertaken a bushfire workshop.

During the 2005 Bushfire Smart program 381 households attended workshops and 1200 invitations were distributed asking the residents to attend the workshops. This equates to a participation rate of 31.75% for each household that was targeted. The workshops were also advertised using large banners at the site of the workshop or street meeting and newspaper advertisements for larger community workshops.

Discussion

The program enjoyed a high level of success and although a relatively small program, it yielded significant benefits. In the first year, 381 people from the Shires most at risk properties attended community education workshop. Seven local volunteer fire brigades (including 14 volunteers) received instruction on how to facilitate community education and were given resources to undertake these activities.

The program has given some intangible benefits such as increased cooperation and understanding between agencies and acted as a catalyst for other cooperative projects.

Participation Rate

The project enjoyed a relatively high participation rate by residents. In other community extension programs run by PRSC it would be expected that 1 to 5 persons per 1000 flyers sent would participate in an activity, which is about 0.1 to 0.5 % participation rates. (Pers com, Fox, 2005).

Advice from the PRSC marketing personnel , was that the GIS targeting, and the use of a personally addressed letter was most likely the cause of such high participation rates. By using the GIS to focus in on the areas of concern, the program was able to maximize its returns for effort. This is demonstrated by a comparison with the 3 workshops that did not use a personally addressed letter. For these workshops, the flyers were generically addressed "to the resident". In these workshops the participation rate was about 5 to 7 %. This result was speculated by some project members to reflect a number of factors to do with the busy life style of people today and the use of junk mail. The invitation not being personally addressed may have resulted as the invitation being seen as junk mail and disregarded. Many residents who received the addressed letter noted that the invitation looked very official and so they did not "throw it out with the junk mail".

Another method that seemed to create interest in the street meetings, was the use of a large banner at the location of the event. This seemed to be more effective in the street meeting than at the large community workshops. The banner at the end of the street most likely causes interest and helps to increase participation rates.

The use of GIS

The use of GIS in this program was instrumental to the success of the program, as it allowed a targeted approach. The Arc View GIS software used can export in Microsoft excel. The use of this popular format reduced the need to purchase special software. This utilization of existing technologies allowed the existing PRSC databases to be mail merged. This increased the output and made large cost saving in regard to administration staff labor.

The use of financial incentives

The use of financial incentive is felt to have been an important factor in getting support from the local rural fire brigades, whose support was critical in the success of the program. Generally, rural fire brigades need extra funding from their communities to carry out their work. The program provided extra funding which would normally be sort through other activities such as raffles and door knocks.

Volunteers initially had concerns about the work load the Bushfire Smart programs would place upon them. But after the financial incentives were discussed, many of these concerns evaporated. Initially, PRSC also had concerns that there may be too much work for the volunteers and were always conscious of volunteers work loads. It is important to monitor workloads and ensure adequate administration and logistical support is given to the facilitators.

Alternate Risk Reduction Strategies

How does a land management agency reduce risk, when normal mitigation solutions such as asset protection zones, fire trails and prescribed burns cannot be utilized?

Different risk reduction strategies were considered including evacuation, community education or a mixture of both. Evacuation although an important tool in protecting life, was

soon dismissed as not applicable to the local situation. The position advocated by the Australasian Fire Authorities Council (AFAC), in 2005 colloquially known as the “stay-or-go” policy. The essence of, is that people should prepare themselves and their properties and stay and defend when a bushfire is likely, or leave the area well before the fire is likely to arrive. This is a fundamental component of community bushfire safety message given in the program. This idea of go early or stay has been borne from a number of fatalities that have occurred while people where self evacuating too late (AFAC 2006). The evacuation idea was further eroded by the relative short duration of bushfires in Pine Rivers Shire (per com, Waltisbuhl 2005). Although there is a lot of forest and bush land, it is highly fragmented by development with approximately 500 bushland reserves being between 1 and 50 ha in size. Generally high intensity fires only last until the reserve is totally burnt out which generally takes a few hours, not days.

Furthermore, large amount of resources are needed to facilitate evacuations in the short time span that would be needed. Even if the evacuation where successful, the people might be safe but their homes may still be destroyed and the adjoining land managers may still be culpable for the property losses.

The community education seemed the most viable option, after seeking legal advice from Pine Rivers Shire Council retained solicitors it became clear that the use of targeted community education may also reduce the impact of any legal proceeding that may result from property loss from unplanned bushfires.

If the community education program is done correctly it may provide a legal and public relations platform for PRSC to work from to limit the negative impacts that would result if life or property loss occurred from a bushfire upon their estate.

Conclusion/summary

Community education can not replace other forms of risk mitigation such as fire breaks, fire trails or prescribed burns but if used in conjunction with other forms of mitigation it can complement and help mitigate the risk to the pubic and to the land management agency.

References

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