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BUSHFIRE COOPERATIVE RESEARCH CENTRE

PROGRAM C: COMMUNITY SELF SUFFICIENCY FOR FIRE SAFETY

UNDERSTANDING COMMUNITIES PROJECT

Thuringowa Bushfire Case Study - Technical Report

Sally Bushnell, Alison Cottrell, Margaret Spillman and David Lowe

School of Tropical Environment Studies and Geography, James Cook University

October 2006

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Acknowledgements

Many people deserve special recognition for their contribution to this study. In particular, many thanks to the Thuringowa RFB, SES and community associations for their valuable input, including their participation in the initial focus groups. Many thanks also to Judy Newton, (Manager Research, QFRS), for her time and effort on this project, and to QFRS for their assistance with mapping and GIS related tasks. Thanks also goes to Thuringowa City planning staff, Thuringowa RFB Group leaders Kevin Anderson and Bob Roberson, Thuringowa RFB Group Administrative Officer Kylie Poulsen, Tim McGuffog (Director Rural Research and Training, QFRS) and Lee Skinn (District Inspector, RFS). Finally, special thanks to all those who took the time to participate in this case study; without the focus group and survey participants, this research would not have been possible.

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Executive Summary

Self-completion mail surveys were used to collect information from residents in the Thuringowa Rural Fire Brigade Group area on a range of social variables relating to bushfire. Variables included: demographics and property/lifestyle factors; hazard experience; knowledge of local fire services, bushfire and controlled burning; perception of local hazard risks; participation in bushfire preparation activities; preferences for bushfire information; views on responsibility for bushfire-related activities; views on service providers and services provided; views on local community and risk; and involvement in community organisations. This information should give fire service providers in peri-urban and rural areas of Thuringowa, a better understanding of fire issues in the community; and it will contribute to the development of a framework that will provide the means for fire service providers around Australia to better understand fire issues in their communities.

A total of 957 questionnaires were delivered in October 2005 and 263 completed surveys were returned by December 2005 (28% response rate). A non-response bias check revealed that a number of groups may be over or underrepresented, for example younger people (< 40 years), newcomers (at current address for < 1 year) and renters may be underrepresented. Furthermore, bushfire is often of lower salience to people in this area due to a lower frequency and impact of bushfire events than in other parts of Australia, and because of a high seasonal risk of cyclones. These limitations should be taken into consideration when viewing and using the results of this study.

Demographic and property/lifestyle factors

- A slight majority of respondents to the survey were females (54%), and aged between 41-55 years (33.9%) or 56-70 years (32.3%).
- Almost half of the respondents were living as a couple, with no children (26%) or where children had left home (23%).
- Respondents' education level was fairly evenly divided between secondary (55%) and post secondary education (45%), however up to year 10 or a university degree were the most common education levels (30% and 22%).

- Most respondents described their occupation as professional/management (28%), followed by tradesperson/skilled worker (19%) and office worker/white collar (15%).
- Almost half of the respondents worked full-time (47%), and a majority of those not working full-time were retired (28%).
- Most respondents owned their property either outright without a mortgage (42%) or with a mortgage (48%), therefore few respondents were renters (10%).
- A large majority of respondents had moved to their house (88%) mostly from suburban areas (61%), followed by rural areas including farming (19%). Length of residency at their current address was mostly 15 years or less (81%) with more than one third having lived there between one and five years (34%).
- The size of most respondents' house blocks was less than five acres (< 20,235 m^2) (77%). Most selected residential on a rural block as the type of property they live on (67%), this was followed by residential on suburban block (24%) and farming/grazing property (7%).
- Reasons for moving to their current address was most commonly for the rural lifestyle (45%), other reasons included retirement, family, and location benefits (20%).

Hazard experience

- A majority of respondents had experienced a cyclone (74%), this was followed by flooding (40%) and bushfire (37%).
- Of those respondents who had experienced bushfire, many had felt personally threatened (44%) and most felt that their property had been threatened (62%).
- Themes emerging from comments about what respondents had learnt from their experience with bushfire included the importance of preparation and fire behaviour.

Knowledge of local fire service, bushfire and controlled burning

- Most respondents selected the Rural Fire Brigade as the type of service that would come if they rang 000 about a fire in their locality (78%).
- Most respondents selected voluntary/unpaid when asked how members of their local fire brigade are employed (62%), most others indicated that they did not

know (32%). Longer term residents (> 10 years) and those who are or have been involved in a community organisation were more likely to select voluntary/unpaid.

- Almost all respondents had some level of understanding of when the fire season falls in their locality (97%), however there was a lack of understanding of when controlled burning should be undertaken (46%).
- A majority of respondents were aware of a controlled burn in their area in the last two years (78%), and just over half had seen or received information about the controlled burn (62%).
- Respondents were mostly in favour of controlled burning, however there were some concerns and misconceptions.

Perception of local hazard risks

- Cyclones were of greatest concern with the majority of respondents at least moderately concerned (89%). Respondents' second hazard of concern was bushfire (72%), followed by flooding (68%) and storm surge (34%).
- Respondents tended to rate the hazard of bushfire in their locality as moderate to high, and the hazard of bushfire to their house as moderate to low.
- Respondents on larger block sizes tended to rate the bushfire hazard highest, followed by those on rural blocks. Suburban residents tended to give bushfire a low rating.
- Respondents with past bushfire experience tended to rate the bushfire hazard higher than those without experience.

Participation in bushfire preparation activities

- Respondents indicated that they were prompted to think about preparing for bushfire mostly by controlled hazard reduction burns in the area (69%), uncontrolled bushfires burning in the locality (69%) and media news of bushfires elsewhere (65%).
- Almost all respondents (94%) stated that they undertook actions on their property to prepare for bushfire. Actions undertaken were cutting long grass (59%), clearing rubbish out of the yard (55%), cleaning leaves from gutters (44%), preparing a firebreak around the property (40%), removing branches

and undergrowth from around the house (35%), checking water supply and hoses (34%) and preparing an evacuation plan (13%).

- Respondents more likely to undertake preparation activities were those who perceived a high risk, and some activities were more exclusive to particular demographic groups. There was also a weak link between past bushfire experience and preparedness.

Preferences for bushfire information

- The information sources selected as useful to respondents were TV or radio (64%), newspapers (42%), pamphlets in the mail (39%), neighbours/friends in community (33%), local community newsletters (32%), information from the council (20%), meeting with fire brigade members (12%), information brought home by children at school (4%) and the internet (2%).
- Preferences for types of information may differ between demographic groups.

Views on responsibility for bushfire-related activities

- Almost all respondents agreed that they would rely on the local fire brigade if there was a bushfire in their locality (93%). People from urban areas and newcomers may be more reliant.
- For bushfire maintenance activities, respondents indicated that groups other than the RFB, including themselves, should take greater responsibility.
- Some respondents, such as those lacking knowledge of their RFB or those living in suburban areas, may expect the RFB or local council to take more responsibility for some bushfire maintenance activities.

Views on service providers and services provided

- A large majority of respondents agreed that the local fire brigade does a good job preparing for bushfires (80%) and a good job fighting bushfires (87%). Respondents were also mostly in agreement that the fire levy component of their council rates provides value for money (63%). Respondent satisfaction with the fire levy was linked with positive perceptions of their local brigade.
- Respondents were less positive about council services, for example only 68% believed that services to dispose of garden rubbish were adequate.

- Respondents indicated that enforcement to improve the maintenance of properties for hazards including bushfire should increase or remain as it is now, not decrease.
- Most respondents had property insurance (80%), however many indicated that their insurance did not adequately cover any potential loss from natural hazards (16%) or they did not know (18%).

Views on local community and risk

- Most respondents viewed others in their locality to be at risk from hazards (61%) because of the location of houses and property (e.g., close to bushland), personal constraints (e.g., age, disability), a general lack of preparedness, or a lack of knowledge or ignorance.
- Most respondents were concerned when their neighbours did not clean up their property (73%), however few talked to their neighbours about the importance of cleaning up the property (23%).
- Almost half of the respondents were in agreement with the statement that people in their locality would be able to recover from a natural disaster in a short time (42%).
- Respondents who talked to their neighbours may be more likely to perceive the bushfire risk, be more aware of controlled burns and be prompted to prepare by such controlled burning.

Involvement in community organisations

- A slight majority of respondents were currently (20%) or have been (34%) actively involved in volunteer or community organisations such as the Rural Fire Brigade, State Emergency Service, and sports, community (e.g., school and church), environmental and hobby groups.
- Those not involved indicated that they were too busy with other activities (54%) or work (49%).

Implications

- The need to utilise a number of different information sources in order to disseminate bushfire information that reaches all groups in the community.
- The opportunity to increase bushfire awareness and prompt preparation (before the bushfire season) by combining appropriate information with notification of controlled burning in the locality.
- The need to target newcomers in particular, with information about bushfire and associated preparation.
- The importance of enhancing cooperation and collaboration between the RFB, council, community and other groups in order to best manage the bushfire risk and ultimately increase community resilience.

1 Introduction

Bushfire is both a life-threatening and costly hazard in Australia. Compared to other hazards, bushfire leads to the highest rates of death (BTE, 2001). The bushfire threat is also increasing in peri-urban areas around Australia where there is an ever-growing mix of people, property and bushland (Hugo, 2002; McCaffrey, 2004). It is therefore imperative to implement strategies that reduce the risk and impact of bushfire, to both life and property. To implement appropriate and effective strategies, one must understand to whom these strategies are to be delivered. Peri-urban communities however, are typically dynamic in nature with a mix of people from a variety of backgrounds (Cottrell, 2005).

A review of the hazard literature by Bushnell and Cottrell (in press) highlighted differences within and between communities in relation to bushfire hazard perception, knowledge of bushfire, attitudes and opinions concerning bushfire hazard management and expectations people have of various groups including property owners and service providers. Cottrell (2005) also discussed the potential for high levels of diversity within and between locations in terms of physical layout. These communities can therefore be extremely difficult to define or categorise and thus understand.

Peri-urban areas are usually serviced by Rural Fire Brigades which, at the local level, have the fundamental role of reducing the bushfire hazard risk, not only through fighting bushfires, but working with their community to implement various bushfire preparation strategies. Local brigades are therefore a key element in increasing community resilience to bushfire. To fulfil this role efficiently and effectively, local brigades need to understand the community they serve, in particular their perceptions, attitudes, opinions and expectations of fire service delivery. Currently, there is no standardised way in which this can be done and brigades rely on various sources including local knowledge and other anecdotal data, their own opinions and values, and information obtained from non-representative groups such as those most visible or vocal. Consequently the potential for expectations of fire service delivery to differ between the community and the fire service is great in peri-urban areas.

In recognition of the need for social data to bridge the gap between service providers and their community, the Bushfire Cooperative Research Centre's Understanding Communities Project (C1) is developing a framework that will provide the means to better define community attitudes, needs and expectations. This should also lead to improvements in the efficiency and effectiveness of planning and decision-making by bushfire management agencies, and ultimately increase community resilience to bushfire. In developing this framework, case studies in two Queensland peri-urban areas have been undertaken to define initial parameters. The first case study "Tamborine Mountain Bushfire Awareness Survey" (in southeast Queensland) was undertaken in early 2005. The second case study "Thuringowa Bushfire Survey" (in northeast Queensland) was undertaken in late 2005. This report will detail the methodology and descriptive results for all questions included in the Thuringowa Bushfire Survey. It will also discuss the implications of the results for service providers in Thuringowa and the Understanding Communities Project.

2 Methods

2.1 Overview

Data were collected using self-completion drop-off and return by mail surveys designed to gain information on a range of social variables relating to bushfire, the risk and its management. Peri-urban Thuringowa residents were randomly sampled within 10 Rural Fire Brigade areas.

2.2 City of Thuringowa

The City of Thuringowa is the twin city to Townsville in northeast Queensland (Figure 1). Thuringowa covers approximately 2000 km^2 of land and sea. The landscape consists of plateaus and escarpments with rugged gorges, wetland systems, coastal plains, beaches, islands and coral reefs. This includes a broad range of vegetation types including open and closed forests, woodlands, wetlands and mangroves at the coast. Thuringowa City has a population of approximately 50,000 people (Thuringowa City Council, 2006).

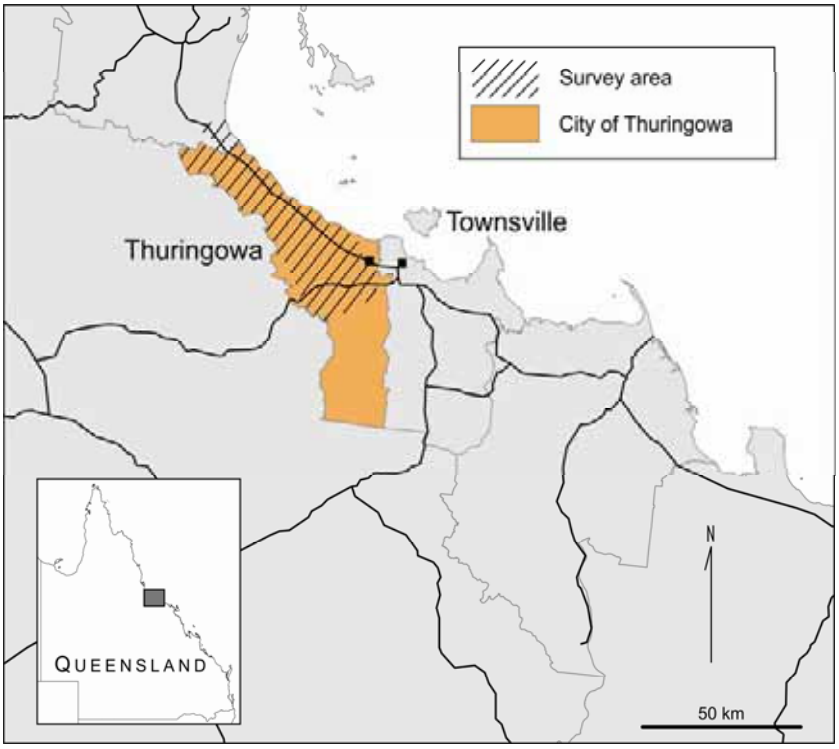

Figure 1 Survey area, located in the City of Thuringowa, north Queensland, Australia

Thuringowa was selected as a case study for a number of reasons. Firstly, the area is prone to bushfire; it includes areas of low to high bushfire hazard risk, and the predominant risk level was medium (Rural Fire Service, 2002). Secondly, the area encompasses a variety of peri-urban settlements and lifestyles, and therefore a wide range of community characteristics. For example, suburban beach areas, which may attract those from other areas looking for a 'sea-change', to rural bushland and farming, which likely retain many of the longer-term 'locals'. Additionally, Thuringowa service providers, including fire and emergency services and the government, each charged with some level of responsibility for managing the bushfire hazard, are concerned about the bushfire risk and more so about increasing community resilience. Increasing community resilience is particularly important because the areas with people and property at the greatest risk of bushfire (i.e., peri-urban areas) are usually serviced by Rural Fire Brigades who are a voluntary service and therefore do not have the resources to solely protect the community themselves. This study included 10 Rural Fire Brigade (RFB) areas within the Thuringowa Rural Fire Brigade Group (Figure 1). Nine of the RFB areas are class three and one is class one (Table 2.1). The classes refer to the extent that an RFB area is rural, where one is the most rural and four is the least.

2.3 Mail survey

To identify important issues to be addressed by this survey, a number of focus groups were initially undertaken with community and fire brigade groups. Questions asked in these focus groups grew out of earlier discussions with the Thuringowa RFB Group and community members, and from issues encountered from the Tamborine Mountain Case Study. Issues identified by both community and RFB groups included a lack of community acknowledgement of the bushfire risk, too much reliance on the RFB and a general lack of community participation in bushfire preparation. These issues were particularly related to "city people" (i.e., residents formerly from the city thereby having an urban background). Community groups demonstrated some conflicting views on controlled burning such as when it should be undertaken and whether or not there are harmful side-effects (e.g., asthma, wildlife mortality). The RFB suggested a lack of community knowledge on controlled burning. Both groups had issues with information dissemination about controlled burns: the RFB indicated that they notify as many as possible but the community said that they do not always receive

notification. Both groups raised the issue of the local council's role in bushfire prevention: both groups indicated that the council should do more; and the RFB additionally identified problems with access to dumps, which may be encouraging people to dump waste in undesignated areas. Both groups also indicated a lack of legislation for bushfire prevention activities compared to other states.

An eight-page self-completion questionnaire was designed to collect data on a wide range of social factors including: demographics and property/lifestyle factors; hazard experience; knowledge of local fire services, bushfire and controlled burning; perception of local hazard risks; participation in bushfire preparation activities; preferences for bushfire information; views on responsibility for bushfire-related activities; views on service providers and services provided; views on local community and risk; and involvement in community organisations. The questionnaire was trialled in a pilot survey and appropriate changes made before the final version (Appendix C).

Together with the questionnaire was a detailed introduction letter explaining the purpose of the research (Appendix C), as well as a postage-paid return envelope. In total, 957 questionnaires were delivered in October 2005. The procedure involved hand-delivery to mailboxes to ensure that each RFB area was sampled randomly and equally. Respondents were required to return surveys by mail using the postage-paid return envelopes. Addresses were recorded, however such personal details were not connected with the surveys, thereby maintaining respondent anonymity and confidentiality. Each of the nine class-three RFB areas were delivered 100 questionnaires, and the class-one RFB area was delivered 57 questionnaires due to its small population size. According to which area the questionnaire was delivered, each had a letter (A to J) on the back page for RFB area identification. It should be noted that at the time of survey delivery it was bushfire season, however it had been a number of years since a significant natural hazard event, including bushfire. A reminder/thankyou postcard was sent to sampled residents three and six weeks after delivery of the questionnaire (Appendix C), and residents were further encouraged to participate through media announcements. Returned surveys were accepted until December 2005, and each was numbered as it was received for individual

identification. An overall response rate of 28% was achieved with a total of 263 completed surveys returned. A summary by RFB area is presented in Table 2.1.

Table 2.1 Number and percent of respondents by RFB area

RFB area	Class	Number of respondents	Response rate as % of total respondents	Response rate as % of surveys delivered to each RFB area
Black River	3	27	10.3	27.0
Bluewater	3	25	9.5	25.0
Bluewater Estate	3	25	9.5	25.0
Crystal Creek	1	26	9.9	45.6
Purono	3	21	8.0	21.0
Rangewood	3	32	12.2	32.0
Rollingstone	3	36	13.7	36.0
Rupertswood	3	23	8.7	23.0
Saunders Beach	3	20	7.6	20.0
Toolakea	3	28	10.6	28.0
Total		263	100	28.26

2.4 Analysis

Data for all survey questions were analysed descriptively; results for each question are presented in tables in Appendix A. Chi-square tests were used to test for statistically significant relationships between variables of interest. All tests were conducted using SPSS Version 12 with a level of statistical significance set at alpha= 0.05. To avoid any bias resulting from a small sample size, analyses were run with a Monte Carlo estimation where required, and some response categories were pooled (e.g., strongly agree and agree, strongly disagree and disagree). Responses to the open-ended questions, as well as those which asked the respondent to describe an ‘other’ category, were typed into a file as written by respondents with the number of the survey as identification. Comments were themed by the research team. These comments are presented in Appendix B for archival purposes.

3 Results

3.1 Demographics and property/lifestyle factors

A slight majority of respondents to the survey were females (54%) (Table 7.134), and between the ages of 41-55 years (33.9%) or 56-70 years (32.3%) (Table 7.135; Figure 2a). Almost half of the respondents were living as a couple either with no children (26%) or where children had left home (23%) (Table 7.136), therefore most households were two adults (73%) and no children (71%) (Table 7.137; Table 7.138). Respondents' education level was fairly evenly divided between secondary (55%) and post secondary education (45%), however up to year 10 or a university degree were the most common education levels (30% and 22%) (Table 7.140; Figure 2b). Most respondents described their occupation as professional/management (28%), followed by tradesperson/skilled worker (19%) and office worker/white collar (15%) (Table 7.141). Almost half of the respondents worked full-time (47%), a majority of those not working full-time were retired (28%) (Table 7.142). Most respondents worked in the nearest large town (34%) or in the locality in which they live (23%) (Table 7.143), and most travelled no more than 30 minutes each way to and from work (75%) (Table 7.144). Occupation of the main wage earner in the household was similar to respondent occupations with most being professional/management (26%) or tradespersons and related (17%), many indicated that the main wage earner was retired (27%) (Table 7.139).

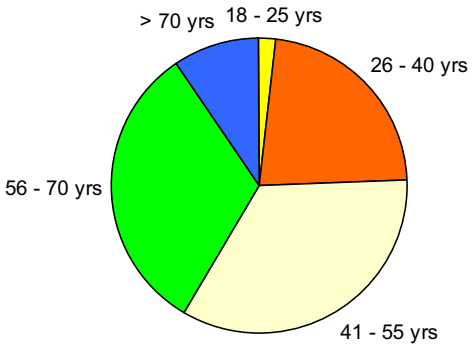

Figure 2a Age of respondents

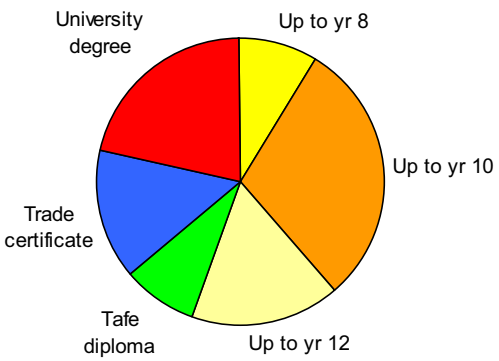

Figure 2b Education level of respondents

Most respondents owned their property either outright without a mortgage (42%) or with a mortgage (48%), therefore few respondents were renters (10%) (Table 7.119).

Most had moved to their current house (88%) (Table 7.116), a large majority from suburban areas (61%), followed by rural areas including farming (19%) (Table 7.117). Respondents' length of residency at their current address was mostly 15 years or less (81%) with the majority having lived there between one and five years (34%) (Table 7.1; Figure 3a). The age of their house was mostly more than 10 years (63%) (Table 7.5), and the most common material from which it was built was cement block (44%), or a combination of two or more materials including wood, brick, fibro and cement block (26%) (Table 7.4; Table 8.2).

The size of most respondents' house block was less than five acres (< 20,235 m^2) (77%) (Table 7.2), and most selected residential on a rural block as the type of property on which they live (67%). The other main property types selected were residential on suburban block (24%) and farming/grazing property (7%) (Table 7.3; Figure 3b). Block size was significantly related to property type (χ^2= 253.610, d.f.= 14, P= 0.000): those living on less than one acre (< 4,047 m^2) mostly categorised their property type as suburban; those living on one to 50 acres (4,047 m^2 to 202,343 m^2) mostly categorised their property as rural; and those living on more than 50 acres (> 202,343 m^2) mostly categorised their property as farming/grazing. Reasons for moving to their current address was most commonly for the rural lifestyle (45%) and other reasons including retirement, family, and location benefits (20%) (Table 7.118; Table 8.14). Reasons for moving were significantly related to property type (χ^2= 83.599, d.f.= 8, P= 0.000): those living on rural blocks had mainly moved for the rural lifestyle; those on farming to operate a farm; and those on suburban blocks had mainly moved for a variety of reasons including the rural lifestyle, work and affordability of houses as well as for other reasons. Features of their property that respondents valued the most (i.e., ranked 1) were peace and quiet (61%) (Table 7.106), followed by space (17%) (Table 7.107), trees and bushland (6%) (Table 7.108) and small community (4%) (Table 7.109). Features of their locality that respondents valued the most (i.e., ranked 1) were peace and quiet (55%) (Table 7.111), followed by small community (12%) (Table 7.114), space (10%) (Table 7.112) and trees and bushland (9%) (Table 7.113).

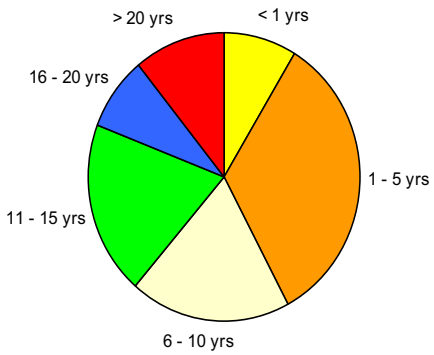

Figure 3a Length of residency

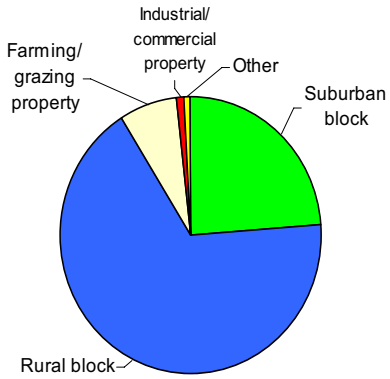

Figure 3b Property type

3.2 Hazard experience

Most respondents had experienced a hazard (88%) (Table 7.13). A majority had experienced a cyclone (74%) (Table 7.14), mostly between one and five years ago (30%) (Table 7.20), this was followed by flooding (40%) (Table 7.16) between five and 10 years ago (18%) (Table 7.22) and bushfire (37%) (Table 7.15), between one and five years ago (13%) (Table 7.21). Few respondents had experienced storm surge (6%) (Table 7.17) or landslide (2%) (Table 7.18). Other hazards experienced included earthquake, dust storm and pest invasion (3%) (Table 7.19; Table 8.4) (Figure 4). A number of respondents (27%) also knew someone (a friend, relative, colleague) that had suffered due to a bushfire (Table 7.30).

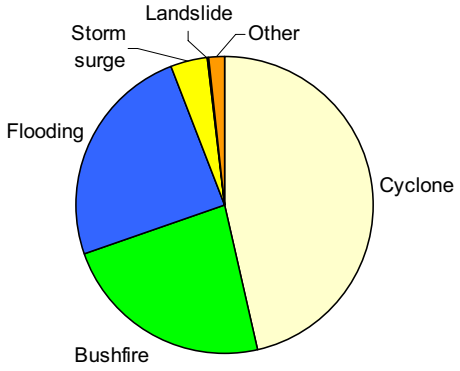

Figure 4 Hazards experienced

Of those respondents who had experienced bushfire, many had felt personally threatened (44%) (Table 7.26) and most felt that their property had been threatened (62%) (Table 7.27). Comments describing how they felt threatened and how they felt that their property had been threatened related to fearing loss of life and property, one respondent said that they felt "very frightened, both for my neighbour and myself". There were also feelings of uncertainty: not knowing what to do or not having the resources to protect themselves, for example (Table 8.5).

Themes emerging from comments about what respondents had learnt from their experience with bushfire included the importance of preparation and fire behaviour. For example, one respondent said "put in firebreaks", and another said "that they [bushfires] are unpredictable and extremely dangerous". There were some comments in regards to the RFB: these respondents were equally divided between praising RFB efforts or complaining about their services. For example one respondent said "…local rural fire brigades are very capable and respond effectively", and on the other hand another respondent said "fight the bloody thing [bushfire] yourself and don't rely on the Bush Fire Brigade in our area" (Table 8.6).

3.3 Knowledge of local fire service, bushfire and controlled burning

Most respondents selected the RFB as the type of service that would come if they rang 000 about a fire in their locality (78%) (Table 7.45). Some respondents selected two services, primarily the RFB and the Metropolitan Fire Brigade (19%), which is possible depending on the locality and circumstances of the fire. Most respondents also selected voluntary/unpaid when asked how members of their local fire brigade are employed (62%), most others indicated that they did not know (32%) (Table 7.46). Longer term residents (> 10 years) and those who are or have been involved in a community organisation were more likely to select voluntary/unpaid (χ^2= 26.364, d.f.= 15, P= 0.040 and χ^2= 14.327, d.f.= 6, P= 0.018).

Respondents were asked when the bushfire season is in their locality, and responses were compared with the normal bushfire season as defined by the Rural Fire Service, which are the months of August to December (Figure 5). Although few responses completely conformed to the normal season (5%), almost all partially conformed (92%), where respondents correctly selected at least one month within the normal season (Table 7.44; Figure 5). This may be both a reflection of knowledge and/or the variation in bushfire seasons with changing environmental conditions.

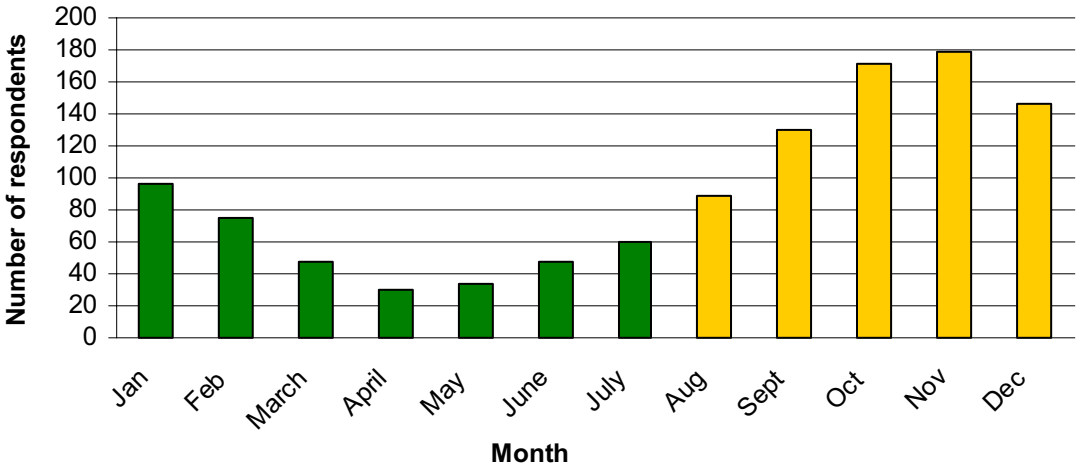

Figure 5 Distribution of responses to when is the bushfire season (yellow= bushfire season)

Respondents were similarly asked when controlled burning should be undertaken in their locality, and responses were compared to the ideal controlled burning season as defined by the Rural Fire Service, which are the months from June to August (Figure 6). Almost half (46%) of responses did not conform at all, where all months selected fell outside of the controlled burning season (Table 7.70; Figure 6). Once again, this may be a reflection of knowledge and/or changing conditions, however if some respondents are basing their knowledge on observations or experience, they may be confused by hazard-reduction burning which is undertaken at various times of the year.

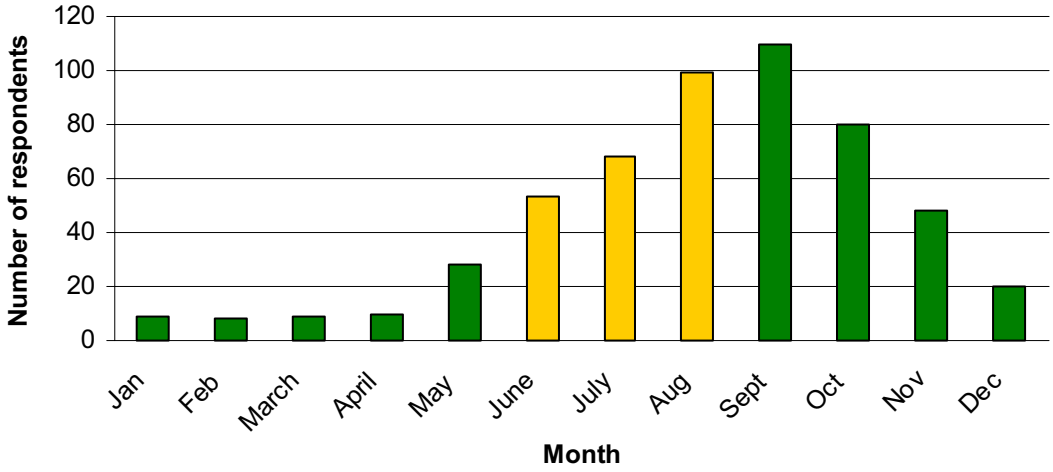

Figure 6 Distribution of responses to when controlled burning should be undertaken (yellow= RFB ideal controlled burning season)

A majority of respondents were aware of a controlled burn in their area in the last two years (78%) (Table 7.67), and just over half had seen or received information about the controlled burn (62%) (Table 7.68), mostly leaflets in the mail, but also

newspaper/radio announcements, community newsletters, word of mouth or road signs, before the controlled burn (Table 8.9). If respondents wanted to do some burning on their own property, most indicated that they would contact the Fire Warden (51%) or their local Fire Brigade (35%) (Table 7.86).

To investigate how respondents feel about controlled burning, they were asked to indicate how much they agree or disagree with a number of statements on controlled burning (Figure 7). Almost all respondents either strongly agreed (58%) or agreed (34%) that controlled burning makes this area safer from bushfires (Table 7.60). Most strongly agreed (18%) or agreed (38%) that the smoke from controlled burning causes respiratory problems, this was closely followed by neither agree or disagree (32%) (Table 7.61). Most strongly agreed (22%) or agreed (42%) that controlled burning is necessary to maintain plant regrowth, this was followed by neither agree or disagree (24%) (Table 7.62). Most strongly agreed (28%) or agreed (36%) that they are concerned for wildlife during controlled burns, this was followed by neither agree or disagree (24%) (Table 7.63). Most strongly agreed (17%) or agreed (57%) that the smoke from controlled burning is an acceptable nuisance (Table 7.64). Some were in agreement (25%) with the statement that some people restart the fire after a controlled burn, but the majority neither agreed or disagreed (43%) (Table 7.65). Few were in agreement with the statement that some people bring their own rubbish to the controlled burn (11%), however half appeared to not know i.e., neither agreed or disagreed (50%) (Table 7.66).

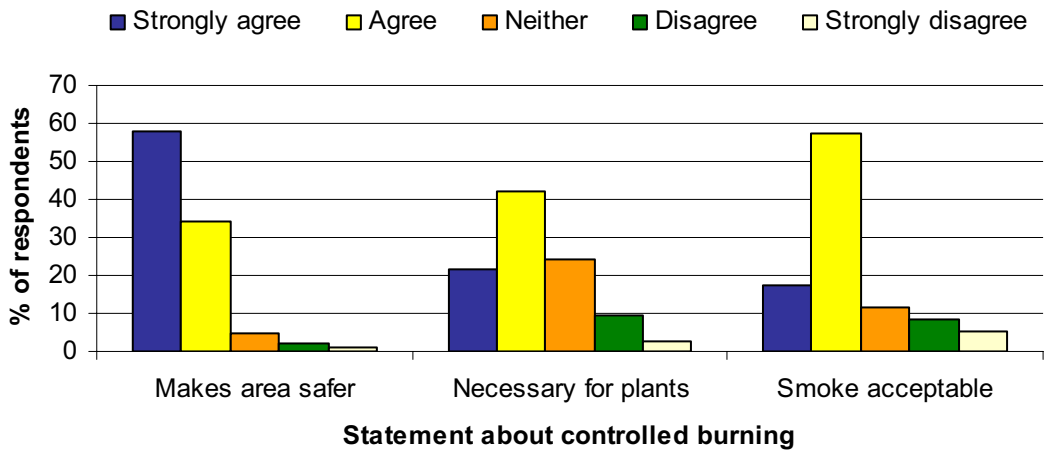

Figure 7 Respondents' level of agreement with statements about controlled burning

3.4 Perception of local hazard risks

Almost all respondents were concerned about at least one hazard in their locality (97%) (Table 7.6). The results clearly indicate that cyclones are of greatest concern with the majority of respondents at least moderately concerned (89%) (i.e., ranked their concern as very high, high or moderate) (Table 7.7). Respondents' second hazard of concern was bushfire (72%) (Table 7.8), followed by flooding (68%) (Table 7.9) and storm surge (34%) (Table 7.10) (Figure 8), landslide was of least concern to respondents (1%) (Table 7.11). Some respondents indicated a level of concern for other hazards such as the impact from industry (e.g., pollution) and pests and other wildlife that may be a threat to life or property (e.g., termites or crocodiles) (6%) (Table 7.12; Table 8.3).

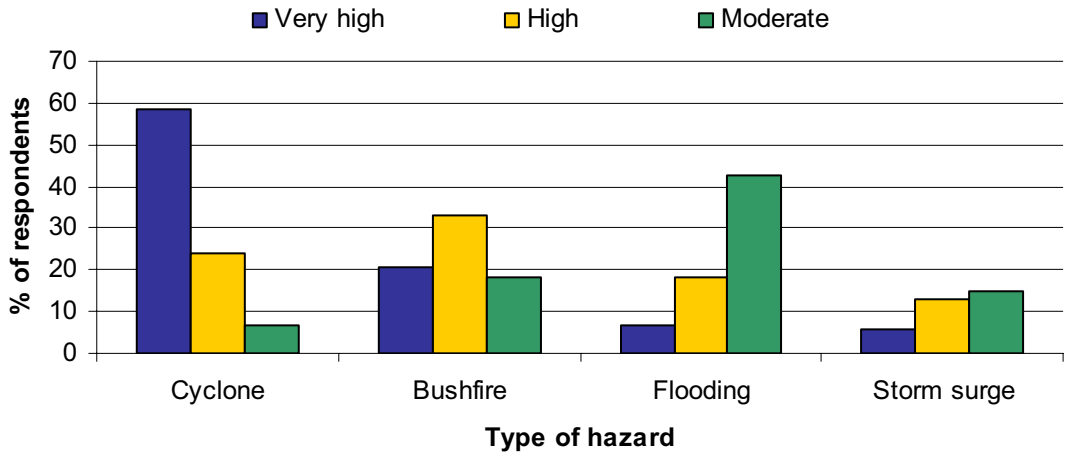

Figure 8 Respondents' level of concern for hazards in their locality

Respondents were asked how important hazards were to them when deciding to purchase or rent their current property. Cyclones were rated most important, with most respondents selecting at least moderately important (85%) (i.e., very important, important or moderately important) (Table 7.31). This was followed by bushfire (80%) (Table 7.32), flooding (79%) (Table 7.33), storm surge (59%) (Table 7.34) and landslide (17%) (Table 7.35). It should be noted that flooding takes precedence over bushfire in the individual categories very important and important.

Respondents tended to rate the hazard of bushfire in their locality as moderate to high: 19% rated the hazard as very high; 27% as high; 39% as moderate; 14% as low; and 2% as very low (Table 7.58). The hazard of bushfire to their house received a lower rating with most responses similarly being moderate or low: 4% rated the hazard as

very high; 9% as high; 34% as moderate; 38% as low; and 15% as very low (Table 7.59) (Figure 9).

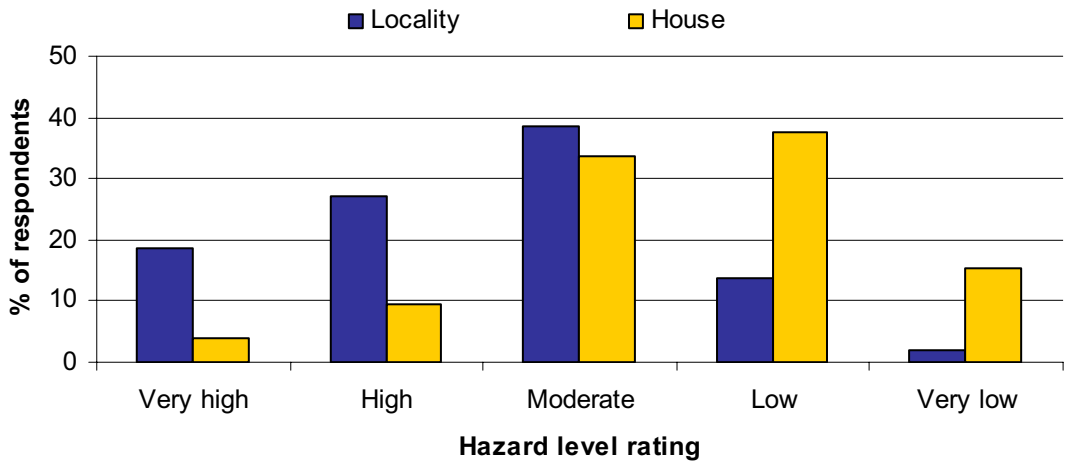

Figure 9 Respondents rating of the bushfire hazard in their locality and to their house

Respondents living on larger blocks including rural (~ one to 50 acres) and farming (~ > 50 acres) properties were generally more perceptive of the bushfire hazard: they were more likely to consider the bushfire hazard as important when purchasing or renting their current property (χ^2= 6.169, d.f.= 2, P= 0.046); and more likely to be concerned about the bushfire hazard in their locality (χ^2= 13.639, d.f.= 2, P= 0.001). Furthermore, a clear pattern emerged with respondents' rating of the bushfire hazard in their locality: farming residents more likely rated the bushfire hazard as high; rural as moderate; and suburban as low (χ^2= 13.228, d.f.= 4, P= 0.010).

Respondents who were aware of their local council's building regulations were more likely to give the bushfire hazard in their locality a lower rating (χ^2= 8.345, d.f.= 2, P= 0.015). Respondents with past bushfire experience were generally more likely to perceive the bushfire hazard as high: respondents with past experience were more likely to rate the local bushfire hazard higher (χ^2= 13.677, d.f.= 2, P= 0.001); respondents who had an experience where their property had been threatened by bushfire were more likely to consider the bushfire hazard as important when deciding to purchase or rent their current property (χ^2= 7.273, d.f.= 1, P= 0.007), and were more likely to rate the bushfire hazard in their locality and to their house higher (χ^2= 6.111, d.f.= 2, P= 0.047 and χ^2= 6.747, d.f.= 2, P= 0.034); and respondents who had felt personally threatened by bushfire were similarly more likely to rate the hazard in

their locality and house higher (χ^2= 15.228, d.f.= 2, P= 0.000 and χ^2= 10.140, d.f.= 2, P= 0.006).

3.5 Participation in bushfire preparation activities

Most respondents indicated that there are prompts that make them think about preparing for bushfires (95%) (Table 7.37). According to what was selected (i.e., ranked 1, 2 or 3, or ticked), the prompts in order of most likely to trigger thought about preparing for bushfire were controlled hazard reduction burns in the area (69%) (Table 7.42), uncontrolled bushfires burning in the locality (69%) (Table 7.41), media news of bushfires elsewhere (65%) (Table 7.38), pamphlets in the mail (18%) (Table 7.39) and displays by the fire brigade in schools and shopping centres (18%) (Table 7.40) (Figure 10a). Other prompts included observations of favourable bushfire conditions and knowledge, experience and common sense (18%) (Table 7.43; Table 8.7). It should be noted that uncontrolled bushfires burning in the locality was most frequently selected, followed by media news of bushfires elsewhere, when solely considering the most likely prompt selected by respondents (i.e., ranked number 1).

Almost all respondents stated that they undertook actions on their property to prepare for bushfire (94%) (Table 7.47). According to what was selected (i.e., ranked 1, 2 or 3, or ticked), the actions in order of importance to respondents overall were cutting long grass (59%) (Table 7.50), clearing rubbish out of the yard (55%) (Table 7.48), cleaning leaves from gutters (44%) (Table 7.51), preparing a firebreak around the property (40%) (Table 7.49), removing branches and undergrowth around the house (35%) (Table 7.52), checking water supply and hoses (34%) (Table 7.53) and preparing an evacuation plan (13%) (Table 7.54) (Figure 10b). It should be noted that preparing a firebreak takes precedence other actions when solely considering the most important action selected by respondents (i.e., ranked number 1).

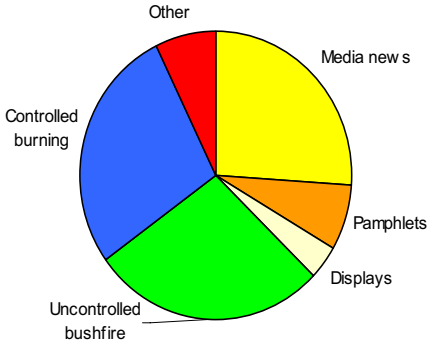

Figure 10a Prompts for thinking about preparing for bushfire

Figure 10b Bushfire preparation activities undertaken by respondents

Respondents who were more likely to participate in preparation activities were those who thought the bushfire hazard was an important consideration when deciding to purchase or rent their current property (χ^2= 5.948, d.f.= 1, P= 0.026), those who were more concerned about the bushfire hazard in their locality (χ^2= 5.837, d.f.= 1, P= 0.021), and those who rated the bushfire hazard in their locality and to their house as high (χ^2= 11.440, d.f.= 2, P= 0.003 and χ^2= 8.392, d.f.= 2, P= 0.015). Results also suggest that respondents who were more concerned about the bushfire hazard may be more likely to prepare a firebreak around their property (χ^2= 5.640, d.f.= 1, P= 0.018) and cut long grass (approaching significance χ^2= 3.691, d.f.= 1, P= 0.055). Those on larger allotments were more likely to prepare firebreaks (χ^2= 20.960, d.f.= 2, P= 0.000), cut long grass (χ^2= 9.905, d.f.= 2, P= 0.007) and check the water supply (the latter mostly being farming respondents) (χ^2= 6.033, d.f.= 2, P= 0.049), than those on suburban allotments who were more likely to clean leaves from gutters (χ^2= 6.839, d.f.= 2, P= 0.033).

There was a weak link between bushfire experience and preparedness; respondents with past bushfire experience were slightly more likely to prepare (approaching significance χ^2= 3.418, d.f.= 1, P= 0.064). This did not appear to depend on the length of time since the experience, or the type of experience (i.e., whether the respondent or the respondent's property was threatened). Demographic factors did not appear to determine participation in bushfire preparation, however there was some relationship with the type of activities undertaken. The preparation of a firebreak was slightly more likely to be undertaken by men (χ^2= 8.393, d.f.= 1, P= 0.004) and the self employed and tradespeople (χ^2= 11.628, d.f.= 5, P= 0.040). An evacuation plan was slightly more likely to be prepared by females (χ^2= 7.009, d.f.= 1, P= 0.008), office

workers and household managers (χ^2= 14.719, d.f.= 5, P= 0.013) and households with children (χ^2= 7.990, d.f.= 1, P= 0.005).

3.6 Preferences for bushfire information

A large majority of respondents indicated that they receive information about bushfire (91%) (Table 7.72). According to what was selected (i.e., ranked 1, 2 or 3, or ticked), the information sources in order of overall usefulness to respondents were TV or radio (64%) (Table 7.76), newspapers (42%) (Table 7.78), pamphlets in the mail (39%) (Table 7.73), neighbours/friends in community (33%) (Table 7.81), local community newsletters (32%) (Table 7.77), information from the council (20%) (Table 7.80), meeting with Fire Brigade members (12%) (Table 7.74), information brought home by children at school (4%) (Table 7.75) and the internet (2%) (Table 7.79) (Figure 11). It should be noted that pamphlets in the mail was considered second most useful after TV or radio when solely considering the most useful information source selected by respondents (i.e., ranked number 1).

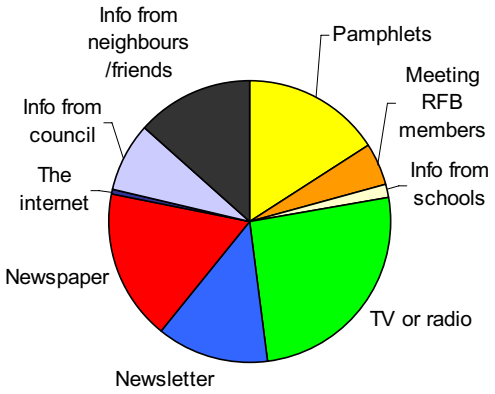

Figure 11 Useful sources of information about bushfire

Some respondents were more likely than others to consider certain sources of information about bushfire as more useful. Respondents living on rural blocks were more likely to indicate that information from TV or radio is more useful (χ^2= 7.307, d.f.= 2, P= 0.026), and those on farming blocks appear to prefer meeting local brigade members for information (χ^2= 8.635, d.f.= 2, P= 0.013). Long-term residents (> 15 years) also appear to prefer meeting with brigade members (χ^2= 11.742, d.f.= 5, P= 0.035), and meeting with neighbours and friends (χ^2= 11.557, d.f.= 5, P= 0.041). Furthermore, those working locally and renting their house also tended to prefer meeting with brigade members (χ^2= 6.859, d.f.= 1, P= 0.009 and χ^2= 5.806, d.f.= 1, P= 0.025). Respondents with children and those aged between 26 and 40 years were more likely to indicate that information brought home by children at school was more useful (χ^2= 12.001, d.f.= 1, P= 0.002 and χ^2= 10.804, d.f.= 4, P= 0.032). Respondents

who worked fulltime were more likely to find information from the internet more useful (χ^2= 5.757, d.f.= 1, P= 0.022), whilst those not working fulltime or not working at all preferred information from local community newsletters (χ^2= 8.047, d.f.= 1, P= 0.005 and χ^2= 6.261, d.f.= 1, P= 0.012) and the council (χ^2= 4.113, d.f.= 1, P= 0.043 and χ^2= 4.993, d.f.= 1, P= 0.025).

The letterbox used most of the time by respondents when checking mail was mostly the letterbox on their property (79%), followed by a post box at a post office (12%). Some respondents checked both boxes (9%) (Table 7.71).

3.7 Views on responsibility for bushfire-related activities

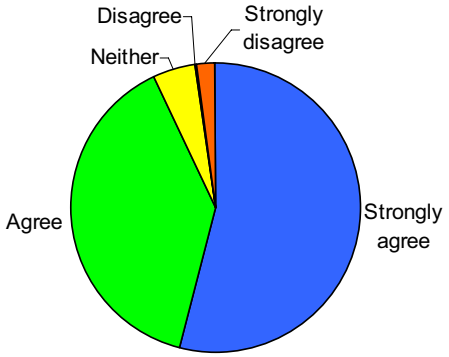

Figure 12 Respondent level of agreement with the statement that they would rely on the RFB during a bushfire

Almost all respondents agreed that they would rely on the local fire brigade if there was a bushfire in their locality (93%) (Table 7.82; Figure 12). People with an urban background were more likely to state a reliance (χ^2= 7.859, d.f.= 2, P= 0.018), as were newcomers (< 10 years) (χ^2= 18.928, d.f.= 10, P= 0.040), those who were concerned about the bushfire hazard (χ^2= 8.523, d.f.= 2, P= 0.015), those who agreed that the local fire brigade does a good job (preparing for bushfire: χ^2= 71.233, d.f.= 4, P= 0.000; and fighting bushfire: χ^2= 78.564, d.f.= 4, P= 0.000) and those who were satisfied with the fire levy (χ^2= 46.438, d.f.= 4, P= 0.000). For bushfire maintenance activities however, respondents indicated that other groups, including themselves, should take responsibility (Figure 13). Maintaining firebreaks around properties was primarily viewed as the property owner's responsibility (83%), followed by the RFB (10%) (Table 7.92). Keeping overgrown bushland and creek beds clear was primarily viewed as the local council's responsibility (54%), followed by the Parks and Wildlife Service (23%) (Table 7.93). Clearing overgrown properties was primarily viewed as the property owner's responsibility (81%), followed by local council (18%) (Table 7.94). Removing rubbish from public areas was clearly viewed as the local council's

responsibility (96%) (Table 7.95). Maintaining access for the fire brigade to properties was primarily viewed as the property owner's responsibility (72%), followed by the local council (20%) (Table 7.96) (Figure 13).

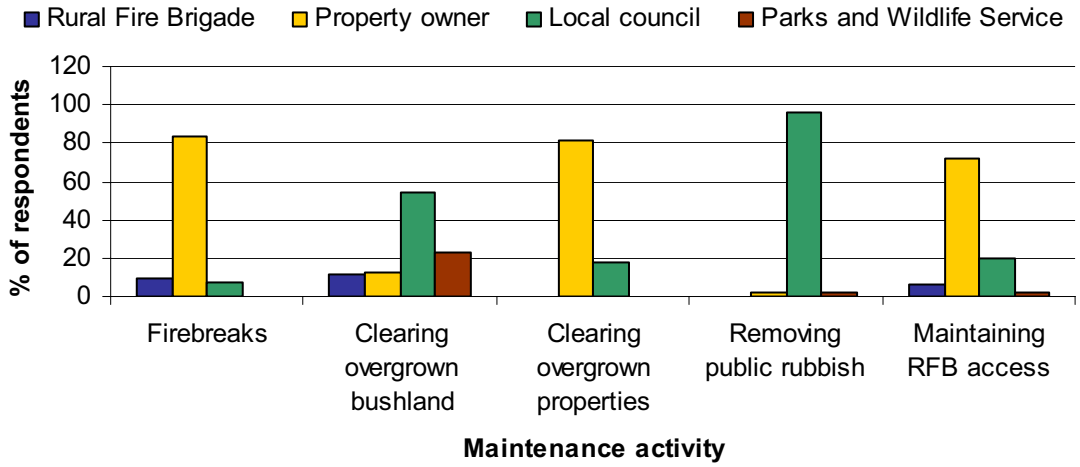

Figure 13 Respondent views on who is responsible for bushfire maintenance activities

Some respondents expected the RFB to do more, for example those who did not know which fire service would answer an emergency call about a fire in their locality tended to state that the RFB should maintain RFB access to properties (χ^2= 25.526, d.f.= 6, P= 0.016), this was also weakly evident with those who did not know whether their local fire brigade members are paid or not (approaching significance χ^2= 6.919, d.f.= 2, P= 0.053). Those who did not know that RFB members are volunteers (i.e., paid or not) also tended to state that the RFB should maintain firebreaks around properties (χ^2= 19.681, d.f.= 2, P= 0.005), as did those with an urban background (χ^2= 6.864, d.f.= 2, P= 0.032). Renters were also more likely to state that the RFB should maintain RFB access to properties (χ^2= 12.769, d.f.= 3, P= 0.017), and those not working tended to state that the RFB should maintain firebreaks around properties (χ^2= 19.011, d.f.= 10, P= 0.040) and clear overgrown bushland and creek beds (χ^2= 27.200, d.f.= 15, P= 0.028). Some expected the local council to do more, for example those who did not know which fire service would answer an emergency call about a fire in their locality tended to state that the council should maintain RFB access to properties (χ^2= 25.526, d.f.= 6, P= 0.016) and maintain firebreaks around properties (χ^2= 24.834, d.f.= 4, P= 0.003), as did those with an urban background (χ^2= 6.864, d.f.= 2, P= 0.032). Furthermore, those who did not know whether their local fire brigade members are paid or not tended to state that the council should maintain RFB access to properties (approaching significance χ^2= 6.919, d.f.= 2, P= 0.053), as did

renters (χ^2= 12.769, d.f.= 3, P= 0.017). Respondents not working full-time also tended to expect the council to maintain firebreaks around properties (χ^2= 19.011, d.f.= 10, P= 0.040) and clear overgrown bushland and creek beds (χ^2= 27.200, d.f.= 15, P= 0.028).

Suburban respondents also tended to view others as more responsible than themselves, for example they were more likely to state that the RFB and council are more responsible for keeping overgrown bushland and creek beds clear (χ^2= 16.612, d.f.= 6, P= 0.011) and maintaining fire brigade access to properties (χ^2= 13.932, d.f.= 6, P= 0.039). Respondents on larger allotments generally agreed that the property owner is more responsible.

The results suggest that perception of responsibility for a given activity appears to lead to taking action to fulfil that responsibility. That is, respondents who stated that they were responsible for an activity were more likely to undertake that activity. In particular, those who stated that the property owner is responsible for maintaining a firebreak around properties were more likely to prepare a firebreak around their own property (χ^2= 6.134, d.f.= 2, P= 0.047). This result, although encouraging, is not definitive however, additional variables would be required to adequately test this association.

3.8 Views on service providers and services provided

Respondent views on their local fire brigade were mostly positive: a large majority agreed that the local fire brigade does a good job preparing for bushfires (80%) (Table 7.83) and a large majority agreed that the local fire brigade does a good job fighting bushfires (87%) (Table 7.84). Respondents were also mostly in agreement with the statement that the fire levy component of their council rates provides value for money (63%), although a number of respondents were neutral (26%) (Table 7.85) (Figure 14). Respondent satisfaction with the fire levy was linked with positive perceptions of their local brigade; respondents who agreed that the local fire brigade does a good job preparing for bushfires and that the local fire brigade does a good job fighting bushfires were more likely to agree that the fire levy is value for money (χ^2= 69.859, d.f.= 4, P= 0.000 and χ^2= 42.021, d.f.= 4, P= 0.000).

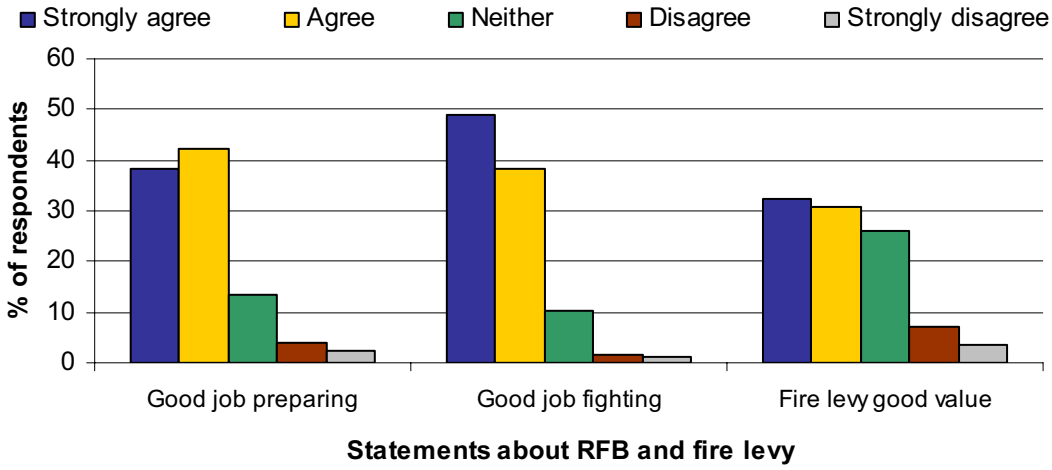

Figure 14 Respondents' level of agreement with statements about the RFB and fire levy

In terms of council services related to bushfire hazard reduction, respondents had positive perceptions to a lesser degree. Most agreed that grass is slashed in public areas (73%) (Table 7.102), and that rubbish tips are readily available (55%) (Table 7.101). However, less than half agreed that water supply points are adequate for bushfires however (42%), and many were neutral (30%) (Table 7.100) (Figure 15). Services relating to disposal of garden and household rubbish in the respondent's locality were mostly viewed as adequate (68% and 84% respectively) (Table 7.55; Table 7.56), however it is important that a relatively large proportion of respondents do not believe that disposal facilities are adequate, particularly for garden rubbish (32%). Reasons for opinions of inadequacy related to rubbish dump opening hours, distance and accessibility and cost, for example (Table 8.8).

Results suggest that positive perceptions of services provided lead to good opinions of controlled burning. Respondents who agreed that the local fire brigade does a good job preparing for and fighting bushfires were more likely to agree that controlled burning makes the area safer from bushfires (χ^2= 18.691, d.f.= 4, P= 0.004 and χ^2= 17.930, d.f.= 4, P= 0.022). Similarly, respondents who agreed that the fire levy component of their council rates provides value for money were more likely to agree that controlled burning makes the area safer from bushfires (χ^2= 37.706, d.f.= 4, P= 0.000).

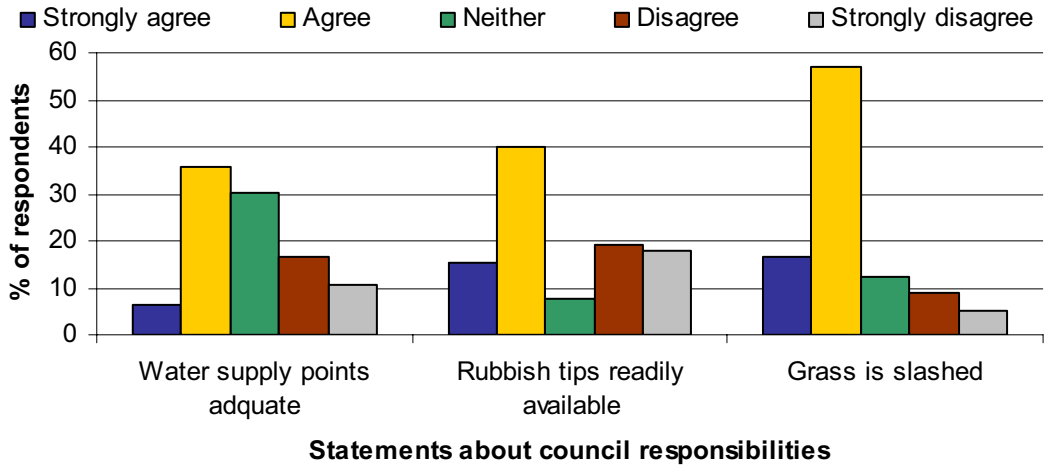

Figure 15 Respondents' level of agreement with statements about council responsibilities

In terms of government enforcement to improve the maintenance of properties for hazards including bushfire, respondents were divided between more enforcement and the same as now. At the local council level 56% of respondents selected more enforcement and 43% same as now (Table 7.97), at the state government level 41% selected more enforcement and 60% same as now (Table 7.98), and at the federal government level 37% selected more enforcement and 60% same as now (Table 7.99). Therefore, few respondents selected less enforcement at any government level (Figure 16).

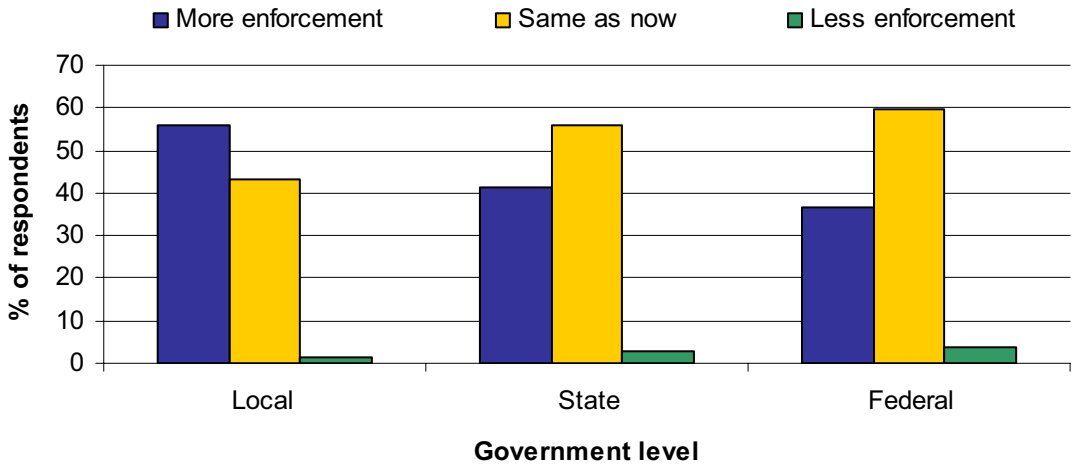

Figure 16 Respondent views on government enforcement to improve the maintenance of properties for hazards

Most respondents were not aware of any arrangements their local council has for natural hazards in terms of plans for property development (85%) (Table 7.103), building regulations (71%) (Table 7.104) or counter disaster plans (76%) (Table 7.105).

In terms of property insurance, which includes loss from natural hazards, most respondents indicated that they were insured (80%) (Table 7.120). However, a third of those that had insurance indicated that their insurance did not adequately cover any potential loss from natural hazards (16%) or they did not know (18%) (Table 7.121). Renters were less likely than owners to have insurance, and they were more likely to not know their insurance status (χ^2= 4.446, d.f.= 2, P= 0.000). Comments regarding insurance were often cynical, describing frustration emanating from not being able to find adequate cover, the lack of clarity in contracts and the overall feeling of being in a no-win situation; one respondent wrote "all in insurers favour!!" (Table 8.15).

3.9 Views on local community and risk

Most respondents viewed others in their locality as at-risk from hazards (61%) (Table 7.90). Reasons provided relate to the location of other people's houses and property (e.g., close to bushland), personal constraints (e.g., age, disability), a general lack of preparedness and a lack of knowledge or ignorance (Table 8.11). Most respondents were concerned when their neighbours did not clean up their property (73%) (Table 7.87), however few talked to their neighbours about the importance of cleaning up their property (23%) (Table 7.88). Despite this general acknowledgement of and concern for people at risk, close to half of the respondents were in agreement with the statement that people in their locality would be able to recover from a natural disaster in a short time (42%) (Table 7.89) (Figure 17).

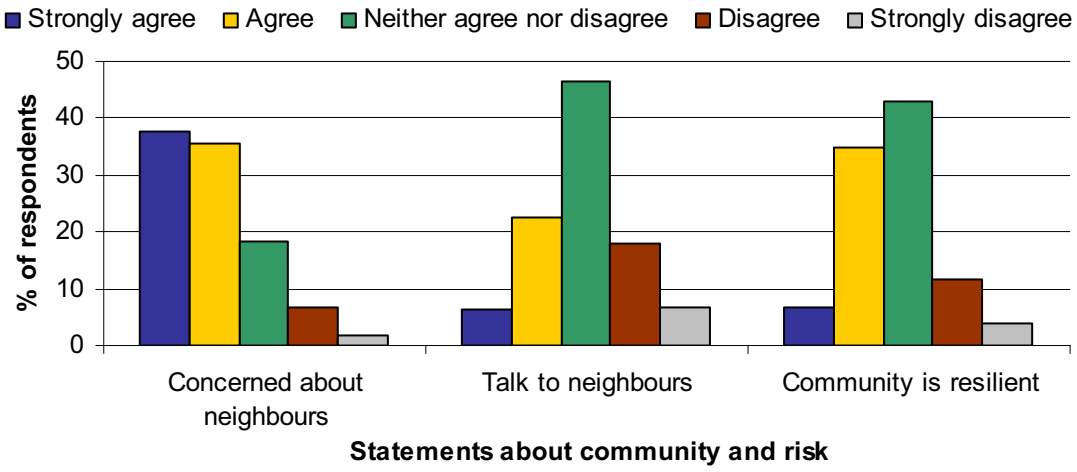

Figure 17 Respondents' level of agreement with statements about their community and risk

Those respondents who did talk to their neighbours were more likely to perceive a higher risk to their house (χ^2= 11.219, d.f.= 4, P= 0.024). Talking to neighbours, or word-of-mouth, was also commonly mentioned as the means by which respondents became aware of controlled burns in their area, and these respondents also tended to be prompted by the controlled burning in their area (χ^2= 9.736, d.f.= 4, P= 0.045) and not uncontrolled burning in their area (χ^2= 12.429, d.f.= 4, P= 0.014). There were some misconceptions in regards to controlled burning amongst those who talked to neighbours: these respondents were more likely to agree that people restart the fire after a controlled burn (χ^2= 12.412, d.f.= 4, P= 0.015) and that people bring their rubbish to the controlled burn (χ^2= 12.012, d.f.= 4, P= 0.017).

3.10 Involvement in community organisations

A slight majority of respondents were currently (20%) or have been (34%) actively involved in volunteer or community organisations (Table 7.125; Figure 18a). Types of organisations that respondents were commonly involved in include the Rural Fire Brigade and State Emergency Service, sports, community (e.g., school and church), environmental and hobby groups (Table 8.16). Most indicated that the organisation they were involved in was in their locality (80%) (Table 7.126). Reasons for being involved included wanting to help others and being committed to their community, keeping in touch with others, being social and having fun, and having the resources to contribute (e.g., qualifications or equipment) (Table 8.17). Few respondents reported that a member of their household belonged to a fire-fighting organisation (9%) (Table 7.133).

The most commonly selected reasons (i.e., within respondents' three most important reasons) why the remaining respondents were not involved in any volunteer or community organisations included being too busy with other activities (54%) (Table 7.129) or work (49%) (Table 7.128) (Figure 18b). Other reasons included age/disability, location/travel constraints, family commitments, laziness/lifestyle, negative previous experience with an organisation such as infighting or a lack of appreciation, or taking a break from working/volunteering (26%) (Table 7.132; Table 8.18).

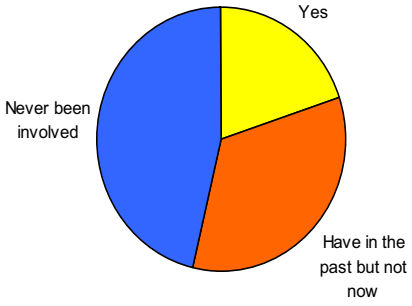

Figure 18a Respondent involvement in volunteer or community organisations

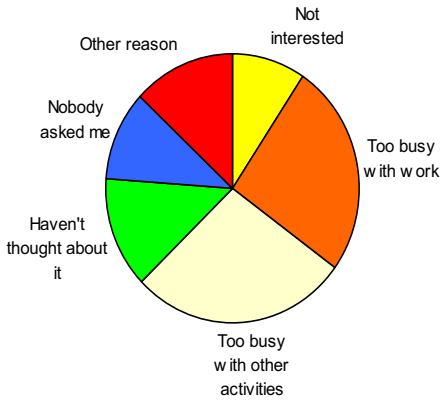

Figure 18b Reasons for not being involved in a volunteer or community organisation

Respondents who were or have been involved in community organisations were more likely to be prompted to prepare for bushfire by "other" prompts, which included observations of weather and other bushfire-season conditions, and their own initiative (χ^2= 9.350, d.f.= 4, P= 0.044). These respondents were also more likely to have been aware of controlled burns in their area in the last two years (χ^2= 9.511, d.f.= 2, P= 0.009).

3.11 Limitations

There were a number of limitations associated with this study. First, the bushfire hazard risk in Thuringowa is comparably lower than in other parts of Australia, and along with the seasonal cyclone event in this region, bushfire is often of lower salience to the community, and this may be reflected by the relatively low response rate. Secondly, a non-response bias check using chi-square tests with the 2001 Census data from the study area (ABS, 2001) revealed that a number of groups may be under or over represented: younger people (< 40 years) may be underrepresented (χ^2= 28.884, d.f.= 4, P< 0.001); those with year 12 or a trade may be underrepresented, and those with a TAFE or University degree overrepresented (χ^2= 149.017, d.f.= 5, P< 0.001); newcomers (< 1 year) and renters may be underrepresented (χ^2= 14.394, d.f.= 1, P< 0.001 and χ^2= 8.692, d.f.= 2, 0.05> P> 0.01); households with two people overrepresented (χ^2= 35.807, d.f.= 5, P< 0.001); and households with managers and professionals as the main wage earner may be overrepresented, and tradespersons and intermediate clerical, sales and service under represented (χ^2= 44.452, d.f.= 8, P< 0.001). It should be noted that the 2001 census data posed a limitation to the non-response bias check, the census collection was not synonymous with the RFB area

surveyed, therefore the census data used may not be an accurate representation of the actual population sampled. It should also be noted that a greater number of respondents stated an urban (70%) rather than rural background (21%), and most respondents lived on a rural property (approximately one to 50 acres) (67%), followed by suburban (approximately < one acre) (24%) and farming (approximately > 50 acres) (7%). Whether these figures are representative of the population sampled could not be tested because of a lack of data. Finally, this survey was based on reported behaviours, not observed behaviour. These limitations need to be taken into consideration when viewing and using the results of this study.

4 Discussion

As cities and towns expand and more people move into rural areas creating peri-urban areas, where in many places around Australia the growing mix of people and property with bushland create the potential for disaster, bushfire service providers are faced with a major challenge. RFBs in particular are not only dealing with an increasing risk, but also a rapidly changing community. Peri-urban communities have been identified as complex and variable both within and between areas, and this has major implications for bushfire service delivery (Cottrell, 2005; Bushnell and Cottrell, in press). Therefore, bushfire has emerged as an important social issue, and service providers are recognising the need for tools to manage the social aspects of bushfire. The case study detailed in this report has contributed to defining parameters for developing a framework that will provide the means for service providers to better understand fire issues in their community. Through this understanding of their community, service providers can improve the efficiency and effectiveness of their services, and this will contribute to increasing community preparedness for bushfires and in the longer term, resilience.

The information presented in this report will give Thuringowa bushfire service providers in particular a better understanding of their community's attitudes, needs and expectations. It also addresses a number of issues raised at the local level. The following discussion will draw out such local issues and the implications for Thuringowa service providers.

Overall, respondents to the survey were aware of and concerned about the bushfire hazard, and most prepared for bushfire. However, perceptions of personal risk may not be accurate because many respondents rated the risk to their house lower than that of their locality. This may be due to overconfidence because of a perceived preparedness for bushfire or denial of the personal risk (i.e., "it won't happen to me"), for example (Bushnell and Cottrell, in press). Furthermore, it cannot be accurately concluded whether respondents are adequately prepared or not because the survey did not test for respondent level of preparedness. Focus group participants in this study

did suggest that many Thuringowa residents do not adequately perceive the bushfire risk nor adequately prepare. “City people” (i.e., residents formerly from the city thereby having an urban background) were highlighted by some community and RFB members as a group which did not understand the bushfire risk and did not prepare adequately. Although this survey did not detect any differences in terms of risk perception and preparation between people with an urban or rural background, there were differences between those currently living on suburban or larger blocks. This raises a number of questions: Are suburban residents adequately aware of the bushfire risk in their locality and to their house? Are suburban residents adequately preparing their properties for bushfire? For example, do they need to maintain firebreaks? It may be interpreted from the results that suburban people are generally behaving in a manner related to their situation. That is, they perceive themselves less at risk because suburban areas are often not as prone to bushfire as rural areas and they therefore undertake different activities to suit the given level of risk, and because certain activities are constrained by the size of their block (e.g., firebreaks). However, further investigation is warranted to ensure that people living on suburban blocks are adequately perceiving the bushfire risk, and are undertaking the necessary preparations, because some suburban areas in Thuringowa are surrounded by bushfire-prone bushland.

The results demonstrated a link between risk perception and preparation; if people do not perceive the risk they are less likely to undertake preparation activities. Previous experience with bushfire was found to influence risk perceptions and this will be discussed in the following section. This study did not highlight additional factors, however other studies have found that exposure to educational material, length of residence in the area, community cohesion and some demographic factors may have a bearing on risk perceptions (Bushnell and Cottrell, in press). Therefore, further investigation may be warranted, although according to the literature newcomers should be a focus due to their general tendency to underestimate the bushfire risk. Beringer (2000) explained that new residents cannot identify their level of exposure to risk until they assess the hazards to which they are exposed, and to do this they need the appropriate information. Awareness raising strategies targeting newcomers could address this issue. In terms of preparation, this study highlighted a number of demographic factors, in addition to block size discussed above, which may have a

bearing on the undertaking of some activities. It suggests that people who have the skills and/or equipment (e.g., tradespeople) may be more likely to undertake activities requiring such resources (e.g., firebreaks). It also suggests that education at the workplace or school may encourage certain types of activities; office workers and households with school-age children were more likely to have an evacuation plan in place at home. The literature additionally indicates that income can constrain bushfire preparation; if the costs are perceived to be more than the benefit, it is unlikely that a person will invest (Bushnell and Cottrell, in press). This has been found to apply to renters also, however this study did not find an influence of occupation or home-owner status on bushfire preparation.

Experience with bushfire was found to be an important factor in raising bushfire awareness and risk perception, which was also related to better preparedness. A relatively large proportion of respondents had experienced bushfire in the past, and many of these respondents indicated that they had learned the importance of preparing for bushfire from their experience. The results did not indicate that the time lapse since their bushfire experience had a bearing on level of risk perception or preparedness, however other studies have shown that risk perception (and preparedness) can lessen over time, without reinforcement (Cunningham and Kelly, n.d.). Therefore, information dissemination is important to ensure retention of lessons learned from past bushfire experience, as well as a reminder that bushfire may occur in Thuringowa.

Experience of bushfire through observations of controlled or uncontrolled fires in their locality or through reports in the media of fires elsewhere were also prompts for respondents to take action to prepare for bushfire in their locality. This suggests that various types of experiences with bushfire can be important for residents to perceive a bushfire risk and prepare for the bushfire risk, however controlled burning provides the most useful prompt for when residents should prepare. Relying on uncontrolled fires burning in the locality or media news of bushfires elsewhere as prompts to prepare can create an unsafe situation because they usually occur when it is the bushfire season, and preparations need to be undertaken before this. Relying on media news of bushfires elsewhere is particularly dangerous because north Queensland's bushfire season is earlier in the year than the south, therefore news may not be

received until late into the bushfire season. Controlled burning is undertaken at the ideal time of year, before the bushfire season, as determined by local fire brigades, who also take into account the potential variations in conditions, such as rainfall, which can alter the bushfire season as well as the ideal time to prepare. Thuringowa respondents had a general understanding of when the normal bushfire season falls in their locality, however most did not understand the ideal season for controlled burning: a majority either selected months after the ideal time or selected months that did not conform at all. This suggests a lack of understanding of the ideal time for bushfire preparation and thus a potential state of under-preparedness. Encouraging residents to view controlled burning in their locality as a prompt to prepare their homes for bushfire may address this issue. This may be achieved through providing extra information with standard notifications for controlled burning. Local fire brigades are required to notify residents of future controlled burns, and the focus groups revealed that residents felt strongly about receiving this notification.

In terms of controlled burning as a management strategy, respondents were mostly supportive, particularly those with a good perception of their local fire brigade. Although, there may be some issues or misconceptions that need addressing such as concerns for wildlife, and some respondents agreed that people restart the fire afterwards and bring their own rubbish to the controlled burn. Similar to above, this may also be addressed by providing extra information with standard notifications for controlled burning.

The roles and responsibilities of various bushfire service providers have been raised, in particular RFB and community members in the focus groups indicated that people expect too much from their local brigades. The results demonstrated that people do have a heavy reliance on the RFB to protect people and property during a bushfire. Those who may rely more heavily than others include those with an urban background (i.e., formally from urban areas), newcomers (< 10 years), those more concerned about the bushfire hazard and those with positive perceptions of the Fire Brigade and fire levy. RFB responsibility beyond protecting people and property during a fire was viewed as minimal; few respondents expected the RFB to do more. These respondents tended to be those who have little knowledge of their local brigade, people with an urban background and perhaps those that cannot justify or afford to undertake the

given role themselves (e.g., renters and the unemployed). A similar minority expected the council to take responsibility. Those living on smaller allotments may also be more likely to rely on the local council. Information strategies that outline roles and responsibilities of various groups in managing the bushfire risk may be useful. Additional strategies may be needed to address affordability for some residents, examples include arranging community bushfire preparation working bees where resources are shared between properties, and subsidising the cost of equipment for home protection such as water tanks and pumps. Most importantly, residents, particularly newcomers, need to be made aware that they should not solely rely on the RFB during a fire. The RFB does not have the resources to protect every house, therefore homeowners must know that they need to take responsibility for themselves, and how to do this.

Most respondents nominated the property owner as responsible for a given number of activities, and it appears that most property owners (i.e., respondents) are fulfilling some of this responsibility by undertaking preparation activities. However, the issue remains that many people are, or at least tend to be under-prepared. Closing the gap between perception of responsibility (i.e., intention) and actually undertaking action is a complex task and more research into this issue is required.

Whether or not they stated that they prepared for bushfires, many respondents were concerned about others in their neighbourhood who they perceived to be at risk from hazards. A number of groups within their locality were identified as at-risk; this included those who do not prepare, lack the knowledge of bushfire or are “ignorant”, or are elderly or otherwise physically unable to prepare or escape from a bushfire. A relatively large number of respondents identified people in their neighbourhood that are included in the latter at-risk group, which highlights important safety issues; in particular, these people need to be identified during a bushfire event for assistance. Location was additionally identified as a factor increasing personal risk; respondents specifically identified residents living near trees and bushland as more at-risk. Vegetation too close to a house will indeed increase the risk of damage from bushfire, therefore removing such vegetation to a given distance depending on the species, will significantly reduce this risk (Ramsay and Rudolph, 2003). Thus, the type of vegetation and distance from the house can be an important indicator for identifying

people and properties at risk. A defensive space campaign (i.e., information and encouragement for residents to remove vegetation from around their house and/or build firebreaks) may be useful for those residents who can be identified as at-risk because of vegetation too close to their house. Researchers in the USA have investigated aspects of defensible space as a bushfire management strategy, including community perceptions and attitudes, and appropriate guidelines for example (Monroe et al., 2003; Monroe and Nelson, 2004; Nelson et al., 2004).

Perceptions of the RFB were very positive. The few respondents who disagreed with statements relating to local brigades doing a good job appeared to do so because of an experience they had where their local brigade did not meet their expectations, or because they believe that controlled burning is not undertaken often enough which, it was said, results in a greater risk. It could not be derived from the data why the remaining respondents (nine in total, who have not experienced a fire) held negative perceptions of their local brigade. The majority of respondents were also positive about the fire levy component of their council rates, which appears to be a reflection of their positive perception of their brigade, which is the belief that they are doing a good job. These results are very positive for the Thuringowa local fire brigades. Maintaining a good public image is important, it relates to credibility and trust and therefore support (Bushnell and Cottrell, in press). The negative comments support the need for more education relating to roles and responsibilities as discussed above, and they further demonstrate support for controlled burning.

Perceptions of local council services were not as positive as that of the local brigades. Fewer respondents agreed that the council was doing its job well in relation to bushfire management. Furthermore, the survey revealed that many respondents are not satisfied with the services in place to dispose of rubbish (garden and household rubbish). Cost and accessibility for dumping rubbish were major issues for some respondents. However, the results show that despite respondents having a problem with disposing rubbish, they still clear rubbish and vegetation from around their house. A logical question would be where are these people disposing their rubbish? Some respondents commented that people dump it in the bush, over back fences or on roadsides. The RFB, in the focus groups, voiced a similar observation and indicated that the dumping of rubbish in inappropriate places is a major problem because it

increases the bushfire risk. The RFB suggested that the illegal dumping of rubbish may indeed be the result of inadequate rubbish disposal services. Although further investigation is warranted, the council needs to be made aware of this issue, and a possible need for changes to rubbish disposal services. Many respondents also indicated that they would like to see increased enforcement at the local council level to improve maintenance of properties for hazards, this was similar although less pronounced at the state and federal government levels. Both community and RFB members in the focus groups of this case study, particularly those from other states where there is some form of legislation, felt that there is inadequate legislative enforcement in Queensland, which could provide greater protection from bushfire.

Throughout the above discussion, the importance of information dissemination to residents has been highlighted, and community members in the focus groups have indicated a desire for more information and education. However, disseminating information is not a straightforward activity, and this survey highlights a need for more strategically based information campaigns. For example, there is conflicting information from the RFB and the community in relation to information dissemination: the RFB reports that it notifies residents of controlled burns and the community reports that they do not always receive such information. The results show that just over half of the respondents, who were aware of controlled burns undertaken in the last two years, received information prior to the event. Letterbox drops/pamphlets in the mail appears to be the most common strategy to inform residents, and although this method rated highly as respondents' most useful source of information about bushfire it does not seem to be effectively informing most residents. It was thought that it may be because a number of residents have a post box at the post office, which they check more frequently than the one on their property where the pamphlets are delivered, however the results indicate that this was not the case. Anecdotal evidence suggests that residents may simply disregard the pamphlets, perhaps due to other priorities, or simply a lack of interest in reading such material. TV or radio was stated as the most, or at least one of the most useful sources of information about bushfires to most respondents, and newspapers also rated highly. Certain sources of information also were claimed to be more useful to some groups of people and not others. Therefore, disseminating information through a number of different sources, simultaneously or separately targeting appropriate groups, could be

considered in order to reach most corners of the community. It should be noted that verification of these results is required; there may be a large distance between respondent stated behaviour and observed, or actual behaviour. Furthermore, any information strategies undertaken need to be evaluated for effectiveness to avoid wasting funds.

'Word of mouth' appears to be an effective method of information dissemination about bushfire in Thuringowa. Respondents who talked to their neighbours were more likely to perceive a higher risk to their house. A number of respondents reported being aware of controlled burns in their area through neighbours, and these respondents were also more likely to be prompted to prepare by controlled burning in their area, rather than uncontrolled fires. Furthermore, involvement in community organisations was related to using other or independent prompts to prepare, such as observing weather conditions, which may indicate better knowledge and preparedness. However, on the other hand, these respondents also demonstrated some misconceptions in relation to controlled burns, as previously mentioned. Therefore, communication through community networks appears be an effective way to disseminate information, although it is important to ensure that the correct messages are being transferred. Service providers need to also be aware that the cyclone hazard is of more concern than bushfire to most Thuringowa residents, and should expect that there will be some competition for attention. However, the two hazards occur at different times of the year, thus information dissemination should adhere to the appropriate season to avoid risk message saturation point. Liaising with the local council about information strategies should improve upon existing bushfire strategies through sharing of resources (i.e., RFB and council working together), as well as helping to avoid any competing bushfire and cyclone management strategies.

This study highlighted a lack of community awareness about local council arrangements for natural hazards, which is potentially a major problem. Increased liaison with the RFB could also target this issue, with a joint information strategy for example. However, service providers need to be aware that increased resident awareness of council arrangements for hazard risk mitigation may moderate risk perceptions, potentially resulting in lower individual preparedness.

Overall, liaisons between the RFB, council, community and other groups, each sharing some level of responsibility for the bushfire risk, are extremely important, especially in dynamic peri-urban communities. Policies and actions of one group have the potential to positively or negatively impact on those of another group, collaboration and cooperation between groups should promote the positive impacts.

5 Conclusion

This study clearly defined bushfire issues in Thuringowa by further exploring issues raised by RFB and community members. It identified a number of groups within the Thuringowa community that may be less resilient to bushfire and thus require more attention than other groups. It also highlighted potential strategies to address Thuringowa-based bushfire issues. Furthermore, and importantly for the Understanding Communities Project, this study, together with the Tamborine Mountain case study, provides the basis for implementing further community surveys that will provide the information necessary to develop a framework for understanding communities. This framework will enable local fire brigades around Australia to derive similar information to this case study about their own community.

Currently, in order to move forward, there is a need to develop strategies that that more effectively engage the local RFB with local government and locally active community groups.

6 References

ABS (2002). *Census of population and housing, 2001*. Australian Bureau of Statistics, Canberra.

Beringer, J. (2000). Community fire safety at the urban/rural interface: the bushfire risk. *Fire Safety Journal* **35**: 1-23.

BTE (2001). *Economic costs of natural disasters in Australia*. Report 103, Bureau of Transport Economics, Canberra.

Bushnell, S. & Cottrell, A. (in press). Living with Bushfire: What do People Expect? In King, D. and Cottrell, A. (eds). *Communities living with hazards*. Centre for Disaster Studies.

Cottrell, A. (2005). Communities and bushfire hazard in Australia: more questions than answers. *Environmental Hazards* **6**: 109-114.

Cunningham, C. & Kelly, S. (n.d.). *A case study of the Blue Mountains, New South Wales, Australia*.
Accessed from http://www.wsc.ma.edu/garp/faculty/sk/australia.htm on 21/10/05.

Hugo, G. (2002). Changing patterns of population distribution in Australia. *Journal of Population Research* **19**(Sept): 1-23.

McCaffrey, S. (2004). Thinking of wildfire as a natural hazard. *Society and Natural Resources* **17**: 509-516.

Monroe, M.C. & Nelson, K.C. (2004). The value of assessing public perceptions: wildland fire and defensible space. *Applied Environmental Education and Communication* **3**: 109-117.

Monroe, M.C., Long, A.J. & Marynowski, S. (2003). Wildland fire in the southeast: negotiating guidelines for defensible space. *Journal of Forestry* **101**(3): 14-19.

Nelson, K.C., Monroe, M.C., Fingerman Johnson, J. & Bowers, A. (2004). Living with fire: homeowner assessment of landscape values and defensible space in Minnesota and Florida, USA. *International Journal of Wildland Fire* **13**: 413-425.

Ramsay, C. & Rudolph L. (2003). *Landscape and building design for bushfire areas*. CSIRO Publishing, Collingwood, 104pp.

Rural Fire Service (2002). *Bushfire Risk Analysis for Thuringowa Shire*. Rural Fire Service of the Queensland Fire and Rescue Service.

Thuringowa City Council (2006). *About Thuringowa.* General Information, Biodiversity.
Accessed from http://www.thuringowa.qld.gov.au/images/movies/BIO2.MOV on 09/06/06.

7 Appendix A

7.1 Tables of results presenting responses to survey quantitative questions

Presented in the order that the questions appeared in the survey instrument (see Appendix C)

Table 7.1 Frequency and percent of Thuringowa residents by the number of years they have lived in their current house (Q1).

Number of years	n	%
< 1	22	8.6
1 - 5	86	33.5
6 - 10	50	19.4
11 - 15	50	19.4
16 - 20	21	8.2
> 20	28	10.9
Total	257	100

Table 7.2 Frequency and percent of Thuringowa residents by the size of the block they live on (Q2).

Block size (m^2)	n	%
< 1012	42	18.4
1013 - 4047	39	17.0
4048 - 20234	95	41.5
20235 - 40469	11	4.8
40470 - 80937	17	7.4
80938 - 202343	9	3.9
202344 - 404686	7	3.1
> 404686	9	3.9
Total	229	100.0

Table 7.3 Frequency and percent of Thuringowa residents by the type of property they live on (Q3).

Property type	n	%
Residential on suburban block	62	23.9
Residential on rural block	174	67.2
Farming/grazing property	19	7.3
Industrial/commercial property	2	0.8
Other	2	0.8
Total	259	100.0

Table 7.4 Frequency and percent of Thuringowa residents by the type of material their house is made from (Q4).

Material	n	%
Wood	23	8.75
Brick	23	8.75
Fibro	19	7.2
Cement block	116	44.1
Other	14	5.3
Combination of above	68	25.9
Total	263	100.0

Table 7.5 Frequency and percent of Thuringowa residents by the age of the house they live in (Q5).

Age (years)	n	%
< 1	1	0.4
1 - 5	20	8.0
6 - 10	42	16.7
11 - 15	51	20.3
16 - 20	46	18.3
> 20	60	23.9
Don't know	31	12.4
Total	251	100.0

Table 7.6 Frequency and percent of Thuringowa residents by whether they are concerned about hazards in their locality (Q6a).

Concerned about hazards	n	%
No	7	2.7
Yes	255	97.3
Total	262	100.0

Table 7.7 Frequency and percent of Thuringowa residents by their level of concern about cyclones in their locality (Q6b).

Level of concern	n	%
Very high	153	58.6
High	62	23.8
Moderate	18	6.9
Low	10	3.8
Very low	0	0.0
Answer ticked only	6	2.3
Not selected	12	4.6
Total	261	100

Table 7.8 Frequency and percent of Thuringowa residents by their level of concern about bushfires in their locality (Q6c).

Level of concern	n	%
Very high	54	20.7
High	86	33.0
Moderate	48	18.4
Low	45	17.2
Very low	3	1.1
Answer ticked only	5	1.9
Not selected	20	7.7
Total	261	100

Table 7.9 Frequency and percent of Thuringowa residents by their level of concern about flooding in their locality (Q6d).

Level of concern	n	%
Very high	18	6.9
High	47	18.0
Moderate	112	42.9
Low	40	15.3
Very low	3	1.2
Answer ticked only	6	2.3
Not selected	35	13.4
Total	261	100.0

Table 7.10 Frequency and percent of Thuringowa residents by their level of concern about storm surge in their locality (Q6e).

Level of concern	n	%
Very high	15	5.8
High	34	13.0
Moderate	39	14.9
Low	110	42.2
Very low	17	6.5
Answer ticked only	6	2.3
Not selected	40	15.3
Total	261	100.0

Table 7.11 Frequency and percent of Thuringowa residents by their level of concern about landslides in their locality (Q6f).

Level of concern	n	%
Very high	1	0.4
High	0	0.0
Moderate	2	0.8
Low	14	5.3
Very low	171	65.5
Answer ticked only	2	0.8
Not selected	71	27.2
Total	261	100.0

Table 7.12 Frequency and percent of Thuringowa residents by their level of concern about other hazards in their locality (Q6g).

Level of concern	n	%
Very high	2	0.8
High	3	1.1
Moderate	2	0.8
Low	2	0.8
Very low	5	1.9
Answer ticked only	2	0.8
Not selected	245	93.8
Total	261	100.0

Table 7.13 Frequency and percent of Thuringowa residents by whether they have experienced a hazard or not (Q7a).

Experienced a hazard	n	%
Yes	213	87.7
No	30	12.3
Total	243	100

Table 7.14 Frequency and percent of Thuringowa residents by whether they have experienced a cyclone or not (Q7b).

Experienced a cyclone	n	%
Yes	179	73.7
No	64	26.3
Total	243	100

Table 7.15 Frequency and percent of Thuringowa residents by whether they have experienced a bushfire or not (Q7c).

Experienced a bushfire	n	%
Yes	90	37.0
No	153	63.0
Total	243	100

Table 7.16 Frequency and percent of Thuringowa residents by whether they have experienced flooding or not (Q7d).

Experienced flooding	n	%
Yes	95	39.1
No	148	60.9
Total	243	100

Table 7.17 Frequency and percent of Thuringowa residents by whether they have experienced a storm surge or not (Q7e).

Experienced storm surge	n	%
Yes	14	5.8
No	229	94.2
Total	243	100

Table 7.18 Frequency and percent of Thuringowa residents by whether they have experienced a landslide or not (Q7f).

Experienced a landslide	n	%
Yes	2	0.8
No	241	99.2
Total	243	100

Table 7.19 Frequency and percent of Thuringowa residents by whether they have experienced another hazard or not (Q7g).

Experienced another hazard	n	%
Yes	6	2.5
No	237	97.5
Total	243	100

Table 7.20 Frequency and percent of Thuringowa residents by the number of years ago they experienced a cyclone (Q7h).

Years ago	n	%
< 1	0	0
1 - 5	68	42.8
6 - 10	33	20.7
11 - 15	9	5.7
16 - 20	6	3.8
> 20	43	27.0
Total	159	100

Table 7.21 Frequency and percent of Thuringowa residents by the number of years ago they experienced a bushfire (Q7i).

Years ago	n	%
< 1	5	6.3
1 - 5	30	38.0
6 - 10	21	26.6
11 - 15	7	8.9
16 - 20	8	10.1
> 20	8	10.1
Total	79	100

Table 7.22 Frequency and percent of Thuringowa residents by the number of years ago they experienced flooding (Q7j).

Years ago	n	%
< 1	2	2.4
1 - 5	18	21.7
6 - 10	43	51.8
11 - 15	6	7.2
16 - 20	5	6.0
> 20	9	10.9
Total	83	100

Table 7.23 Frequency and percent of Thuringowa residents by the number of years ago they experienced a storm surge (Q7k).

Years ago	n	%
< 1	1	6.67
1 - 5	1	6.67
6 - 10	11	73.32
11 - 15	1	6.67
16 - 20	0	0.0
> 20	1	6.67
Total	15	100

Table 7.24 Frequency and percent of Thuringowa residents by the number of years ago they experienced a landslide (Q7l).

Years ago	n	%
< 1	0	0.0
1 - 5	0	0.0
6 - 10	0	0.0
11 - 15	1	50.0
16 - 20	0	0.0
> 20	1	50.0
Total	2	100

Table 7.25 Frequency and percent of Thuringowa residents by the number of years ago they experienced another hazard (Q7m).

Years ago	n	%
< 1	0	0.0
1 - 5	2	50.0
6 - 10	0	0.0
11 - 15	1	25.0
16 - 20	0	0.0
> 20	1	25.0
Total	4	100

Table 7.26 Frequency and percent of Thuringowa residents by whether they had felt personally threatened by the bushfire they experienced (Q8a).

Felt personally threatened	n	%
Yes	39	43.3
No	51	56.7
Total	90	100

Table 7.27 Frequency and percent of Thuringowa residents by whether they had felt that their property was threatened by the bushfire they experienced (Q8b).

Felt property was threatened	n	%
Yes	57	63.3
No	33	36.7
Total	90	100

Table 7.28 Frequency and percent of Thuringowa residents by whether they provided a comment describing how they felt personally threatened or how their property was threatened by bushfire (Q8c).

Comment provided	n	%
Yes	54	60.0
No	36	40.0
Total	90	100

Table 7.29 Frequency and percent of Thuringowa residents by whether they provided a comment describing what they learned from their experience of bushfire (Q8d).

Comment provided	n	%
Yes	74	70.0
No	16	30.0
Total	90	100

Table 7.30 Frequency and percent of Thuringowa residents by whether they know anyone who has suffered due to a bushfire (Q9).

Know anyone who has suffered due to a bushfire	n	%
Yes	66	27.3
No	176	72.7
Total	242	100

Table 7.31 Frequency and percent of Thuringowa residents by how important cyclones were when deciding to purchase or rent their current property (Q10a).

Level of importance	n	%
Very important	85	34.3
Important	63	25.4
Moderately important	63	25.4
Unimportant	32	12.9
Very unimportant	5	2.0
Total	248	100.0

Table 7.32 Frequency and percent of Thuringowa residents by how important bushfire was when deciding to purchase or rent their current property (Q10b).

Level of importance	n	%
Very important	54	23.1
Important	55	23.5
Moderately important	77	32.9
Unimportant	41	17.5
Very unimportant	7	3.0
Total	234	100.0

Table 7.33 Frequency and percent of Thuringowa residents by how important flooding was when deciding to purchase or rent their current property (Q10c).

Level of importance	n	%
Very important	59	25.9
Important	63	27.6
Moderately important	59	25.9
Unimportant	39	17.1
Very unimportant	8	3.5
Total	228	100.0

Table 7.34 Frequency and percent of Thuringowa residents by how important storm surge was when deciding to purchase or rent their current property (Q10d).

Level of importance	n	%
Very important	39	18.0
Important	34	15.7
Moderately important	55	25.3
Unimportant	59	27.2
Very unimportant	30	13.8
Total	217	100.0

Table 7.35 Frequency and percent of Thuringowa residents by how important landslides were when deciding to purchase or rent their current property (Q10e).

Level of importance	n	%
Very important	10	4.85
Important	10	4.85
Moderately important	15	7.3
Unimportant	73	35.4
Very unimportant	98	47.6
Total	206	100.0

Table 7.36 Frequency and percent of Thuringowa residents by how important other hazards were when deciding to purchase or rent their current property (Q10f).

Level of importance	n	%
Very important	3	15.0
Important	2	10.0
Moderately important	1	5.0
Unimportant	7	35.0
Very unimportant	7	35.0
Total	20	100.0

Table 7.37 Frequency and percent of Thuringowa residents by whether they have prompts to think about preparing for bushfires or not (Q11a).

Prompts to prepare	n	%
Yes	238	4.8
No	12	95.2
Total	250	100

Table 7.38 Frequency and percent of Thuringowa residents by how they ranked media news of bushfires elsewhere as a prompt to think about preparing for bushfires (Q11b).

Ranking	n	%
First	49	19.6
Second	39	15.6
Third	65	26.0
Answer ticked only	9	3.6
Not selected	88	35.2
Total	250	100.0

Table 7.39 Frequency and percent of Thuringowa residents by how they ranked pamphlets in the mail as a prompt to think about preparing for bushfires (Q11c).

Ranking	n	%
First	2	0.8
Second	16	6.4
Third	25	10.0
Answer ticked only	2	0.8
Not selected	205	82.0
Total	250	100.0

Table 7.40 Frequency and percent of Thuringowa residents by how they ranked displays by fire brigades in schools and shopping centres as a prompt to think about preparing for bushfires (Q11d).

Ranking	n	%
First	2	0.8
Second	9	3.6
Third	11	4.4
Answer ticked only	2	0.8
Not selected	226	90.4
Total	250	100.0

Table 7.41 Frequency and percent of Thuringowa residents by how they ranked uncontrolled bushfires burning in their locality as a prompt to think about preparing for bushfires (Q11e).

Ranking	n	%
First	87	34.8
Second	47	18.8
Third	23	9.2
Answer ticked only	15	6.0
Not selected	78	31.2
Total	250	100.0

Table 7.42 Frequency and percent of Thuringowa residents by how they ranked controlled hazard reduction burns in their area as a prompt to think about preparing for bushfires (Q11f).

Ranking	n	%
First	43	17.2
Second	67	26.8
Third	46	18.4
Answer ticked only	17	6.8
Not selected	77	30.8
Total	250	100.0

Table 7.43 Frequency and percent of Thuringowa residents by how they ranked other factors as a prompt to think about preparing for bushfires (Q11g).

Ranking	n	%
First	27	10.8
Second	5	2.0
Third	5	2.0
Answer ticked only	7	2.8
Not selected	206	82.4
Total	250	100.0

Table 7.44 Frequency and percent of Thuringowa residents by their level of conformity with the normal bushfire season (Q12).

Level of conformity	n	%
Complete conformity	10	4.6
Conformity within season but 1(+) months missing	61	27.9
Conformity but 1(+) months missing and/or outside of season	130	59.4
Non-conformity	18	8.2
Total	219	100.0

Table 7.45 Frequency and percent of Thuringowa residents by the type of fire service they believe would come for a 000 call about a fire in their locality (Q13).

Fire service	n	%
Rural Fire Brigade	200	78.7
Metropolitan Fire Brigade	3	1.2
Parks and Wildlife Service	0	0.0
Other	2	0.8
Ticked more than one answer	49	19.3
Total	254	100.0

Table 7.46 Frequency and percent of Thuringowa residents by how they believe the members of the fire brigade in their locality are employed (Q14).

Employment status	n	%
Paid full time	3	1.2
Paid part time	1	0.4
Voluntary/unpaid	158	62.2
Don’t know	81	4.3
Ticked more than one answer	11	31.9
Total	254	100.0

Table 7.47 Frequency and percent of Thuringowa residents by whether they undertake activities to prepare for bushfire or not (Q15a).

Undertake activities to prepare	n	%
Yes	237	6.3
No	16	93.7
Total	253	100

Table 7.48 Frequency and percent of Thuringowa residents by how important ‘clear rubbish out of the yard’ is as an activity they undertake to prepare for bushfires (Q15b).

Importance	n	%
First	54	21.4
Second	36	14.2
Third	35	13.8
Answer ticked only	15	5.9
Not selected	113	44.7
Total	253	100.0

Table 7.49 Frequency and percent of Thuringowa residents by how important 'prepare firebreak around property' is as an activity they undertake to prepare for bushfires (Q15c).

Importance	n	%
First	59	23.3
Second	25	9.9
Third	9	3.5
Answer ticked only	7	2.8
Not selected	153	60.5
Total	253	100.0

Table 7.50 Frequency and percent of Thuringowa residents by how important 'cut long grass' is as an activity they undertake to prepare for bushfires (Q15d).

Importance	n	%
First	56	22.1
Second	50	19.8
Third	28	11.1
Answer ticked only	14	5.5
Not selected	105	41.5
Total	253	100.0

Table 7.51 Frequency and percent of Thuringowa residents by how important 'clean leaves from gutters' is as an activity they undertake to prepare for bushfires (Q15e).

Importance	n	%
First	19	7.5
Second	36	14.3
Third	41	16.2
Answer ticked only	14	5.5
Not selected	143	56.5
Total	253	100.0

Table 7.52 Frequency and percent of Thuringowa residents by how important 'remove branches and undergrowth around house' is as an activity they undertake to prepare for bushfires (Q15f).

Importance	n	%
First	14	5.5
Second	24	9.5
Third	40	15.8
Answer ticked only	10	4.0
Not selected	165	65.2
Total	253	100.0

Table 7.53 Frequency and percent of Thuringowa residents by how important 'check water supply and hoses' is as an activity they undertake to prepare for bushfires (Q15g).

Importance	n	%
First	6	2.4
Second	28	11.1
Third	44	17.4
Answer ticked only	9	3.5
Not selected	166	65.6
Total	253	100.0

Table 7.54 Frequency and percent of Thuringowa residents by how important 'prepare evacuation plan' is as an activity they undertake to prepare for bushfires (Q15h).

Importance	n	%
First	10	4.0
Second	7	2.8
Third	8	3.1
Answer ticked only	8	3.1
Not selected	220	87.0
Total	253	100.0

Table 7.55 Frequency and percent of Thuringowa residents by whether they believe there are adequate services to dispose of garden rubbish/green waste (Q16a).

Adequate services	n	%
Yes	168	67.7
No	80	32.3
Total	248	100.0

Table 7.56 Frequency and percent of Thuringowa residents by whether they believe there are adequate services to dispose of household rubbish (Q16b).

Adequate services	n	%
Yes	205	84.4
No	38	15.6
Total	243	100.0

Table 7.57 Frequency and percent of Thuringowa residents by whether they provided a comment describing their opinion regarding services to dispose of rubbish (Q16c).

Comment provided	n	%
Yes	50	19.0
No	213	81.0
Total	263	100.0

Table 7.58 Frequency and percent of Thuringowa residents by how they rated the hazard of bushfire in their locality (Q17).

Rating	n	%
Very high	47	18.5
High	69	27.1
Moderate	98	38.6
Low	35	13.8
Very low	5	2.0
Total	254	100.0

Table 7.59 Frequency and percent of Thuringowa residents by how they rated the hazard of bushfire to their house (Q18).

Rating	n	%
Very high	10	3.9
High	24	9.4
Moderate	86	33.7
Low	96	37.7
Very low	39	15.3
Total	255	100.0

Table 7.60 Frequency and percent of Thuringowa residents by their level of agreement with the statement that controlled burning makes this area safer from bushfires (Q19a).

Level of agreement	n	%
Strongly agree	145	58.0
Agree	86	34.4
Neither agree nor disagree	12	4.8
Disagree	5	2.0
Strongly disagree	2	0.8
Total	250	100.0

Table 7.61 Frequency and percent of Thuringowa residents by their level of agreement with the statement that the smoke from controlled burning causes respiratory problems (Q19b).

Level of agreement	n	%
Strongly agree	43	17.9
Agree	90	37.5
Neither agree nor disagree	77	32.1
Disagree	25	10.4
Strongly disagree	5	2.1
Total	240	100.0

Table 7.62 Frequency and percent of Thuringowa residents by their level of agreement with the statement that controlled burning is necessary to maintain plant regrowth (Q19c).

Level of agreement	n	%
Strongly agree	52	21.6
Agree	102	42.3
Neither agree nor disagree	58	24.1
Disagree	23	9.5
Strongly disagree	6	2.5
Total	241	100.0

Table 7.63 Frequency and percent of Thuringowa residents by their level of agreement with the statement that they are concerned for wildlife during controlled burns (Q19d).

Level of agreement	n	%
Strongly agree	68	28.1
Agree	86	35.5
Neither agree nor disagree	57	23.6
Disagree	25	10.3
Strongly disagree	6	2.5
Total	242	100.0

Table 7.64 Frequency and percent of Thuringowa residents by their level of agreement with the statement that the smoke from controlled burning is an acceptable nuisance (Q19e).

Level of agreement	n	%
Strongly agree	43	17.3
Agree	143	57.4
Neither agree nor disagree	29	11.7
Disagree	21	8.4
Strongly disagree	13	5.2
Total	249	100.0

Table 7.65 Frequency and percent of Thuringowa residents by their level of agreement with the statement that some people restart the fire after a controlled burn (Q19f).

Level of agreement	n	%
Strongly agree	15	6.4
Agree	44	18.7
Neither agree nor disagree	102	43.4
Disagree	53	22.6
Strongly disagree	21	8.9
Total	235	100.0

Table 7.66 Frequency and percent of Thuringowa residents by their level of agreement with the statement that some people bring their own rubbish to the controlled burn (Q19g).

Level of agreement	n	%
Strongly agree	8	3.4
Agree	19	8.0
Neither agree nor disagree	119	50.4
Disagree	62	26.3
Strongly disagree	28	11.9
Total	236	100.0

Table 7.67 Frequency and percent of Thuringowa residents by whether they are aware of a controlled burn in their area in the last two years (Q20a).

Aware	n	%
Yes	201	77.6
No	58	22.4
Total	259	100.0

Table 7.68 Frequency and percent of Thuringowa residents by whether they saw signs or received information before the controlled burn (Q20b).

Signs or information	n	%
Yes	120	61.5
No	75	38.5
Total	201	100.0

Table 7.69 Frequency and percent of Thuringowa residents by whether they provided a comment describing the signs they saw or the information they received before the controlled burn (Q20c).

Comment provided	n	%
Yes	100	83.3
No	20	16.7
Total	120	100.0

Table 7.70 Frequency and percent of Thuringowa residents by their level of conformity with the ideal controlled burning season (Q21).

Conformity	n	%
Complete conformity	17	7.9
Conformity within season but 1(+) months missing	26	12.1
Conformity but 1(+) months missing and/or outside of season	74	34.4
Non-conformity	98	45.6
Total	215	100.0

Table 7.71 Frequency and percent of Thuringowa residents by which letterbox they use most of the time to check their mail (Q22).

Letterbox	n	%
Check letterbox on property	202	78.6
Check post box at a post office	32	12.5
Check both boxes	23	8.9
Total	257	100.0

Table 7.72 Frequency and percent of Thuringowa residents by whether they receive useful information about bushfires (Q23a).

Receive useful information	n	%
Yes	236	90.8
No	24	9.2
Total	260	100.0

Table 7.73 Frequency and percent of Thuringowa residents by how they ranked pamphlets in mail as their most useful source of information about bushfire (Q23b).

Ranking	n	%
First	46	17.7
Second	30	11.5
Third	22	8.5
Answer ticked only	4	1.5
Not selected	158	60.8
Total	260	100.0

Table 7.74 Frequency and percent of Thuringowa residents by how they ranked meeting with Fire Brigade members as their most useful source of information about bushfire (Q23c).

Ranking	n	%
First	21	8.1
Second	6	2.3
Third	2	0.8
Answer ticked only	3	1.1
Not selected	228	87.7
Total	260	100.0

Table 7.75 Frequency and percent of Thuringowa residents by how they ranked information brought home by children at school as their most useful source of information about bushfire (Q23d).

Ranking	n	%
First	2	0.8
Second	4	1.5
Third	3	1.2
Answer ticked only	0	0
Not selected	251	96.5
Total	260	100.0

Table 7.76 Frequency and percent of Thuringowa residents by how they ranked TV or radio as their most useful source of information about bushfire (Q23e).

Ranking	n	%
First	85	32.7
Second	39	15.0
Third	29	11.1
Answer ticked only	14	5.4
Not selected	93	35.8
Total	260	100.0

Table 7.77 Frequency and percent of Thuringowa residents by how they ranked local community newsletters as their most useful source of information about bushfire (Q23f).

Ranking	n	%
First	19	7.3
Second	33	12.7
Third	23	8.8
Answer ticked only	7	2.7
Not selected	178	68.5
Total	260	100.0

Table 7.78 Frequency and percent of Thuringowa residents by how they ranked newspapers as their most useful source of information about bushfire (Q23g).

Ranking	n	%
First	15	5.8
Second	52	20.0
Third	32	12.3
Answer ticked only	11	4.2
Not selected	150	57.7
Total	260	100.0

Table 7.79 Frequency and percent of Thuringowa residents by how they ranked the internet as their most useful source of information about bushfire (Q23h).

Ranking	n	%
First	0	0
Second	1	0.4
Third	3	1.1
Answer ticked only	1	0.4
Not selected	255	98.1
Total	260	100.0

Table 7.80 Frequency and percent of Thuringowa residents by how they ranked information from council as their most useful source of information about bushfire (Q23i).

Ranking	n	%
First	7	2.7
Second	11	4.2
Third	28	10.8
Answer ticked only	6	2.3
Not selected	208	80.0
Total	260	100.0

Table 7.81 Frequency and percent of Thuringowa residents by how they ranked neighbours/friends in community as their most useful source of information about bushfire (Q23j).

Ranking	n	%
First	19	7.3
Second	22	8.5
Third	40	15.4
Answer ticked only	4	1.5
Not selected	175	67.3
Total	260	100.0

Table 7.82 Frequency and percent of Thuringowa residents by their level of agreement with the statement that they would rely on the local fire brigade if there was a bushfire in their locality (Q24a).

Level of agreement	n	%
Strongly agree	139	53.9
Agree	101	39.1
Neither agree nor disagree	12	4.7
Disagree	1	0.4
Strongly disagree	5	1.9
Total	258	100.0

Table 7.83 Frequency and percent of Thuringowa residents by their level of agreement with the statement that the local fire brigade does a good job preparing for bushfires (Q24b).

Level of agreement	n	%
Strongly agree	97	38.2
Agree	107	42.1
Neither agree nor disagree	34	13.4
Disagree	10	3.9
Strongly disagree	6	2.4
Total	254	100.0

Table 7.84 Frequency and percent of Thuringowa residents by their level of agreement with the statement that the local fire brigade does a good job fighting bushfires (Q24c).

Level of agreement	n	%
Strongly agree	125	48.8
Agree	98	38.3
Neither agree nor disagree	26	10.1
Disagree	4	1.6
Strongly disagree	3	1.2
Total	256	100.0

Table 7.85 Frequency and percent of Thuringowa residents by their level of agreement with the statement that the fire levy component of their council rates provides value for money (Q24d).

Level of agreement	n	%
Strongly agree	80	32.4
Agree	76	30.8
Neither agree nor disagree	64	25.9
Disagree	18	7.3
Strongly disagree	9	3.6
Total	247	100.0

Table 7.86 Frequency and percent of Thuringowa residents by who they would contact if they wanted to do some burning on their property (Q25).

Service provider	n	%
Local fire brigade	91	35.7
Fire warden	132	51.8
Police	1	0.4
Local council	10	3.9
Other	6	2.3
Selected more than one answer	15	5.9
Total	255	100.0

Table 7.87 Frequency and percent of Thuringowa residents by their level of agreement with the statement that they are concerned when their neighbours do not clean up their property (Q26a).

Level of agreement	n	%
Strongly agree	94	37.6
Agree	89	35.6
Neither agree nor disagree	46	18.4
Disagree	17	6.8
Strongly disagree	4	1.6
Total	250	100.0

Table 7.88 Frequency and percent of Thuringowa residents by their level of agreement with the statement that they talk to their neighbours about the importance of cleaning up their property (Q26b).

Level of agreement	n	%
Strongly agree	15	6.2
Agree	55	22.6
Neither agree nor disagree	113	46.5
Disagree	44	18.1
Strongly disagree	16	6.6
Total	243	100.0

Table 7.89 Frequency and percent of Thuringowa residents by their level of agreement with the statement that people in their locality would be able to recover from a natural disaster in a short time (Q26c).

Level of agreement	n	%
Strongly agree	17	6.8
Agree	87	34.8
Neither agree nor disagree	107	42.8
Disagree	29	11.6
Strongly disagree	10	4.0
Total	250	100.0

Table 7.90 Frequency and percent of Thuringowa residents by whether they believe that there are people in their locality that are at risk from hazards (Q27a).

People at risk	n	%
Yes	146	61.1
No	93	38.9
Total	239	100.0

Table 7.91 Frequency and percent of Thuringowa residents by whether they provided a comment explaining why they believe that there are people at risk in their locality (Q27b).

Comment provided	n	%
Yes	144	62.0
No	2	38.0
Total	146	100.0

Table 7.92 Frequency and percent of Thuringowa residents by who they believe is responsible for maintaining firebreaks around properties (Q28a).

Group	n	%
Rural Fire Brigade	23	9.7
Property owner	196	83.1
Local council	17	7.2
Parks and Wildlife Service	0	0.0
Total	236	100.0

Table 7.93 Frequency and percent of Thuringowa residents by who they believe is responsible for keeping overgrown bushland and creek beds clear (Q28b).

Group	n	%
Rural Fire Brigade	24	11.0
Property owner	27	12.4
Local council	118	54.1
Parks and Wildlife Service	49	22.5
Total	218	100.0

Table 7.94 Frequency and percent of Thuringowa residents by who they believe is responsible for clearing overgrown properties (Q28c).

Group	n	%
Rural Fire Brigade	1	0.4
Property owner	192	81.0
Local council	43	18.2
Parks and Wildlife Service	1	0.4
Total	237	100.0

Table 7.95 Frequency and percent of Thuringowa residents by who they believe is responsible for removing rubbish from public areas (Q28d).

Group	n	%
Rural Fire Brigade	1	0.4
Property owner	5	2.0
Local council	236	95.6
Parks and Wildlife Service	5	2.0
Total	247	100.0

Table 7.96 Frequency and percent of Thuringowa residents by who they believe is responsible for maintaining access for the fire brigade to properties (Q28e).

Group	n	%
Rural Fire Brigade	14	6.3
Property owner	160	72.1
Local council	44	19.8
Park and Wildlife Service	4	1.8
Total	222	100.0

Table 7.97 Frequency and percent of Thuringowa residents by whether believe there should be more, the same or less local government enforcement to improve maintenance of properties for hazards including bushfire (Q29a).

Enforcement	n	%
More	137	55.7
Same as now	106	43.1
Less	3	1.2
Total	246	100.0

Table 7.98 Frequency and percent of Thuringowa residents by whether believe there should be more, the same or less state government enforcement to improve maintenance of properties for hazards including bushfire (Q29b).

Enforcement	n	%
More	94	41.4
Same as now	127	56.0
Less	6	2.6
Total	227	100.0

Table 7.99 Frequency and percent of Thuringowa residents by whether believe there should be more, the same or less federal government enforcement to improve maintenance of properties for hazards including bushfire (Q29c).

Enforcement	n	%
More	82	36.8
Same as now	133	59.6
Less	8	3.6
Total	223	100.0

Table 7.100 Frequency and percent of Thuringowa residents by their level of agreement with the statement that water supply points are adequate for bushfires (Q30a).

Level of agreement	n	%
Strongly agree	16	6.4
Agree	89	35.6
Neither agree nor disagree	76	30.4
Disagree	42	16.8
Strongly disagree	27	10.8
Total	250	100.0

Table 7.101 Frequency and percent of Thuringowa residents by their level of agreement with the statement that rubbish tips are readily available (Q30b).

Level of agreement	n	%
Strongly agree	39	15.3
Agree	102	40.0
Neither agree nor disagree	20	7.8
Disagree	49	19.2
Strongly disagree	45	17.7
Total	255	100.0

Table 7.102 Frequency and percent of Thuringowa residents by their level of agreement with the statement that grass in public areas is slashed (Q30c).

Level of agreement	n	%
Strongly agree	42	16.4
Agree	146	57.0
Neither agree nor disagree	32	12.5
Disagree	23	9.0
Strongly disagree	13	5.1
Total	256	100.0

Table 7.103 Frequency and percent of Thuringowa residents by whether they are aware of any arrangements their local government has for natural hazards in plans for property development (Q31a).

Aware	n	%
Yes	38	15.0
No	215	85.0
Total	253	100.0

Table 7.104 Frequency and percent of Thuringowa residents by whether they are aware of any arrangements their local government has for building regulations (Q31b).

Aware	n	%
Yes	74	29.4
No	178	70.6
Total	252	100.0

Table 7.105 Frequency and percent of Thuringowa residents by whether they are aware of any arrangements their local government has for building regulations (Q31c).

Aware	n	%
Yes	60	23.8
No	192	76.2
Total	252	100.0

Table 7.106 Frequency and percent of Thuringowa residents by how they valued peace and quiet on their property (Q32a).

Value	n	%
Very high	152	60.8
High	39	15.6
Moderate	21	8.4
Low	10	4.0
Very low	3	1.2
Answer ticked only	22	8.8
Not selected	3	1.2
Total	250	100.0

Table 7.107 Frequency and percent of Thuringowa residents by how they valued space on their property (Q32b).

Value	n	%
Very high	41	16.5
High	104	41.8
Moderate	41	16.5
Low	31	12.4
Very low	3	1.2
Answer ticked only	21	8.4
Not selected	8	3.2
Total	249	100.0

Table 7.108 Frequency and percent of Thuringowa residents by how they valued trees and bushland on their property (Q32c).

Value	n	%
Very high	15	6.0
High	46	18.5
Moderate	104	41.8
Low	47	18.9
Very low	5	2.0
Answer ticked only	18	7.2
Not selected	14	5.6
Total	249	100.0

Table 7.109 Frequency and percent of Thuringowa residents by how they valued small community on their property (Q32d).

Value	n	%
Very high	11	4.4
High	29	11.6
Moderate	43	17.2
Low	116	46.4
Very low	8	3.2
Answer ticked only	15	6.0
Not selected	28	11.2
Total	250	100.0

Table 7.110 Frequency and percent of Thuringowa residents by how they valued an other feature on their property (Q32e).

Value	n	%
Very high	5	2.0
High	2	0.8
Moderate	4	1.6
Low	4	1.6
Very low	54	21.6
Answer ticked only	2	0.8
Not selected	179	71.6
Total	250	100.0

Table 7.111 Frequency and percent of Thuringowa residents by how they valued peace and quiet in their locality (Q32f).

Value	n	%
Very high	112	55.2
High	31	15.3
Moderate	23	11.3
Low	10	4.9
Very low	5	2.5
Answer ticked only	12	5.9
Not selected	10	4.9
Total	203	100.0

Table 7.112 Frequency and percent of Thuringowa residents by how they valued space in their locality (Q32g).

Value	n	%
Very high	21	10.4
High	64	31.7
Moderate	48	23.8
Low	39	19.3
Very low	2	1.0
Answer ticked only	8	3.9
Not selected	20	9.9
Total	202	100.0

Table 7.113 Frequency and percent of Thuringowa residents by how they valued trees and bushland in their locality (Q32h).

Value	n	%
Very high	19	9.4
High	45	22.3
Moderate	65	32.2
Low	43	21.3
Very low	4	2.0
Answer ticked only	11	5.4
Not selected	15	7.4
Total	202	100.0

Table 7.114 Frequency and percent of Thuringowa residents by how they valued small community in their locality (Q32i).

Value	n	%
Very high	24	11.8
High	30	14.8
Moderate	34	16.7
Low	77	37.9
Very low	9	4.4
Answer ticked only	10	4.9
Not selected	19	9.4
Total	203	100.0

Table 7.115 Frequency and percent of Thuringowa residents by how they valued an 'other' feature in their locality (Q32j).

Value	n	%
Very high	4	2.0
High	6	3.0
Moderate	3	1.5
Low	5	2.4
Very low	43	21.2
Answer ticked only	1	0.5
Not selected	141	69.4
Total	203	100.0

Table 7.116 Frequency and percent of Thuringowa residents by whether they have always lived in their current house (Q33).

Always lived in current house	n	%
Yes	31	12.1
No	225	87.9
Total	256	100.0

Table 7.117 Frequency and percent of Thuringowa residents by what type of property they lived on before moving to their current property (Q34).

Previous property	n	%
Residential on suburban block	151	69.9
Residential on rural block	38	17.6
Farming/grazing property	9	4.2
Industrial/commercial property	2	0.9
Other	16	7.4
Total	216	100.0

Table 7.118 Frequency and percent of Thuringowa residents by why they moved to their current property (Q35).

Reason for moving	n	%
For work	14	6.9
Affordability of houses	16	7.9
Rural lifestyle	113	55.7
Operate farm/grazing property	9	4.4
Operate commercial/industrial property	1	0.5
Other	50	24.6
Total	203	100.0

Table 7.119 Frequency and percent of Thuringowa residents by whether they own or rent their current house (Q36).

Own or rent	n	%
Own outright with no mortgage	106	42.1
Own with a mortgage	121	48.0
Rent	25	9.9
Total	252	100.0

Table 7.120 Frequency and percent of Thuringowa residents by whether they have insurance on their property which includes loss from natural hazards (Q37a).

Have insurance	n	%
Yes	204	80.3
No	23	9.1
Don't know	27	10.6
Total	254	100.0

Table 7.121 Frequency and percent of Thuringowa residents by whether they feel that their property insurance adequately covers any potential loss from natural hazards (Q37b).

Adequate cover	n	%
Yes	134	66.0
No	33	16.3
Don't know	36	17.7
Total	203	100.0

Table 7.122 Frequency and percent of Thuringowa residents by whether they provided a comment about insurance for natural hazards (Q37c)

Comment provided	n	%
Yes	84	31.9
No	179	68.1
Total	263	100.0

Table 7.123 Frequency and percent of Thuringowa residents by whether they are actively involved in any volunteer or community organisation (Q38a).

Involvement in organisation	n	%
Yes	51	20.1
Have in the past but not now	85	33.4
Never been involved	118	46.5
Total	254	100.0

Table 7.124 Frequency and percent of Thuringowa residents by whether they provided a comment about the type of organisation they are involved in (Q38b)

Comment provided	n	%
Yes- involved now	49	36.0
Yes- involved in the past but not now	24	17.7
No	63	46.3
Total	136	100.0

Table 7.125 Frequency and percent of Thuringowa residents by whether they provided a comment about why they like to be involved (Q38c)

Comment provided	n	%
Yes- involved now	41	30.1
Yes- involved in the past but not now	13	9.6
No	82	60.3
Total	136	100.0

Table 7.126 Frequency and percent of Thuringowa residents by where the organisation they are involved in is located (Q38d)

Location	n	%
In the locality they live now	43	79.6
In the nearest largest town	11	20.4
Total	54	100.0

Table 7.127 Frequency and percent of Thuringowa residents by how they ranked 'I'm not interested' as the reason for why they are not currently involved in any volunteer or community organisation (Q39a).

Ranking	n	%
Most important	12	6.2
More important	8	4.2
Important	24	12.4
Answer ticked only	0	0.0
Not selected	149	77.2
Total	193	100.0

Table 7.128 Frequency and percent of Thuringowa residents by how they ranked 'I'm too busy with work' as the reason for why they are not currently involved in any volunteer or community organisation (Q39b).

Ranking	n	%
Most important	78	40.4
More important	29	15.0
Important	8	4.2
Answer ticked only	5	2.6
Not selected	73	37.8
Total	193	100.0

Table 7.129 Frequency and percent of Thuringowa residents by how they ranked 'I'm too busy with other activities' as the reason for why they are not currently involved in any volunteer or community organisation (Q39c).

Ranking	n	%
Most important	33	17.1
More important	80	41.4
Important	15	7.8
Answer ticked only	3	1.6
Not selected	62	32.1
Total	193	100.0

Table 7.130 Frequency and percent of Thuringowa residents by how they ranked 'I haven't thought about it' as the reason for why they are not currently involved in any volunteer or community organisation (Q39d).

Ranking	n	%
Most important	15	7.8
More important	14	7.2
Important	32	16.6
Answer ticked only	2	1.0
Not selected	130	67.4
Total	193	100.0

Table 7.131 Frequency and percent of Thuringowa residents by how they ranked 'nobody has asked me' as the reason for why they are not currently involved in any volunteer or community organisation (Q39e).

Ranking	n	%
Most important	8	4.1
More important	13	6.7
Important	27	14.0
Answer ticked only	3	1.6
Not selected	142	73.6
Total	193	100.0

Table 7.132 Frequency and percent of Thuringowa residents by how they ranked 'other' as the reason for why they are not currently involved in any volunteer or community organisation (Q39f).

Ranking	n	%
Most important	40	20.7
More important	5	2.6
Important	16	8.3
Answer ticked only	0	0.0
Not selected	132	68.4
Total	193	100.0

Table 7.133 Frequency and percent of Thuringowa residents by whether any member of their household belongs to a fire-fighting organisation (Q40).

Household member belongs to fire-fighting organisation	n	%
Yes	24	9.4
No	231	90.6
Total	255	100.0

Table 7.134 Frequency and percent of Thuringowa residents by gender (Q41).

Gender	n	%
Female	114	46.0
Male	134	54.0
Total	248	100.0

Table 7.135 Frequency and percent of Thuringowa residents by age group (Q42).

Age (years)	n	%
18 - 25	5	2.0
26 - 40	57	22.4
41 - 55	86	33.9
56 - 70	82	32.3
> 70	24	9.4
Total	254	100.0

Table 7.136 Frequency and percent of Thuringowa residents by household type (Q43).

Household type	n	%
Single person living alone	35	13.8
Couple with no children	65	25.6
Couple where children have left home	59	23.2
Family where the youngest child is < 7 yrs	33	13.0
Family where the youngest child is 7-12 yrs	19	7.5
Family where the youngest child is 13-17 yrs	18	7.1
Family of related adults	22	8.6
Household of unrelated adults	3	1.2
Total	254	100.0

Table 7.137 Frequency and percent of Thuringowa residents by the number of adults living in their household (Q44a).

Number of adults	n	%
1	43	16.8
2	187	73.0
3	19	7.4
4	5	2.0
5	2	0.8
Total	256	100.0

Table 7.138 Frequency and percent of Thuringowa residents by the number of children living in their household (Q44b).

Number of children	n	%
0	182	71.1
1	30	11.7
2	27	10.5
3	12	4.7
4	4	1.6
7	1	0.4
Total	256	100.0

Table 7.139 Frequency and percent of Thuringowa residents by occupation of the main wage earner in their household (Q45).

Occupation	n	%
Managers & administrators	25	10.3
Professionals	25	10.3
Associate professionals	14	5.8
Tradespersons & related	42	17.3
Advanced clerical & service	5	2.1
Intermediate clerical, sales & service	8	3.3
Intermediate production & transport	21	8.7
Elementary clerical, sales & service	5	2.1
Laborers & related	15	6.2
Pensioners & retired	65	26.9
Inadequately described	17	7.0
Total	242	100.0

Table 7.140 Frequency and percent of Thuringowa residents by their education level (Q46).

Education level	n	%
Up to yr 8	22	8.9
Up to yr 10	74	29.8
Up to yr 12	41	16.5
Tafe diploma	21	8.5
Trade certificate	36	14.5
University degree	54	21.8
Total	248	100.0

Table 7.141 Frequency and percent of Thuringowa residents by their occupation (Q47).

Occupation	n	%
Professional management	65	28.0
Business owner	16	6.9
Self employed	21	9.1
Office worker/white collar	34	14.7
Tradesperson/skilled worker	43	18.5
Household manager	13	5.6
Other	32	13.8
Selected more than one answer	8	3.4
Total	232	100.0

Table 7.142 Frequency and percent of Thuringowa residents by their employment (Q48).

Employment	n	%
Full time	117	46.6
Part time	23	9.1
Casual/temporary	16	6.4
Student	4	1.6
Retired	70	27.9
Not currently working	21	8.4
Total	251	100.0

Table 7.143 Frequency and percent of Thuringowa residents by where they work (Q49).

Work location	n	%
Nearest large town	84	55.6
This locality	57	37.8
Another locality but not large town	8	5.3
Selected more than one answer	2	1.3
Total	151	100.0

Table 7.144 Frequency and percent of Thuringowa residents by how long it takes to travel to work one-way (Q50).

Travel time (minutes)	n	%
< 10	20	13.8
10 - 20	46	31.7
> 20 - 30	43	29.7
> 30 - 40	24	16.5
> 40 - 50	7	4.8
> 50 - 60	2	1.4
> 60	3	2.1
Total	145	100.0

8 Appendix B

8.1 Tables of results presenting responses to survey open questions

Presented in the order that the questions appeared in the survey instrument (see Appendix C). Note that XXX has been used here to replace specific names and places that were mentioned by respondents in order to protect the identity of individuals and groups.

Table 8.1 Open question responses to the type of property respondents live on (Q3).

Survey ID	Response
239	Aquaculture

Table 8.2 Open question responses to what the respondents' house is made of (Q4).

Survey ID	Response
1	Steel frame, metal outer, gyprock interior
3	Corrugated iron and timber shed
24	Steel and gyprock
25	Steel
33	Steel
39	Steel and colour bond
41	Zincalum iron
42	Steel hardiplank
78	Steel frame with hardiplank covering
84	Steel frame hardiplank
103	Upper floor: colourbond steel
143	Hardiplank
163	Vinyl clad
166	Steel
169	Weather tex
171	Besser blocks
182	Steel frame
191	Tin (Zincalume)
201	Steel
208	Cement block bottom- highset hardi plank top
218	Steel frame
219	Clading
234	Galvanised steel
258	Steel colour bond

Table 8.3 Open question responses to what hazards are of concern to respondents in their locality (Q6).

Survey ID	Response
1	Tidal wave
14	Traffic accident
61	Bush turkeys destroying my garden
62	Property (vacant) north of Toolakea Beach Rd should be burnt before the really dry weather sets in
105	Pests (cause by people bring rubbish on to rural block & using area as rubbish tips)
108	Pollution QNI
120	Loss of power and phone
155	Invasion
157	Snake population
163	Termites
174	Crocodiles
188	Snakes in the house
206	Tree falling on house/dropping branches
251	Fire
257	Fallout from Yabulu Nickel Refinery

Table 8.4 Open question responses to hazards experienced anywhere that respondents have lived (Q7).

Survey ID	Response
4	Earthquake(s)
59	San Francisco earthquake
129	Burnt out of house
161	Dust storm- Emerald
163	Termite infested house oozing out of walls- some where just paint was left
256	Tree fell on our bus we were living in

Table 8.5 Open question responses to how respondents felt they or their property was threatened by a past bushfire experience (Q8a).

Survey ID	Response
1	Infrastructure could have been damaged plus irrigation lines
4	Bushfire at Hill End (NSW) threatened our family home (came within 200 metres)
12	That the fire might not be able to be controlled
13	Fire coming at rear of property hosing down fence and surrounding bush
14	Life and property possible extinction
18	House burnt down Blue Mountains
19	Worried and anxious unsure of firebreaks working and wind changes
23	By embers from an approaching bushfire
29	Total destruction of my house being burnt down
31	Very frightened, both for my neighbour and myself
39	Loss of all your possessions, your property and stock
40	Get burnt to ground
41	Our neighbour refuses to control burn each year and the grass and surrounding bush on his land is only about 10-15 metres from my home

	and when this fire happened it was uncontrolled as it had got away from another burn off
42	Sick
48	Loss of life, crop, possessions
50	I was 14 years old and was at school at the time, my father was home and I was frightened for him
54	The neighbouring property was on fire – a wind change would have caused problems
55	Not enough water to protect property and no escape such as dugout/cave
61	Helpless as I did not have sufficient resources to fight the fire
62	Came home from shopping to find the rear 20 feet had been burnt and several orange trees killed and some more wounded
64	The fire came to our boundary and was fought with garden hose
65	Bushland around Bluewater Creek
70	Had to relocate horses from burning paddocks
74	Sparks from flying ambers
76	As first officer of XXX Rural BFB now defunct we were in control of a fire along Black River when the XXX BFB arrived and set up a back burn over an area we had extinguished without contacting us then left leaving us with a fire in front as well as behind us
79	The back half of our property was bush before we bought it. Apparently it caught alight from the next door neighbour burning off
88	Fire came very close to house. House could have burnt down
99	One half of the 25 acre bush block we lived on was burnt out
101	Was heading towards our property
102	I wanted the fire to be allowed to burn the dead thick scrub so it is not an issue next year. But they refused
105	Had house area well mowed & hoses ready
120	Burnt out
121	the fire was stopped 3 metres from my house
138	A little helpless until the Rural Fire Brigade got here
142	Heading in our direction then it changed direction
145	Local community (NSW) surrounded. Burning embers, ash on house + in air.
156	Lived in Ash Wednesday area in Victoria
160	Note- respondent ticked “no” to did you feel personally threatened by the fire because he/she was “not home”. But responded described feeling “Shocked”
172	Sydney 1997 menia fires. + Holesworthy
187	It was a grass fire and the head of the XXX Bush Fire Brigade has no idea what to do
188	There was a lot of wind. Dry grass + leaves burning + blowing toward the wooden house
191	The Rural Fire Brigade did a controlled burn on my property that got out of control
192	Helpless
204	Happened when I lived in Victoria. Very remote area
208	Burn off the grass. That was okay
213	Fire jumped a 40m fire break. 1-2 pm hot, windy, dry, November
217	My block backs onto scrubland, which had a lot of fuel that would have

	added to fire intensity
220	Because bushland backs onto the rear of our property
224	Fire was along the grass at the back fenceline on a Friday afternoon, baby asleep in the house
225	Involved in rural fire brigade
238	Anxious scared
254	Fire swept very fast round perimeter property, dry surrounds, us in middle. This was before surrounding land was inhabited & watered. Our watered block was protection at time. Though heat ferocious
257	Buildings mainly sheds containing hay & machinery
259	The fire may have ignited trees close to the house or the house. Risks associated with fighting the fire

Table 8.6 Open question responses to what the respondent learnt from their past bushfire experience (Q8b).

Survey ID	Response
1	My fire breaks and clearing worked well. Should be more controlled burning during winter
4	That they are unpredictable and extremely dangerous
5	Be prepared – no problem
6	Don't light fires *
9	Make sure that your house is cleared of all debris
12	It spreads very fast
13	Get a longer hose
14	Make sure perimeter is clear and beware fire started by external sources
18	We needed more people to fight fires in 1963 I became a firefighter
19	Put in firebreaks
23	If possible stay with property to protect if possible *
25	Keep underbrush down
29	How dangerous and unpredictable fire can be
31	Be prepared!
34	To keep around the house clean and the paddock. Grass short
39	Maintain firebreaks and burn off yearly at the right time of the year
40	Do not fire under these conditions
41	Firebreaks should be regularly maintained and yearly controlled burn offs should be carried out on unused land
42	Make fire breaks *
45	Keep your yard clean and rubbish free
47	Never take them for granted
48	Cannot tolerate irresponsible land owners that do not put in fire breaks to prepare for a fire. There should be a law put in place to stop this. It is life threatening and makes insurance go up.
50	There are some places that are not smart to build in, it has affected my adult choices of a home location
51	Property owners are the most experienced in fighting "bush fires" *
53	It was in SA I was amazed how quickly it moved and how safe I thought I was because of the distance
54	Be prepared and local rural fire brigades are very capable and respond effectively
55	To have escape plan thought out in advance and be prepared for the

	unexpected
61	Get more resources. I now have my own water pump to pump water from my swimming pool
62	Not to trust the rural fire brigade to do anything – e.g. do it myself
64	An area of about 30 feet out from boundary is kept clean
65	Fire and Rescue can't fight fire in XXX
74	Always have own fire fighting resource available when able and keep area around house free from flammable materials
76	The actual fire was the result of domestic burn offs over 5 klms away. Don't light back burns until a thorough inspection of personnel is made
79	Remove the bush area in the back part of our yard *
84	Keep weeds cleared
88	Keep lawn around house green art all times
92	Keep plant and tree growth clear from the immediate vicinity of the dwelling
94	It was a controlled burn off *
95	Extreme conservationists <u>are idiots</u>. Australia needs controlled bushfires to rejuvenate
99	Firies were quick to respond, well organized and excellent follow up and monitoring for 2 weeks; neighbours were very supportive; the media were rude and intrusive
101	Help the neighbours contain it so it would not get to our place *
102	Nothing: Except I believe it is better to allow it to burn off
105	People have no idea about keeping area clear of debrie
111	Inexperienced people should stay away
112	To be very aware of the hazards a fire can cause
115	A lot!
120	Need of controlled burn off's
121	a neighbour left a fire unattended during the dry season
129	Hazard reduction is a must do
138	To make sure our fire breaks are always cleared and our water tank is cleared around
142	Treat fire with respect
145	Need to be prepared + work to look after self + property
150	Be more alert
156	To have a good evacuation plan + clear all debris from around the house prior to fire season *
157	Why "no" to Q8? Because- - backburns were in action @ those times and now they are not!! (note- respondent ticked "no" to both Q8 questions)
170	The importance of keeping grass mowed and creating your own fire break around property. Gutters clear
172	Communication- knowing what's happening
173	Always keep your property clean or cleared
187	Fight the bloody thing yourself and don't rely on the Bush Fire Brigade in our area
188	To keep a fire break around the fenceline + around the house
190	Be prepared with fire breaks, hoses + adequate supply of water
191	The Rural Fire Brigade that day were a threat to me and my property, they were like the fire brigade equivalent of the keystone cops

193	Keep gutters clean, and yards tidy
194	Bush should have a controlled burn before the dry season
199	The importance of keeping fuel low, (ie, timber, grass, etc) back burning, fire breaks, controlled burn offs
203	Hazard reduction burns in the season are essential
204	Not a lot I was very young
208	Fire brake around house. I have 2.400. walkway around house (concrete)
212	Lack of fire breaks on other properties
213	National parks & vacant land be burnt almost every year
217	To conduct hazard reduction & abatement regularly
220	The rural fire brigade quickly back burned and diverted the fire
223	Keep grass mowed (particularly when dry). Regularly remove leaves from around the house
224	The importance of quick response- being alert- having a rural fire brigade & of water availability
226	Be prepared
228	Maintain fire breaks
234	Make sure fire breaks are there
237	How unpredictable fire is and how very quickly it destroys
238	Regular burn offs are important Minimising rubbish around your area
254	That fire with wind moves with unbelievable speed- choom- choom- choom- choom- gone. No hope to move from its path. If had not experienced, would not have believed .speed. burning tinders on roof & car under carport
257	More fire breaks & the width of fire breaks
259	Fire break maintenance
	* Respondent did not indicate that they had experienced a bushfire before

Table 8.7 Open question responses to what prompts respondents to think about preparing for bushfire (Q11).

Survey ID	Response
1	No prompts always prepared
5	Date, weather, fuel
6	Temp & weather
7	If countryside was properly managed with controlled burning in favourable conditions, bushfires would not occur
16	Weather conditions
18	Experience
34	Experience- how it can travel & start up quite away from orig fire
37	Reports from locals of the prevalence of bushfires in this area
48	When you live on the land you do so all the time because everything is at high risk of loss
54	Bush drying out seasonally
62	I created a 12 metre fire break behind my property & one each side of- plus one property which was unoccupied on one side of mine (side boundary)
72	Fire brigade informs me I am in it
76	Extreme dry conditions, windy, exceptional amount dry grass

99	Husband is with RFS
103	Onset of summer
105	We always keep our house area clear of all fire hazards
108	Personal observation of bush conditions/weather etc
113	Own initiative
118	Own initiative
121	Common sense
129	Was a member of Qld Rural Fire Brigade
134	Overgrown areas surrounding my property and the lack of controlled burns
138	When cane farmers decide to burn to protect their cane & don't care about other people.
140	Fuel build-up on council land
145	Climate + season – "dryness"
146	The dry season approaching
155	Available dead scrub
157	Neighbours who don't prepare adequately!
173	None, always keep yard & guttering clean
187	I always keep a fire break now
199	Born and bred in bush
202	Bushfires on TV
212	Drying off fire fuel
213	Apx. March every year I make fire breaks
214	Always thinking about it
225	Dry windy conditions
231	Weather conditions
233	Neighbours burning rubbish- large amount
234	No rain, dry grass
235	uncontrolled bushfires, if we had any
237	Change in temperature
239	Part of a yearly routine to prepare for bushfires
248	Watching surrounding area drying out
253	Season- drying of grass/lack of rain
257	Protection of my crops & buildings
262	I belong to rural bush fire

Table 8.8 Open question responses to comments about adequate services for respondents to dispose of rubbish in their locality (Q16).

Survey ID	Response
5	80.1 HA - D (farming/grazing property)
7	Council has closed all local rubbish dumps
18	Toomulla open Sat/Sun only, have to pay
19	Only 1 bin per week no recycling bin
27	The rubbish tip is 20km away and only open Sat and Sunday
28	The dump is too far away and only open on Sunday
31	Saunders Beach needs these services
47	Take care of it ourselves thru re-cycling
49	Dump is close but without a truck difficult to access
51	Too far to take Green Waste so we burn it
53	Green waste not too much of a problem because of rural nature of

	locality
60	Unlike Thuringowa suburbs we are not offered the free council pre cyclone clean up
61	Bins are too far away. Hence people dump on side of road or in bush
62	Council tip on Herveys Range Road
65	Bluewater tip only accepts house waste
75	Don't like having to pay to go to dump with garden waste
83	No service for large unwanted items
86	The local dump is 20kms away
101	We don't dispose as property too large
111	Tip only open on weekends- charge $15
118	Tip fees!
119	Dump only open on weekends till 4:00 pm
124	It costs to dump your own rubbish
136	Rubbish tip is 15 mins away & if you don't have a trailer you are in trouble
137	Levys at dumps put people off cleaning up yards. (council rip off). * Should be no charge for dumpling green waste
139	We get rid of our own
140	But green waste/tree loppings are dumped on council land because of restricted access to waste transfer station
143	Need a trailer to take rubbish to tip- no tip in this area
145	Tip services reduced. Less than other areas. in shire
146	Its 30Klms to nearest tip
151	50Klms to nearest green waste
162	Need more free dump weekends
167	People still dump rubbish near roadsides
176	Tip has been closed for this use (Bluewater
177	Councils cant pay for everything, I take rubbish to dump
180	Council should provide vouchers for 4 free trips to refuse disposal area per year
185	But the thuringowa Dump is a pain in the arse to use
188	Weekends only
201	More difficult for the widowed without family, friends or neighbours to help.
216	Closest is at Toomulla beach
218	More people would clear rubbish if free and open all week
219	Tip closed
224	Can be recycled, composted &/or carefully burnt in pit (Garden rubbish/green waste)
234	They took all bulk bins away!!!
235	(only open on weekends) The free service of the tip now has been stopped, so we only do our yard once every three months & do 3 trips
237	Extra council collections would be advantageous in fire & cyclone seasons to rid property of waste
239	No garbage disposal service / have to take it to the tip
248	We pay rates and we still have to pay to dump rubbish – How insufficient can a council be?
253	Everything has a cost – there is only so much in a pay packet in regional areas- we receive at least 1/3 less than capital cities but overall pay

	more in expenses
262	I place green waste in bin with household rubbish

Table 8.9 Open question responses to what signs respondents saw or information they received before a controlled burn in their area (Q20).

Survey ID	Response
4	Signposted at site
5	Private advice received after burn
7	We are a small community and word of mouth is effective
9	Notified by letter drop
12	2 weeks prior QN deliver letters of warning of controlled burning
13	Newspapers
18	Notice from fire warden or first officer RFB
19	Rural fire called to house couple days ahead so we could plan on being home and prepared
22	Signs on roadside
23	Signs were placed on side of road
27	Through local newsletter
28	The Rural Fire Brigade did a good job
30	Signs are placed on side of road
35	Railway burns. QNI burnt some land for development
40	People let their neighbours know beforehand
41	We often see smoke and we hear through friends and relatives what burn offs are taking place and when
42	Phone
46	Belong to the rural Brigade
54	When we had a controlled burn we notified our neighbors before the event. Our neighbours did not
55	Signage on main roadway
60	A letter from Rural Fire Brigade
72	Involved with local brigade
73	Letterbox drop and signs
74	Qld Nickel sent out letters to householder advising of date, time and duration of burns
75	Information in letter box, signs on road
76	The area was on XXX about 5 klms away, October. The rural fire brigade had a permit for two days to burn grassy block. No road signs
78	Signs on highway
80	On main roads at the time
81	Signs on main road
82	QNI – informed a month or so in advance by letter drop
83	Pamphlet drop
85	Leaflet advice from Rural Fire Service
86	QNI sent letters notifying local residents
88	Letter box note
89	Signs on the highway
92	Pamphlets in mail
94	Notice left in mail box
95	Next door neighbour is a volunteer
99	Leaflet in letter – what, where, when, why and who to contact

103	Notice in the paper
105	It was not close to us. Just in the area.
108	letter in mail
109	Publicised in area through media
115	Signs displayed
116	Pamphlet in mail
118	1. Public notice in newspaper. 2. Smoke hazard sign on highway
123	QNI did a controlled burn a couple of weeks ago. They notified residents prior with a letterbox drop.
124	Pamphlet in mailbox from QNI
125	Letter drop outlining dates. & contact details if more answers/info were required.
128	Newspaper adv. Signs on roads in area
136	Received a notice in the letterbox
137	Road sign, broadcasts on radio
139	I was told
142	Notice in mailbox advising date & time
143	QNI always put notices in letter box to give plenty of notice
146	Letter in the mail from Yabulu refinery
147	I issue the permits in my area and I ask the person I grant the permit to to talk to their neighbours
149	Fire fighter ahead & smoke hazard signs on side of hwy
153	Saunders Beach Rural Fire Brigade gave notice of a controlled burn
154	Sometime on Main highway smoke hazard signs, but usually nothing just smoke comes in
158	Notified by neighbours + fire crew (rural)
159	Informally from neighbours – not Rural Fire Brigade who did burning
161	QNI- distribute brochures informing of time, day + area
166	Road signs
169	Only when the rural fire brigade came out to do the burn + they use the hydrant at our gate
171	Signs are placed at side of highway to alert residents of controlled burning, and smoke
172	Vehicles with lights. Road signs. Billboard message at entrance to suburb
178	In mail letter sent
182	Roadside smoke hazard signs
185	Signs in side of road
186	Controlled on property
188	Told by fire warden
192	Phonecall
193	signage: “smoke hazard” on side of road
198	- signs in place along roadside warning of smoke hazard
199	Signs, mainly road side burns
203	Notified by letter box drop (QLD Nickel burn)
204	Newspaper Ad
205	Signs placed on the roadside
206	Road side warning and letterbox drops
212	Phone call
213	We help do control burns

215	Signs
217	Put a flyer out with intentions to do controlled burn offs on such & such a date
219	Letter box drop
225	Local information display
226	Q.N.I. controlled of bushland
232	Notice in letterbox. Smoke hazard signs on road
234	A member of the rural fire brigade informed me
237	I am secretary for RFB so I was aware
238	Mail out from QNI
239	Can't remember
242	Roadside smoke hazard signs
248	Only signs along the road as the controlled burn was in progress. Theres no need to make it a mission for the volunteers. (for previous signing)
250	Letter from QNI
251	Rural Fire Brigade told me
252	Letter in the mail saying when & where
255	Notice signs displayed
257	I was made aware by neighbours & the owners
260	Add in neuspaper
261	Signage on road

Table 8.10 Open question responses to who the respondent would contact if they wanted to do some burning on their property (Q25).

Survey ID	Response
89	Do no do any burning
109	Rural fire brigade
130	Don't know
155	000 Emergency- fire
157	Do not know actually as I have approached individual fire people (they said "no permission" from other large property owners!!) to backburn
159	N/A
174	Internet
191	Not the local one, they were a menace. Might try other close one!
253	We don't burn- we compost

Table 8.11 Open question responses to why respondents think people in their locality are at risk from hazards (Q27).

Survey ID	Response
1	Bad housekeeping on property. Houses built in river below bank and do get flooded
2	Low level properties are prone to flooding
7	Some are in flood prone areas and some would be vulnerable to storm surge
8	Some sheds built below cyclone standards would become a hazard in a strong cyclone
10	Elderly
11	Bushfire on the edge of the village – adjacent to Qld Nickel estate
13	Flooding
14	Too much bush about place
15	Some houses are on well treed/long grassed rural/residential blocks

17	Allowing overgrown yards to dry out year after year building up fuel for fires
18	Do not have firebreaks around their properties; some expect RFB to do it for them, some don't care, and expect us to look after their homes for them
19	Elderly, little local knowledge
21	They are on the fringes of the suburb closer to the bush
23	They are not bushfire aware and bushfire prepared
26	Fanatical greenies that do not agree that we should be allowed to keep long grass and scrub under control and report neighbours to local council when we do. Council approves this and threaten people with heavy fines for removing dead palm fronds and trees
27	Older residents. People with lung problems
28	Lack of water
30	Yards full of rubbish and long grass
31	Elderly, those who live alone would not be able to look after their own needs
32	Elderly and infirm population could not evacuate quickly in the event of fire
34	Mess and junk around the house
35	Bush close to house
37	Dense bushland in dry conditions
39	Because 90% don't work and won't burn off in certain areas because they grow drugs
41	Because a lot have some unrealistic ideas on keeping properties clean and burning off
42	Too much grass and rubbish
46	Small blocks not maintained usually town people with rural non residential use
48	They are at risk because some landowners do not prepare themselves with fire breaks and are also casual about lighting up. These two important points put everybody at risk and at times can stretch the Rural Fire Brigades to overboard. This also risks human lives.
49	Live in flood zones, live backed on to dense bush
51	We live on the coast and rural area their will always be hazards!!
52	Cyclone and storm surge
53	Some could be at risk of storm surge due to beach erosion and maybe some others from flooding out of the local
54	Storm surge – beachfront properties. Fire – rural properties. Cyclones – all
55	Uncleared bushland on edges of Estate
56	Gardens not cleaned up, rubbish about
57	Need to backburn
58	Too close to natural bush
60	Because their property backs onto bushland which has no firebreak
61	They are old people who have difficulty clearing their yard or evacuating in an emergency
62	One close by who does not clear his land
64	Their boundary has palms all around with dead palms and fronds laying everywhere

65 Creek flooding/fire
66 Locality is subject to cyclones and storm surge
67 Overgrown lawns, dead trees untidy property
70 Dry grass throughout property and close to house
71 Uncleared house with bush too close to the house
72 Neighbours that are old
74 Because of rubbish and long grass
75 Too many trees close to houses
76 Floods because of trees growing in the bed of Black River Dve to years of less than normal rain the river is eroding its bank and could result in a course change
77 Palm leaves pile up – garden waste
78 Their properties back onto bushland
83 Possibly people without transport unable to leave easily as no public transport here
84 Long grass
86 Neighbour burns domestic waste products which give off toxic fumes and we has been physically sick as a result
88 Live near crown land that has bush (native trees and long grass)
89 Too many trees close to wooden houses
90 Some properties not kept in order
93 Overgrowth of grass, clippings, lack of water, general lack of maintenance
95 Property backs onto bushland
96 Properties on bush fringes
99 Live close to bush and overgrown, neglected properties
100 Some houses back fence onto bush
101 We all have acres of grazing area's
103 Rubbish up to house
104 They have old tyres stacked all over their property
105 Because they do not clean or mow regularly
106 Property over grown with high grasses
109 Dry timber on paddocks & long grass = 'fuel'
110 Neighbour has emphysema
111 Neighbour continually burns tree cuttings etc. which he brings home from his lawn mowing business
116 Their properties are near bush, & heavily populated with trees
118 Overgrown yards close to bushland. Too many trees/shrubs close to their houses. Too much rubbish or building material in their yards in the event of a cyclone.
119 Elderly couples which can't clean up properly
121 those who built in the drop alongside the Bluewater creek got flooded
123 Vacant blocks of land with overgrowth
125 Rubbish, poorly maintained/constructed structures
126 messy, un-mown grass
129 They do their own hazard reduction, don't notify fire warden or Rural Fire Brigade & laugh it off- Mexicans
134 We are surrounded by the bush/trees
135 Old homes do not look as if they could withstand a storm
136 Overgrown yards & stacks of timber & such

137 Lazy
139 Probably even myself?
142 Everybody is at risk with cyclones
145 Older women living on own. Lack of services/support from council.
146 They live like hobbits + don't clean there yards or talk with neighbours
147 They do not maintain good fire breaks around their properties and clean up around their homes
148 Built their dwellings in areas which look flood prone. Too much combustible material around house
149 No education or enforcement to clean up
150 to much rubbish in yards a lot of trees and bushes
152 Not cleaning up yard and around house
153 The elderly who do not respond to information from the Rural Fire Brigade/SES members
154 Isnt everybody at risk from hazards, thats what they are!
155 Long grass – old cars – old timber
157 Because of their apathy in not paying attention to perimeter bush debris (giving more risk to others)
161 Age; mobility- lack of personal, geographic isolation, poor health
162 Some people don't take care of their properties
167 Not all hazards can be predicted
170 Because there should be more back burning however, resources need improvement
172 Vegetation close to homes
175 Flood surge
176 Deadfall + long grass at the back of some properties
177 Some don't cut the long grass
179 long grass in their yards
180 They expect insurance to cover losses. Hence no need for preparation
182 Many are elderly and physically incapacitated
183 Insufficient control over dry undergrowth
187 They don't clean up their yards
188 Too much rubbish around the house Inadequate fire breaks
189 Bushfire & flood
190 They have built in flood prone areas, do not have adequate fire breaks, rubbish around houses in cyclone season
191 Fire jumps!
192 Rubbish right up to house
198 Properties on edges of bushland
201 Too many people clutter their properties with rubbish
203 In a rural situation there is always a fire risk
206 Houses built with trees very close/overgrown
207 They have bush right to their boundary fences
208 Maybe older people who can't maintain there land for health reasons. I feel if people could help them they would C mowing strips burn off
210 To much fuel (trees & grass) near house
212 No fire breaks
213 To blody lazy to clean there own yard
214 Property need cleaning up
217 Because like me, their properties are adjacent scrub land

222	Next door neighbours are at risk from other neighbours who don't keep grass down, or clean up rubbish in yard
224	Burn offs/thoughtlessness & possibility of starting a fire by discarding still lit cigarette end out of car window etc
225	Fuel build up along fences ajoining open areas
228	Location of house- close to bush
230	Rubbish around property
232	Live on acreage surrounded by bush
233	Too may trees against their home- great amount of dry brush or bush near home- fire hazard material lying around
234	No fire breaks, they live in heavily wooded areas
235	Garden waste not got rid of
237	Overgrown & depris
238	Too much rubbish around the yard creating hazard
239	A lot of junk around the property
240	Trees could be blown into their houses in a cyclone
246	If they don't clean-up around their houses
248	Because of dump fee they store up garden waste to get value when they go to the dump
249	We live on rural blocks & some people have lots of car bodies on there blocks & I worry about fires starting around
253	We have a creek behind our property- close to our house- owned by neighbour on council (?)- Its never been maintained- who is responsible to clean it? Who do we contact?
257	Mainly in beachside areas from storm surge & flooding & Tsunami
259	Water front properties. Low lying properties

Table 8.12 Open question responses to what other features respondents value in their area at present (Q32).

Survey ID	Response
1	Security
4	Security
8	Proximity to beach
14	Beach
28	Dirt road Dirt road
49	Fantastic neighbours
54	Rural lifestyle
59	Fewer people than the city
66	Beachside
69	Neighbours
78	Barking dogs
83	Caring community
95	No known robberies/break ins
113	Shops and medical
114	Privacy
119	Tidiness & presentation of area
120	Good roads
121	Security- Low crime
126	away from suburbs & crime
129	Community spirit

133	Good neighbours
142	Wildlife
143	Access to beach walks
144	Views
145	Beach
146	The fall out from Yabulu. (smell)
152	Lifestyle
155	Creek access to animal + water lipe
157	Feeling of independence Seclusion yet still have amenities
161	Beach frontage
170	Mountain views away from town
171	Neighbours not too close but far enough for privacy not too far from major shopping centres
176	Privacy Close to beaches etc
179	Not too far from town
181	No resort
188	Good lifestyle
200	Beach
201	Litter cleared up
206	Out of city bustle
208	Do your own thing
235	Only 20 min from town
242	Safe, no home invaders. No break & enters
249	We have lots of birds
257	Freshwater creek Far away enough from city
260	Beaches
262	We are very happy living here

Table 8.13 Open question responses to what type of property respondents lived on previously, if they had moved to their current house (Q34).

Survey ID	Response
4	Papua New Guinea- Townhouse block
13	Renting
14	Hotel
18	Caravan park
19	Residential in beach suburb
33	Build first house
57	Townhouse in city
61	Unit
104	A yacht
110	1 acre
113	semi rural
151	House with holiday units on 1 acre
167	Various
174	Yacht
176	Aust Army Accor.
227	Beach frontage
256	Bus caravan park

Table 8.14 Open question responses to why respondents moved to their current property, if they had moved to their current house (Q35).

Survey ID	Response
7	Retirement
8	Beach lifestyle only 40 min to city
9	Retired, wanted room to breathe
11	Divorce settlement
14	Beach property
16	To operate a dog kennel (show dogs)
25	Retired to the beach
28	Retirement
32	Relocation from overseas
37	We were sick of paying off someone else's house
38	Family
41	Inherited family property
53	As a winter retreat- Dec- down S.E.Q.
57	Beachy lifestyle
60	Peace & quiet- beach life
62	Retired- peace & quiet & grow orchids etc.
70	Operate as horse training facility
79	First home we bought
81	To be close to family
82	To get out of town a bit
93	Separation from partner
95	Marriage/kids
99	To go to JCU
114	Desire to build own home
121	peace & quiet
129	Empty nest, peace & quiet, less thieves & vandals & sterio wankers
130	Moved from Victoria/heard it was a nice place
134	Live with spouse
135	We own this place
139	Mostly because 45 yrs ago we had to cross flooded creeks
142	Moved from Adelaide for family & retirement
143	Retire to beach lifestyle
144	Views
146	to have a place to raise children
151	Peaceful retirement
153	To get away from ratrace + move to the beach for retirement
156	+ built our own home
161	This house was on rental market. We lived with parents in law after moving from Emerald until our house was available again
164	Family reasons
166	Beach
168	To a smaller property
170	Moved from N.T.
171	We built this house, as we outgrew the previous one, we liked the quietness of the area, + it was still not too far from big shopping centres
182	Near the ocean
190	peace & quiet, local creek

206	See Q32- (out of city bustle)
222	Moved out of home
224	Liked this house more & has swimming pool & is larger, creek out the back
227	To upgrade
228	Locality
230	Hospital and services
232	To live at the beach & peace & quiet
235	To purchase the property
244	The space
252	Built a family home out here cause I grew up out here & loved the lifestyle
254	From interstate- local university
259	Marriage breakup
260	Great beaches nice place to retire

Table 8.15 Open question responses to comments about insurance for natural hazards (Q37).

Survey ID	Response
2	Storm surge excluded from insurance, worried about potential claims (too much fine print)
5	Details should be readily advised by Ins Co i.e. flood, rain water
7	Most policies are a little vague about what they cover
11	Should be available
14	Too expensive
15	Policies are invariably dependent on insurers interpretation – anyones guess!
17	Inconsistent and minimal coverage, difficult to acquire
18	Hard to get contents insurance for property over 5 acres “Thanks Mr Howard”
19	Unsure about what is covered. I have asked previously about things like windmills etc but this is always grey area
21	Insurance companies should stipulate what they do and don’t cover
28	Insurance company’s never pay up – so why pay into them. They’ll find an excuse
29	The flood clause is always touch and go, whether it is covered or not
32	Flood clauses are restrictive (i.e. whether water damage comes from above or below)
35	Insurance agents should ensure clients take out necessary insurance
36	I do not think that Southern Aust (Brisbane to Victoria) pays their way with insurance. They seem to have a lot of severe storms that happen a lot more frequently than cyclones but don’t have the cyclone rated building improvements and do not have to pay the highest premium!!!
46	Hidden clauses that sometimes confuse
47	Very expensive for seemingly little return
53	You’ve got to read the conditions e.g. Act of God etc. flood damage sometimes not covered etc
54	Insurance companies try to get out of paying – or won’t cover floods
55	Insurance is filled with loopholes regarding natural hazards and the insurance companies definition of a natural hazard
57	How does one measure storm surge against flooding on a high tide?

59 The cost may be too expensive for the average family
62 Fully covered for damage to roof (tree over house) and fences and removal of trees blown over during cyclone in 2002 (?) no tree over house – XXX
63 Insurance companies always have excuses for not paying up – or if they must pay as little as possible. Always profit before people
66 Difficult to get
71 Should be covered for flooding
76 Not all insurances are clear in just what they do or do not cover
82 Not covering flood or storm surge is a bit dodgy
83 All in insurers favour!!
85 The flooding interpretation in policies should be clarified
89 You have to have good insurance and read the small print
90 Flooding not covered
93 There needs to be more coverage for natural hazards – its why you want to pay insurance!
99 Unable to insure for storm surge or flooding – the most likely hazards in my area
101 Will the insurance cover livestock
102 All insurance should cover natural disasters
105 Comment for "do you feel this insurance adequately covers any potential loss…?": It's as much as we can afford. "Comments?": To expensive
109 Can not get true cyclone insurance
113 We can't predict what insurance companies will do
117 The insurance Co would say Act of god
118 Too expensive for the small risk insurance companies fact
121 insurance companies will fight against any payout
123 Most insurers don't have flood cover
126 Should be cheaper
129 Sucks
136 It should be included as a general part of insurance
138 The insurance companies always try to get around paying
139 not sure don't know much about it (can't afford anymore)
143 All companies should include this automatically
144 Concern that insurance companies will be forced to review their risk assessment and hence premiums
145 Insurance Coy reluctant to pay out.
146 it should cover every hazard
147 Insurance companies will refuse to pay if they can
149 Back up from tide for flood water should be included
152 Not always clear what is insurable on policy + what is able to be claimed when related to natural disasters
153 Usually don't pay for natural hazards
154 loop holes, if they dont want to pay they wont
155 Differtiating flood + water hazardous
156 Flood insurance should be on all policies
157 The insurance industry "when it comes to silly loopholes to avoid payments" should gov't controlled guidelines to lock in a true & concise picture of insurance & liability of both sides

160	There is a large tract of land between houses, beach at Balgal Beach which has long dead grass and is not cleared by owner
161	I seriously doubt in the event of a storm surge that our insurance would cover our losses
162	Acts of God should be covered
165	Too expensive
166	Have seen insurance com treat people badly after claims
168	We pay for the disasters in southern Queensland
170	Flooding should be covered
173	Too many loopholes
176	In most insurance policies people are not aware of the cover provided because of the wording + layout of the policy
180	Forget the fine print
192	No flood cover
201	Insurance Co's like to take your money but seem to find loopholes to not reimburse you in a time of need
203	Difficult to obtain & expensive in a rural situation
204-	All insurance sucks
207	Should be for all natural hazards
208	I have never used insurance. I hope yes is the right answer
212	A joke-
229	No flood cover
237	As seen in previous years, insurance companies are not always fair in their assessments
248	They all like your monthly premiums but they cover you for less & less
253	It is only when something happens and the assessor becomes involved that you find out if you have received correct advice from the call centre that sell you the policy. Every year there are always changes to your policy- who can be reasonably expected to keep up with all changes in your bills and life? We need R & R as well to earn money to pay increasing bills
257	Does not cover for flood earthquake & Tsunami
260	Some insurance companies (F.A.I.) have a different definition of floods, other than 99% of people understand. Flooding is rain coming down, not water submersion due to rivers backing up or high tides

Table 8.16 Open question responses to the type of volunteer or community organisation respondents are involved in (Q38b).

Survey ID	Response
6	School p/c *
7	Rural Fire Brigade
8	Church group, line dancing, bird watching
11	Parish Council
14	QCWA
18	Crystal Creek Rural Fire Brigade
19	Historical Society and community hall *
23	Rangewood Rural Fire Brigade
27	Historical Society
30	Alice River Scouts
31	My husband and I intend to join the Rural Fire Brigade in November

34	School, meals on wheels, visiting n. homes *
36	Sports *
46	Chairman Rural Fire
47	SES *
53	Environmental group *
54	Rural Fire Brigade – G (husband?)
61	Fire Brigade
64	Community Association
66	Lions International *
70	Racing and horse riding clubs *
72	Rural Fire Brigade
74	Rural Fire Brigade
76	Accommodation for seniors previously Rural Fire Brigade
79	ATO
82	Marine park coral protection
86	Bohlevale Community Centre *
88	Horse sports
94	Sporting organization
96	Canine obedience club
109	Pony club
114	Meals on wheels
120	A community association Inc.
125	Rural Fire Brigade
134	Voluntary Ambulance Officer *
137	NQ Wildlife Care
140	Rural Fire Brigade *
145	Community Support Organisation
146	Blackriver pony club
147	State Emergency Service/Rural Fire Brigade
148	Community Centre, Bush Fire Brigade *
149	Rural
152	Progress Association
153	SBRFB and community centre
154	SES + Rural Fire brigade*
156	SES local school *
158	Rural fire + school committees *
160	SES *
161	SES Emerald *
166	Blood donor *
168	Ladies quilting group
170	Tree planting
171	Soccer club- on committee, and visited businesses for fundraising donations *
172	Children's organisation
181	Senior Citizens *
188	Rural Fire Brigade
193	Local Baptist Church
198	Australian Breastfeeding Association
205	Community service groups *
206	Local junior sport

213	Rural Fire Brigade
217	Rural bush fire brigade *
224	Salvation Army 2nd hand store *
226	R.S.P.C.A.
232	Community Assoc.
237	RFB
241	Community club
246	Sporting
253	Counseling *
257	Historical society
258	Blue Water State School
260	Blue Water Community Association, Blue Water Community Church
261	Progress Assoc
262	Toolakea Progress Assn & Bush Fire Brigade

* involved in the past but not now

Table 8.17 Open question responses to why respondents like to be involved in their volunteer or community organisation (Q38c).

Survey ID	Response
7	I believe I am qualified
8	Member of community groups which enhances quality of life
18	To help communities
19	Keep in touch with local *
23	Personal stimulation and community involvement
27	Community commitment
30	Yes
36	Just for the fun, to give something back *
40	Keep myself busy and informed
54	Community responsibility *
61	The service needs volunteers for it to work
64	Keep active and friendship
66	Sense of community *
72	Community help
74	Small community and landowners pulling together *
79	Benefits me (knowledge) and the community
82	To help maintain beautiful/enjoyable locations for all to enjoy forever *
86	To know what is going on
88	have horses
94	Participate in child development
109	Small community, committed people great for friendship, value for children & families
114	To feel helpful & enjoy social contact
120	An interest
125	Assist with local community/urban group
137	Care for wildlife
145	Public duty Assist others
146	for the kids and meet others in my
147	To help the community
148	I don't like always leaving it to other people *
149	To know can rely on others & myself

152	Provider of service- Aerobics classes in local hall
154	learn, help, social *
170	We need more trees
171	To help one's community, it benefits us all *
172	Because of my kids
188	Helping the community + ourselves
193	Fellowship, friendship, support, encouragement
198	Promoting a healthier Australia
205	Helping other & social *
213	I don't like it- a small group help each other & protect the area
217	Satisfaction of giving something back to community *
224	Contact with people & is a good cause *
226	Care of animals
232	Like to help out
237	This is my community
246	People can (check this), I like helping children
253	Help those less capable of coping *
257	Because my property is of historical value
260	Meet different people
261	Be involved in community devt
262	As citizen I feel it is my duty

* involved in the past but not now

Table 8.18 Open question responses to reasons why respondents are not involved in a volunteer or community organisation (Q39).

Survey ID	Response
5	Distance. Previous wife
9	Permanently disabled
15	Too old Too tired Too bad!
17	Unaware of procedure
35	Age & health
38	Disabled
50	Husband away for long periods. I have 2 small children
54	Spent 7 years with Rural Fire Brigade- need a rest (as treasurer & firefighter)
59	Sometimes too many rules spoil the spirit of volunteering
60	The bitchyness sends people running. Its impossible to work in environment like that
70	Personal clashes with other committee persons
71	Did volunteer work when time permitted
74	Health disability
78	Was a fire warden, abused by R/Brig. member
83	Ill health prevents involvement
84	Full time carer to invalid
85	Vet affairs disability pensioner
93	Small children consume most of my time!
95	My kids/family commitments
100	Age
101	If disaster happens I would
111	Age

112	Unable to do so due to health
113	Health problem
118	Absent from locality frequently
121	Medical conditions
129	A person threatened to kill me & my family while I was fighting a fire and he tried to run down two fire fighters + in my case, the Rural Fire Svc + police were useless even though there were nine rural firefighter witnesses
130	Don't know how
134	I have no respect for this organisation or its people
136	When husband retires we will become involved
139	not much in our area to be involved in
143	Taking time out after 50 years nursing- shift worker
150	ill health
151	Too old for emergency services
154	Too much fighting + dangerous w/ no training
155	I consider I am far too old (70 years)
156	Due to ill health
157	Politics of organisation members/if - fire brigade - smoke a hazard to me
158	Aged retiree
161	No. 1 reason= "Pregnant" ; No. 3 reason= "Spent 2 nights a week for 3 yrs as deputy controller and cadet coordinator and feel I need a break. Plus- apart from intrinsic rewards, volunteers receive few other benefits which I feel the government should provide ie- tax break or fuel subsidy for volunteers"
174	Low priority for my time
176	I have been an auxiliary fireman in the defence force + have had enough
177	Had a stroke & heart attack- not well enough anymore
180	Officers became dictatorial
181	I am old + ill
182	Too slack
190	Busy with children
194	Health
197	Husband suffered a severe stroke in XXX, wife (carer)
200	No time
201	Family commitments- raising teenager & carer for my aged parents, who lived apart, & also a terminally ill husband (now deceased)
204	My health
212	Can't stand the rot that some people bring up
219	Age
225	Too much in-fighting
229	I have dedicated myself to solitude and meditation
251	Too old
252	Too busy with looking after my husband who is a quadriplegic & daughter (11 wks)
253	There is no-one available to help me so I have to manage by myself
254	30 years carer
259	Travelling 2 hr/day. Working mother- single parent

Table 8.19 Additional comments (attached by respondents)

Survey ID	Response
48	I am writing this attachment because just yesterday we became victims of being burnt out . This was no accident! What caused this fire was a carefree attitude from a landowner, with a fire permit that breached his fire permit, because his fire breaks were not what was recommended by the Fire Warden. He has created this problem 3 times since owning this property. He continues with this carefree attitude and gets away with it. Since the Rural Fire Brigade was introduced they have done so much good to and for our community. But I feel the only one thing that fails this system is a small community know's everybody and this leads to cover up's in our 2 fire's. When a person takes a fire permit he is required to act on all the requirements the Fire Warden has put in place. I believe that when you don't you are breaching your permit, therefore, I strongly feel that every fire that gets away and does damage should be investigated by another body (investigative team). If found with wrong doing action should be taken. This hopefully will stop the irresponsible and carefree attitude. The Fire Investigative team should not be LOCALS. I also believe that all landowner's should be made to make fore break's. In a rural setting it should be law. This is my experience as a local in my area. I hope you take this information as not critical but only to make a system work better than what it is. This in turn will make our community a much safer place. Thankyou for your time for reading this.
162	I feel very strongly that property owners should be responsible for own areas. Campaigns could be put in place like with cyclone warnings. If owners do not take notice and put others at risk fines should be applied or insurance null + void due to negligence. However council should do side of roads and bushland etc. We live on rural land with town water but have no fire hydrants, all properties should have access to water. Thank you for taking an interest in bushfires, its reassuring that improvements will be made.

9 Appendix C

9.1 Letter of Introduction to the Thuringowa Bushfire Survey

9.2 The Thuringowa Bushfire Survey

9.3 First Reminder/Thankyou Postcard

9.4 Second Reminder/Thankyou Postcard

9.1 Letter of Introduction to the Thuringowa Bushfire

JAMES COOK UNIVERSITY

Townsville campus
Townsville QLD 4811 AUSTRALIA
Telephone: (07) 4781 4111 Web: **www.jcu.edu.au**

Thuringowa – Case Study Survey – Bushfire Cooperative Research Centre
October 2005

To: Residents of Thuringowa

This bushfire survey is being conducted by James Cook University in conjunction with the Queensland Fire and Rescue Service (QFRS).

This survey will contribute to research to improve the effectiveness of bushfire management agencies in managing the risks from bushfires and improve understanding of how various components of the community construct a picture of bushfire risk in the Thuringowa area.

Thuringowa is not considered to be a particularly fire prone area and the research is not an evaluation of fire service provision. The project will lead to a more complete understanding of how people who live in peri-urban areas and rural areas perceive bushfire risk and how fire service provision works in a particular region.

Your participation in this survey will be appreciated and the information collected will be **anonymous** and **confidential** and will be used for research purposes only. The single letter on the last page of the survey represents the Rural Fire Brigade which provides the fire service to your area.

When you have completed the survey please return it in the reply-paid envelope by **8 November 2005** to:

Bushfire CRC, Centre for Disaster Studies
Reply Paid 109
JAMES COOK UNIVERSITY QLD 4811

At the completion of the project a report will be available for the community through the Rural Fire Service and the Thuringowa Library.

Contact details – see over

If you would like further information about the project please contact the project leader:
Dr Alison Cottrell
School of Tropical Environment Studies and Geography
James Cook University
Townsville, QLD 4811.
Phone: 07 4781 4653 Fax: 07 4781 4020 E-mail: alison.cottrell@jcu.edu.au

Other members of the research team include Margaret Spillman and David Lowe.

If you have any questions regarding the ethical conduct of the research project, you may contact the Human Ethics Sub-Committee.
The contact details of the Ethics Administrator are:
Tina Langford
Ethics Administrator, Research Office
James Cook University
TOWNSVILLE QLD 4811
Phone: 07 4781 4342 Fax: 07 4781 5521 Email: Tina.Langford@jcu.edu.au

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National Bushfire CRC Programs

The Bushfire Cooperative Research Centre was established on a national basis under the Commonwealth Government's Cooperative Research Centres (CRC) Program with funding provided to allow research to be undertaken in order to gain a greater understanding of the community issues concerning bushfire hazard. The Queensland Fire and Rescue Service is a Core Participant in the Bushfire CRC and will be an end user of the research outcomes.

Details of the major national programs can be found on the following web site:
http://www.bushfirecrc.com/

Program A - Safe Prevention, Preparation and Suppression
Program B - Management of Prescribed and Wild Fires in the Landscape
Program C - Community Self-sufficiency for Fire Safety
Program D - Protection of People and Property

9.2 The Thuringowa Bushfire Survey

Thuringowa Bushfire Survey 2005

This survey is being conducted by James Cook University in conjunction with Queensland Fire and Rescue Service for the Bushfire Cooperative Research Centre. The questionnaire will take approximately 20 minutes to complete and is **anonymous and confidential**. When completed, please use the reply-paid envelope to return your response to James Cook University by **Tuesday 8 November 2005.**

Please provide the answer to each question by ticking (✔) the boxes, or numbering or writing an answer in the space provided. This questionnaire refers to your current place of residence.

1. **How long have you lived in this house?** Years_____ Months_____

2. **What size is your block? Please write number of sq metres, acres or hectares:** _____

3. **What type of property do you live on? Please ✔ one answer:**

- ☐ Residential on a suburban block
- ☐ Residential on a rural block
- ☐ Farming/grazing property
- ☐ Industrial/ commercial property
- ☐ Other, please describe: _____

4. **What is this house made of? Please ✔ all answers that apply:**

- ☐ Wood
- ☐ Brick
- ☐ Fibro
- ☐ Cement block
- ☐ Other, please describe: _____

5. **How old is this house? Please write number of years:** Years _____ ☐ Don't know

6. **What hazards are of concern to you in your locality? Please rank in order from 1 to 5 with number 1 the hazard that concerns you the most to number 5 the hazard that concerns you the least.**

- _____ Cyclone
- _____ Bushfire
- _____ Flooding
- _____ Storm surge
- _____ Landslide
- _____ Other, please describe: _____

OR

- ☐ None concern me

1

7. **Have you experienced any of these hazards anywhere you have lived?**

If yes, please ✔ and write how many years ago

Cyclone ☐ _____ Years ago
Bushfire ☐ _____ Years ago ➜
Flooding ☐ _____ Years ago
Storm surge ☐ _____ Years ago
Landslide ☐ _____ Years ago
Other ☐ _____ Years ago Please describe: _____
None ☐

If you have experienced a bushfire **go to Q8**
Otherwise, **go to Q9**

8. **If you have experienced a bushfire before:**

Did you feel personally threatened by the bushfire? ☐ Yes ☐ No
Did you feel your property was threatened by the bushfire? ☐ Yes ☐ No
If yes, please describe how you felt you or your property were threatened? _____
_____

What did you learn from this experience with the bushfire?

_____
_____

9. **Has anyone you know (a friend, relative, colleague) suffered due to a bushfire?** ☐ Yes ☐ No

10. **When you were deciding to purchase or rent your current property how important were these hazards to you?**

Please ✔ your answers

	Very important	Important	Moderately important	Unimportant	Very unimportant
Cyclone					
Bushfire					
Flooding					
Storm surge					
Landslide					
Other					

11. **What prompts you to think about preparing for bushfires? Please rank in order the 3 most likely prompts and number your answers from 1 to 3 with 1 being the most likely to prompt you.**

_____ Media news of bushfires elsewhere
_____ Pamphlets in mail
_____ Display by fire brigade in schools and shopping centres
_____ Uncontrolled bushfires burning in your locality
_____ Controlled hazard reduction burns in your area
_____ Other, please describe: _____

OR
☐ None, I don't prepare

12. **When is the bushfire season in your locality? Please write which month/s?**

_____

13. **What type of fire service would come if you rang 000 about a fire in your locality?**

- ☐ Rural Fire Brigade
- ☐ Metropolitan Fire brigade
- ☐ Parks and Wildlife
- ☐ Other, please describe: _____

14. **Are the members of the fire brigade in your locality?**

- ☐ Paid full time
- ☐ Paid part time
- ☐ Voluntary/unpaid
- ☐ Don't know

15. **What are the most important actions you undertake to prepare for bushfires on your property? Please rank in order the 3 most important actions you undertake and number your answers from 1 to 3 with 1 being the most important.**

_____ Clear rubbish out of the yard
_____ Prepare fire break around property
_____ Cut long grass
_____ Clean leaves from gutters
_____ Remove branches and undergrowth around house
_____ Check water supply and hoses
_____ Prepare evacuation plan

OR
☐ No action taken

16. **Are there adequate services for you to dispose of rubbish in your locality?**

Garden rubbish/green waste ☐ Yes ☐ No
Other household rubbish ☐ Yes ☐ No
Any comments?_____

17. **How do you rate the hazard of bushfire in your locality?**

☐ Very high ☐ High ☐ Moderate ☐ Low ☐ Very low

18. **How do you rate the hazard of bushfire to your house?**

☐ Very high ☐ High ☐ Moderate ☐ Low ☐ Very low

19. **Please indicate how much you agree or disagree with these statements on controlled burning.**

Please ✔ your answers

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
It makes this area safer from bushfires					
The smoke causes respiratory problems					
It's necessary to maintain plant regrowth					
I'm concerned for wildlife					
The smoke is an acceptable nuisance					
Some people restart the fire afterwards					
Some people bring their own rubbish to the controlled burn					

20. **Are you aware of a controlled burn in your area in the last two years?** ☐ Yes ☐ No

If yes, did you see signs or receive information before this controlled burn? ☐ Yes ☐ No

If yes, please describe

_____

_____

21. **What time of year do you think controlled burning should be undertaken in your area?**

Please write which month/s

_____

22. **When checking mail which letter box do you use most of the time?**

☐ Check letter box on my property
☐ Check my post box at a post office
☐ Check both boxes

23. **From which sources do you receive the most useful information about bushfires? Please rank in order the 3 most useful sources of information and number your answers from 1 to 3 with 1 being the most useful.**

_____ Pamphlet in mail
_____ Meeting with Fire Brigade members
_____ Information brought home by children at school
_____ TV or radio
_____ Local community newsletter
_____ Newspaper
_____ Internet
_____ Information from council
_____ Neighbours/friends in community

OR
☐ None

24. **For your locality, please indicate how much you agree or disagree with the following statements:**

Please ✔ your answers

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I would rely on the local fire brigade if there was a bushfire in my locality					
The local fire brigade does a good job preparing for bushfires					
The local fire brigade does a good job fighting bushfires					
The fire levy component of my Council Rates provides value for money					

25. **Who would you contact if you wanted to do some burning on your property?**

Please ✔ one box only

☐ Local fire brigade ☐ Fire warden ☐ Police ☐ Local council
☐ Other, please describe: _____

26. **For hazards including bushfires, please indicate how much you agree or disagree with the following statements:**

Please ✔ your answers

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I am concerned when my neighbours do not clean up their property					
I talk to my neighbours about the importance of cleaning up their property					
People in my locality would be able to recover from a natural disaster in a short time					

27. **Are there people in your locality who are at risk from hazards?** ☐ Yes ☐ No

If Yes, why do you think they are at risk?

_____

_____

28. **Whose responsibility is it to maintain the following?**

Please ✔ your answers

	Rural Fire Brigade	Property owner	Local council	Parks and Wildlife Service
Fire breaks around properties				
Keep overgrown bushland and creek beds clear				
Clear overgrown properties				
Remove rubbish from public areas				
Maintain access for the fire brigade to properties				

29. **Should there be more, the same or less government enforcement to improve maintenance of properties for hazards including bushfire?**

Local council	☐ More enforcement	☐ Same as now	☐ Less enforcement
State government	☐ More enforcement	☐ Same as now	☐ Less enforcement
Federal government	☐ More enforcement	☐ Same as now	☐ Less enforcement

30. **Please indicate how much you agree or disagree with the following statements for your area.**

Please ✔ your answers

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Water supply points are adequate for bushfires					
Rubbish tips are readily available					
Grass in public areas is slashed					

31. **Are you aware of any arrangements your local council has for natural hazards in the following?**

Plans for property development	☐ Yes	☐ No
Building regulations	☐ Yes	☐ No
Counter disaster plans	☐ Yes	☐ No

32. **What features do you value in your area at present?**

Please rank in order from 1 to 5 with 1 being the feature you value the most to 5 the feature you value the least for your property and your locality.

	Your property	Your locality
Peace and quiet	_____	_____
Space	_____	_____
Trees and bushland	_____	_____
Small community	_____	_____
Other, please describe	_____	_____

_____

33. **Have you always lived in this house?** ☐ Yes ☐ No

If Yes, please go to question 36. If No, please go to next question 34

34. **If you have moved to this house, what type of property did you live on previously?**

☐ Residential on a suburban block
☐ Residential on a rural block
☐ Farming/grazing property
☐ Industrial/ commercial property
☐ Other, please describe: _____

35. **If you have moved to this house, why did you move?**

☐ For work
☐ Affordability of houses
☐ Rural lifestyle
☐ Operate a farm/grazing property
☐ Operate a commercial/industrial property
☐ Other, please describe: _____

36. **Do you own or rent this house?**

☐ Own outright with no mortgage ☐ Own with a mortgage ☐ Rent

37. **Do you have insurance on your property which includes loss from natural hazards?**

☐ Yes ☐ No ☐ Don't know

If yes, do you feel this insurance adequately covers any potential loss from natural hazards?

☐ Yes ☐ No ☐ Don't know

Do you have any comments about insurance for natural hazards? _____

_____

38. **Are you actively involved in any volunteer or community organisations?**

☐ Yes ☐ I have in the past but not now ☐ Never been involved

If Yes, please write type of organisation: _____

Why do you like to be involved? _____

Where is the organization you are involved in most of the time?

☐ In the locality you live in now ☐ In the nearest large town

39. **If you are not involved in any volunteer or community organization, please rank in order the 3 most important reasons and number your answers from 1 to 3 with 1 being the most important.**

_____ I'm not interested

_____ I'm too busy with work

_____ I'm too busy with other activities

_____ I haven't thought about it

_____ Nobody has asked me

_____ Other, please describe: _____

40. **Does any member of your household belong to a fire-fighting organisation?** ☐ Yes ☐ No

41. **What is your gender?**

☐ Male ☐ Female

42. **What is your age?**

☐ 18 - 25 years ☐ 26 - 40 years ☐ 41 - 55 years ☐ 56 - 70 years ☐ Over 70 years

43. **Which of these statements best describes your household?**

☐ Single person living alone

☐ Couple with no children

☐ Couple where children have left home

☐ Family where youngest child is under 7 years

☐ Family where youngest child is aged 7 - 12 years

☐ Family where youngest child is aged 13 - 17 years

☐ Family with adult children/household of related adults

☐ Household of unrelated adult

44. **How many people including yourself, live in your household?**

_____ Number of adults

_____ Number of children (under 18 years)

45. **What is the occupation of the main wage earner in this household?**

_____

46. **What is your education level?**

- ☐ Up to year 8
- ☐ Up to year 10
- ☐ Up to year 12
- ☐ TAFE diploma
- ☐ Trade certificate
- ☐ University degree

47. **Which of the following best describes your occupation or your previous occupation if retired?**

- ☐ Professional/management
- ☐ Business owner
- ☐ Self employed
- ☐ Office worker/white collar
- ☐ Tradesperson/skilled worker
- ☐ Household manager
- ☐ Other, please describe: _____

48. **Which of the following best describes your employment?**

- ☐ Full time
- ☐ Part time
- ☐ Casual/temporary
- ☐ Student
- ☐ Retired (*this is your last question)*
- ☐ Not currently working (*this is your last question)*

49. **Where do you work?**

- ☐ Work in nearest large town
- ☐ Work in this locality
- ☐ Work in another locality but not in a large town

50. **How long does it take you to travel to work (one way)?**

_____ Minutes

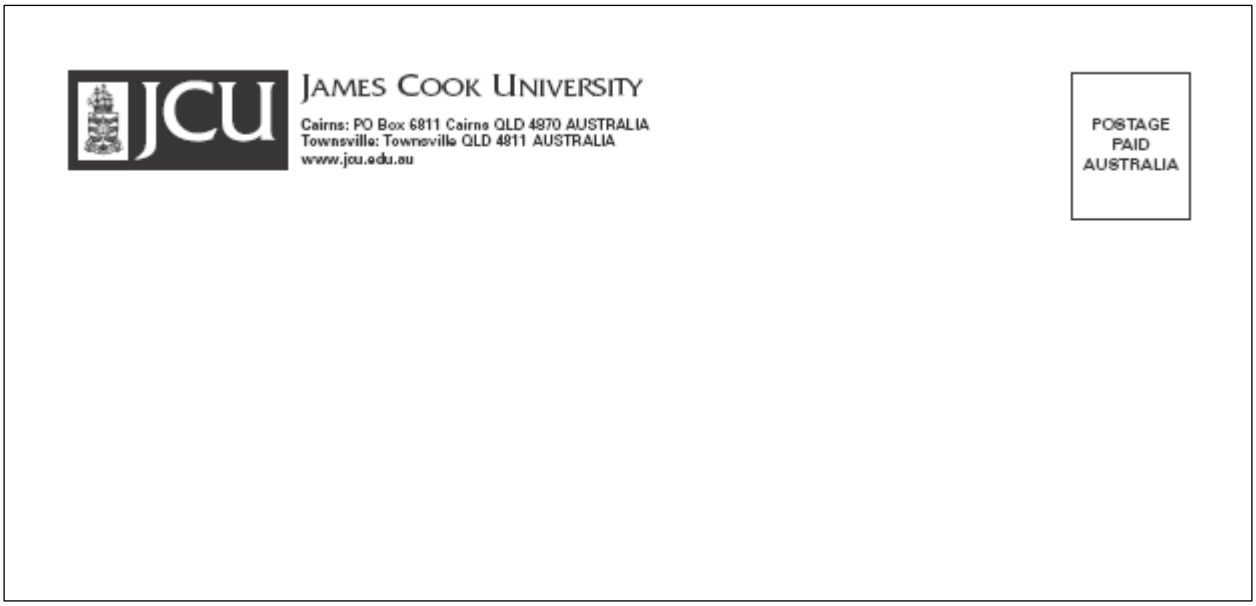
Thank you for participating in this survey.

If you have any further comments, please attach an extra sheet. If you wish to obtain further information about this project, or have any questions regarding this survey, please refer to the information sheet. It contains contact details of the research team from James Cook University undertaking this project.

Please return this questionnaire in the reply paid envelope to the following address:

Bushfire CRC, Centre for Disaster Studies
Reply Paid 109
JAMES COOK UNIVERSITY QLD 4811

9.3 First Reminder/Thankyou Postcard (side one and side two)



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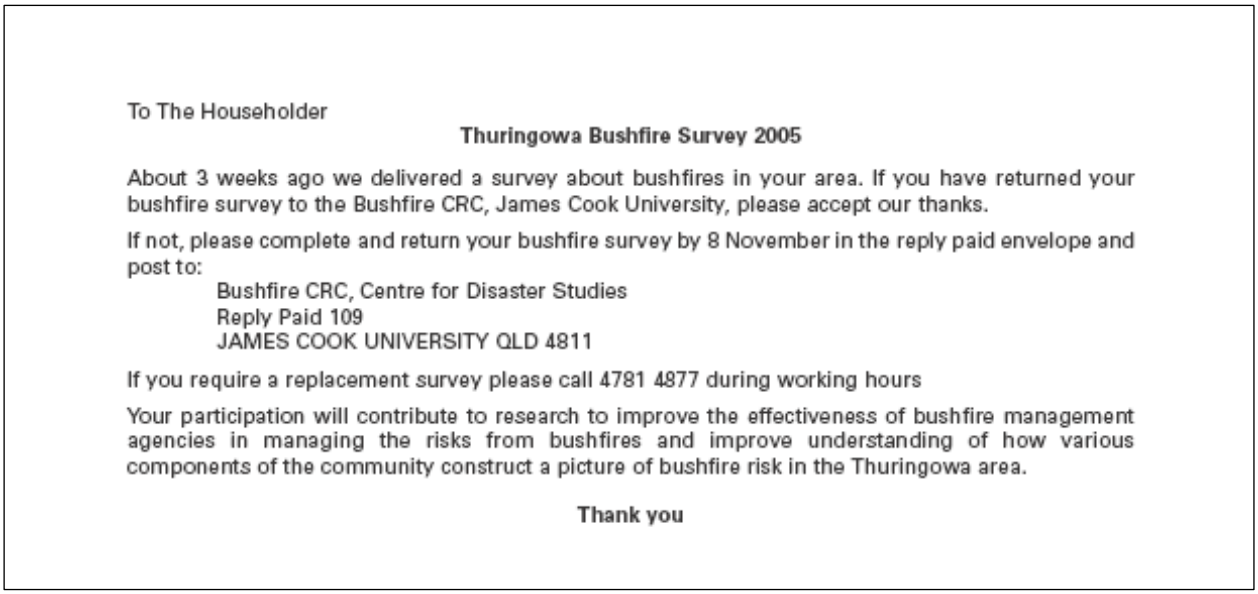
Townsville: Townsville QLD 4811 AUSTRALIA
www.jcu.edu.au

POSTAGE PAID AUSTRALIA



To The Householder

Thuringowa Bushfire Survey 2005

About 3 weeks ago we delivered a survey about bushfires in your area. If you have returned your bushfire survey to the Bushfire CRC, James Cook University, please accept our thanks.

If not, please complete and return your bushfire survey by 8 November in the reply paid envelope and post to:

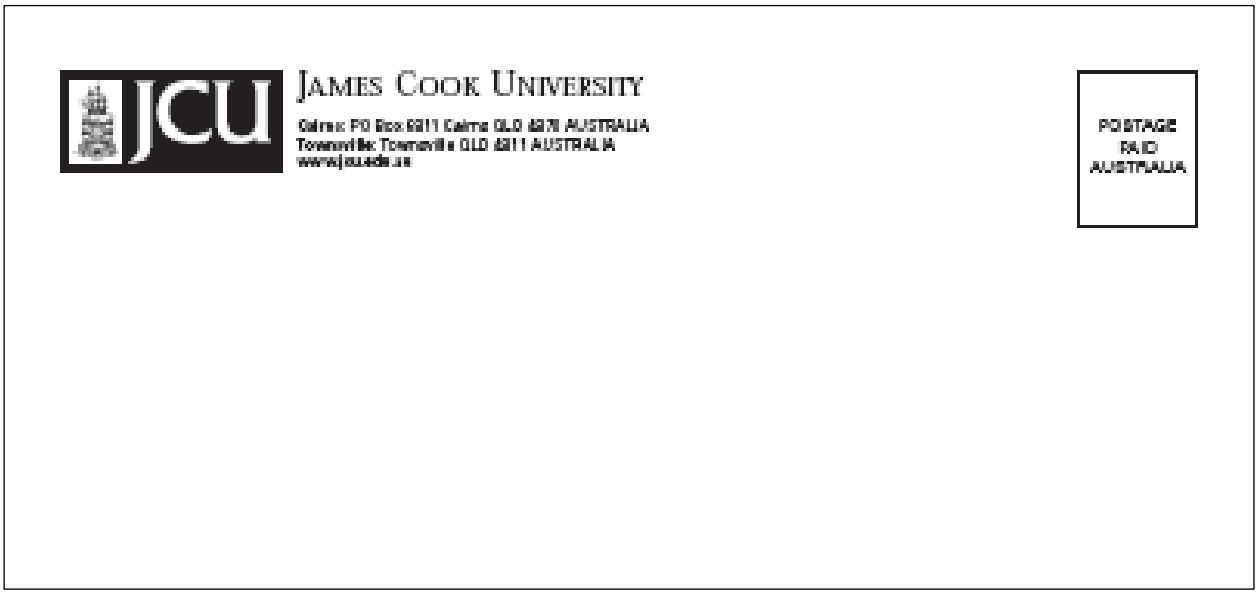
Bushfire CRC, Centre for Disaster Studies
Reply Paid 109
JAMES COOK UNIVERSITY QLD 4811

If you require a replacement survey please call 4781 4877 during working hours

Your participation will contribute to research to improve the effectiveness of bushfire management agencies in managing the risks from bushfires and improve understanding of how various components of the community construct a picture of bushfire risk in the Thuringowa area.

Thank you

9.4 Second Reminder/Thankyou Postcard (side one and side two)



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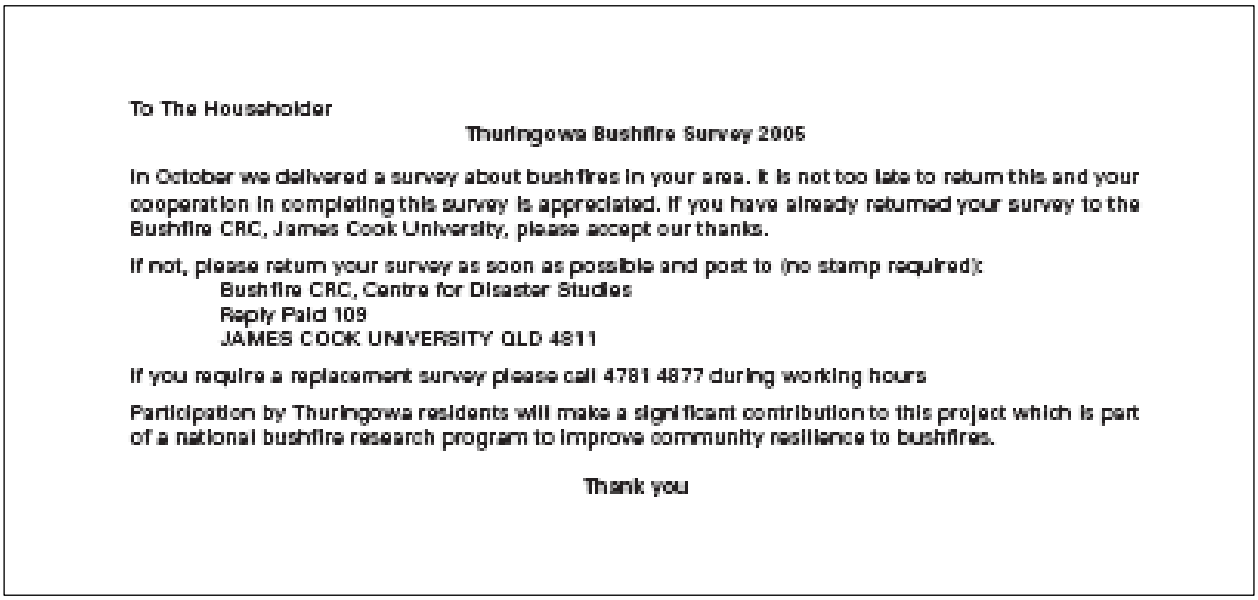

To The Householder

Thuringowa Bushfire Survey 2005

In October we delivered a survey about bushfires in your area. It is not too late to return this and your cooperation in completing this survey is appreciated. If you have already returned your survey to the Bushfire CRC, James Cook University, please accept our thanks.

If not, please return your survey as soon as possible and post to (no stamp required):

Bushfire CRC, Centre for Disaster Studies
Reply Paid 109
JAMES COOK UNIVERSITY QLD 4811

If you require a replacement survey please call 4781 4877 during working hours

Participation by Thuringowa residents will make a significant contribution to this project which is part of a national bushfire research program to improve community resilience to bushfires.

Thank you