School of Global Studies, Social Science and Planning

# Community safety interventions and bushfire preparedness:

## Findings from research on the Tasmania Fire Service 'Bushfire - Prepare to Survive' DVD

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# Executive summary


Background

While agencies that are responsible for delivering community safety programs are very familiar with assessing and evaluating the physical risks and hazards associated with bushfires there has been less emphasis on the social issues relating to bushfire risk. There are few tools or mechanisms available to evaluate these programs.

In spring 2006, the Tasmania Fire Service (TFS) launched a new campaign to inform Tasmanians about how to prepare themselves and their homes for bushfire. During December of 2006, fires threatened communities and destroyed land and property in the Scamander and Four Mile Creek locations on the east coast of Tasmania. This research focuses on investigating the possible impact of the DVD by comparing bushfire safety attitudes both before and after the distribution of the DVD.

Research approach

Survey items aimed at capturing the attitudes and behaviours of people towards a range of bushfire safety issues were based on the outcomes from 11 workshops held with community groups and bushfire agencies across five states. These items were grouped into the following scales: awareness of bushfire risk, responsibility for bushfire safety, knowledge about bushfire safety, planning for bushfire, preparing households for bushfire (people preparing their household for bushfire), preparing communities for bushfire (community activities focused on bushfire preparation), community engagement and bushfire safety (people helping others in the community to prepare , and self efficacy (people's confidence that they can 'do what it takes' to improve their bushfire safety).

The survey was formatted for self administration (pencil-and-paper) and the research team was provided with a list of addresses that had been used as part of the original mailout of the DVD. Two specific locations were selected to enable to comparison of households that had and had not been recently affected by bushfires.

Bridport was chosen to represent a bushfire prone area that had not experienced a recent bushfire. Weymouth, Lulworth and Pipers Brook, which are slightly more remote, were also included in the Bridport mailout. Households in Scamander, St Marys, Beaumaris and Mathinna were either significantly threatened or experienced losses as a result of bushfires during the summer of 2006-2007 were also included in the survey.

Findings

One hundred and thirty eight (52%) of the 269 respondents indicated that a bushfire had threatened their home at some time in the past. Of those whose homes had been threatened, 87 per cent were at home during the bushfire threat and 90 per cent believed that their home or property was threatened by bushfire during the summer of 2006.

Just over a third of respondents (36%) who had made a decision about what to do in the event of a bushfire indicated that they would 'stay and defend', eight per cent felt that they would 'leave early' and 19 per cent would pursue a mixed strategy of defending the property but sending family members away. It is of concern that slightly more than a third of respondents had decided to 'leave when they were told to' (22%) or 'leave when it feels dangerous' (12%). This finding suggests that a large number of people in these communities are intending to either wait for a clear indication to evacuate from service providers on the ground or flee if the bushfire approaches their property.

As that there was a significant bushfire event at in the Scamander area around the time that the DVD was distributed it is difficult to assess the direct influence of any intervention, particularly a passive intervention such as watching a DVD, on bushfire safety and preparation. The majority (79%) of people who responded to the survey believed that they had received a copy of the DVD 'Bushfire – Prepare to Survive'. Around half received a brochure from TFS (53%) or believed that they had seen the special screening of the DVD on television. A relatively small proportion of respondents indicated that they had obtained information about the 'Bushfire – Prepare to Survive' campaign from the TFS website (15%).

Almost all respondents (95%) thought that the DVD was helpful when they were making a decision about staying to defend or a decision to leave early or that the DVD was helpful when they were preparing their property (94%). A slightly smaller proportion of respondents, 84 per cent, thought that the DVD was helpful with planning for a bushfire suggesting that the respondents may have felt that the information was more oriented towards short-term bushfire safety activities

Ratings of positive change (improvements) on one or more aspects of bushfire safety were examined in the context of how many times respondents had watched the DVD. There appears to be small amounts of positive change associated with watching the

DVD on one or more occasions across most of the bushfire safety domains however, for the most part, these differences are not significant. Responsibility for bushfire safety was an exception with respondents being significantly more likely to indicate that they felt more responsible for their bushfire safety if they had watched the DVD.

Implications

It is difficult to disentangle the influence of the DVD on the attitudes towards bushfire safety from the impact of the bushfire event in the Scamander area. Overall findings from the research suggest that:

- The most substantial positive change reported by respondents over the 12 month reference period was in relation to increased feelings of responsibility for bushfire safety. This change was particularly apparent for those living in the Scamander area. It is possible that 'responsibility' may function as a threshold enabler of the suite of bushfire safety behaviours. What is currently unclear is whether people who appreciate the need to take responsibility for their bushfire safety are more likely seek out information or if an understanding of the need to take responsibility can be effectively communicated by an information resource.
- When people think about the community and community related preparation activities they are not necessarily considering how they personally could contribute but seem to be referring to providers of services to the community who are responsible for coordinating community efforts.
- Low levels of perceived self reliance indicate that any thinking by people in the community about bushfire plans and preparation takes into account a belief that support will be available from bushfire agencies if or when required. Respondents appear to feel as though they could be self-reliant up until the point where they need professional, outside assistance.

# 1 Background

## *1.1 Assessing community safety*

Recently there has been growing interest in and focus on developing community safety programs aimed at increasing the 'bushfire readiness' of people living in bushfire prone areas. Community safety programs are often conceptualised quite broadly and can include one or more of the following activities: community education programs and information campaigns for risk understanding and preparedness; community development programs that seek to use and/or further develop existing community infrastructure and capacity; programs to facilitate the understanding of and compliance with regulations and restrictions relevant to fire and fire safety; and activities and programs designed to provide timely information during fire emergencies.

While agencies that are responsible for delivering these community safety programs are very familiar with assessing and evaluating the physical risks and hazards associated with bushfires there has been less emphasis on the social issues relating to bushfire risk. There is an increasing awareness amongst these agencies that there is also a need to examine whether these community safety activities have contributed to enhanced preparedness or safety outcomes. However there are currently few tools or mechanisms available to facilitate an evaluation of these programs. This is largely due to the fact that the concepts of planning and preparedness aspects of community safety, particularly as they relate to natural hazards, are under researched. There is also a very limited understanding of the causal pathways and linkages connecting an understanding of bushfire risk to knowledge of bushfire behaviour and, ultimately, to the active behaviours that are aimed at improving community and personal safety for those living in bushfire prone communities.

## *1.2 Tasmania Fire Service and bushfire risk*

In spring 2006, the Tasmania Fire Service (TFS) launched a new campaign to inform Tasmanians about how to prepare themselves and their homes for bushfire. The TFS mailed copies of the recently produced DVD 'Bushfire: Prepare to Survive" to areas of the state that were identified as being at risk from bushfire. Copies of the DVD were also made available in some post offices in a range of locations. A media

campaign, which included the release of the DVD on television, promoted the 'Bushfire: Prepare to Survive' suite of written and electronic materials and how this information could be obtained. During December of 2006, fires threatened communities and destroyed land and property in the Scamander and Four Mile Creek locations on the east coast of Tasmania. These communities had been part of the distribution program for the DVD as they were known high-risk areas for bushfire.

As an adjunct to commissioned evaluation of the effectiveness of the 'Bushfire: Prepare to Survive' campaign, a separate investigation of the usefulness of the DVD in particular was undertaken by a student at the RMIT. This research focuses on investigating the possible impact of the DVD by comparing bushfire safety attitudes both before and after the distribution of the DVD. Findings from this investigation form the basis of this report.

# 2 Research approach

## *2.1 Questionnaire development*

Concept mapping workshops

The starting point for the development of the survey items was a series of concept mapping exercises. In 2005, a concept mapping workshop series was developed to support the collection and organisation of views on a particular topic, in this case community bushfire safety programs. (For a detailed explanation of the workshop process and outcomes see Elsworth et al, 2008).

In total, 11 concept mapping workshops were held with community groups and bushfire agencies across five states including New South Wales, South Australia, Tasmania, Victoria and Western Australia. Workshop participants were asked think about the following statement and offer their ideas about what this might mean.

> *Thinking as broadly as possible, generate statements that describe specific changes or improvements you think need to be achieved to make households and neighbourhoods safer from bushfires*

All of the statements generated by participants were printed onto cards during the workshop. A card sort activity was then completed where participants were asked to place the cards in groups in whichever way made most sense to them. When every statement had been allocated to a pile, as far as possible, workshop participants rated each statement in terms of its importance and the difficulty of achievement

using scales from one to five. These ideas were then presented on a two dimensional 'map' and subsequent discussions between group members were used to resolve any disagreement. Each workshop generated between five and 11 clusters from the 34 to 60 statements that were the product of the original brainstorming session.

The research team then organised the outcomes from all of the 11 workshops using a similar process to the concept mapping exercise. Fourteen overarching concepts were identified that seemed to describe bushfire safety outcomes at the level of the household and community, the level of the bushfire agency and at the government or central agency policy level.

Bushfire safety survey items

The statements produced as a result of the concept mapping workshops were subsequently used to develop survey items aimed at capturing the attitudes and behaviours of people towards a range of bushfire safety issues. Three clusters, listed below, focussed on outcomes for households and neighbourhoods including:

- Individuals and community having a realistic understanding of risk.
- Deciding and planning for 'Stay or Go' based on individuals and household understanding of accurate information about bushfire safety.
- Household and neighbourhood planning and preparation that allows the plan of choice to be effectively implemented.

Within each cluster, a decision was made to remove a statement generated as part of the workshop process if the:

- intended meaning of the statement was ambiguous or unclear.
- statement contained more than one identifiable concept and was clearly double or triple barrelled.
- key focus of the statement related to the Commonwealth, State or Local governments, specific community organisations and/or particular bushfire agencies.
- statement was only likely to be relevant to people living on rural acreage or large properties.
- main concept was very similar to another statement in the cluster.

The remaining statements were then reworded and reworked to ensure that each questionnaire item captured a complete idea. In some cases, the original statement was shortened and simplified. Occasionally, specialised language used by policy makers and agencies was removed and replaced with more generic terms to

maximise the likelihood that the idea would be accessible to the average person reading the questionnaire. The resulting items were grouped into the following potential scales:

- Awareness of bushfire risk, (four items)
- Responsibility for bushfire safety (six items),
- Knowledge about bushfire safety (nine items),
- Planning for bushfire, (six items)
- Preparing households for bushfire (people preparing their household for bushfire) (ten items), and
- Community preparation (communities preparing households and communities for bushfire) (ten items).

Splitting the 'realistic understanding of risk' concept into the two scales of risk and responsibility resulted in a comparatively small number of items directly relating to awareness of bushfire risk. In addition, these risk items appeared to focus exclusively on a calm and measured cognitive appreciation of risk which was at odds with the more emotional aspects of risk and natural disasters or danger situations. Given that one of the aims of the DVD was to communicate just how dangerous and frightening a bushfire can be, it was decided to include some additional items to capture the less cognitive or mental aspects of risk. Four new items were developed based on Slovic's (1987) conceptualisation of dread risk where a dangerous situation elicits a visceral feeling of dread and is regarded as uncontrollable, potentially fatal, is inevitable and involuntary.

Discussions with the C7 research team and an investigation of the relevant literature also suggested that the concept of self efficacy was likely to be extremely relevant to the willingness of people to become actively involved in bushfire safety activities. Bandura (1997) theorised that thoughts and feelings are governed by personal views about the extent to which an individual can exert influence or control over a situation. These beliefs about the concept Bandura referred to as self-efficacy are linked to the types of actions people engage in, how motivated they are and whether they believe they will succeed in what they are doing. Self efficacy, in this case, can be viewed as peoples' confidence that they can do what needs to be done as well as their willingness to engage in the appropriate behaviours to prepare for bushfire and carry out their bushfire safety plans. Six additional items were included to measure self efficacy in relation to bushfire safety attitudes and behaviours.

Retrospective pre test

A typical approach to measuring the change or improvement that is thought to have occurred as the result of the program or intervention is to test participants on the domain of interest before they have undertaken the program and then retest after the program has been completed. Taking into account a range of threats to internal and external validity, any difference between the score on the pre-test and that on the post-test is typically attributed to the effect of the program.

One of the key limitations of this pre-test/post-test approach is that most participants are not aware of their skills or knowledge (or lack thereof) in a particular domain and may tend to overestimate their current level of expertise. Typically, pre-test scores are inflated by this type of response bias (known in the literature as 'response shift') and the post-test assessment of the impact of the intervention may be dramatically underestimated. Response shift can also operate in the opposite direction where the respondent, possibly as a result of comparison to others in a group learning situation, finds that they have underestimated their skills and knowledge prior to participating in a program. To overcome this response shift limitation, a 'post-then-retrospective-pre-test' survey approach was used. In a retrospective pre-test situation the participant is asked to rate their attitude or behaviour after the intervention and then to rate the same attitude or behaviour as they believe it was before the intervention on the same set of questionnaire items. Both 'post-test' and 'retrospective pre-test' items are completed at the same time, after the intervention or program has been delivered to the participant.

Recent research (Nolte 2008) had found that a 'post-then-retrospective-pre-test' was more sensitive to change (more change was reported by respondents) than a traditional pre-test then post-test although it not yet clear which of these two approaches is more accurate. Similarly, Nolte (2008) observed that there is a tendency for respondents to limit their reporting of a negative change with a 'post-then-retrospective-pre-test' approach although, again, it is not clear which is more correct.

In relation to the TFS DVD, no pre testing was undertaken prior to the release of this resource. As such, the 'post-then-retrospective-pre-test' survey approach also represents a practically and cost effective approach to collecting pre-test data. It is also possible that a 'post-then-pre' strategy could prevent an interaction between the intervention (in this case, the DVD) and the pre-test where the pre-test sensitises respondents to the intervention. Removing the pre-test has the potential to increase

validity as the respondents have not been previously 'alerted' to the specific types of outcomes that are being sought.

Additional questionnaire items

A small selection of other questionnaire items that related to the TFS DVD and views on bushfire safety (e.g. whether they have a plan to 'stay' and attempted to defend their property or intend to 'leave early' before a fire reaches them) were also included. Demographic information was sought for response classification purposes however these questions did not collect data that was health related, sensitive or would allow the participant to be personally identified. .

## *2.2 Survey distribution*

The survey was formatted for self administration (pencil-and-paper) and the research team was provided with a list of addresses that had been used as part of the original mailout of the DVD. This list contained households in bushfire prone areas but excluded areas that had been targeted as part of the post-DVD survey that had been conducted by the TFS. Two specific locations were selected to enable to comparison of households that had and had not been recently affected by bushfires.

Bridport was chosen to represent a bushfire prone area that had not experienced a recent bushfire. Weymouth, Lulworth and Pipers Brook, which are slightly more remote, were also included in the Bridport mailout. Households in Scamander, St Marys, Beaumaris and Mathinna were either significantly threatened or experienced losses as a result of bushfires during the summer of 2006-2007 were also included in the survey.

### Table 2.2 Survey distribution

| | **Bridport** | **Scamander** | **Total** |
|---|---|---|---|
| Original Mailout | 711 | 696 | 1,407 |
| Second Mailout | 262 | 373 | 635 |
| Letterbox Drop | 225 | 227 | 452 |
| Return to Sender | 421 | 371 | 792 |
| 'Available Sample' | 290 | 325 | 615 |
| Completed Questionnaires | 115 | 154 | 269 |
| | **39.7%** | **47.4%** | **43.7%** |

In total, 1,407 households were selected to take part and a survey pack containing a letter from the TFS, a plain language statement from the research team, a questionnaire and a reply paid envelope was mailed out during mid-July 20007 (see Table 2.2). A follow-up letter was mailed three weeks later in the second week of August to all potential respondents, discounting any households where the survey pack had been returned, inviting them to participate in the research.

During the first mail out in particular, a surprisingly large proportion of the survey packs were returned to the research team unopened. It was anticipated that as the same mailing list had been used to distribute the DVD, the majority of letters would be deliverable to the households in the selected locations. The research team also became aware of the possibility that, due to a range of issues, not all of the original survey packs had been delivered to the relevant households. In some cases the non-delivery was because there was no letterbox at the address or the residence was only used during holiday periods and the letterbox was removed as the residents were away at the time of the survey. In other instances, there did not seem to be a clear reason why the survey pack appeared to have been returned by the post office rather than a resident.

As the research team was already travelling to Tasmania during the September school holidays (mid-September 2007), it was decided to 'letter-box' drop questionnaires to the remaining households that were still potentially in-scope for the survey. During this process, it was apparent that a number of the addresses that were part of this delivery process were invalid as there was no letterbox present, no apparent street address that could be located or the delivery address was a vacant lot. It was unclear why the previous two waves of correspondence had not been returned for these addresses. In addition, when the address list of 'return to senders' was spot checked, it was evident that many of these dwellings had letterboxes and appeared to be permanent rather than holiday residences.

Further investigation of the delivery concerns with Australia Post did not reveal any clear reason as to why mail was not received by all relevant households. There was some suggestion that a number of seasonal residents only had letterboxes in place while they were staying in the area or that the people delivering the mail 'just knew' when people were away and marked any correspondence 'return to sender' at this time.

As such, it was not possible to determine a definitive number of the true 'in-scope' population for this survey. In the absence of any further information from Australia

Post, it has been assumed that all households where the mail was returned were genuinely undeliverable. The overall response rate of 44% is slightly higher than a typical mail-out survey however the topic would have been relevant for many of the residents in these locations.

One of the challenges of conducting this type of survey involved the assessment of household preparedness by one person living in the home. It was anticipated that some of the questionnaires would be used as a discussion point and completed by couples or groups of people rather than individuals. Respondents were asked directly about the way in which they had answered the questions and nearly three quarters (73%) indicated that they had completed the questionnaire by themselves. Others had filled in the questionnaire with their partner (24%), their children (2%), other people (1%) or their neighbours (1%).

### *2.3 Data analysis and reporting*

Using the retrospective pre-test approach, respondents were asked a series of questions bushfire safety issues and requested to respond both in terms of the extent to which they agreed with the statement right now and how they would have answered the question 12 months previously. Ratings were made on a six-point scale where 'strongly disagree' was given a value of 1 and 'strongly agree' a value of six.

The tables in the following sections of the report 'agreement' with a statement as a combination of three levels of the agree part of the response set, 'slightly agree', 'agree', and 'strongly agree'. For many of the items there appears to be overwhelming agreement, often in excess of 90 per cent. It should be noted that many of these agreement responses will be from the 'slightly agree' category and overall agreement is not the same as strength of agreement with any of the statements.

In addition, a number of respondents did not complete the entire set of attitudinal questions which is not surprising given the self completion nature of the questionnaire. Patterns of missing data included the omission of one or two questions, not answering the retrospective pre-test items or leaving out the third page of questions (the items were printed on two facing pages with an 'overflow' of questions on the back of the third page). Respondents with more than 50 per cent of the items missing overall were removed from subsequent analyses of the scales. Further inspection of the individual scales (both retrospective pre-test and post test)

was undertaken and any respondent missing more than 50 per cent of valid responses to any of the scales was omitted from the analysis. In total, 48 of the 269 respondents were not included in attitudes towards bushfire risk analysis.

A small number of the remaining cases were missing data on one or more of the scales. Missing data was imputed[1] using the Expectation Maximisation algorithm in PRELIS. As such, all analyses of the attitudinal data refer to 221 respondents with a complete set of responses to the bushfire safety attitude scales.

A change in attitude over the 12 month period was calculated for each person by adding up their responses to all the questions in a particular topic area for both the retrospective pre-test and the post test. These summary totals were then divided by the pre-test standard deviation to arrive at an 'extent of change' effect score for each respondent in each bushfire safety domain. Subtracting the retrospective pre-test effect score from the post test effect score to obtain an effect size shows how much change occurred on the individual scales for each person during the 12 month period. These 'extent of change' effect sizes were then categorised into three groups: No change (an effect of -.5 to .5), Positive change (an effect size of more than .5) and Negative change (an effect size of less than .5). The .5 threshold was chosen to indicate a 'medium effect size' in keeping with current trends in health research where a measurable effect of .5 is regarded as a meaningful change (Cohen 1988, Norman et al, 2003).

# 3 Respondent characteristics

Of the 268 respondents, 152 (57%) were from the Scamander area and 116 (43%) lived in or around Bridport. The slightly higher response rate from people living in Scamander is not surprising given the relatively recent fires and the salience of the survey topic.

The oldest person who responded to the survey was 86 years old and the youngest was 20 with an average respondent age of 57 years. Only 42 (17%) were either current members of a fire service organisation or had been members in the past.

As shown in Table 3a, almost three-quarters of the respondents (72%) identified themselves as home owners with fewer indicating that they were still paying off their homes had a mortgage (21%). A very small number (6%) were renting and 1 per cent

[1] Missing values were replaced with a point best estimate of the value for the specific respondent based on the information contained in all the other answers to the items in the response set.

were living in some other situation, usually in a situation where accommodation was provided as part of their employment.

### Table 3a Home ownership status

| | % |
|---|---|
| Home owner | 72 |
| Mortgage | 21 |
| Renting | 6 |
| Other | 1 |

Q85. Are you a… N=263

The majority of households consisted of two people living together (127: 49%). Almost a quarter of the respondents indicated that they were living alone (23%) and fewer resided in households with three people (11%), four people (13%), five people (4%) or more than five people (2%).

### Table 3b Household situation

| | % |
|---|---|
| Couple without children | 44 |
| Couple with one or more children | 27 |
| Single person without children | 18 |
| Group of adults living together | 6 |
| Single person with one or more children | 4 |
| Other | 1 |

Q84 Which of the following best describes your household situation? N=254

In terms of household composition, Table 3b shows that 44 per cent of respondents were living as a couple without any children. This is not unexpected given the number of people reported to be living in the household and the age of the respondents. Just under a third of respondents indicated that one or more children was present in the household, either with a couple (27%) or a single parent (4%). Eighteen per cent of respondents were living by themselves.

# 4 Experience and knowledge about bushfire

## *4.1 Perceptions of bushfire threat*

One hundred and thirty eight (52%) of respondents indicated that a bushfire had threatened their home at some time in the past. Of those whose homes had been threatened, 87 per cent were at home during the bushfire threat and 90 per cent believed that their home or property was threatened by bushfire during the summer of 2006. These respondents were asked to rate how high the threat was to their home or property at this time and three quarters (76%) felt that the threat of bushfire was 'high' or 'very high'.

Irrespective of whether or not they had felt threatened by a bushfire, respondents were asked if they had made a decision to 'stay and defend' or 'leave early' prior to the summer of 2006. Seventy per cent indicated that they had made a decision, 17 per cent had not made a decision, and 13 per cent were unsure. Of those who had made a decision, Table 4.1 shows the type of decision that had been made by respondents about staying or leaving.

**Table 4.1 Type of decision made about 'staying and defending' or 'leaving early**

| | % |
|---|---|
| Stay and defend | 36 |
| Leave when told to | 22 |
| Stay and defend but send family away | 19 |
| Leave when it feels dangerous | 12 |
| Leave early | 8 |
| Other | 3 |

Q3a: If YES, which of the following best describes your decision about staying or leaving? N=191

## *4.2 Sources of information*

Almost nine out of ten respondents (89%) reported that they had received general information about bushfire safety in the 12 months prior to completing the questionnaire. Table 4.2a provides and indication of where the respondents had obtained this information.

**Table 4.2a Way in which general bushfire safety information was received**

| | % | Number of respondents |
|---|---|---|
| Mail or letterbox | 85% | 180 |
| Television – news | 61% | 130 |
| Newspaper | 43% | 90 |
| General programs on television | 42% | 89 |
| Radio | 37% | 83 |
| Tasmania Fire Service meeting | 20% | 43 |
| Local community or neighbourhood meeting | 15% | 33 |
| Other | 12% | 26 |
| Internet or online | 6% | 14 |

Q4a: If YES, where did you obtain this information? N=237 Note: Responses do not add to 100% as more than one information source could be selected.

Respondents were also specifically asked about any bushfire safety information that they may have received from the Tasmania Fire Service on how to plan or to prepare their property. The following table (4.2b) shows that the majority (79%) of people who responded to the survey believed that they had received a copy of the DVD 'Bushfire – Prepare to Survive'. Around half received a brochure from TFS (53%) or believed that they had seen the special screening of the DVD on television. A relatively small proportion of respondents indicated that they had obtained information about the 'Bushfire – Prepare to Survive' campaign from the TFS website (15%).

**Table 4.2b Distribution channels for bushfire safety information received from the Tasmania Fire Service**

| | |
|---|---|
| DVD | 79% |
| Brochure | 53% |
| Television | 50% |
| TFS website | 15% |

Q67: During the last summer, did you see or receive information about any of the following? N=205
Note: Responses do not add to 100% as more than one information source could be selected.

Ninety two per cent of the 205 respondents who had a copy of the DVD indicated that they had received it in their letterbox. Five per cent obtained the DVD from the Post Office, three per cent called the 1800 number and two per cent borrowed a copy from a friend or relative, downloaded it from the TFS website or acquired the DVD from the library.

Respondents who had received or obtained the DVD were asked how many times they had watched 'Bushfire: Prepare to Survive'.

- 17 per cent had not watched the DVD at all.
- 39 per cent had watched it once.
- 39 per cent had watched it two to three times.
- Three per cent had watched it four to five times.
- Two per cent had watched the DVD more than five times.

While a small number of people admitted that they had just failed to find the time to watch the DVD, the most frequent reason provided for not watching the DVD was that the respondent did not have a DVD player.

After watching the DVD, 70 per cent of respondents discussed the content with other members of the household. Nearly half (46%) talked about the DVD with friends and just under a third (31%) spoke with their neighbours when they had watched the DVD. The 18 per cent of respondents didn't discuss the DVD with anyone else is possibly explained by the fact that a large proportion of these people lived by themselves.

Those who did watch the DVD believed that they understood the messages in the DVD (98%) and that the DVD (95%) assisted them in a range of preparation activities as shown in Table 4.2c on the following page. Importantly, the DVD respondents felt that their understanding of bushfire risk in the local area had improved as a result of watching the DVD (91%) which could potentially motivate people to prepare their homes for bushfire as they are now more aware of the danger. These findings could suggest that the DVD is communicating the relevant information in a manner that is perceived by respondents to be relevant and understandable. As respondents are not asked to provide specific details about the types of messages and advice they received it is impossible to assess whether this information is being received accurately.

### Table 4.2c Understanding of messages and advice in the DVD

| | |
|---|---|
| I understood the messages in the DVD | 98% |
| My household understood the messages in the DVD | 95% |
| The DVD improved understanding of bushfire risk | 91% |
| The DVD would help if we were threatened by bushfire | 91% |
| The DVD helped preparation last summer | 86% |

Q73-77: The next questions ask about your understanding of the messages and advice contained in the DVD. Please check the boxes below to indicate the extent to which you agree of disagree with the following statements about the DVD.

Respondents were also asked to provide a number of overall assessments of the helpfulness of the 'Bushfire – Prepare to Survive' DVD. Table 4.2d shows that almost all respondents (95%) thought that the DVD was helpful when they were making a decision about staying to defend or a decision to leave early or that the DVD was helpful when they were preparing their property (94%). A slightly smaller proportion of respondents, 84 per cent, thought that the DVD was helpful with planning for a bushfire suggesting that the respondents may have felt that the information was more oriented towards short-term bushfire safety activities.

### Table 4.2d Bushfire safety information received from the Tasmanian Fire Service

| | |
|---|---|
| Helpful with making a decision to stay and defend or a decision to leave early | 95% |
| Helpful with preparation | 94% |
| Helpful with planning | 84% |

Q78-80: Overall, how helpful was the 'Bushfire – Prepare to Survive DVD when you were…?' N=166

# 5 Attitudes towards bushfire safety

The attitudes towards safety questions have been grouped into a number of domains that accord with views expressed in the bushfire safety and preparation literature as well as the feedback from stakeholders who attended the earlier concept mapping workshops. These topics included:

- Awareness of bushfire risk,

- Responsibility for bushfire safety,
- Knowledge about bushfire safety,
- Planning for bushfire,
- Preparing households for bushfire (people preparing their household for bushfire),
- Preparing communities for bushfire (community activities focused on bushfire preparation)
- Community engagement and bushfire safety (people helping others in the community to prepare , and
- Self efficacy (people's confidence that they can 'do what it takes' to improve their bushfire safety).

Each of the scales developed from these domains is examined in detail in the following sections.

### *5.1 Awareness of bushfire risk*

Table 5.1a summaries the 'change scores' obtained by respondents in relation to all of the items comprising the awareness of bushfire risk scale. A positive change indicates that awareness of bushfire risk had increased, no change suggests that awareness of bushfire risk had stayed the same and a negative change implies that awareness of bushfire risk had decreased.

Overall, more than a quarter (27.6%) of respondents reported a positive change in bushfire awareness over the 12 month period. This positive change was significantly more evident in Scamander (41.1%) than Bridport (8.7%).

**Table 5.1a Change in attitude towards bushfire risk**

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 41.1 | 58.1 | 0.8 |
| Bridport | 8.7 | 91.3 | 0.0 |
| Total | 27.6 | 71.9 | 0.5 |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

At an individual item level for each of the bushfire risk awareness questions, in general, respondents agreed that they were more aware of the extent to which they

are at risk of being threatened by bushfire at the time of surveying than they were 12 months ago. Table 5.1b shows the proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the questionnaire statements about bushfire risk. Risk awareness levels were reported to be very high 12 months prior to the survey, with more than 4 out of 5 people (84.6%) 'agreeing' that they were aware of how at risk they were and this reported awareness increased to almost all of the respondents (97.3%) at the time of the survey.

It can also be seen from Table 5.1b that agreement was substantially lower with the risk statements that were aimed at measuring 'dread risk' or fear of a bushfire event including 'the thought of being involved in a bushfire makes me feel sick in the stomach', 'there is a good change that I could be killed if I was involved in a bushfire', and 'it is impossible to control a bushfire'. While dread risk appeared to increase slightly over the 12 month period, half (50.2%) of the respondents to the survey agreed that it was possible to control a bushfire. More than a quarter (29.4%) disagreed that they worried about being affected by a bushfire despite the fact that almost all of them acknowledged that they were aware that they lived in a bushfire prone area (94.1%).

### Table 5.1b Attitude towards bushfire risk

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I am aware of how at risk I am if there was a bushfire | 97.3 | 84.6 |
| I know the extent to which my property is at risk of bushfire | 95.5 | 86.4 |
| I am aware that I live or have property in a bushfire prone area | 94.1 | 87.3 |
| I believe that I could be involved in a bushfire at some time in the future | 91.0 | 85.5 |
| I worry about being affected by bushfire | 70.6 | 62.9 |
| The thought of being involved in a bushfire makes me feel sick in the stomach | 61.5 | 55.2 |
| There is a good chance that I could be killed if I was involved in a bushfire | 58.4 | 53.4 |
| It is impossible to control a bushfire | 49.8 | 43.4 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

Even though people living in the Scamander location had recently been involved in a bushfire, they were still significantly more likely that those in Bridport to 'agree' that they could be involved in a bushfire at some time in the future (95.3% vs 84.8%). Respondents in the Scamander area were also more likely than those living in and around Bridport to 'agree' that it is impossible to control a bushfire both at the time of the survey (64.2% vs 45.8%) and 12 months previously (55.0% vs 27.2%). It is possible that the direct involvement of Scamander residents in a bushfire during the intervening 12 months provided a more realistic insight into the extent to which a bushfire event can be controlled.

## *5.2 Responsibility for bushfire safety*

Table 5.2a summaries the change scores obtained by respondents in relation to all of the items comprising the responsibility for bushfire safety scale. A positive change indicates that responsibility for bushfire safety had increased, no change suggests that responsibility for bushfire safety had stayed the same and a negative change implies that responsibility for bushfire safety had decreased.

Overall, more than a third (36.2%) of respondents reported a positive change in relation to responsibility for bushfire safety over the 12 month period. Residents of the Scamander area were significantly more likely to report a positive change (48.1%) than those living in and around Bridport (19.7%).

### Table 5.2a Change in attitude towards responsibility for bushfire safety

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 48.1 | 51.9 | 0.0 |
| Bridport | 19.6 | 78.3 | 2.2 |
| Total | 36.2 | 62.9 | 0.9 |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

The data contained in Table 5.2b on the following page suggest that feelings of responsibility for being bushfire safe were relatively high and increased slightly over the 12 month period. One item that appeared to reflect slightly higher levels of agreement at the time of the survey was 'Bushfire safety is a high priority for me' which increased from 84.2 per cent to 96.4 per cent. In addition, almost all of the respondents (93.7%) agreed at the time of the survey that they had a realistic

expectation of the extent to which bushfire services could assist them in the event of a bushfire. As the survey did not identify exactly what those expectations were, it is not possible to say whether they were actually realistic from the perspective of the Tasmania Fire Service.

**Table 5.2b Attitude towards responsibility for bushfire safety**

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I feel responsible for improving my safety preparedness | 97.3 | 93.7 |
| Bushfire safety is a high priority for me | 96.4 | 84.2 |
| I know that I need to be self-sufficient in the event of a bushfire | 95.9 | 88.2 |
| I feel responsible for reducing my bushfire related risk | 95.0 | 90.5 |
| I accept responsibility for my home and property during bushfire season | 94.6 | 91.9 |
| I have a realistic expectation of the capacity of fire-services to help me in the event of a bushfire | 93.7 | 87.8 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

As was the case in relation to perceptions of bushfire risk, people who where living in the Scamander area were significantly more likely than those in Bridport to demonstrate a positive shift in their attitudes towards responsibility for bushfire safety. In particular, 99.2% of respondents living in Scamander 'agreed' that bushfire safety was a high priority at the time of the survey compared with 92.4% of the respondents from the Bridport area.

## *5.3 Knowledge about bushfire safety*

The change scores obtained by respondents in relation to the items in the perceived knowledge about bushfire safety scale are contained in Table 5.3a on the following page. A positive change suggests that perceived knowledge about bushfire safety had increased, no change indicates that perceived knowledge had stayed the same and a negative change implies that perceived knowledge had decreased.

It can be seen from Table 5.3a just over a quarter (27.6%) of respondents overall reported a positive change in knowledge about bushfire safety over the 12 month

period. Residents living in and around Scamander were significantly more likely to report a positive change (39.5%) than those in the Bridport area (10.9%).

### Table 5.3a Change in perceived knowledge about bushfire safety

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 39.5 | 60.5 | - |
| Bridport | 10.9 | 89.1 | - |
| Total | 27.6 | 72.4 | - |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

At an individual item level, respondents in general believed that their knowledge about what to do to improve their safety both before and during a bushfire had improved over the 12 months prior to the survey, as can be seen from Table 5.3b. In particular, agreement with the statements 'I know what having a bushfire plan means', 'I know what clothing to wear', and 'I know when to stay and defend my property and when to go' appeared to increase markedly. Agreement that respondents understood fire safety laws was lowest both at the time of the survey (79.6%) and 12 months prior (71.9%).

### Table 5.3b Perceived personal knowledge about bushfire safety

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I have a good understanding of fuel management and fuel reduction | 95.9 | 89.1 |
| I know what having a bushfire plan means | 95.0 | 85.5 |
| I know safe places to go if I have to evacuate | 93.7 | 86.4 |
| I know what clothing to wear | 93.2 | 83.7 |
| I know how to get information about practical things I can do to prepare myself for a bushfire | 92.8 | 86.4 |
| I know when to stay and defend my property and when to go | 92.3 | 83.3 |
| I know specific actions I could take to make my home safer | 91.4 | 83.7 |
| I am always aware of what needs to be done to prevent bushfires | 90.5 | 83.3 |
| I understand the fire safety laws | 79.6 | 71.9 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

In contrast to the risk awareness and responsibility for bushfire safety scales, there were no substantive differences related to the location of respondents regarding reported change in bushfire knowledge at the individual item level.

### *5.4 Planning for a bushfire*

Table 5.4a summaries the change scores obtained by respondents in relation to the items comprising the bushfire planning scale. A positive change indicates that bushfire planning behaviours had increased, no change suggests that bushfire planning behaviours had essentially stayed the same and a negative change implies that behaviours associated with planning for a bushfire had decreased.

Overall slightly less than a third (30.3%) of respondents reported a positive change in bushfire planning behaviour over the 12 month period (see Table 5.4a). Residents of the Scamander area were significantly more likely to report a positive change (42.6%) than those living in and around Bridport (13.0%).

**Table 5.4a Change in attitude towards planning for a bushfire**

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 42.6 | 55.8 | 1.6 |
| Bridport | 13.0 | 87.0 | - |
| Total | 30.3 | 68.8 | .9 |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

Table 5.4b suggests that compared with 12 months ago, respondents generally agreed that they now had a bushfire plan, that they knew what to do if things didn't go according to plan and that they revised their each season. Even so, marked differences are evident in relation to agreement with each of the planning behaviours captured by the questionnaire. Agreement that respondents 'have a plan to stay and defend or a plan to leave early' elicited the highest level of agreement (92.3%) and increased from (79.2%) for the 12 months preceding the survey.

## Table 5.4b Bushfire planning behaviours

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I have a plan to 'stay and defend my property' or a plan to 'leave early' | 92.3 | 79.2 |
| I know what to do in if things don't go according to plan | 83.7 | 71.5 |
| I have a range of complementary fire safety measures that I can implement | 78.7 | 69.7 |
| I have a list of things I need to do in the event of a bushfire | 76.0 | 64.7 |
| I revise my bushfire preparation plan each season | 68.3 | 52.9 |
| I regularly review my bushfire plan with my family | 56.6 | 49.3 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

It can also be seen from Table 5.4b that respondents were more likely to agree with statements that related to more passive, possibly shorter term planning behaviours, such as 'knowing what to do if things don't go according to plan' (83.7%) or 'I have a range of complementary fire safety measures that I can implement' (78.7%). Agreement with planning activities that involved longer term commitment or more active engagement was notably lower with only 56.6 per cent of respondents agreeing that they 'regularly review their bushfire plan with their family' and 68.3 per cent agreeing that they 'revise their bushfire plan each season'. Of course, it could also be the case that the reason they have not reviewed or revised their bushfire safety plans is because they have only made decisions about planning for bushfire relatively recently and they have not had time to consider reassessing these plans.

Again, it was the case that agreement with the statements was highest for residents in the Scamander area. Almost all (96.1%) of respondents living in and around Scamander were in agreement with the statement that they had a bushfire plan compared with only 87 per cent of respondents from Bridport. Similarly, respondents from the Scamander area were more likely to agree that they knew what to do if things didn't go according to plan (89.0%) whereas only 75 per cent of Bridport respondents agreed that this was the case.

## *5.5 Preparing for a bushfire*

The change scores obtained by respondents for the items in the bushfire preparation scale are contained in Table 5.5a. A positive change indicates that reported bushfire preparation behaviours had increased, no change implies that bushfire preparation had stayed the same and a negative change suggests that bushfire preparation behaviours had decreased.

It can be seen from Table 5.5a that, overall, almost a quarter (24.9%) of respondents reported a positive change in bushfire preparation behaviour over the 12 month period. Residents living in and around Scamander were significantly more likely to report a positive change (34.1%) than those in the Bridport area (12.0%).

**Table 5.5a Change in bushfire safety preparation behaviours**

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 34.1 | 65.9 | - |
| Bridport | 12.0 | 88.0 | - |
| Total | 24.9 | 75.1 | - |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

Table 5.5b contains the ratings of a series of statements regarding attitudes to bushfire preparation at the time of the survey and 12 months previously. In general, all of the levels of agreement increased, with some showing a more marked change than others over the 12 month period. Agreement with statements such as 'I have made sure that emergency vehicles can easily gain access to my property (94.1 vs 90.5) and 'I have my own source of water that is not connected to the mains' (62.0 vs 62.6) showed very modest increases in agreement. This absence of an increase in agreement over time on these items possibly reflects, comments noted by some respondents on the questionnaire indicating that the items were not relevant to their situation (eg their house was on a residential block so of course emergency vehicles could easily gain access).

In contrast to the previous scales, some of the response patterns tended towards disagreement, 'I have completed a dress rehearsal of my action plan' (46.6%) or very low levels of agreement 'Fire safety is part of my day-to-day habits and practice' (54.8%). These activities are, as was seen in relation to some of the planning for

bushfire safety statements, suggestive of longer term, active commitments to preparation. While 'I keep my property clear of rubbish and leaves' could also easily be considered as an active preparation strategy, it may be the case that responses to this item are more indicative of good gardening practices than bushfire safety strategies.

**Table 5.5b Attitude towards preparing for a bushfire**

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I keep my property clear of rubbish and leaves | 96.8 | 90.0 |
| I have made sure that emergency vehicles can easily gain access to my property | 94.1 | 90.5 |
| I have a defendable zone around my house | 92.3 | 86.9 |
| I am prepared for a bushfire before the season starts | 87.8 | 77.8 |
| I have appropriate clothing to wear when defending my home against bushfire | 81.0 | 72.9 |
| I have the equipment I need to implement my 'bushfire plan' | 71.9 | 65.2 |
| I have my own source of water that is not connected to the mains | 62.0 | 60.6 |
| I have a home survival/safety kit | 57.0 | 43.0 |
| Fire safety is part of my day-to-day habits and practices | 54.8 | 46.2 |
| I have completed a dress rehearsal of my action plan | 46.6 | 37.1 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

As was the case with respect to bushfire knowledge, there did not appear to be any significant differences between the two communities surveyed on the individual bushfire preparation items. More specifically, similar responses were provided by residents in Scamander and Bridport in relation to keeping properties clear of rubbish and leaves, having a defendable zone around the house and having a separate source of water. These findings could suggest that messages about bushfire safety are being communicated in a consistent manner that is seen as relevant to residents in bushfire prone areas irrespective of whether or not they have been affected by fire.

## *5.6 Community preparation and bushfire*

The original set of items aimed at assessing community involvement included a range of statements focusing on bushfire safety from both the perspective of the

individual and the viewpoint of the community in general. During preliminary analysis of the data it became apparent that these items fell into two distinct groups of community oriented attitudes: respondents' personal involvement in community bushfire safety activities and their views about the extent to which they feel there is community support of and responsibility for bushfire safety. As such, these groups of items will be discussed separately with the community level items in this section on community preparation and the individual level items in the following section on community engagement.

The change scores obtained by respondents in relation to the items in community preparation for bushfire scale are contained in Table 5.6a. A positive change suggests that perceived community preparation for bushfire had increased, no change indicates that perceived community preparation for bushfire had stayed the same and a negative change implies that perceived community preparation had decreased.

### Table 5.6a Change in community preparation for bushfire

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 52.7 | 45.7 | 1.6 |
| Bridport | 6.5 | 93.5 | - |
| Total | 33.5 | 65.6 | .9 |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

Table 5.6a shows that, overall, a third (33.5%) of respondents reported a positive change in community preparation for bushfire over the 12 month period. Residents of the Scamander area were significantly more likely to report a positive change (52.7%) than those living in and around Bridport (6.5%).

Table 5.6b contains responses to the individual statements on community engagement and bushfire safety. Overall, those who responded to the survey typically agreed that their community was responsible for the safety of the community and that people in the community worked together to act on bushfire safety issues however there were some items that tended towards lower levels of agreement. Agreement with the very non-specific statement 'my community is responsible for the safety of the community' was already at a relatively high level in the 12 months prior to the survey (80.5%) and improved to 91.4% at the time the survey was conducted. Somewhat surprisingly, agreement was lower in response to 'there is a sense of

community and mutual preparation for bushfire in out area' (71.5%) even though the statements appear quite similar. It could be the case that the change in focus from general community safety in the first statement to bushfire safety in the second statement could account for the change in the proportion of respondents agreeing with the level of commitment of the community to safety activities.

### Table 5.6b Attitude towards community preparation and bushfire safety

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| My local community is responsible for the safety of the community | 91.4 | 80.5 |
| Our community has a awareness of the need to be responsible for local community fire safety initiatives | 83.7 | 67.0 |
| People in my local area work together as a community to act on bushfire safety issues | 79.6 | 69.2 |
| There is a sense of community and mutual preparation for bushfire in our area | 71.5 | 56.6 |
| Our community supports older people or people with difficulties to prepare their homes for bushfire | 54.3 | 52.5 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

Just over half of respondents broadly 'agreed' with the statement that 'our community supports older people or people with difficulties to prepare their homes for bushfire' (54.3%). Given that the average age of survey respondents was 57, and the oldest respondent was 86, it is difficult to ascertain whether the item is being interpreted as the respondent not feeling personally supported to prepare their home or respondent indicated that they, as a member of the community, are not able to help other potentially vulnerable residents.

Further examination of these findings revealed two distinct differences between the two communities surveyed. Ninety two per cent of respondents from the Scamander area 'agreed' with the statement 'our community has an awareness of the need to be responsible for local community fire safety initiatives' when making a rating at the time of the survey whereas only 71.7 per cent of those in the Bridport area were in agreement with this item. Similarly, 62.0 per cent of respondents from Scamander

indicated that they 'agreed' with the statement 'our community supports older people or people with difficulties to prepare their homes for bushfire', compared with only 43.5 per cent of Bridport respondents. Despite this difference in opinion about the community support of older people or those in the community with difficulties, there was no substantive difference in the age profile of survey respondents in the two locations with 41.9 per cent aged 60 years or over in Scamander and 38.5 per cent in the same age group in Bridport.

## *5.7 Community engagement*

Table 5.7a contains the change scores achieved in relation to the community engagement and bushfire safety scale. A positive change indicates that reported community engagement and bushfire safety had increased, no change suggests that perceived community engagement and bushfire safety had stayed the same and a negative change implies that respondents felt that community engagement and bushfire safety had decreased.

In contrast to the findings reported for community preparation, less than a quarter (23.5%) of respondents reported a positive change in community engagement and bushfire safety over the 12 month period. Residents of the Scamander area were significantly more likely to report a positive change (34.9%) than those living in and around Bridport (7.6%).

### Table 5.7a Change in community engagement and bushfire safety

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 34.9 | 63.6 | 1.6 |
| Bridport | 7.6 | 92.4 | - |
| Total | 23.5 | 75.6 | .9 |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

Aside from the statement, 'I have a number of places I can go or people I can talk to about fire safety', there was generally lower levels of agreement than the community preparation items, both in relation to the current situation and 12 months prior to the survey, that respondents were personally engaged in supporting other members of the community to improve bushfire safety (see Table 5.7b).

## Table 5.7b Attitude towards community engagement and bushfire safety

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I have a number of places I can go or people I can talk to about fire safety | 97.7 | 90.5 |
| I encourage new residents to think about bushfire safety | 66.1 | 56.1 |
| I participate in community activities aimed at reducing fire hazards | 59.7 | 49.3 |
| I have discussed my bushfire plan with my neighbours and know what they will do in the event of a bushfire | 45.2 | 34.4 |
| I help people with unsafe properties to prepare for bushfire season | 37.6 | 32.1 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

When compared with other bushfire safety related attitudes, for example planning for a bushfire, the magnitude of positive change over the 12 month period regarding community engagement was generally modest. A positive increase in agreement was reported least frequently for the item 'I help people with unsafe properties to prepare for bushfire season' (37.6%) although there was slightly more positive change reported for other active community behaviours such as 'I participate in community activities aimed at reducing fire hazards' (57.9%) and 'I encourage new residents to think about bushfire safety' (66.1%). Although the agreement ratings made in relation to the statement 'I have discussed my bushfire plan with my neighbours and know what they will do in the event of a bushfire' were comparatively low (45.2% now and 34.4% 12 months ago) this, and other items showed a distinct increase over the 12 month reference period.

It is interesting to note that in terms of attitudes towards personal community engagement, there the only substantive difference between the respondents living in Bridport and Scamander related to interaction with neighbours. Residents in the Scamander area were significantly more likely that those in Bridport to report that at the time of the survey they had discussed their fire plan with their neighbours (55.0% vs 31.5%).

## *5.8 Self efficacy and bushfire safety*

The self efficacy items assess the extent to which respondents believe that they have the necessary confidence to engage in the behaviours required to ensure their safety during a bushfire. The change scores obtained by respondents in relation to the items in the self efficacy and bushfire safety scale are contained in Table 5.8a. As is the case with the other scales, a positive change implies that perceived self efficacy and bushfire safety had increased, no change suggests that perceived self efficacy and bushfire safety had stayed the same and a negative change indicates that perceived self efficacy and bushfire safety had decreased.

It can be seen from Table 5.8a that, overall, just over a third (33.5%) of respondents reported a positive change in bushfire preparation behaviour during the reference period of the 12 months before the survey. Residents living the Scamander area were significantly more likely to report a positive change (46.5%) than those in and around Bridport (15.2%).

### Table 5.8a Change in self efficacy and bushfire safety

| | Positive Change | No Change | Negative Change |
|---|---|---|---|
| Scamander | 46.5 | 52.7 | .8 |
| Bridport | 15.2 | 84.8 | - |
| Total | 33.5 | 66.1 | .5 |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

Table 5.8b on the following page shows an increase in agreement over the 12 month period was evident for almost all of the self efficacy statements and agreement was extremely high with the statement 'I am able to think effectively about my safety preparedness' (97.7%). Other statements with improved levels of agreement at the time of the survey included 'I am confident that I could put my bushfire plan into action' (91% from 81%), and 'I believe that I would know what to do during a bushfire even if something unexpected happened' (87.8% from 73.8%).

**Table 5.8b Attitude towards self efficacy and bushfire safety**

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I am able to think effectively about my safety preparedness | 97.7 | 84.6 |
| I am confident that I could put my bushfire plan into action | 91.0 | 81.0 |
| I believe that I would know what to do during a bushfire even if something unexpected happened | 87.8 | 73.8 |
| I believe that I could protect myself if there was a bushfire | 86.9 | 79.6 |
| I am confident that I could assist my neighbours or firefighters during a bushfire | 86.0 | 81.9 |
| I believe that I would be largely self reliant during a bushfire and would not need to depend on bushfire agencies for help | 37.1 | 34.4 |

Note: % 'agreed' is the total proportion of respondents who 'strongly agreed', 'agreed', or 'slightly agreed' with the statements.

While respondents' self efficacy was generally high and had showed improvement over the preceding 12 months, only around a third (37.1%) 'agreed' that they would be self reliant in the event of a bushfire and this level of agreement had barely increased from 34.4 per cent. This finding is at odds with the overwhelming agreement reported in relation to the statement that respondents believed that they had realistic expectations of the capacity of bushfire services to assist them in the even of a bushfire.

# 6 Bushfire safety attitudes and the TFS DVD

The findings reported in the previous section demonstrate that there were some positive changes in a range of bushfire safety attitudes and behaviours over the 12 month period and that most substantial change seems to have been experienced by respondents with a home in the Scamander area. Given that there was a significant bushfire event at this location around the time that the DVD was distributed it is difficult to assess the direct influence of any intervention, particularly a passive intervention such as watching a DVD, on bushfire safety and preparation. Even so, it is useful to explore some possible interactions between the location of the respondent, DVD watching behaviour and reported change in bushfire safety attitudes and behaviours.

DVD watching behaviour was grouped into three categories, those who didn't receive or watch the DVD, those who watched it once and those who watched the DVD on two or more occasions with each of there groups representing approximately one third of the respondents. There seem to be small differences in DVD watching behaviour between the people living in the Scamander and those in the Bridport area (see Table 6a) however these differences are not statistically significant.

### Table 6a DVD watching behaviour by location

| | Didn't watch the DVD | Watched DVD once | Watched DVD twice or more |
|---|---|---|---|
| Scamander | 30.2 | 33.3 | 36.4 |
| Bridport | 41.3 | 29.2 | 29.3 |
| Total | 34.8 | 31.7 | 33.5 |
| | (number of respondents = 77) | (number of respondents = 70) | (number of respondents = 74) |

Note: Total number of respondents from Scamander area = 129. Total number of respondents from Bridport area = 92.

A further analysis was conducted to determine whether there was any relationship between DVD watching behaviour and whether or not respondents had been threatened by a bushfire in the past. It is possible that, for example, those who had never been involved in a bushfire might be more motivated to access information about what to do about preparing for bushfire.

Just over half of the respondents (56.6%) had been threatened by bushfire in the past. In general, people who had been threatened by a bushfire in the past were generally just as likely to watch the DVD as those who had never experienced a past bushfire threat, as shown in Table 6b.

### Table 6b DVD watching behaviour by past bushfire threat

| | Didn't watch the DVD | Watched DVD once | Watched DVD twice or more |
|---|---|---|---|
| Yes, threatened by bushfire in the past | 31.2 | 32.0 | 36.8 |
| No, never threatened by bushfire | 39.6 | 31.3 | 29.2 |
| Total | 34.8 | 31.7 | 33.5 |

Note: Total number of respondents who had been threatened by bushfire in the past = 125. Total number of respondents never threatened by bushfire = 96.

Respondents were also asked if they had made a decision about what to do if they were threatened by bushfire. Table 6c shows while just over two thirds of respondents 69.6 per cent had made a decision about what to do, there were no significant differences between those who had watched the DVD once (70.0%) and those who had never watched the DVD (62.5%). It is also of some concern that for those respondents who watched the DVD on two or more occasions, 12.5 per cent of respondents still hadn't made a decision about what to do and 11.1 per cent of respondents were unsure about which was the best decision to make, although these percentages represent relatively small numbers of people.

**Table 6c Decision made about what to do in the event of a bushfire and DVD watching behaviour**

| | Didn't watch the DVD | Watched DVD once | Watched DVD twice or more | Total |
|---|---|---|---|---|
| Yes, made a decision | 62.5 | 70.0 | 76.4 | 69.6 |
| No, haven't made a decision | 25.0 | 20.0 | 12.5 | 19.2 |
| Not sure what to do | 12.5 | 10.0 | 11.1 | 11.2 |

Note: Total number of respondents who had made a decision = 149. Total number of respondents who had not made a decision = 41. Total number of respondents who were not sure about what to do = 24.

Table 6d on the following page reports DVD watching behaviour by the type of decision that respondents indicated they had made about what they would do in the event of a bushfire. A number of people who said that they we're sure what they would do also provided responses to this question. In general, just over a third of respondents had made a decision to stay and defend (35.3%) and this decision seems to be associated with viewing the DVD on one or more occasions. Around a fifth of respondents (21.2%) said that they would stay and defend but send their family away, a response that was more likely if they had not watched the DVD.

Of slightly more concern is the way in which people seem to be interpreting the 'leave' message with 'leave early' being reported as the least popular strategy overall (9.0%). Just over a fifth of respondents (21.8%) had made a decision to leave when they were told to, effectively leaving the decision making to someone else. Deciding to pursue this strategy was equally likely to be reported by people who did and did not watch the DVD. It is very surprising that approximately one in ten (9.6%) of respondent had decided that their strategy of choice was to 'leave when it feels dangerous' and that this approach was equally likely to be pursued by those who had and had not watched the DVD.

**Table 6d Type of decision made about what to do in the event of a bushfire and DVD watching behaviour**

| | Didn't watch the DVD | Watched DVD once | Watched DVD twice or more | Total |
|---|---|---|---|---|
| Stay and defend | 21.3 | 43.1 | 39.7 | 35.3 |
| Stay and defend but send family away | 29.8 | 15.7 | 19.0 | 21.2 |
| Leave when told to | 21.3 | 17.6 | 25.9 | 21.8 |
| Leave when it feels dangerous | 12.8 | 7.8 | 8.6 | 9.6 |
| Leave early | 10.6 | 9.8 | 6.9 | 9.0 |
| Other | 4.3 | 5.9 | - | 3.2 |

Note: Total number of who didn't watch the DVD = 47. Total number of respondents who watch the DVD once = 51. Total number of respondents who watched the DVD on two or more occasions = 58.

Table 6e on the following page shows the percentage of respondents who experienced a positive change on one or more aspects of bushfire safety in the context of how many times they watched the DVD. There appears to be small positive change associated with watching the DVD one or more times across most of the bushfire domains however, for the most part, these differences are not significant. Responsibility for bushfire safety is an exception with respondents being significantly more likely to indicate that they felt more responsible for their bushfire safety if they had watched the DVD on one or more occasions.

**Table 6e Positive change in attitude towards bushfire safety and use of the DVD**

| | Didn't watch the DVD | Watched the DVD once | Watched the DVD twice or more |
|---|---|---|---|
| Risk | 22.1 | 30.0 | 31.1 |
| Responsibility | 28.6 | 40.0 | 40.5 |
| Knowledge | 22.1 | 25.7 | 35.1 |
| Planning | 23.4 | 27.1 | 40.5 |
| Individual preparation | 19.5 | 18.6 | 36.5 |
| Community engagement | 16.9 | 24.3 | 29.7 |
| Community preparation | 26.0 | 37.1 | 37.8 |
| Self efficacy | 26.0 | 34.3 | 40.5 |

Table 6e also shows that positive changes with respect to planning and individual preparation were only evident if the respondent had watched the DVD more than once. It could be the case that people who already feel motivated to plan or prepare used the DVD as a source of information and referred to it more than once during the 12 month period. Alternatively, it is possible that these people became more motivated to plan or prepare when then saw the DVD on more than one occasion.

Even thought one of the aims of the DVD was to inform people that they were at risk of bushfire, little positive change was reported with respect to this aspect of bushfire safety. It is possible that reported change was also relatively small in relation to personal engagement with the community regarding bushfire safety and community preparation for bushfire which would be expected as the DVD was not directly focused on encouraging people to initiate or participate in bushfire safety activities with their local community.

# 7 Overall findings & observations

In general, it is difficult to disentangle the influence of the DVD from the impact of the bushfire event in Scamander on respondent's views about bushfire safety. It should also be noted that the use of a medium effect size (.5) as a threshold to indicate meaningful change from the retrospective pre test to the post test has been tentatively generalised from the wider health literature. Further investigation is required to confirm the extent to which this level of change reflects a meaningful or important difference in relation to interventions that are not related to clinical health, such as bushfire safety.

Overall findings from the research suggest that:

- Reported awareness of the extent to which people know that they are at risk of bushfire was high the time of the survey but these high levels of awareness also appeared to be present in the previous 12 months. Positive change in relation to taking responsibility for bushfire safety was more apparent for survey respondents, particularly those living in the Scamander area. It is possible that 'responsibility' may function as a threshold enabler of the suite of bushfire safety behaviours. What is currently unclear is whether people who appreciate the need to take responsibility for their bushfire safety are more likely seek out information or if an understanding of the need to take responsibility can be effectively communicated by an information resource.

- When people think about the community and community related preparation activities they are not necessarily considering how they personally could contribute but seem to be referring to providers of services to the community who are responsible for coordinating community efforts.
- Low levels of perceived self reliance indicate that any thinking by people in the community about bushfire plans and preparation takes into account a belief that support will be available from bushfire agencies if or when required. Respondents appear to feel as though they could be self-reliant up until the point where they need professional, outside assistance.

Comparing responses from residents in Scamander and Bridport across each of the eight domains (Table 7a) shows that there are clear differences for each of the two localities. More respondents from Scamander reported a 'meaningful change' with a reported median of 41.9 per cent. The median change for the all of the scales was only 11.5 per cent for respondents from the Bridport area.

A median change of more than 10 per cent in the location that was not directly affected by fire could be a useful improvement if these attitudes translate into practical behaviour. This 'lower bound' of 10 per cent might reflect the possible impact of the DVD in an area that isn't directly affected by a bushfire event however it is difficult to directly attribute this change to the DVD. Given the wider context that could have influenced the views of the respondents, including the dramatic media coverage of the Scamander and St Mary's fires, demonstrating that the positive change was caused or supported by the DVD is very difficult. Further investigation would be required to determine whether the findings relating to respondents from Scamander represent a interaction between the fire event in the area and the DVD or a just a result of the fire event itself.

**Table 7a Proportion of respondents showing a meaningful change by location**

| | Scamander | Bridport |
|---|---|---|
| Risk | 41.1 | 8.7 |
| Responsibility | 48.1 | 19.6 |
| Knowledge | 39.5 | 10.9 |
| Planning | 42.6 | 13.0 |
| Preparation | 34.1 | 12.0 |
| Community Preparation | 52.7 | 6.5 |
| Community Engagement | 34.9 | 7.6 |
| Self Efficacy | 46.5 | 15.2 |

Table 7b on the following page consolidates the statements across all scales where post-test 'agreement' was less than 70 per cent. Even though many of these items show a positive change or increase over the 12 month period these areas appear to be most in need of attention. Of immediate concern is the low proportion of people who feel as though they would be self-reliant in the event of a bushfire. Respondents seem to be making plans to stay and defend their property but many believe that they will definitely require assistance from agencies during the course of a bushfire. This suggests that the 'stay and defend' message is being interpreted as 'stay and defend until you need help from a bushfire agency'.

Preparation activities also seem to be a lower priority with fewer people agreeing that they have completed a dress rehearsal of their action plan, that they review their bushfire plan with their family or that bushfire safety is part of their day-to-day habits. So while agreement is comparatively high with respect to understanding risk, taking responsibility and planning, more active or ongoing fire preparation behaviours seem to be less prevalent.

Most people agreed that their household had a plan and was prepared however substantially fewer agreed with statements that suggested they supported community bushfire preparation activities. Many did not discuss their plans with neighbours or help those with unsafe properties to prepare. There was also a lower level of agreement that the community supported older people or those with difficulties to prepare for bushfire. With so much focus on household plans, overarching

messages about the preparation of the community may not be getting through to people in bushfire prone areas.

### Table 7b Items with lowest levels of 'agreement' at post-test

| | % of respondents who 'agreed' with the statement | |
|---|---|---|
| | Now | 12 months ago |
| I believe that I would be largely self reliant during a bushfire and would not need to depend on bushfire agencies for help | 37.1 | 34.4 |
| I help people with unsafe properties to prepare for bushfire season | 37.6 | 32.1 |
| I have discussed my bushfire plan with my neighbours and know what they will do in the event of a bushfire | 45.2 | 34.4 |
| I have completed a dress rehearsal of my action plan | 46.6 | 37.1 |
| Our community supports older people or people with difficulties to prepare their homes for bushfire | 54.3 | 52.5 |
| Fire safety is part of my day-to-day habits and practices | 54.8 | 46.2 |
| I regularly review my bushfire plan with my family | 56.6 | 49.3 |
| I have a home survival/safety kit | 57.0 | 43.0 |
| I participate in community activities aimed at reducing fire hazards | 59.7 | 49.3 |
| I have my own source of water that is not connected to the mains | 62.0 | 60.6 |
| I encourage new residents to think about bushfire safety | 66.1 | 56.1 |
| I revise my bushfire preparation plan each season | 68.3 | 52.9 |