



**Bushfire CRC
Enhancing Volunteer Recruitment and Retention Project
(D3)**

**Report Number 3: 2004
Profiles of Australia's Volunteer Firefighters
(revised)**

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Contents

Executive Summary	3
Recommendations	3
Introduction	5
Overall numbers of volunteer firefighters	6
Operational and support role volunteers	7
Age profiles of volunteers	8
Length of service profiles of volunteers	16
Women volunteers	19
Annual attrition rates of volunteers	21
Discussion	22
Acknowledgements	23
Appendix A: Request for statistical information on volunteers sent to rural fire services	24

Executive Summary

- The limited amount of demographic information collected currently by agencies about their volunteers, and/or able to be extracted from their volunteers data bases, constrains what can be said about the nature of Australia's volunteer firefighter workforce.
- There are indications that significant numbers of most rural fire services' volunteer firefighters are relatively old. This is likely to have serious implications (especially in rural areas) should O H & S standards become such as to require agencies to mandate minimum fitness levels for operational firefighters (ACT ESA already requires its operational firefighters to meet minimum fitness standards annually).
- Little can be concluded about agencies' volunteer knowledge- and skill-base levels based on the limited length-of-service data available. One of the two agencies providing this information may have a disproportionate number of its volunteer membership with less than five years of experience (65%), but the figure may simply be an artefact of an incomplete data base.
- There is considerable variation among agencies in the rates of participation by women in their volunteer firefighter workforces, with the female participation rate for the highest participation-level agency double that for the lowest participation-level agency.
- Not all agencies provided information on annual attrition rates for their volunteers. For those five agencies able to provide this information, rates ranged from a low of 6% to a high of 29%, with a weighted average of 8.1%. Given the large numbers of volunteers in the bigger rural fire services, even quite modest reductions in attrition rates would translate into significantly fewer volunteers needing to be recruited, trained and equipped---with consequent savings in agency resources.

Recommendations

The following are suggestions for rural fire services to consider, having regard to their particular needs and circumstances:

- Agencies provide the information to enable this current 'volunteer demographics' profiling exercise be repeated by the D3 Volunteerism Project team annually during the life of the Bushfire CRC.
- Agencies examine their volunteer age profile data closely, on a regional/area basis, to determine the seriousness of the threat posed to the viability of rural brigades by the ages of their volunteers.
- QLD F & R S examine factors likely to be associated with the data indicating that almost two-thirds of its volunteers have less than five years experience.
- TFS examine factors likely to be associated with the relatively low female participation rate in its volunteer workforce.

- Agencies investigate reasons why their volunteers leave, in order to identify any systemic issues able to be addressed by organisational changes. (Use of exit interviews and surveys for volunteers was the subject of Bushfire CRC Occasional Report 2004: 1.)

Introduction

This Report should be read in conjunction with Bushfire CRC Volunteerism Project (D3) Report 2: 2004 *Volunteer Data Base Collection and Management for Strategic Planning and Policy Development: A Comparison Across Fire Services*. That earlier report discussed reasons for collecting demographic information on volunteers and compared the different rural fire services in terms of what information they collect on their volunteers and the capabilities of their data base analysis system to extract information for strategic planning and policy development in relation to recruiting and retaining volunteer firefighters.

The present Report was prepared using information provided by the seven participating rural fire services May-July 2004 in response to a request to provide a range of information about their 2003 volunteer workforce. The request was made as part of a survey of agencies' volunteer data base analysis capabilities. A copy of the request is contained in Appendix A.

As indicated in D3 Report Number 2: 2004, there is considerable variability across the seven rural fire services in the demographic information collected from their volunteer members. There is also considerable variability among agencies in what demographic information they are able to easily extract from their data base.

The present Report summarises available demographic information on Australia's volunteer firefighter workforce in relation to:

- Overall volunteer numbers
- Operational and support role volunteer numbers
- Age profiles of volunteers
- Length of service profiles of volunteers
- Numbers of male and female volunteers
- Annual attrition rates of volunteers

The purpose of the Report is to: (a) indicate the present state of knowledge about demographic characteristics of Australia's volunteer firefighter workforce; (b) inform agencies about possible implications of this information for strategic planning and policy development purposes in relation to future volunteer numbers; and, (c) identify gaps in the present state of knowledge about Australia's volunteer firefighter workforce.

Overall Numbers of Volunteer Firefighters

Table 1 summarises the information about total numbers of volunteers provided by the seven participating agencies and the Northern Territory Fire and Rescue Service, which is not participating in the D3 volunteerism project because of their very small volunteer firefighter workforce. (Note that NT F&RS will not be discussed further in this Report.)

Table 1
Total Numbers of volunteer firefighters in each rural fire service^a

<i>ACT ESA</i>	<i>CFA</i>	<i>NSW RFS</i>	<i>QLD F&RS</i>	<i>SA CFS</i>	<i>TFS</i>	<i>WA FESA</i>	<i>NT F&RS</i>	<i>Total</i>
370	58,643	51,378 ^b	48,398 ^c	14,820	3,990	26,555 ^d	200 ^e	207,154
		70,987 ^f						226,763
		67,000 ^g						222,776

^a Excluding juniors and cadets

^b number of active volunteers as shown by the central data base

^c extracted by M. Walshe from an Excel file on a CD ROM provided by B. Trembath

^d made up of 26,251 VF & RS and BFS volunteers and 304 FESA Unit volunteers

^e source: N. Brooks, personal communication, November 2003

^f total number of records (active, inactive, unknown) in the central data base

^g estimate based on brigades' records, M. Surrey, personal communication 29 June 2004

Despite the apparent precision shown in Table 1, the numbers can only be regarded as estimates of total volunteer workforces. The difficulties associated with NSW RFS having only converted from a Local Government (municipal) records system to a centralised records system in 2001 were discussed in Bushfire CRC D3 Report Number 2: 2004. Further, at any given time, an unknown number of volunteers will have left/joined an agency but their movements will not have been noted on a central records system.

Reports from most agencies (QLD F & RS is a notable exception) indicate that overall volunteer numbers have fallen over the last two or three years. However, as discussed in D3 Report Number 2: 2004, this reduction may be more apparent than real. One of the effects of increased concerns of agencies with OH & S issues and safety-related training standards has been closer scrutiny of volunteer memberships and removal of records of some whose active participation in brigade activities had effectively ceased. Thus, it is likely that least some of the previously reported declines in numbers represent reductions of "book entry volunteers" rather than genuine losses of effective volunteer firefighters.

Operational and Support Role Volunteers

Table 2 shows the numbers of operational and support role volunteer firefighters as reported by five rural fire services. As explained in D3 Report Number 2: 2004 neither NSW RFS nor WA FESA records information on volunteer role in the organisation (operational/support) currently, although FESA has indicated that they intend to do so in the future.

Table 2
Operational and support role volunteer numbers

	<i>ACT ESA</i>	<i>CFA</i>	<i>QLD F&RS</i>	<i>SA CFS</i>	<i>TFS</i>	<i>weighted overall % operational</i>
Operational	369	42,317	44,614	11,144	3,514	
Support	1	16,326	3,783	4,650	476	
Total	370	58,643	48,397	15,794	3,990	
% operational	100	72	92	71	88	80

Table 2 indicates considerable variation among the five agencies able to report numbers of operational versus support role volunteers in their percentage of volunteers occupying an operational role. ACT ESA appears to be in a particularly fortunate situation in that almost its entire volunteer workforce is qualified for an operational fire fighting role.

Greater, and more flexible, use of volunteers in support roles may be a worthwhile option for brigades to be encouraged to explore. It may be that greater use of volunteers in specific support roles may have the effect of reducing the overall work load on operational volunteers where overall volunteer numbers are lower than desirable.

As discussed in D3 Report Number 1: 2004 *Recruitment and Retention of Volunteers: Rural Fire Services' Issues and Initiatives*, there are sound reasons for agencies to review the roles available to volunteers which are formally distinguished in the organisation, as part of a longer term process of making rural fire service volunteering more attractive in the face of competing volunteering opportunities. At present, only one agency (CFA) is known to have commenced a review of non-operational volunteer role opportunities (Charles King, personal communication, 26 November, 2003).

Age Profiles of Volunteers

The following figures (Figure 1 – 7) show the age profiles reported by the seven participating agencies for their overall volunteer workforce (operational and non-operational volunteers combined). The additional Figures 5a (QLD F & RS), 6a (SA CFS), and 7a (TFS) show age profiles for operational role volunteers. (Note that for two agencies {NSW RFS and QLD F & RS} age data was available for only about half their total number of volunteers--see Table 3.) Finally, Figure 8 shows the age profile of Australian adult males aged 15 to 85+ years, based on ABS data, for comparison purposes.

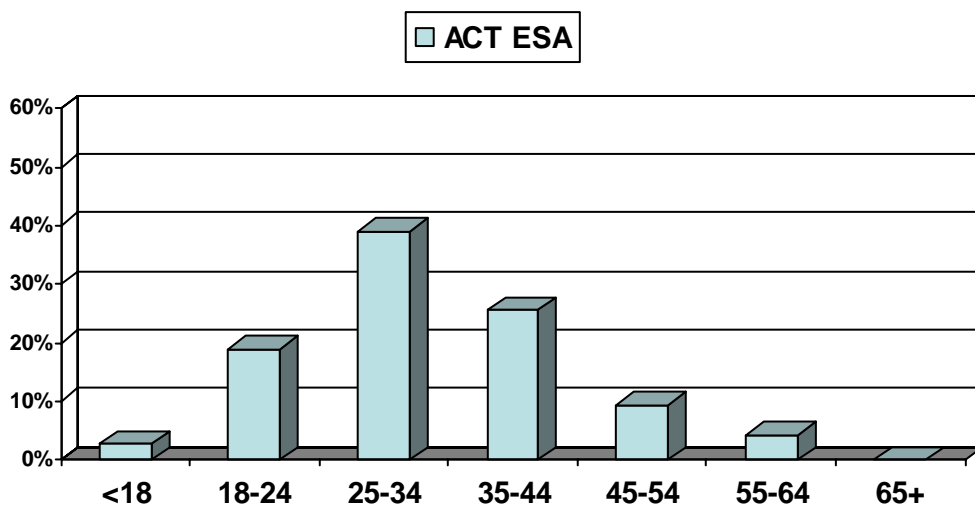


Figure 1 - ACT ESA ALL

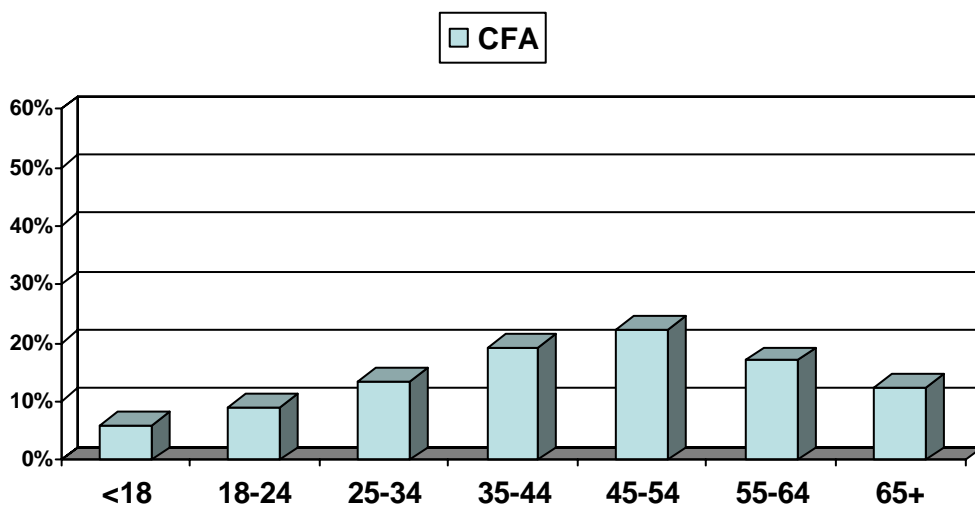


Figure 2 – CFA ALL

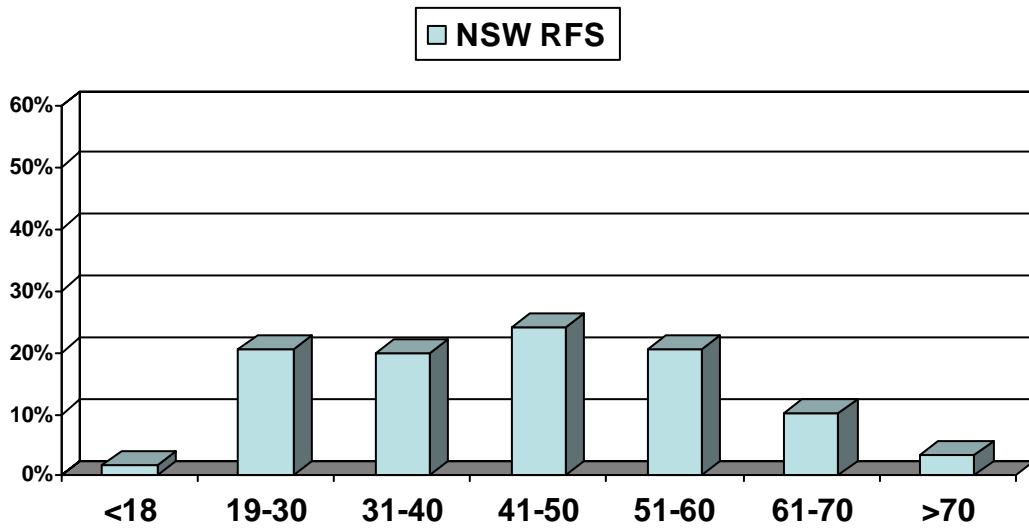


Figure 3 – NSW RFS ALL

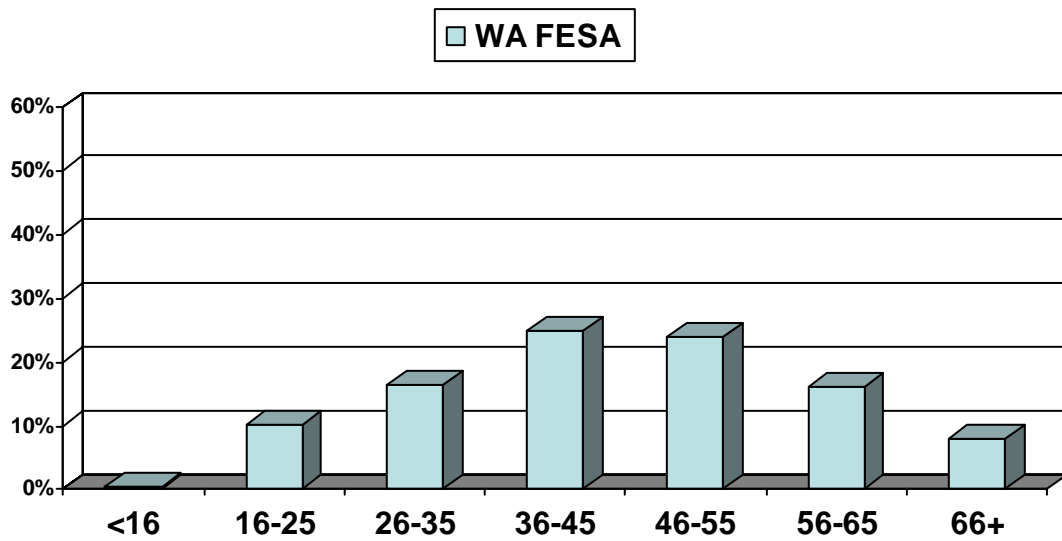


Figure 4 – WA FESA ALL

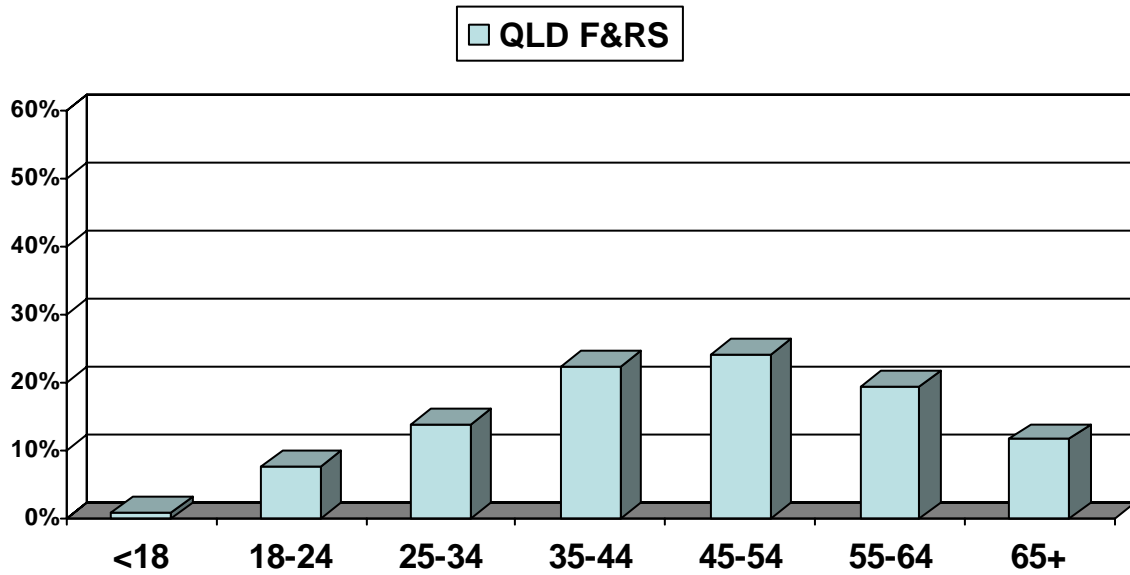


Figure 5 – QLD F&RS ALL

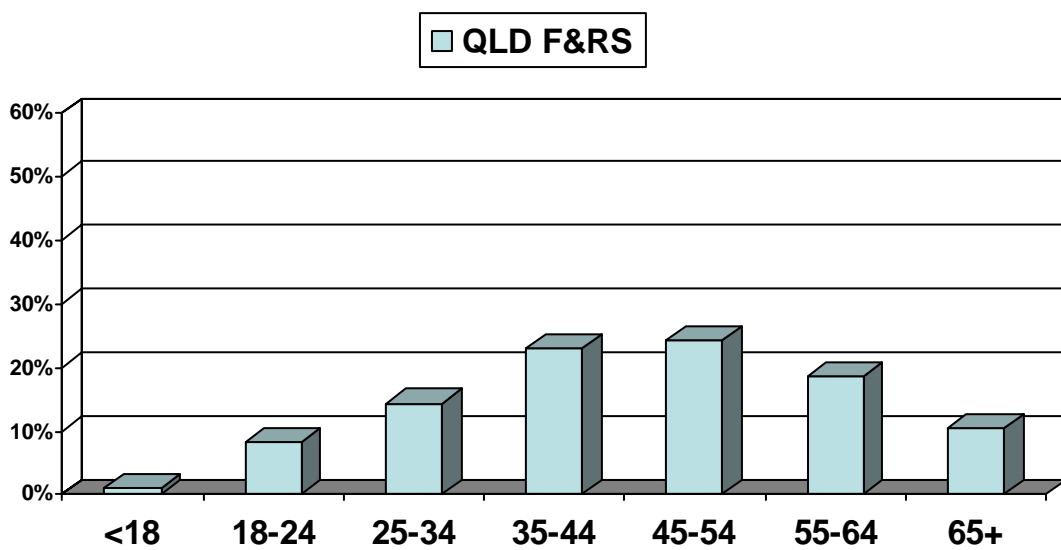


Figure 5a – QLD F&RS OPERATIONAL VOLUNTEERS

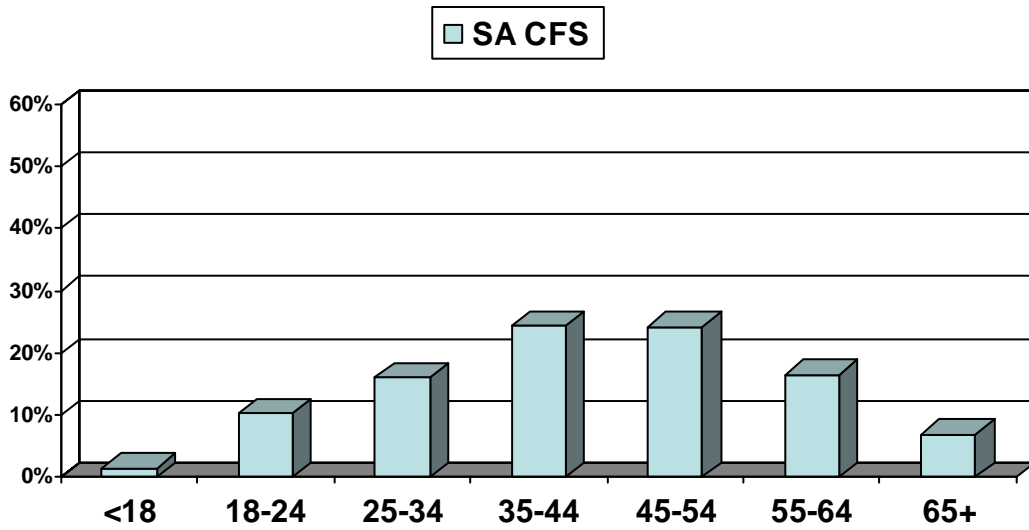


Figure 6 – SA CFS ALL

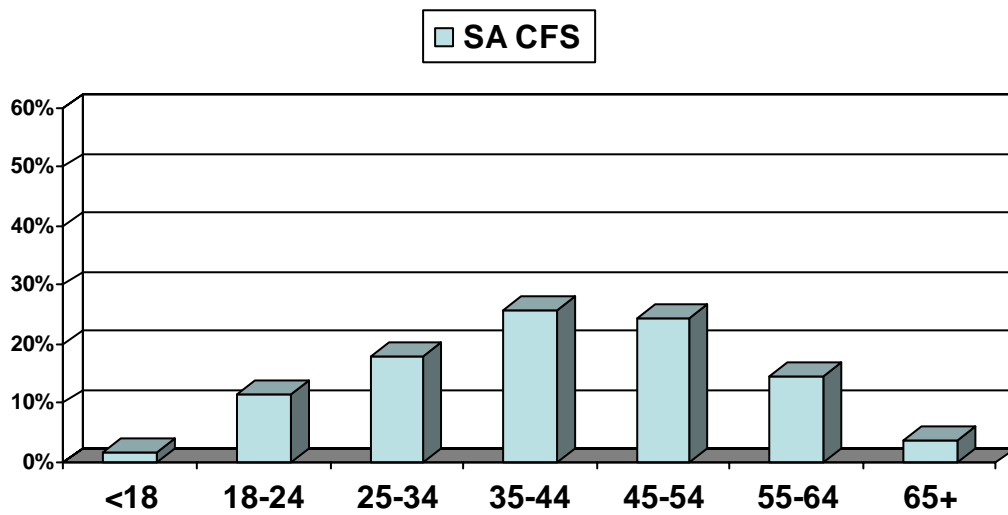


Figure 6a – SA CFS OPERATIONAL VOLUNTEERS

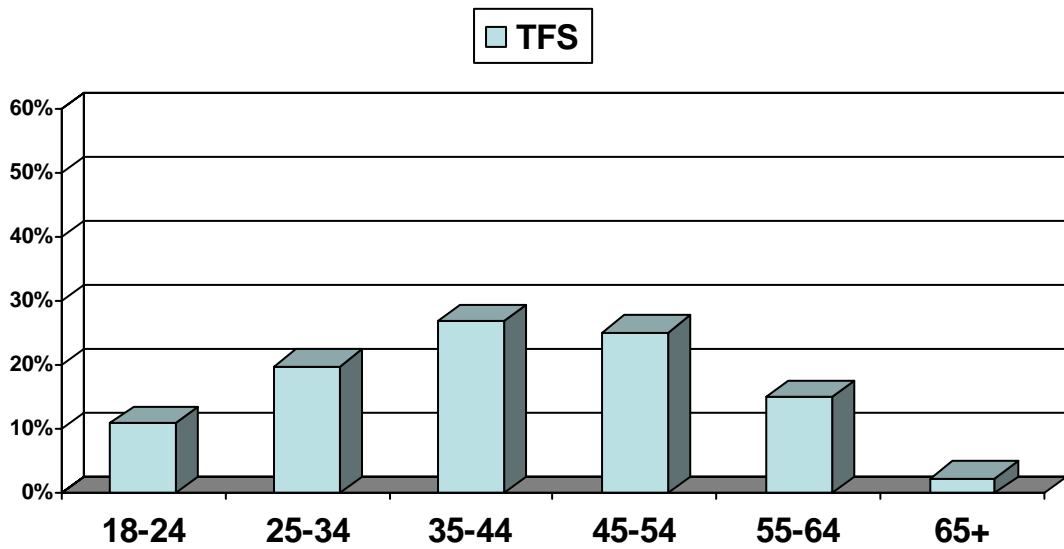


Figure 7 – TFS ALL

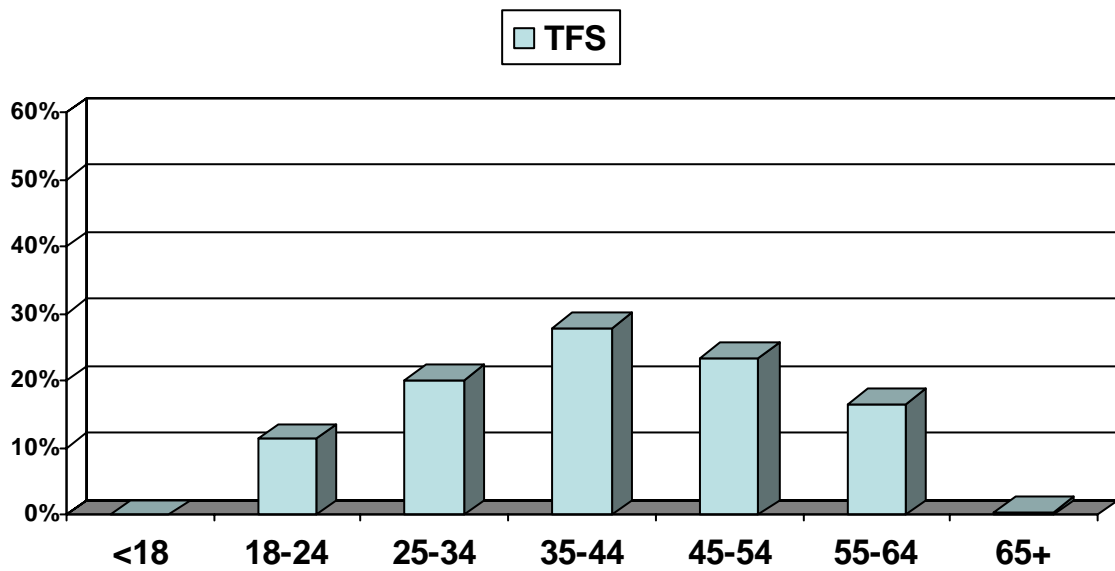


Figure 7a – TFS OPERATIONAL VOLUNTEERS

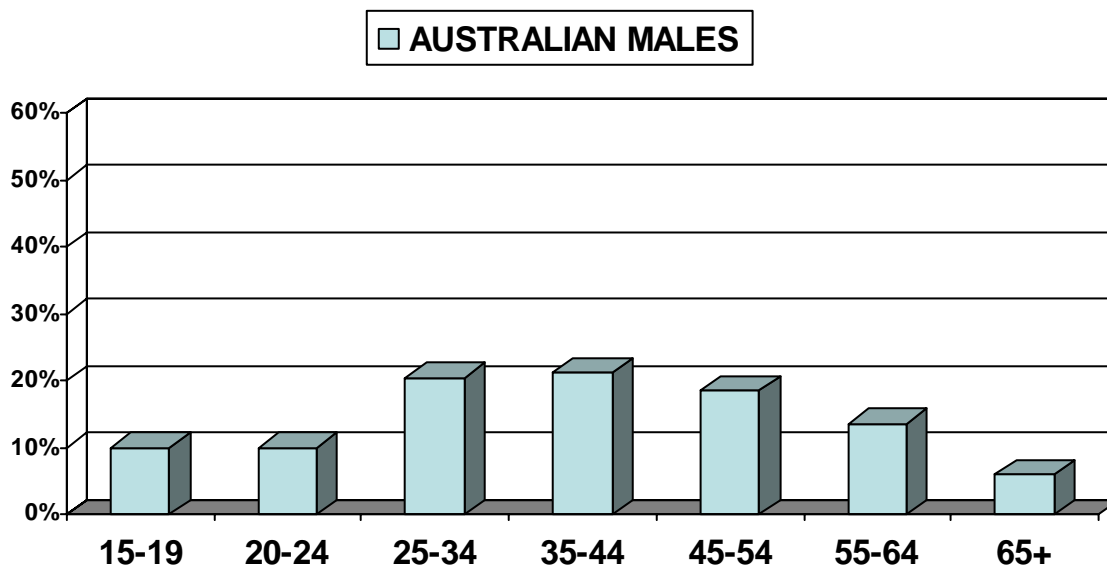


Figure 8 – AUSTRALIAN MALES 15 – 85+ (2003)
(ABS AusStats: 3201.0)

With the exception of the ACT (which has introduced minimum fitness standards for its operational firefighters, together with annual fitness testing) the profiles for agencies follow approximately the age distribution for adult males in the general Australian population (Figure 8): smaller proportions of volunteers in the 18-24 age bracket, significant proportions in the 55+ years age group.

It is the latter situation which should, perhaps, be of most concern for agencies. Operational firefighting requires some basic minimum level of health, strength and fitness—and, sadly, all three decline generally with age. It is noteworthy that, for the three agencies able to report volunteer age profile data for their operational volunteers, these profiles were not markedly different from their overall volunteer age profiles: there was little indication of dramatic reduction in the proportion of operational volunteers aged 55+ years.

Table 3 re-presents the age profile data in such a way as to highlight the proportion of volunteers aged 55 years or greater in each agency. (Next page.)

Table 3
Percentages of volunteers aged less than 25, 25-54, and 55 years or older.

	<i>Age Range</i>		
	<i>< 25</i>	<i>25 – 54</i>	<i>55+</i>
ACT ESA ^a	22%	74%	4%
CFA ^b	15%	55%	30%
NSW RFS ^{cd}	12%	63%	25%
QLD F & RS ^e	9%	60%	31%
SA CFS ^f	12%	65%	23%
TFS ^g	11%	72%	17%
WA FESA ^{hd}	9%	64%	27%

^aAges provided for 68% of volunteers

^bAges provided for 98% of volunteers

^cAges provided for (estimated) 50% of volunteers

^dPercentages calculated by interpolation within age-range data provided by the agency

^eAges provided for 48% of volunteers

^fAges provided for 93% of volunteers

^gAges provided for 95% of volunteers

^hAges provided for 96% of volunteers

The situation for the ACT ESA is a special case, given that the agency has introduced a policy of minimum fitness standards and annual fitness testing for operational firefighters. For the remaining six agencies, there is some variation in the proportion of their volunteers aged 55 years or more. The profile for TFS shows that only 17% of its volunteer workforce is aged over 55 year. However, for the remaining five agencies, the overall the corresponding figure ranges from almost one in four (SA CFS) to almost one in three (QLD F & RS).

It should be noted that the above age profile information (Figures 1 – 7a and Table 3) are based on total numbers for each state and territory. However, ABS demographic data indicates that volunteer age profiles are likely to be skewed towards older ages in rural areas. Agencies may wish to examine age profiles of their rural (as distinct from urban/rural fringes and major regional centres) volunteers more closely to develop a clearer picture of their true situation.

It is possible that more stringent O H & S fitness standards for operational firefighters might be imposed on rural fire services sometime in the future. Should that occur, the only data available to help predict the likely impact on rural fire services volunteers comes from the ACT ESA.

While the percentage of volunteers in the ACT ESA (which has minimum fitness requirements) aged 55 years or more is 4%, the average weighted percentage for the other six agencies (which currently have no minimum fitness requirements) is 28%. **IF** the 4% figure from the ACT ESA accurately estimates the percentage of 55+ year old volunteers likely to meet minimum fitness standards for operational firefighting, **then, ceterus paribus**, the other six rural fire services would be faced with the daunting task of recruiting a total (nationally) of approximately 53,000 additional (fit) volunteers aged less than 55 years. (Calculation: assume a total volunteer workforce of 222,000 {Table 1}; assume that 28% of this is aged over 55 years, $222,000 \times 0.28 = 62,000$ approximately; if fitness standards meant that only 4% of the volunteer workforce was aged over 55 years, the number would be $222,000 \times .04 = 9,000$ approximately; $62,000 - 9,000 = 53,000$.) Of course, this exercise is intended only to illustrate a potential difficulty for rural fire services in a possible future—it is not offered as a serious prediction.

Length of Service Profiles of Volunteers

Figures 9 and 10 show length of service profiles for QLD F & RS and TFS volunteers, respectively. Figures 9a and 10a show length of services profiles for operational role volunteers.

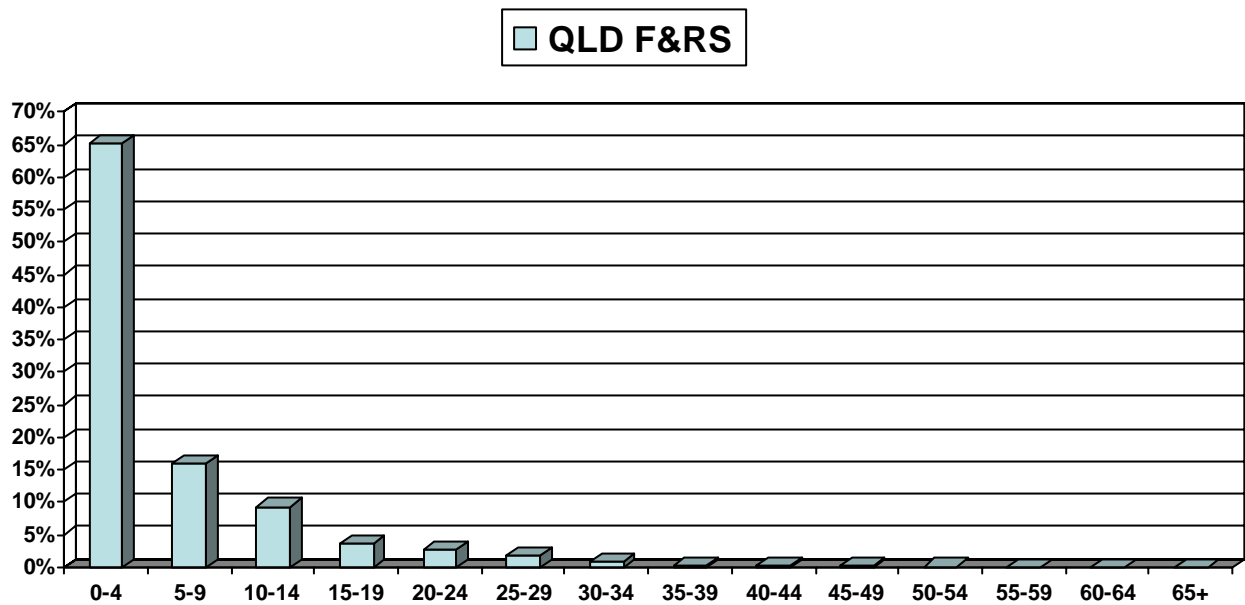


Figure 9 – QLD F&RS ALL

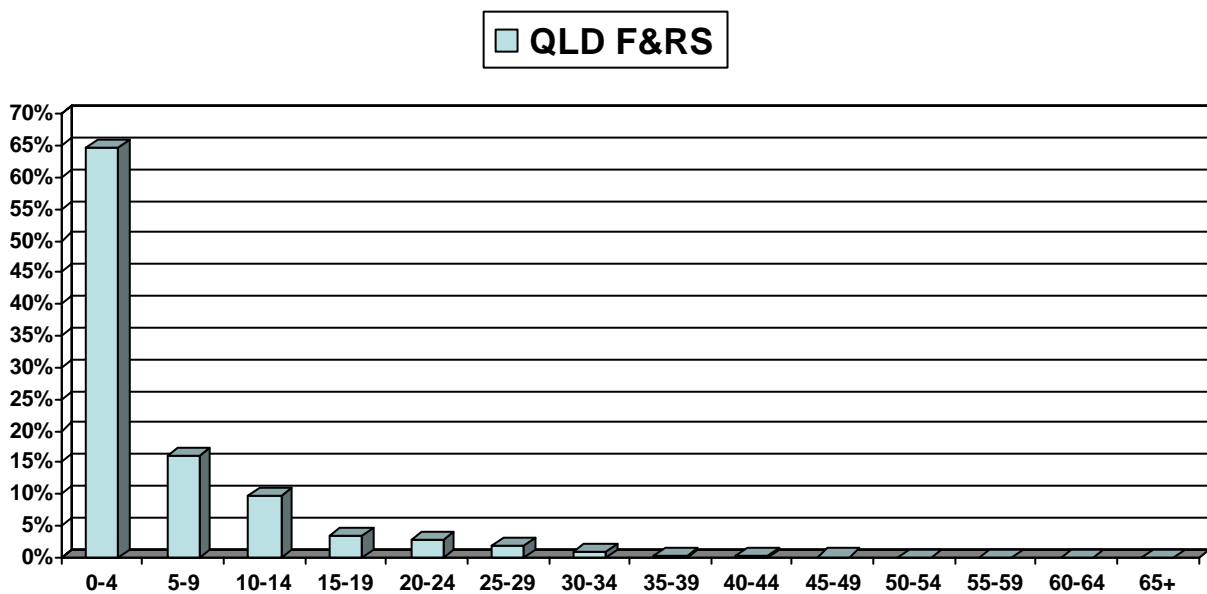


Figure 9a – QLD F&RS OPERATIONAL VOLUNTEERS

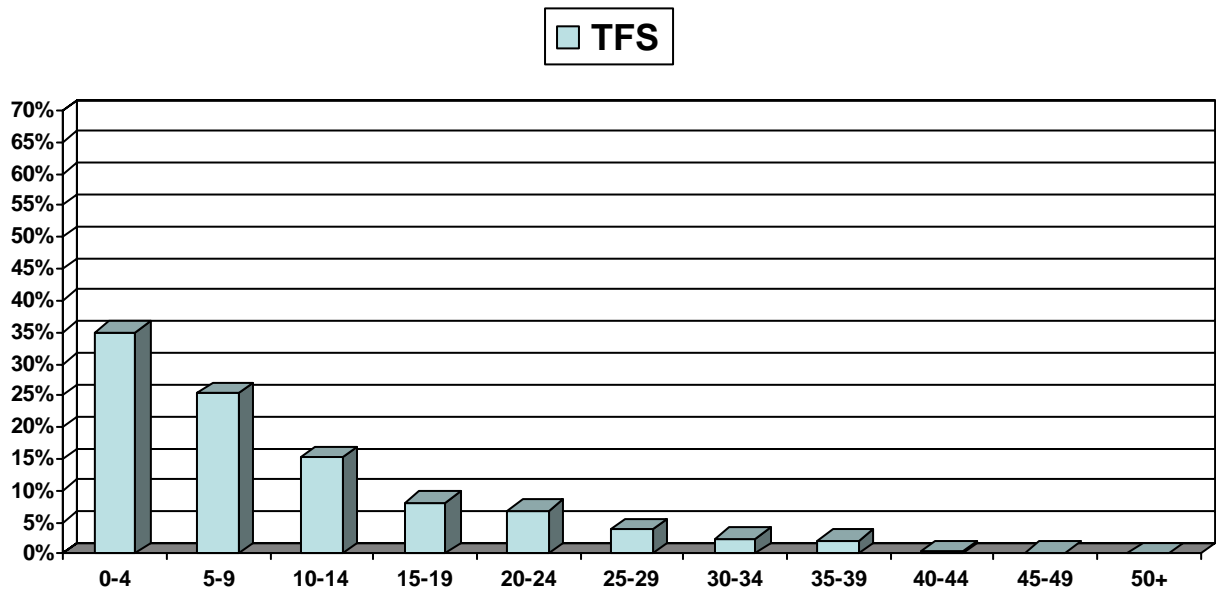


Figure 10 – TFS ALL

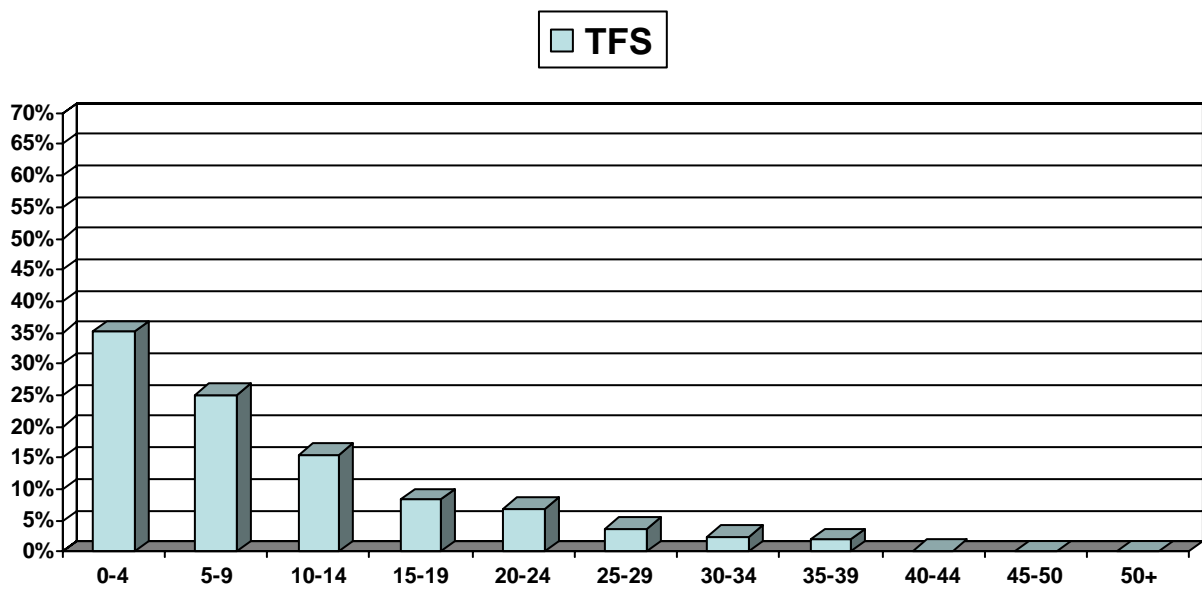


Figure 10a – TFS OPERATIONAL VOLUNTEERS

With only two agencies reporting volunteers' length of service data it is difficult to draw any conclusions.

While nearly two-thirds (65%) of QLD F & RS volunteers (apparently) have less than five years of service, length of service information was available for only 52% of the total volunteer workforce. Many factors might potentially account for the QLD F & RS data. The most obvious being the possibility that incomplete records may be more likely among longer serving volunteers. The agency may wish to examine the data base for factors which might account for the finding. As discussed in D3 Volunteerism Report 1: 2004, *Recruitment and Retention of Volunteers: Rural Fire Services' Issues and Initiatives*, a genuine increase in the percentage of a workforce with less than three years of experience may signal an overall deterioration in the knowledge- and skill-base of that workforce.

For TFS, 35% (almost half the QLD F & RS figure) of volunteers had lengths of service of less than five years--length of service information was provided for all volunteers.

Women Volunteers

Tables 4 and 5 below present information on women volunteers in the seven participating agencies.

Table 4
Total numbers of volunteers, total numbers of women volunteers, overall participation rates of women.

	<i>ACT ESA</i>	<i>CFA</i>	<i>NSW RFS</i>	<i>QLD F&RFS</i>	<i>SA CFS</i>	<i>TFS</i>	<i>WA FESA</i>	<i>Total</i>
Total	370	58,643	51,378	48,398	14,820	3,990	26,555	206,954
Women	57	9,168	7,522	9,223	3,460	482	5,792	35,704
% of total	15	16	18	19	22	12	24	17

The above table indicates that there is considerable variation among agencies in the relative proportions of male and female volunteers, with the female participation rate in WA FESA (24%) being twice that for TFS (12%).

Presumably the underlying reasons for the observed differences are complex, associated with geographical, economic, and demographic factors, as well as agency history and tradition.

Table 5 below presents information on the participation of women volunteers in operational roles, for the five agencies which collect information differentiating operational from support role volunteers.

Table 5
Total numbers of women volunteers, women in operational roles, and percentages of women volunteers in operational roles (percentage men in operational roles provided for comparison purposes).

	<i>ACT ESA</i>	<i>CFA</i>	<i>QLD F & RS</i>	<i>SA CFS</i>	<i>TFS</i>	<i>Total</i>
Total women volunteers	57	9,168	9,223	3,460	482	22,390
Women in operational roles	56	4,607	7,150	2,226	372	14,039
% women in operational roles	98	50	78	64	77	63
(% men in operational roles	100	76	96	80	90	85)

Table 5 suggests that the variations among agencies in participation rates of women volunteers in operational roles is even greater than the differences in overall womens' participation rates shown in Table 4. Setting aside the ACT ESA as a special case, the operational role participation rate for women in QLD F & RS (78%) is approximately 1.5 times that for CFA (50%).

Annual Attrition Rates of Volunteers

Table 6 shows the number of volunteers leaving each agency in the previous 12 months for any reason, total volunteer strengths, and corresponding attrition rates. Note that QLD F & RS and WA FESA were unable to provide information on volunteer attrition.

Table 6
Annual attrition rate for volunteers over the previous 12 months, all causes: operational and support role volunteers combined

	<i>ACT ESA</i>	<i>CFA</i>	<i>NSW RFS</i>	<i>QLD F&RS</i>	<i>SA CFS</i>	<i>TFS</i>	<i>WA FESA</i>
Total volunteers	370	58,643	67,000	48,398	14,820	3,990	26,555
Annual loss	107 ^c	3,718	5,830	NA	1,540 ^a	550 ^b	NA
Attrition Rate %	28.92	6.34	8.70	NA	10.39	13.78	NA

NA = not available

^aHigher than usual, resulting from a detailed check of records, Eileen Dunlop, personal communication, May 2004.

^bHigher than usual, resulting from a detailed check of records, Gerald Kutzner, personal communication, June 2004.

^cHigher than usual, resulting from (a) a detailed check of records, and (b) factors associated with the Canberra fires of 2003 and the aftermath, David Tunbridge, personal communication, July 2004.

Across the five agencies able to report annual attrition rates, there is considerable variation. Three agencies reported the impact of particular factors likely to have led to an atypical increase for 2003/4. The weighted average attrition rate for the five agencies was 8.1%.

Given the large numbers of volunteers in the bigger rural fire services, even quite modest reductions in overall attrition rates would translate into significantly fewer new volunteers needing to be recruited, trained, and equipped—with consequent savings in agency resources. Any such reductions in attrition rates would be especially valuable if these impacted particularly on retaining volunteers in the 18-35 years age range.

Overall attrition rates say nothing about the reasons why volunteers leave rural fire services. The potential contribution of exit interviews and surveys for volunteers to increasing understanding of volunteer attrition was discussed in Bushfire CRC Occasional Report Number 2004: 1.

Discussion

The material in this Report demonstrates significant gaps in the information available concerning the demographic make-up of Australia's volunteer firefighter workforce. As noted previously, general issues associated with volunteer workforce demographic data collection, management, and analysis were discussed in Bushfire CRC D3 Report Number 2: 2004. Rural fire services senior management groups will doubtless make decisions about the importance of their volunteer data bases, relative to other competing needs.

However, the material presented highlights the potential seriousness, if this needed highlighting, of an ageing rural volunteer firefighter workforce. The information presented also suggests a need for some agencies to investigate factors associated with relatively lower participation rates of women in their volunteer workforce. Finally, the importance of every agency knowing, and understanding the factors associated with, their annual volunteer attrition rate cannot be emphasised too strongly.

This Report concludes a trilogy of reports produced as part of the first phase of the Bushfire CRC D3 Volunteerism Project, summarising important baseline information related to Australia's volunteer firefighter workforce. The next set of project deliverables consists of: (a) a review of previous research which has addressed a range of topics potentially related to volunteers and their communities; and, (b) an agreed upon set of research priorities (subject to ongoing review and revision to meet agencies' needs) to be addressed over the life of the D3 Volunteerism project.

It is anticipated that empirical research with agencies into priority issues associated with recruitment and retention of volunteers will commence in the next two months.

By way of concluding, it should be noted that the ability of a rural fire service to implement and evaluate the effectiveness of initiatives for recruiting and retaining volunteers, stemming from CRC Volunteerism (D3) Project research activities, will be somewhat limited if the volunteer data base, and data base management and analysis systems are inadequate to support effective human resources planning.

Acknowledgements

Thanks to the following for providing the basis of the information reported here:

ACT ESA	David Tunbridge
CFA VIC	Charles King
NSW RFS	Helen Carlos
QLD F & RS	Bernie Trembath
SA CFS/ESAU	Eileen Dunlop
TFS	Gerald Kutzner
WA FESA	Julie Cook

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Mary Bertoldi, La Trobe University CRC Projects Administrative Officer, assisted in preparing the Report.

The author is solely responsible for the views expressed in the Report

Additional copies of this Report are available from Mary Bertoldi:
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Appendix A: Request sent to rural fire services for statistical information on demographic characteristics of their volunteer workforce

Bushfire CRC Volunteers Project: National Profile of Volunteer Firefighters

1. One of the required tasks of the Volunteers Project is to write a Report describing the National profile of volunteer firefighters and I am seeking your assistance in this. What I need is some information on your volunteers, as generated by your data system. I do NOT want any special programming or time-consuming manual compilation—just what your present volunteer data management system can “routinely” generate on request.
2. Note that I want to try to combine as much data across agencies as I can, so I need numbers, not diagrams or charts or percentages –if your system generates diagrams or charts automatically fine, so long as the raw numbers can be extracted by me.
3. I have listed what I want. For each, if your data management system is not configured to produce it, simply indicate “not available”.
4. My preference is for end-December 2003 data, but if your system only generates end-June 2003 (financial year) data, that is fine.
5. The list of what I am requesting:
 - (a) Total number of active volunteer firefighters [active as distinct from on leave, on reserve lists etc—include both operational AND support role volunteers].
 - (b) Total number of operational volunteers and support role volunteers
 - (c) Total number of active male volunteers
 - (d) Total number of active female volunteers
 - (e) Total number of active operational Male volunteers
 - (f) Total number of active operational Female volunteers
 - (g) Age distribution of active male volunteers
 - (h) Age distribution of active female volunteers
 - (i) Age distribution of active male operational volunteers
 - (j) Age distribution of active male support role volunteers
 - (k) Age distribution of active female operational volunteers
 - (l) Age distribution of active female support role volunteers
 - (m) Years of service distribution of active male operational volunteers
 - (n) Years of service distribution of active male support volunteers
 - (o) Years of service distribution of active female operational volunteers
 - (p) Years of service distribution of active female support volunteers
 - (q) Table of volunteer numbers by level of education – males
 - (r) Table of volunteer numbers by level of education – females
 - (s) Table of employer industry types by number of volunteers in each – males
 - (t) Table of employer industry types by number of volunteers in each- females
 - (u) The number of volunteers leaving the organisation (all reasons) in the previous 12 months
6. I realise the above is lengthy—I am casting the net widely to get a clear picture of what kinds of things we can, and cannot, say about our volunteer firefighters.
7. If you believe that additional information which I have not asked for would be useful, please let me know. If anything I have asked for is unclear, please check with me.
8. If at all possible, I would like the material by Friday, 4 June 2004.

---Thanks in anticipation,

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