

Introduction

Human induced actions are increasingly threatening the environment in which we live in. On a global scale this is highly evident but it is in our local environments that these poor attitudes towards the environment start. Little attention is given to our local environments and many residents are unaware of the impacts that their actions have. With an increase in non-natives plants being used in gardens, many of these non-native species are creeping into our pristine bushland, threatening native flora and fauna. Water run off and fertilisers are also promoting noxious weed growth in bushland further throwing out the delicate ecological balance. In light of this, this study has been commissioned to highlight how the Bushcare volunteer group promotes an awareness of the environment and thus acts as a building block upon which can be used to reverse this growing trend of environmental degradation. This study hopes to provide insight into the attitudes towards the environment of the everyday individual and of the more environmentally caring individual (Bushcare volunteers). It will show that volunteer bush regeneration groups not only have a positive impact on the environment but also a positive change within society. Lastly, the study will be used by the Bushcare team to evaluate the education effectiveness of the program to further develop and expand the Bushcare organisation.

Objective

The objective of this research was to determine how participation in the Bushcare volunteer program could provide individuals with positive educational benefits. The research aimed to show that through participation in this program, participants would gain firstly, a solid education in bush regeneration, local environmental issues, and weed identification. Secondly, that the participants would gain a more positive holistic approach to the environment in general, and would promote environmental awareness to family, friends and neighbours. Therefore, the aim is to study behavioural change towards the environment by showing that a clear change of opinion and actions towards the environment occurs in these participants. This will showcase that the Bushcare program is not just beneficial to the environment but also the individuals and society as a whole. Through these findings, the Bushcare team will be able to see if their programs are not only have a positive outcomes on the environment but also on the individual

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through providing further guidance for the team in development and expansion. This study follows the key premises of Bushcare's founding *"Originally the focus was on weed removal; these days the Bushcare approach is more strategic. The Bushcare program empowers residents, through education and support, and has spin-off benefits such as improving social cohesiveness as neighbours get to know one another. And of course it makes a real difference to the ecology and environmental health of our bushland"*.

Method

Firstly, a survey was conducted at a local shopping mall, St Ives Shopping Village, in the heart of the Ku-ring-gai district. This survey was conducted to gain a sense of the attitudes towards the environment of normal everyday residents. The results of this survey will be compared with the online survey distributed to the Bushcare volunteers and it is hoped, show how the Bushcare program increases awareness and educates participants as opposed to those who are not apart of Bushcare.

The survey conducted at St Ives shopping village consisted of 27 questions in two sections. Section one was a series of 11 questions, comprising Yes/No choices. Question 11 asked respondents to name 2 reasons for the causes of weeds; this was the only qualitative question in the survey. Questions 12-27 were conducted using a likert scale from 1-5 (strongly disagree, disagree, neutral, agree, strongly agree). Over the course of a 3-hour period 20 residents filled out this survey. Respondents ranged in age and sex and no bias towards approaching potential participants in the survey was taken. These surveys it is predicted will show a lower environmental awareness than those respondents in the Bushcare survey. The data from these surveys will be inputted into excel.

Secondly, an online survey generated on SurveyMonkey was sent out to the entire email database of 505 Bushcare volunteers. This survey was conducted between September 2012 and November 2012. The link to the survey was sent out via email to volunteers asking them to participant in the survey for the purposes of evaluating and further improving the Bushcare program. The survey ensured that all participants remained anonymous and it was stated that there was no requirement to participate. No follow up emails were sent prompting participation

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in the survey. This survey was quantitative and qualitative based, designed with a range of differing question formats.

The online survey was divided into four sections: 1) Demographic data, history, experience and reasons for joining Bushcare; 2) referred to the participants knowledge, thoughts, opinions and practices towards the environment *before* they commenced volunteering in Bushcare (participants were encouraged to be as reflective as possible to eliminate as much bias as possible. It is also worthy to note at this point that the data collected in this section does not fully correspond with later sections. This was a flaw in the survey design and will be discussed in the results section); 3) deals with participants knowledge, thoughts, opinions and practices towards the environment *after* they started in the Bushcare program; 4) contains text boxes in which respondents were asked to briefly write a response in answer to the question posed (environmental awareness, educational benefits & program improvement). These questions were aimed at uncovering opinions not able to be expressed through a quantitative survey format. The survey was focused on showing a clear distinction between the attitudes towards the environment before and after starting in the Bushcare program. Through this a contrast, it was hoped that a clear behavioural change towards the environment would become visible. Analyses of this survey will be accommodated by SurveyMonkey.

RESULTS

Public survey

The results of the survey conducted on randomly selected residents in St Ives Shopping Village was unexpected, as the results showed an alternative outcome than the proposed hypothesis. From the results there is a clear disconnect between the hypothesis and the data gained. The 20 respondents surveyed display an environmentally aware and environmentally concerned view. The results of section 1 can be found in table 1. Of the 20 participants surveyed 90% are residents of the Ku-ring-gai district, with 50% having heard of the Bushcare program. Surprisingly 80% of respondents said they would consider joining a Bushcare group. This high percentage of participants expressing interest in potentially joining a Bushcare group may be

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explained by Q.4, with 75% answering that they live adjoining bushland or in close proximity to it. Reasons for not having joined a group were not explored however, all respondents were given brochures on the Bushcare and Wildthings programs and were encouraged to think about joining. While conducting the surveys it was interesting to see children became engaged by the Wildthings sign and show interest (primary school aged), many parents approached and were given brochures but in the majority of cases these individuals did not fill out a survey. This may indicate that the closer an individual lives to the bush the more willing they are to join the Bushcare program. Suggestions given in the Bushcare survey stressed the need for younger recruits to be targeted. Primary school involvement through local bush regeneration projects could be a potentially rich source of involving the younger generation and educating them on environmental concerns.

Another area that was explored through the surveys was respondent's knowledge about weed causation. Table 2 displays the reasons given by respondents for the causes of weeds. When compared with the answers given by the Bushcare volunteers it becomes noticeable that there is no discernibly clear distinction between the two groups, with non-Bushcare residents having a sound knowledge of the causes of weeds. The Bushcare responses do on the other hand display a deeper understanding, suggesting that education through this program is helping build a strong knowledge base in the volunteers.

Table 3 displays the respondent's attitudes towards the environment and displays their opinions towards actions that may have a negative impact upon it and conversely, actions that promote environmental sustainability. The surveys conducted on the general public also show that the majority of the respondents care about environmental issues, 10% agree and 60% strongly agree. They also believe that the 'environment needs protecting' with 30% agreeing and 70% strongly agreeing. 90% (agree & strongly agree) of respondents also identified that they actively try to be environmentally friendly in their everyday lives. However, 85% either agreed or strongly agreed that they let their cats outdoors at night (q.24). This is one area that is in contrast to Bushcare volunteer's answers with the majority responding that they strongly disagree to allowing cats outdoors at night. It is however evident that the majority of the small sample surveyed do indeed display a higher awareness of the environment than was predicted.

Online survey (Bushcare volunteers)

Of the 505 email invitations sent out to the Bushcare volunteers 96 responded. This is a 19% response rate. Firstly, it cannot be assumed that the 96 respondents make up a representative sample of the whole Bushcare organisation and thus, the results may be biased towards portraying Bushcare in a more favourable light as well as displaying a higher environmentally aware outlook. A larger number of respondents would make the results more valid.

Of the 96 respondents 51.5% were female and 48.5% male with the mean age between 51-70 years old. The results have indicated that a small percentage of volunteers are young 3.2% between the ages of 18-30. This is one possible area that could be targeted for recruitment, as it is the younger generations that will need to care for the environment in the future. Years of volunteering in Bushcare were diverse with similar results across all ranges of answers (1year-15 years). More than half of respondents identified themselves as being of an intermediate skill level (54.6%). For the majority of respondents Bushcare was heard about either through friends (25.3%) or neighbours (44%). Many also stated that they heard about Bushcare through leaflets in the mail. The targeting of residents living close or on bushland may show great potential for recruitment. 67.6% responded that they only spend 3hours per month participating in Bushcare. Written responses showed that 17 individuals identified as doing only 2hrs per month or less. Perhaps an increase in incentives (provided by Council) would see an increase in hours per month. An increase in incentives was also stated by respondents as a way of possibly boosting member numbers and current members hours of participation. It is interesting to note that there were few suggestions on incentives that could be given. Lastly, the results showed that joining 'to make friends', or to 'keep busy' was of a low priority where as 'improving the environment' saw an 86.3% choice rate.

Section 2 (thoughts/actions *before* joining Bushcare) unfortunately was poorly worded and as such has made it difficult for cross tabulation with section 3 (thoughts/actions *after* joining Bushcare). However, eight questions were worded identically in section 3 & 4, which has allowed for a reliable comparison to be made between before and after behavioural patterns. The questions are; I did/do all I could to recycle, I thought/think weeds are detrimental to the environment, I thought/think weeds provided essential habitat, I saw/see weeds as just something needing to be removed from my garden, I agreed/agree with the climate change theory, I fertilise(d) my garden, I allow(ed) my cats outdoors at night, I dumped/dump and encroached upon bushland. These eight questions had no significant change between

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respondents before and after opinions. In this case it would appear that the respondents have not gained any educational benefits and have neither displayed any positive behavioural change as a result of participating in Bushcare. It may also indicate that these individuals already highly cared for the environment and were aware of ways of negating negative impacts upon the environment.

The remaining questions from section 3 similarly, show that the majority of respondents were also highly aware of the environment, environmental issues, and their actions upon the environment. These results combined with the qualitative data, highlights that many of the respondents were already highly conscious of the environment and already possessed a passion and in some cases were already part of bush regeneration groups. These results therefore are biased and cannot be effectively used to evaluate the education benefits of the Bushcare program. In future, better wording would have yielded more accurate results. The results do however reveal certain personality traits associated with Bushcare volunteers, that they are individuals already possessing a passion for the environment and bush regeneration. The answers provided from Q.9 also highlight that 0% of respondents had a negative outlook before starting. It is these people, the environmentally unaware/unconcerned that the Bushcare program will have the most impact upon. With that said it is these individuals that are hardest to recruit and 'convert'.

Section 4 (after joining Bushcare) shows participants of the Bushcare program have indeed gained a more environmentally aware perspective and have been educated due to participating in Bushcare. 79.1% agree that they now know more about environmental issues, 83.7% are more aware of actions that impact negatively upon the environment and 87.9% are more aware of the results their actions have upon the environment. Furthermore, 45.5% agree and 48.9% strongly agree that environmental issues concern them. In comparison to the public survey, this is a much higher agreement rate. There has also been a swing from a majority of disagree (before joining BC) to agree (after joining BC) in regards Council and National Parks needing help to maintain the bush and eradicate weeds. This is a positive outcome for the program, as word of mouth to family and friends will possibly promote an increase in membership. These results show a clear change in behaviour towards actions and thoughts in regarding to the environment. It is apparent that due to participating in a Bushcare group over 84% of all respondents have gained educational benefits as well as a more holistic outlook on the

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environment. This is a great result as it shows the success the Bushcare program has had on these 84% of respondents.

When asked to comment on the educational benefits of the program there were many common answers; weed identification, bush regeneration techniques, better able to protect native flora and fauna, weed control strategies, increased environmental awareness, plant identification, aware of flow on effects of personal actions (e.g. fertilisers), and an increased appreciation of the bush. These answers additionally confirm the results from section 3 showing that from participating in Bushcare volunteers have gained knowledge and practical skills through the program.

In addition, when asked to comment if, or how their attitudes had changed since becoming a Bushcare volunteer, there were also common themes in the answers given they included; increased awareness of weeds and their impacts, a general increase in bushland awareness as well as environmental concerns and problems. One respondent answered “I feel more protective of the bush and wildlife in our area. We decided not to have a cat anymore even though we kept it in at night it liked skinks during the day. We found a snake in the cellar and just let it be. I didn’t kill spiders beforehand and I still don’t use pesticide unless really necessary” this quote displays how much of a positive impact the Bushcare program has had on this one individual (for other similar responses please see the results). The most common answer given to the question was “it hasn’t, I was already environmentally aware”. This result suggests that the already environmentally aware and concerned individuals make up a large number of current Bushcare members (please see results for complete list of responses).

When asked to comment on any improvements that could be made to the program there were similarly many comparable answers; recruit more volunteers from younger ages, more publicity and sustained recruitment, follow-ups by Bushcare leaders so groups don’t feel isolated, clearer policy on mission and direction of program, increase in education programs and provide more incentives for participation (please see results for complete list of responses).

DISCUSSION

The study was designed to provide a comprehensive analysis of the educational benefits provided through the Bushcare program. Based on the results from the two surveys it is highly evident that the Bushcare program does indeed educate members across a range of topics relating to the environment. Furthermore, it is also evident through the surveys that the Bushcare members not only change their actions to reflect their new mindsets but they also display a more positive holistic approach towards the environment. We can conclude that the hypothesis of the research project has thus been proven.

There were a few flaws in the survey design, which must also be mentioned. Firstly, section 2 & 3 are not worded identically which has not allowed for a precise comparison to be made between before and after (joining Bushcare). Secondly, as the survey was sent to the entire Bushcare email database (505 invitations) and 19% (96) of these responded, we cannot rely on the data to be reflective of a representative sample of all the Bushcare members. As the survey was not sent out to a random selection of this population, the results may reflect a biased view towards portraying the educational benefits gained in a positive light. Also as many of the respondents acknowledged they were already highly aware, and in some instances involved in bush regeneration and environmental protection groups, it can be assumed not all responses given reflect a valid answer towards the hypothesis.

APPENDIX

Table 1

QUESTION NO.	RESPONSES	YES / NO	PERCENTAGE OF TOTAL QUESTIONS
1.I live with the KC district	18	Yes	90%
	2	No	10%
2. Have you heard of the BC program?	10	Yes	50%
	10	No	50%
3.Would you consider joining a BC group	16	Yes	80%
	4	No	20%
4. Do you live in close proximity or on bushland	15	Yes	75%
	5	No	25%
5.Do you have a garden at your place of residence	20	Yes	100%
	0	No	0%
6.Do you regularly tend to your garden	11	Yes	55%
	9	No	45%
7.Do you have native plants in your garden	14	Yes	70%
	6	No	30%
8.Do you fertilise your garden	13	Yes	65%
	7	No	35%
9.Do you use pesticides	6	Yes	30%
	14	No	70%

Table 2

<u>WIND</u>	Blown seeds
	Wind
	Wind spread
<u>BIRDS</u>	Birds (x2)
	Bird droppings (x3)
<u>HUMAN INDUCED</u>	Mowing
	Poor maintenance
	Carelessness
	Irresponsibility
	Impact of housing
	Neighbours (x2)
	Insufficient knowledge of weeds
<u>UNSURE</u>	x6
<u>FERTELISER</u>	Fertiliser
	Fertilising your garden
	Over fertilisation
<u>WATER</u>	Run-off (x2)
<u>INTRODUCED SPECIES</u>	Non-native bush
	Non-native plants
	Foreign plant life

Table 3

1.Strongly disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly agree

QUESTION NO.	RESPONSES	VALUE 1-5	PERCENTAGE OF VALUE
12.Weeds are harmful to the environment	2	1	10%
	1	2	5%
	8	3	40%
	10	4	50%
	5	5	25%
13.Weeds are an essential part of animal habitats	4	1	20%
	5	2	25%
	6	3	30%
	4	4	20%
	1	5	5%
14. Its Councils job to remove weeds from the bush	1	1	5%
	3	2	15%
	11	3	55%
	2	4	10%
	3	5	15%

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15. Weeds are easy to remove	5	1	25%
	3	2	15%
	11	3	55%
	1	4	5%
	0	5	0%
16. I fertilise my garden	6	1	30%
	1	2	5%
	4	3	20%
	5	4	25%
	4	5	20%
17. Our environment needs protecting	0	1	0%
	0	2	0%
	0	3	0%
	6	4	30%
	14	5	70%
18. I care about environmental issues	0	1	0%
	1	2	5%
	5	3	25%
	2	4	10%
	12	5	60%
19. I do all I can to recycle	0	1	0%
	1	2	5%
	5	3	25%
	2	4	10%
	12	5	60%
20. I believe climate change is of concern	0	1	0%
	1	2	5%
	2	3	10%
	6	4	30%
	11	5	55%
21. I believe native plants are important	4	1	20%
	2	2	10%
	3	3	15%
	4	4	20%
	7	5	35%
22. I pay attention to environmental issues	0	1	0%
	1	2	5%
	0	3	0%
	7	4	35%
	12	5	60%
23. I respect the environment	0	1	0%
	1	2	5%
	5	3	25%
	6	4	30%
	8	5	40%

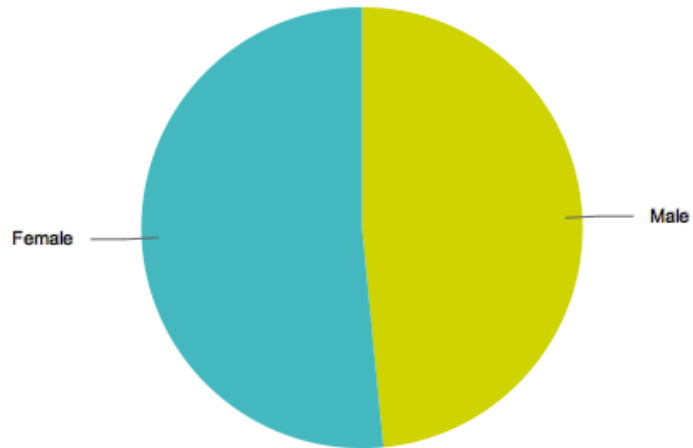
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24. I let my cat(s) outdoors at night	0	1	0%
	0	2	0%
	1	3	5%
	6	4	30%
	13	5	65%
25. I'm aware of the impacts my actions have on the environment	7	1	35%
	0	2	0%
	4	3	20%
	2	4	10%
	7	5	35%
26. I try to be environmentally friendly	1	1	5%
	1	2	5%
	0	3	0%
	8	4	40%
	10	5	50%
27. I put my green waste in bush land off my property	14	1	70%
	2	2	10%
	2	3	10%
	1	4	5%
	1	5	5%

SECTION 1

Please select your sex

Answered: 97 Skipped: 0



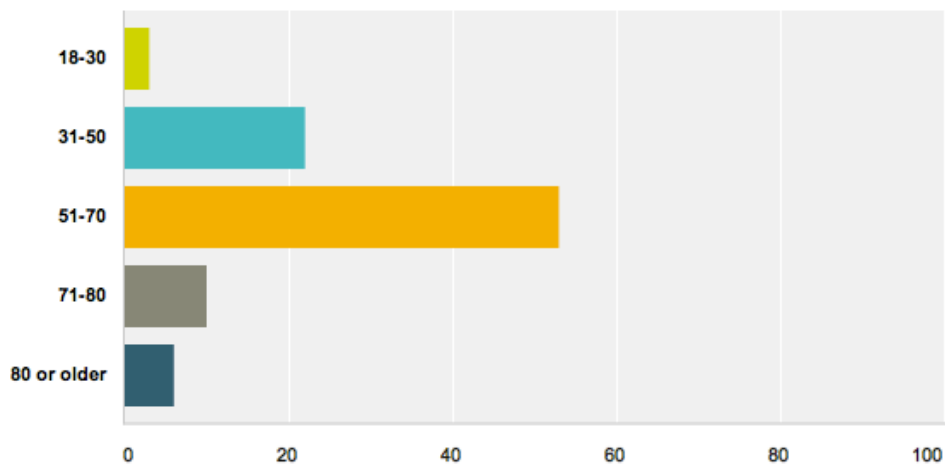
Answer Choices	Responses	
Male	48.45%	47
Female	51.55%	50
Total		97

Q.1

Q.2

Please indicate your age?

Answered: 94 Skipped: 3

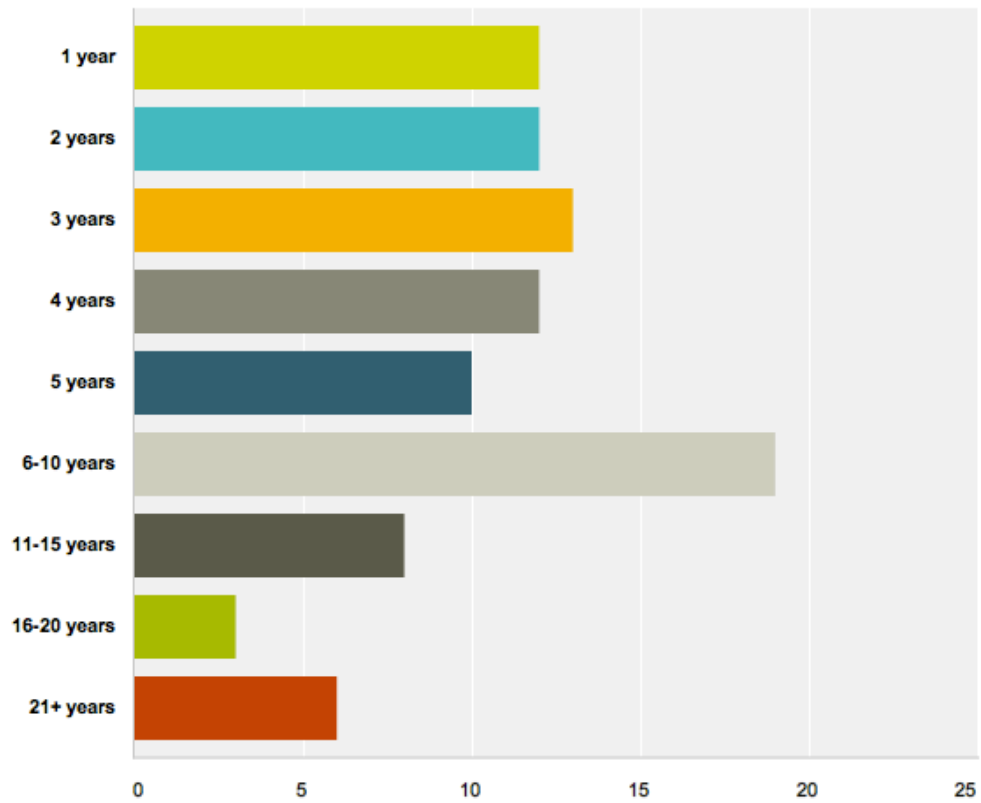


Answer Choices	Responses	
18-30	3.19%	3
31-50	23.40%	22
51-70	56.38%	53
71-80	10.64%	10
80 or older	6.38%	6
Total		94

Q.3

How long have you been a Bushcare volunteer?

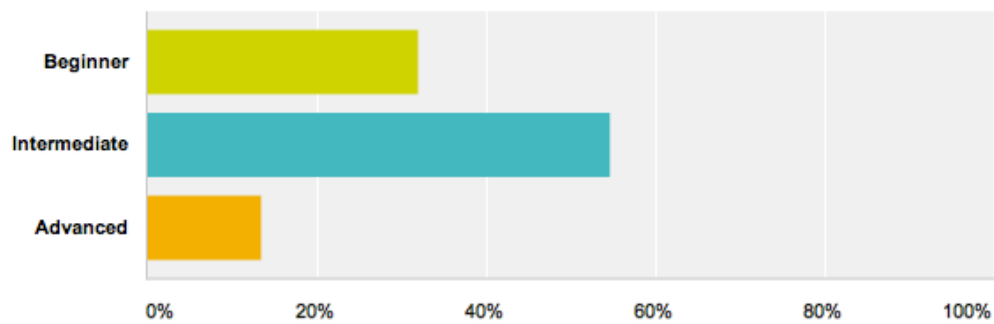
Answered: 95 Skipped: 2



Answer Choices	Responses
1 year	12.63% 12
2 years	12.63% 12
3 years	13.68% 13
4 years	12.63% 12
5 years	10.53% 10
6-10 years	20% 19
11-15 years	8.42% 8
16-20 years	3.16% 3
21+ years	6.32% 6
Total Respondents: 95	

Please rate your level of experience

Answered: 97 Skipped: 0

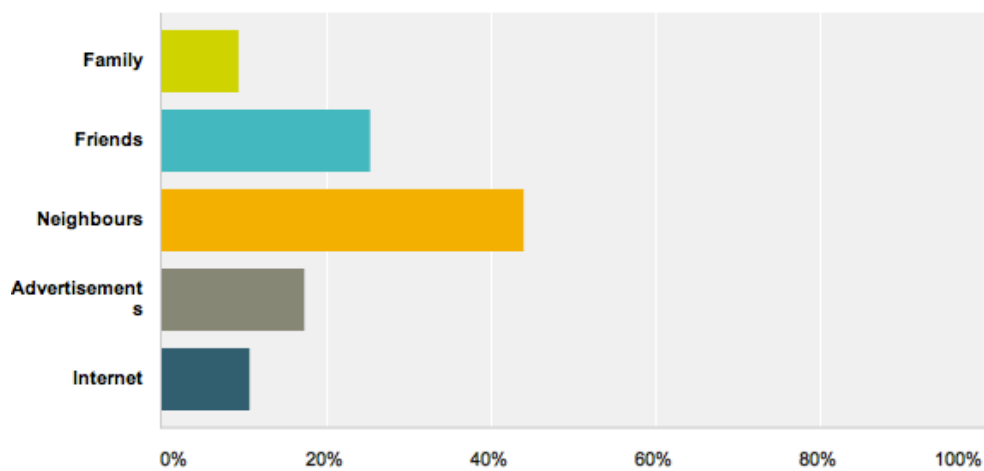


Answer Choices	Responses
Beginner	31.96% 31
Intermediate	54.64% 53
Advanced	13.40% 13
Other (please specify) (0)	
Total Respondents: 97	

Q.4 & Q.5

How did you hear about the Bushcare program

Answered: 75 Skipped: 22



Answer Choices	Responses
Family	9.33% 7
Friends	25.33% 19
Neighbours	44% 33
Advertisements	17.33% 13
Internet	10.67% 8

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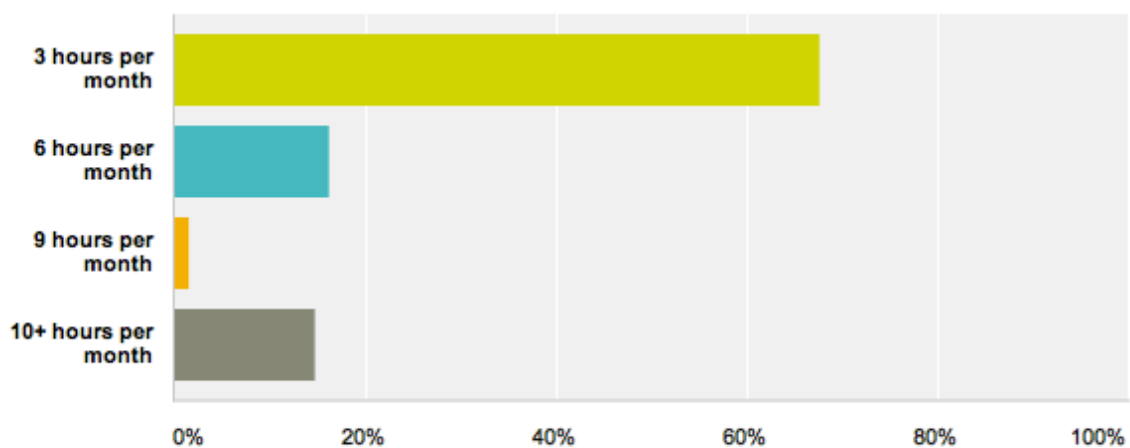
Q.5 other responses

- Inaugural notice placed on the site
- Rural Fire Service
- Leaflet in h letterbox
- Through Ku-ring-gai Council newsletters at that time
- Can't remember!!
- K-r-g Council
- Council Newsletter
- Live next to bush
- Note in letterbox
- Signs in Lane Cove National Park
- Council letter 'drop'
- Council
- Don't remember
- Don't remember - too long ago
- Visiting Bushcare officer
- KMC
- TAFE
- Council stands at local events
- Greenstyle
- Being told by the council it was the only way I'd get the reserve cared for
- Duke of Edinburgh award
- Saw them working over my back fence

Q.6

On average, how many hours do you spend as a Bushcare volunteer?

Answered: 68 Skipped: 29



Answer Choices	Responses
3 hours per month	67.65% 46
6 hours per month	16.18% 11
9 hours per month	1.47% 1
10+ hours per month	14.71% 10

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Q.6 other responses

- Currently not involved but did 2 hours per mth
- I am now retired from active work.
- Usually 2 hours per month
- 1 - 2 hrs per month
- 2 hours per month
- As required - mostly during spring & summer
- 2 hours per month
- <3
- Not currently active
- I don't any more due to disability
- 2 hours per month (not every month)
- 7 hours/week
- Less - have been inactive past

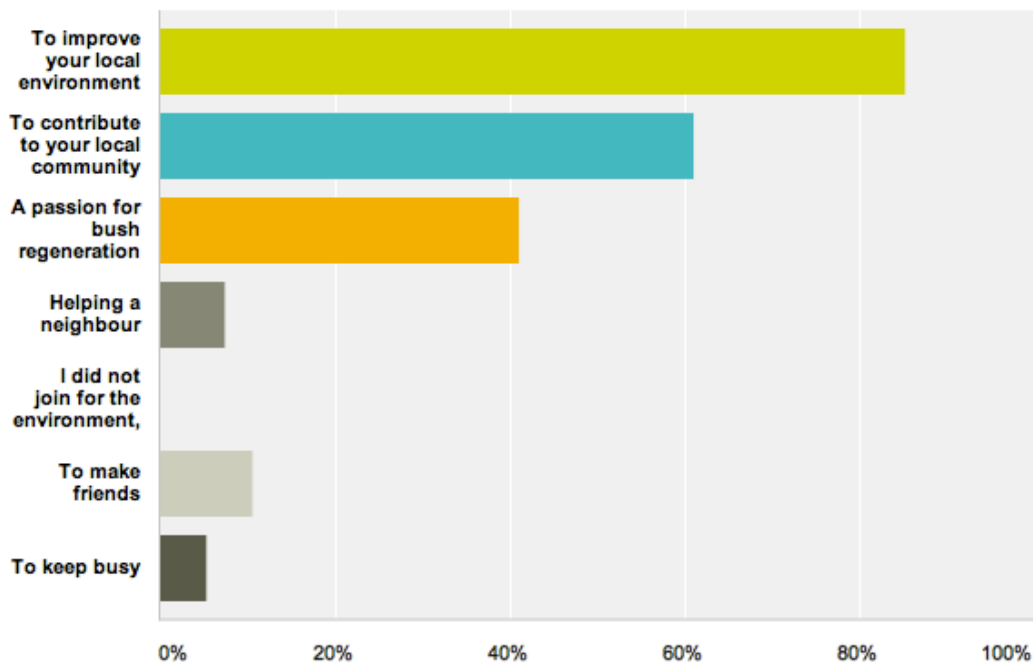
couple years

- Not currently doing any Bushcare
- Abt 3hrs every three months
- These days unfortunately <3 hr/month
- 2hrs a month
- 2 to 2.5 hrs per month
- No longer active in on site Bushcare
- 18
- 2 hours per month
- 2 hours per month
- 1 to 2 hours a month
- 2 hours per 3 months
- Lately none at all
- 2 hours every few months

Q.7

Why did you join Bushcare? (as many as apply)

Answered: 95 Skipped: 2



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Answer Choices	Responses	
To improve your local environment	85.26%	81
To contribute to your local community	61.05%	58
A passion for bush regeneration	41.05%	39
Helping a neighbour	7.37%	7
I did not join for the environment, I felt pressured by neighbours or friends	0%	0
To make friends	10.53%	10
To keep busy	5.26%	5

Q.7 other responses

- To learn and to exchange conservation information
- Protect native wildlife and native habitats
- To keep Lane Cove River Park under some control re Bushfires
- Valley full Lantana - RFS recom remove c them & KMC
- After joining, I did make many friends
- To spend time with my mum (this was my first priority)
- Water street was overgrown, untidy with weeds & rubbish before we started on STREET CARE. It is now cleared with some new trees planted and looks much better
- to improve the soil and streetscape, eliminate weeds, enhance fauna habitat
- Gain knowledge to maintain my own bush block
- Supervise my daughter doing Duke of Ed volunteering

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SECTION 2 – Q. 8 – refers to thoughts and actions before starting in the Bushcare program

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	Total	Average Rating
I knew little about environmental issues before starting Bushcare	23.66% 22	34.41% 32	11.83% 11	25.81% 24	4.30% 4	93	2.53
I did not notice the actions of others that impacted negatively on the environment	31.18% 29	51.61% 48	6.45% 6	8.60% 8	2.15% 2	93	1.99
I was not aware of the impacts that my actions were having on the environment	25.53% 24	48.94% 46	12.77% 12	8.51% 8	4.26% 4	94	2.17
I did all I could to recycle	3.33% 3	8.89% 8	6.67% 6	47.78% 43	33.33% 30	90	3.99
I did not notice weeds in my local environment	44.68% 42	34.04% 32	1.06% 1	17.02% 16	3.19% 3	94	2.00
I thought weeds were detrimental to the environment	3.33% 3	4.44% 4	10% 9	54.44% 49	27.78% 25	90	3.99
I thought weeds provided essential habitat	21.28% 20	39.36% 37	22.34% 21	14.89% 14	2.13% 2	94	2.37
I saw weeds as just something that needed to be removed from my garden	12.90% 12	34.41% 32	17.20% 16	27.96% 26	7.53% 7	93	2.83
I planted native plants in my garden when possible	2.13% 2	10.64% 10	23.40% 22	47.87% 45	15.96% 15	94	3.65
I thought weeds were easy to remove	11.70% 11	46.81% 44	22.34% 21	17.02% 16	2.13% 2	94	2.51
I believed it was Council and National Parks responsibility to care for the bush	7.45% 7	17.02% 16	29.79% 28	34.04% 32	11.70% 11	94	3.26
I thought my local environment needed protecting	2.15% 2	2.15% 2	6.45% 6	60.22% 56	29.03% 27	93	4.12
I agreed with the climate change theory	5.38% 5	7.53% 7	20.43% 19	33.33% 31	33.33% 31	93	3.82
I fertilised my garden	3.19% 3	19.15% 18	20.21% 19	51.06% 48	6.38% 6	94	3.38
I allowed my cats outdoors at night (please skip if no cats)	41.94% 13	25.81% 8	6.45% 2	19.35% 6	6.45% 2	31	2.23

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I dumped and encroached upon bushland	70.65% 65	21.74% 20	1.09% 1	2.17% 2	4.35% 4	92	1.48
Environmental issues did not concern me	51.06% 48	36.17% 34	3.19% 3	6.38% 6	3.19% 3	94	1.74

Q.9 responses - Please comment on any other thoughts, opinions, and actions you had towards the environment before starting in the Bushcare program. Your feedback will be highly appreciated.

-Little changed; I have, for most of my adult life, been very concerned about the environment.
-I have always loved the bush and am quite knowledgeable about native plants of the area.
-Amazing how unaware I was about the state of our local environment before I joined Bushcare.
-Great learning experience and I really learnt to appreciate the contribution of Bushcare volunteers
-The bush land is highly under valued by some residents. Some people are afraid of the bush due to snakes, spiders, and ticks.
-Before retiring there was little time to get involved, or learn about environmental issues.
-I wrongly believed that all governments, local state and federal, wanted to PROTECT the environment not destroy it and replace it with concrete.
-I had training and experience 5 years prior to joining Ku-ring-gai's program.
-I was happy to use bush land areas for minimal impact recreation, but had little time and inclination to contribute to its preservation.
-Council should provide additional resources to support the community efforts, particularly in the form of trainers that attend regularly on site.
-Main concern was undergrowth +fire hazard, keen to see more native birds return (not bush turkeys)
-Coming from NZ, I didn't realise the impact fertilizers etc have on the Australian bush land
-My husband and I bought a small property (10 acres of regenerating bush land) but which had many weeds. In order to learn more about specific weeds and ensure I wasn't removing native plants, I decided to join a Bushcare team. We managed to virtually eradicate fireweed and several other species in the ten years we owned the property. We continue the work on our new property on the Allyn River at Allynbrook, NSW.
-I have always appreciated my local bush land - Maddison reserve & have valued the local environment in the Hawkesbury River & Central Coast regions.
-Always concerned. Not much opportunity to do much to rectify until

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retirement.
-I used to remove rubbish and some weeds behind the East Killara shops before our bush care group was formed
-I have always been aware of environmental issues, esp. from a young age.
-I consider everybody should make continuous efforts to learn how to keep all environments in a healthy state by whatever means available probably including Council and NPWS.
-I think it is great to help
-I was and still am a senior environmental scientist
-I am educated in agriculture, science and economics which has given me a good overview of the importance of the natural environment and how we manipulate that environment, hopefully to advance human welfare
-I believe Climate Change is a natural not man-made issue.
-I thought that with the proximity of the National Park and the extent of Lantana, and the rate at which the Lantana was spreading; the native bush was going to be lost at a faster rate than it could be saved.

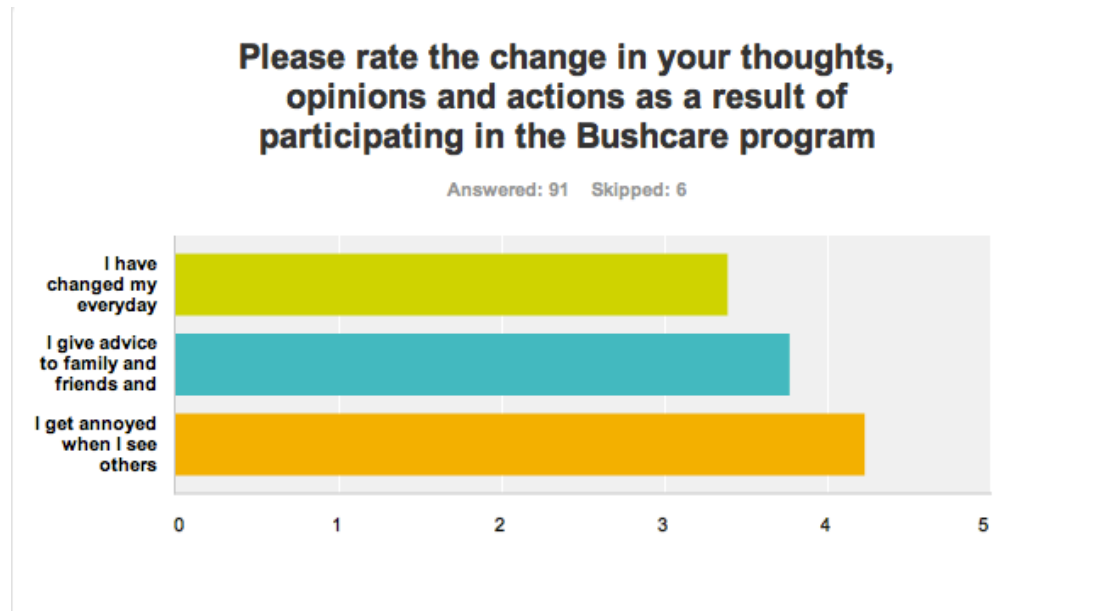
SECTION 3 - Q.10 - Refers to thoughts and actions after starting in the Bushcare program

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	Average Rating
I now know more about environmental issues	1.10% 1	4.40% 4	15.38% 14	62.64% 57	16.48% 15	91	3.89
I am now aware of actions that have a negative impact upon the environment	0% 0	1.09% 1	15.22% 14	65.22% 60	18.48% 17	92	4.01
I am aware of my actions and their impacts upon the environment	0% 0	0% 0	12.09% 11	68.13% 62	19.78% 18	91	4.08
I do all I can to recycle	0% 0	0% 0	5.43% 5	57.61% 53	36.96% 34	92	4.32
I notice weeds in my local environment	0% 0	0% 0	4.44% 4	46.67% 42	48.89% 44	90	4.44
I think weeds are detrimental to the environment	1.10% 1	3.30% 3	14.29% 13	50.55% 46	30.77% 28	91	4.07
I think weeds are essential for providing habitat	12.09% 11	31.87% 29	28.57% 26	24.18% 22	3.30% 3	91	2.75

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I see weeds as something just needing to be removed from my garden	18.48% 17	36.96% 34	11.96% 11	22.83% 21	9.78% 9	92	2.68
I now mainly plant natives in my garden	0% 0	14.44% 13	24.44% 22	44.44% 40	16.67% 15	90	3.63
Weeds are easy to eradicate	34.78% 32	51.09% 47	6.52% 6	4.35% 4	3.26% 3	92	1.90
Council needs help to protect the environment	1.11% 1	1.11% 1	3.33% 3	60% 54	34.44% 31	90	4.26
I agree with the climate change theory	4.35% 4	6.52% 6	20.65% 19	31.52% 29	36.96% 34	92	3.90
I fertilise my garden	4.55% 4	23.86% 21	27.27% 24	42.05% 37	2.27% 2	88	3.14
I allow my cats outdoors at night (skip if no cat)	59.09% 13	22.73% 5	9.09% 2	9.09% 2	0% 0	22	1.68
I dump vegetation and encroach on bushland	75.56% 68	17.78% 16	2.22% 2	0% 0	4.44% 4	90	1.40
Environmental issues concern me	2.27% 2	0% 0	3.41% 3	45.45% 40	48.86% 43	88	4.39

Q.11 - Please rate the change in your thoughts, opinions and actions as a result of participating in the Bushcare program



	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total	Average Rating
I have changed my everyday practices so that I have less of a negative impact upon the environment	2.22% 2	11.11% 10	40% 36	38.89% 35	7.78% 7	90	3.39
I give advice to family and friends and encourage them to be more environmentally friendly	0% 0	3.30% 3	25.27% 23	62.64% 57	8.79% 8	91	3.77
I get annoyed when I see others harming the environment	1.10% 1	3.30% 3	6.59% 6	49.45% 45	39.56% 36	91	4.23

SECTION 4 - Q.12 - What are the major causes of weeds in bush land?

-Runoff from upstream building activities and runoff from streets. Planting inappropriate vegetation, dumping, over development next to bushland.
-Seeds from gardens that are eaten by birds then excreted into bushland
-Dumping and birds
-Run off from the Street drain over a large area into the Bush
-Hot weather and rain, ignorance
-Birds, run-off, dumping, removal of natives
-Seed distribution via birds/wildlife and/or natural seed distribution
-Allowing weeds in private gardens to spread, not knowing which plants are weeds
-Garden escapes, dumping, birds etc dropping seeds, seeds and plants washed down streams and blown. Plants purposely sown for "good" reason, become weeds. Ignorance.
-Lack of effort on everyone's behalf
-Dumping Wind & Water Urban runoff
-Prior disturbance and urban runoff
-Birds, runoff from gutters.wheel tracks large vehicles
-Garden escapes&wind&bird droppings
-Destruction of native species
-Runoff from human habitation, fertilisers etc, weeds spreading from domestic gardens, dumping
-Garden escapees through illegal dumping of garden waste in bushland + propagation of seeds through birds
-Garden escapees, assisted by birds, rain, wind. Illegal dumping of plant matter.
-People growing weeds and large birds spreading their seeds.
-Garden escapees and dumping
-Dumping
-Bushland weeds are frequently escapees from gardens. Winds & birds carry weed seeds into bushland. People are rarely aware of Bushcare & need to protect the bushland from invasive weeds.
-Dumping, use of fertilisers and escape from gardens.
-I guess mainly dumping,
-Neglect
-Humans, increased nutrient loads, encroaching ornamental gardens with weeds
-Dumping, birds carrying seeds, fertiliser and weeds carried via drains to the bush
-Negative action by council over many years lack of education
-Imports (exotics) in inaccessible areas fed by urban nutrients

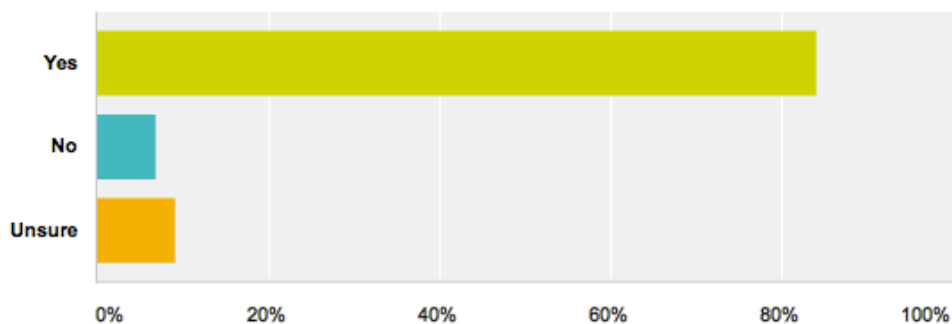
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-For my site, it is garden escapees, disturbance and run off
-Seeds from weeds in the vicinity. Dumping of weeds in natural areas.
-Neighbour/community ignorance on its impact
-Stormwater, unleashed dogs, untidy humans
-Water fertiliser human impacts
-Garden escapes
-Runoff; education; promotion; mismanagement and lack of prevention
-Plant and seed escape from gardens and public lands, dumping,
-Water and nutrient run-off
-Dumping
-I be no idea
-They are the result of human activity, past & present.
-Change of bird populations.
-Excess water
-Dumping & deliberate planting. Building & Environmental Change
-Encroachment from backyards
-Basically people
-Dumping, birds, encroachment from gardens
-Seed dispersal via runoff and birds; encroachment from gardens; plant dumping
-Fertilizers, dumping of garden waste, clearing, ignorance.

Q.13 - Overall, do you think that the Bushcare program has increased your awareness of the environment?

Overall, do you think that the Bushcare program has increased your awareness of the environment?

Answered: 88 Skipped: 9



Answer Choices	Responses	
Yes	84.09%	74
No	6.82%	6
Unsure	9.09%	8

Q.13 – other responses

- Very valuable for community education
- I was well and truly into it all before I joined
- Awareness, participation needs to be increased, increased funding to do this needs to be organised
- I was always aware of the environment, but through Bushcare, I have a greater awareness of the detrimental impact the actions of humans can have on our native bushland.
- A little, more aware of weed types and their impacts.
- My increased awareness has come from TAFE and practical experience, rather than KMC council training, which was very minimal.
- A bit - I was very aware before I started volunteering
- Just a little

Q.14 - Please comment on the educational benefits of the Bushcare program

-It is not easy to learn which grasses are weeds. Persistence helps. Council's bush land education programs are beneficial.
-Makes me aware of what is a weed and what is a native.
-Great for people who have no idea
-Minimal
-Our Trainers have been great giving up their time and teaching us identification of the various weeds and care of trees and bushes
--The education benefits of the KRG Bushcare program are many and worthwhile. I am not usually able to participate as I work for another Council on the weekends (doing Bushcare).
-The more we know about controlling weeds and promoting natural vegetation, the better we are able to protect and foster local flora and fauna. Bushcare provides a lot of this knowledge as well as providing links for further inquiry.
-How to remove weeds & conditions needed for natives to regenerate. In some cases altered conditions will not allow.
-My knowledge of natives and undesirable weeds is increased
-Before starting at Granny Springs, I thought Balloon Vine was a charming "native" climbing plant. Now I think correct Bushcare practices can improve our environment.
-Educational benefits could be improved if councils were able to run potted educational programs
-It helps to. E aw It he's t It helps to be aware of what is around you
-Identification of native plants and weeds. Strategies for weed control
-Those who participate are probably already "converted"!
-Good

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-I have a better knowledge of weeds vs. natives
-Plant identification and purpose, burn piling, weed/plant regeneration, wildlife protection.
-Makes one even more aware.
-Learn better plant identification
-Types of weeds and best way to remove them
-Greater understanding of Australian bush and how what we do affects bush
-Education is most important. If people don't realise their actions are causing harm they won't change their behaviour.
-Great programs on relevant issues with plant identification and Bushcare in general. Volunteering in Bushcare has taught me a lot about our bush environment.
-Gaining greater knowledge of local environmental issues and weed species and eradication of same
-The Bushcare program increases knowledge of the best ways of caring for our bush land. When students from the Duke of Edinburgh scheme join groups, it is a valuable learning process for them and possibly results in awareness being passed on to their friends.
-It encourages people to be more bush aware such as using fertilisers near bush land
-Helps me recall and memorise my botanical plant names and methods of eradication
-Recognition of what and are not weeds.
-There are educational benefits in Bushcare programs for children & youth
-Most helpful not just for the Bushcare site but also for our Sydney property and the two rural properties we have owned. Also handy for assisting friends and relations with weed control.
-I have gained a lot of knowledge and experience from the Bushcare program
-I have learnt about some of the plants in our area
-Good, and to be encouraged and followed-up
-Gently does it how plants need each species to live in harmony
-Our group consists of two neighbours and two volunteers. There has been little time to educate us in the environmental issues. We are too busy cleaning up years of unchecked growth.
-Good I learned what is a weed and what isn't
-As noted previously more aware of weed types and their impacts. Also more aware of methods to remove and control weeds, and the enormity of the task.
-Easier identification of native species vs. weeds/introduced species.
-Greater awareness of which plants are weeds, improved knowledge of weed control mechanisms.
-I am learning to recognise native plants and weeds; how to remove weeds; and the overall strategic approach of what to remove and when.

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-I have learnt a lot by actually doing the work and from my co-workers
-For people with little knowledge of the bush and native plants, the program would be very educational but unfortunately those people don't generally join Bushcare.
-Council currently offers very little training. The more training the better.
-I have not really used the educational aspect of the program.
-Very useful for awareness and my own garden.
-I am more aware of what is happening in our area of bushland and recognise more natives v introduced species.
-Positive impact on street scape for streetcare sites, gathering with friends, getting involved in planning for the regeneration is fun, watching plants grow and blossom
-I am more aware of what are considered weeds, and how to eradicate them. Also native plants that are native to my local area.
-Knowledge of local environment and remedies to improve condition
-I learnt how to correctly recognise and poison or remove weeds/plants in my garden that are potentially hazardous to the bush.

Q.15 Please comment on if and how your attitudes towards the environment have changed since becoming a Bushcare volunteer

-I have always respected bushland. Needs to be more widespread respect in the community.
-Not at all because I was already doing it all. I just joined to get help with my local patch
-I was always environmentally concerned
-I have always been interested in the environment and do what I can to recycle and take care of my area.
-Have always been interested in nature, however, since joining Bushcare, have become much more conscious of weeds in the urban environment and the need to control these to stop their spread into bush.
-Expanded knowledge to terrestrial vegetation and native environmental requirements
-I feel that anyone can help
-I'm much more aware of the fragility of the bush and the risk of damage to it in everyday life
-I notice the bush more
-More care taken
-I have a greater appreciation of the Australian bush - its beauty, diversity and the critical need for its preservation
-Far more aware and responsive of its importance to ensure the bush is

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preserved for future generations.
-I have always tried to do the right thing with regard to the environment.
-More educated to identify the weeds and how they spread.
-More aware of local issues
-I am more aware.
-I have always had an interest in the environment, and a love of the bush. Bushcare has taught me that some weeds, e.g. lantana, can be a shelter for small birds. So not all weeds are bad.
-I understand the complexities of bush care more. Its better to not 'slash and burn', but rather to progressively provide new habitat for wildlife that was living in weeds previously.
-Unchanged.
Volunteering in the local community improves community & neighbourhood relationships & family supports.
-Much more aware of the challenge of restoring degraded sites.
-Importance of not clearing a whole area at once, to keep habitat for small birds and other animals until native vegetation regenerates
-Understanding the fragility and uniqueness of Australian bushland (from the Bushcare education) has created care, respect and appreciation
-I have always been conscious of the environment
-Identification of native species
-More sympathetic to how fragile everything is and how it depends on the whole system
-I think I was already reasonably aware of environmental issues so Bushcare did not change that much
-Reinforced
-Still extremely concerned.
-My attitudes have not changed significantly since becoming a volunteer
-Greater awareness of the fragility of the Australian bushland and the propensity for weeds to suppress native plant growth. Greater interest in environmental issues.
-I've become much more aware of how our environment is doing since starting Bushcare.
-As I have become more knowledgeable I have become more appreciative of its value.
-In light of the hopelessness of our small group trying to make a difference in our local area of bush, I have almost come to the conclusion that the only way to stop becoming very depressed is to start loving the weeds and seeing them as a useful carbon sink. In which case should we stop trying and all go home and work on our own gardens instead? Perhaps the Council should be more proactive in suggesting areas for Bushcare groups to work on which would be achievable and more productive.
-My attitude has not changed. We ignore the environment at our peril. As a species we seem to forget it's the environment, which sustains us.

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-My changes in attitude are not directly related to the Bushcare program, rather they coincided. Changes have come about largely due to reading and thinking. See the environment more as a global issue now rather than local.
-More aware, more caring.
-I feel more protective of the bush and wildlife in our area. We decided not to have a cat anymore even though we kept it in at night it killed skinks during the day. We found a snake in the cellar and just let it be. I didn't kill spiders beforehand and I still don't use pesticide unless really necessary.
-My attitudes have not changed, but I am now able to appreciate regrowth of native grasses where the weeds were removed
-My attitudes haven't changed. I am a bit more of an advocate, but you can't advocate to people who don't want to know.
-No change - am strong advocate for the environment.
-Just more general knowledge about weeds and the need for their removal in order to preserve our local native fauna/flora.
-Very little - just a bit more aware of which species are good and bad. I was already environmentally aware before Bushcare.
-Made me more aware of the need to protect the environment
-MORE AWARENESS
-No change.
-I've become more aware of the person's status within the wider environment

Q16. Please comment on any improvements that you think could be made to the program

-The program is great. It's rather overdevelopment and building near the bush, with twittering and legal vandalism to tracks and trails, that need to be changed.
-Is pretty good. Just need more volunteers.
-Peter Clark and all the Team do a sterling effort - keep it up.
-Targeted education to non-Bushcare residents i.e. weeds escaping from the garden, cats allowed to roam free. Many of the volunteers may be keen to participate in this education?
-More weed awareness if possible. Probably outside the scope, but it would be great if Council could force developers/landlords to control weeds on their properties; some of these are hotbeds of weed infestation.
-KMC need more funds for production of native seedlings for regeneration.
-More exposure needed
-More helpers
-Help with advice on how to mitigate the effects of storm water runoff
-More info regarding the benefits and need to participate so more people join

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-Need to publicise it more to get more people participating
-I think the current organisation under the supervision of Peter Clark is doing a superb job with the limited resources available
-Greater public awareness will promote increased participation and ultimately bush preservation.
-It would be great if more people could be persuaded to get involved. It is a very small proportion of the population & it needs to start with primary school aged children.
-When a property adjoining the bush changes hands a council representative should visit the new owner and offer some education
-Far more support from council to encourage the community to get involved - we need MORE volunteers
-Talks to school children, especially High School students, could be part of the program and may help stop the litter problem in local bushland. They could also become aware of the Bushcare program and perhaps join a group of bush carers
-More use of people on community service orders either to do bush care or free up more resources for council programs
-Firstly, to have marketing organised more centrally rather than left to individual bush care groups. Secondly, to give monetary benefits for participators in the form of a yearly council rate discount. This would bring more participants into bush care and encourage more lively, connected communities, a greater mix of age ranges and greater general understanding and respect for local environment.
-Council could assist by taking away rubbish & providing mulch and plants to replace those damaged by recent power cable work. With area now cleared, then council can start mowing the area so that weeds don't invade again.
-Perhaps more publicity and effort to enlist volunteers. More consultation with the weeders. More sustained recruitment.
-I am aware of the 'ageing' factor in 'volunteering' & the demographics in my local community. I especially value the support given to our Bushcare group by the council trainer & her links with young school age volunteers who live outside our community.
-Provision of insect repellent for ticks
-I think it's a wonderful program
-No follow-up on cleared areas
-Make more people aware recruiting important
-Great leader in Margaret Booth no need for change but more council infrastructure assistance is necessary
-May be a little left fieldish, but would love to see Council do more about what I perceive as the greatest threat to the bush, and for that matter humanity and all life on earth, climate change. More educational material and push towards renewable energies; the best hope of the needed rapid change is from people and small government up.
-Introduction of online recording of Bushcare activity (I read that this was intended, but have not seen it happen yet).
-More publicity. Create a Flying Squad like Willoughby so Groups don't feel

Bushcare

isolated and alone. Find a way to teach and keep teaching people about Bushcare.
-I've only been attending for the last 9 months and so far I've been mentored and supported and appreciated. I've attended 2 education sessions - both of value but the Introduction to Native Plants was too detailed and complex for me to get full appreciation at my level.
-I find the KRG Council attitude to weeds in the bush very unclear. On the one hand the bushcarers are there to clear the weeds but on the other hand the Council helpers are often telling us not to cut down privets, bamboo etc because it is habitat. There needs to be a clear policy on this which is explained to bushcarers. Currently there is not only confusion but resentment to the point where one wonders why to bother at all. With these conflicting ideas expressed it seems logical to come to the conclusion that the weeds should be just left and the environment allowed to change. The birds don't seem to care whether they sit in a privet or a wattle. I believe KRG council should settle on a clear policy for bushcaring and also variations on this for streetcare and parkcare.
-Increased training, increased recruitment, increased profile. Obtaining sponsorships and collaborate with commercial organisations. Reward longevity/involvement in the program. Find new inspiration and blood. Better communication with other associated areas in Council, so the Bushcare dept knows what's going on in relation to the local bush and parks. Improve collaboration with other Councils to determine what works best then adopting best practice. Utilise economies of scale with other councils - from buying tools to sharing/promoting courses. Determine mission - why are we doing what we are doing, then widely communicate. For example, is the mission to keep senior residents active and engaged, or is the mission to care for the environment and leave it in a better state than we find it? Have open and honest dialogue with volunteers at all times. Respect their contribution. Determine succession plans for sites - so when groups fold the site doesn't go backwards. Keep moving the program forward.....
-Ensure that bush care is about more than just weeds. The urban environment has changed significantly and I feel there is a real problem trying to support isolated patches of bushland in a static state.
-We could be made more aware of available information sources.
-Filling out the timesheets is onerous - I don't do it anymore. Otherwise I am happy to it and enjoy seeing the bush improve.
-PLEASE provide a list of weeds with photos and ways to ID. It would help a lot. I am still v. confused!!
-People notice new plantings. There would be more interest from the general public if we had more access to plants.
-Somehow need to raise participation by promoting the personal benefits of participation and achievements of past Bushcare programs
-A lot of what we do is weeding, which is crucial, but I sometimes find weeding pretty tedious...
-More educational programs
-MORE PUBLICITY

Bushcare

-Catch up calls, more frequent bbqs, introductory sessions for new members

-We need more workers. Perhaps including children from nearby schools. Greater promotion within the community, especially after bushfires ,when people are more aware and open.

-Run it like a business!!!! Stop wasting money and get some input from people who run businesses, not ex hippies!

-I could turn up more often