



ANNUAL REPORT 2008

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Department of
Environment and Conservation

Our environment, our future



Students, adult volunteers and community members have continued to support the growth and development of the Bush Rangers WA program. As well as affording young people the chance to develop life skills while undertaking environmental work, the program's activities are contributing to the fight against climate change.

The Department of Environment and Conservation (DEC) recognises the vital role that the Bush Rangers program plays in raising awareness in WA's youth of the threat that climate change poses to biodiversity and the well-being of people in our State.

The Bush Rangers WA program is aimed at developing better communities and I would like to thank all the government and non-government organisations, community groups and individuals that readily contribute to the development and adaptation of this program. Their support has contributed to the great achievements highlighted in this report and made my role both enjoyable and productive.

Alison Hansen, State Coordinator
Bush Rangers WA



Cover photo and above: Rossmoyne Senior High School and Emmanuel Catholic College Bush Ranger cadets learning snake handling skills on a regional camp at the Morapoi Station north of Kalgoorlie.

DEC Bush Rangers Annual Report 2008

Engaging communities and their youth in biodiversity conservation

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Bush Rangers WA - celebrating 10 years

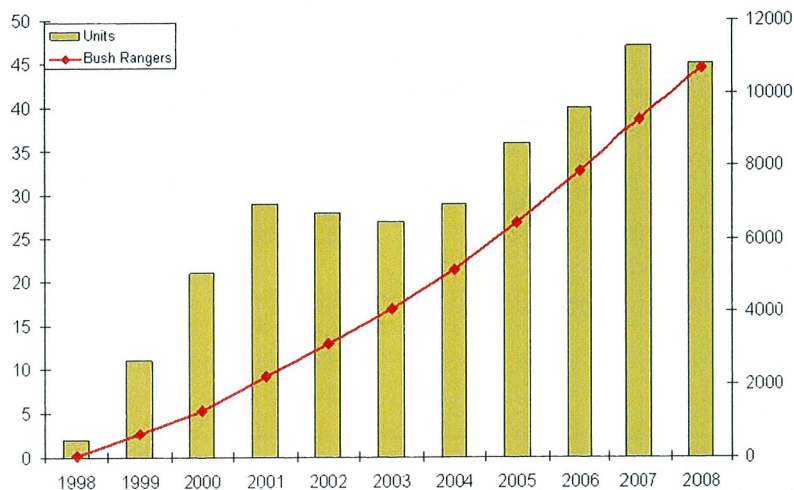


To commemorate the program's 10th year, DEC presented commemorative pins to Bush Ranger cadets, unit leaders, instructors, corporate and community individuals and groups associated with the program to acknowledge and celebrate their contribution.

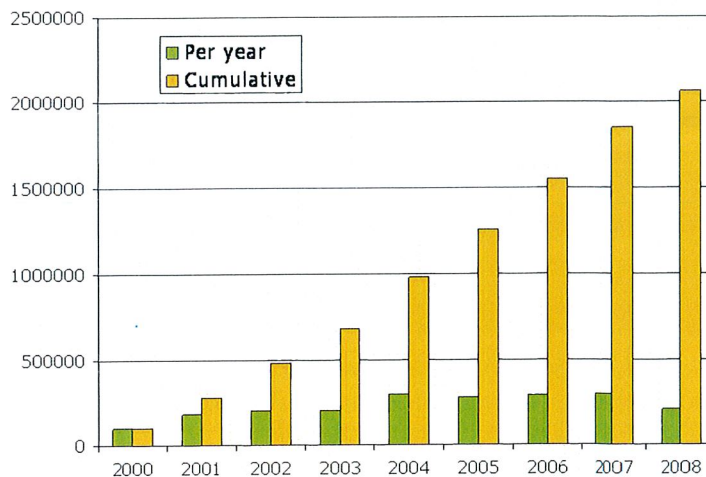
Bush Rangers WA began as a pilot project in 1997, with two schools and 25 students. It was formalised the following year, and now, ten years later it is a State-wide success story that has seen nearly 10,000 Western Australians aged 13 to 17 volunteer more than two million hours to conservation projects.

Of the 49 Bush Ranger units currently active in WA, eight have been involved since the program's inception.

Units and total Bush Rangers



Volunteer hours

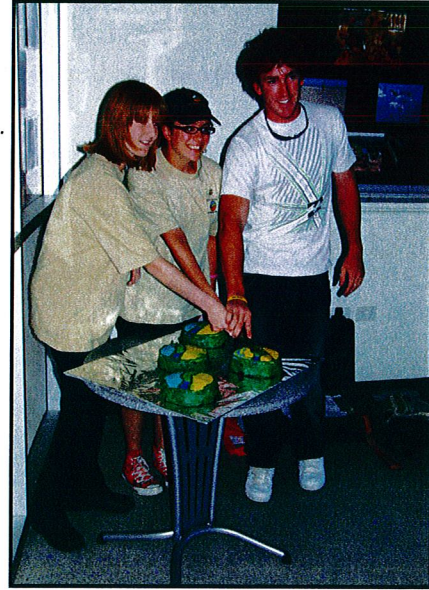


Bush Rangers WA is a program of environmentally based projects and activities that are developed by DEC and its partners, and are supported by as many as 100 DEC staff. Bush Ranger units are actively supported and encouraged to establish community links and partnerships within their local areas.

More than 200 community groups and State and national organisations are engaged in the Bush Rangers WA program. The assistance of these groups enables cadets to achieve outstanding results in conservation activities.

Bush Ranger unit leaders are the backbone of the program. Their energy, creativity and willingness to source active and engaging activities for their cadets ensures the program will continue to thrive and grow. Through these activities, Bush Ranger cadets gain first-hand experience in biodiversity protection and the conservation of our natural environment, developing a strong understanding of the environmental issues facing WA.

Minister for Environment and Youth, Hon Donna Faragher MLC joined DEC's Bush Ranger cadets at Mount Lawley Senior High School's end-of-year award ceremony, to congratulate past and present Bush Ranger cadets from the school and present them with commemorative pins.



Above: Past and present Mount Lawley Senior High School Bush Ranger cadets cutting their 10th year birthday cakes.



Left to right: Mount Lawley Senior High School Year 8 Bush Ranger cadets Claire Raphael and Jade Dolman, school chaplain and unit leader Andrew Paul, Environment Minister Donna Faragher, DEC Bush Rangers WA State Coordinator Alison Hansen and Principal Milton Butcher.

In 2008, DEC engaged a consultant to review the program's content and update activities and resource notes in training manuals to reflect current environmental issues and trends, such as climate change and new methods in sustainable environmental management.

Valuable feedback and proposals gained from unit leaders and instructors during in-service workshops held throughout the year, and support from DEC professionals, has helped further refine the training manuals to ensure the revised activities and the overall program is relevant.

A Bush Rangers WA interactive website currently is in the planning stages and due to be launched in late 2009. The website will support unit leaders with their individual and collaborative project planning and to maintain up-to-date information on emergent trends in environmental conservation.

Achievements

Bush Ranger units and individual Bush Ranger cadets have been recognised with many awards during the past 10 years, including the Prime Minister's Award on World Environment Day, the Eureka Science Award, the WA Education Quest for Excellence Award, the Department of Education and Training Inspiration Awards and the WA Youth Awards. The success of Bush Rangers WA was also recognised in the 2008 Premier's

Awards when it was chosen as a finalist in the 'Creating a Safe, Healthy and Vibrant WA' category.

Duncraig Senior High School Bush Ranger cadets earned recognition for their school when their community contribution was nominated for the Environment category of the WA Youth Awards. The nominated cadets had worked with Landcare representatives and a local farmer to survey a salt affected farm near Tambellup. They grew 5,000 salt tolerant plants from seed for planting and will plant a further 10,000 more on the same farm before moving to other farms.



Above: DEC Director General Keiran McNamara, Premier Colin Barnett, Bush Rangers WA State Coordinator Alison Hansen, DEC Strategic Development and Corporate Affairs Director Ron Kawallak, Environment Minister Donna Faragher and former DEC Policy and Planning Assistant Director Colin Ingram.

Below: Duncraig Senior High School 2008 Youth Awards finalists.



In addition to State Government awards, community organisations such as Silver Chain acknowledged the service of cadets with its Caring in the Community Awards. The activities of Bush Rangers are clearly valued by community-oriented organisations.



Above: Merredin Bush Rangers cadet Skye King with her Caring in the Community Award.

Ongoing commitment to sustainability outcomes

The Bush Rangers WA program supports the State Government's priority of protecting and enhancing the unique Western Australian lifestyle by ensuring sustainable management of the environment. This is done by undertaking projects with tangible environmental benefits and fostering an appreciation for the natural environment.

The program also benefits the State socially and economically. Social dysfunction and environmental degradation can lead to reduced community resilience and increased community breakdown. The Bush Ranger WA program promotes connectedness between social and environmental structures at local and regional levels.

By engaging youth in environmental conservation and fostering an appreciation for the natural environment the program works to strengthen communities and economies, as young people make meaningful contributions as cadets rather than engaging in anti-social and destructive behaviour. By reducing social negativity and destructiveness in some young people and promoting training and career pathways the Bush Rangers WA program produces tangible economic benefits.

The Bush Rangers WA program enables cadets to acquire practical skills and theoretical knowledge that will enhance their future career prospects. This is of particular importance in rural and regional areas, where employment opportunities can be limited. The program provides employment opportunities in natural resource management through tertiary scholarships and opportunities for selection into DEC's Graduate Recruit program and Indigenous traineeships.

Former Bush Ranger cadet Chris Stewart's story is a wonderful case study of personal success and of positive outcomes for DEC.



Above: Chris Stewart (centre) with DEC Director General Keiran McNamara (right) and former Environment Minister David Templeman (left).

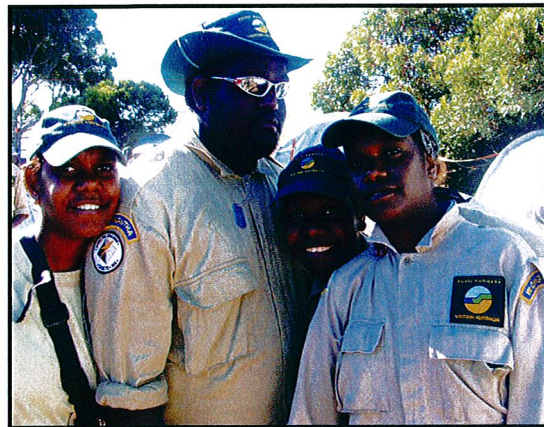
Chris started the Bush Rangers WA program as a young ranger recruit driven by curiosity, when it was a pilot program at Rossmoyne Senior High School. He stayed with the cadet program throughout his high school years and then, following graduation, returned to his Bush Ranger unit to lead and mentor instructors while completing his tertiary studies in environmental science.

Chris said Bush Rangers WA played a major role in helping shape his career path by providing opportunities that most teenagers would never get. Chris entered DEC's Graduate Recruitment program and has successfully achieved his goal of a career in natural resource management.

DEC's Mentored Aboriginal Training Employment Scheme (MATES) focuses entirely on the recruitment of Aboriginal people through traineeship and cadet programs.

Cadets who complete the Bush Rangers WA program are favourably regarded for the MATES program.

Approximately 40 cadets have been recruited into the MATES program and 21 Bush Ranger graduates are permanently employed with DEC or other environmental organisations.



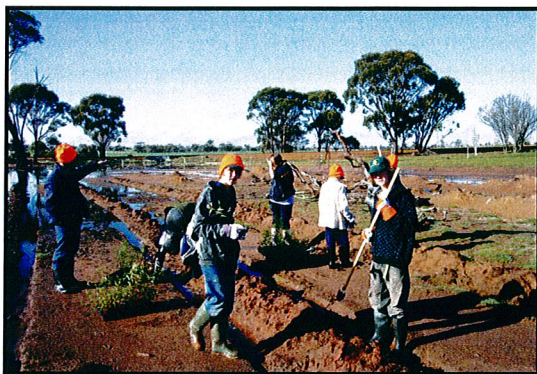
Above: Wongutha Christian Aboriginal Parent-directed School Bush Ranger cadets focus their activities toward achieving their TAFE certificates I and II in Conservation and Land Management.

Personal development

The Bush Rangers WA program produces positive and confident young Western Australians, with a sense of connection to self, community and country. In addition to instilling a robust ethic for conservation among thousands of young people, the Bush Rangers WA program develops leadership, learning and social skills. These skills are developed with a focus on community and environmental outcomes with support from DEC's specialist scientists.

Bush Rangers WA was Curriculum Council endorsed in 2006 and has become known as one of WA's premier environmental educational programs. The past two years have seen many students in Years 10, 11 and 12 benefit from gaining points that are accredited toward their Western Australian Certificate of Education (WACE).

Some schools have fully embraced the program, incorporating it into their school curriculum and delivering it during and after school hours. When they complete Year 12, many Bush Rangers return to their units as instructors-in-training, further demonstrating the commitment and opportunities offered by the program.



2007 WACE ACHIEVEMENTS			
School	L1	L2	L3
Albany Education Support Centre	6		
Bunbury Catholic College		6	
Corrigin District High School	3		
Duncraig Senior High School	8	7	13
Gascoyne Junction Remote Community School	2		
Geographe Education Support Centre	4		
John Forrest Senior High School		10	
Mount Lawley Senior High School	10	3	2
Newton Moore Senior High School	17		
Northam Senior High School	10		
Rossmoyne Senior High School		2	4
Waroona District High School	6		
Total	66	28	19

2008 WACE ACHIEVEMENTS			
School	L1	L2	L3
Canning Vale College	1		
Darcken District High School	4		
Duncraig Senior High School	34	35	52
Emmanuel Catholic College	6		
Esperance Senior High School		28	3
Geographe Education Support Centre	9	1	
John Septimus Roe Anglican Community School	7	6	6
John Forrest Senior High School		1	
Kolbe Catholic College	5	3	
Mount Lawley Senior High School	2	6	
Onslow Remote School	4		
Rossmoyne Senior High School	7	13	2
Thornlie Christian College	5	8	
Total	84	101	63

The positive effects of the Bush Rangers WA program can be felt at local, regional and State-wide levels. As well as contributing to the future prospects of cadets, the volunteer activities they undertake produce tangible benefits for the wider community.

During 2008, 1,407 Bush Rangers contributed more than 18,000 volunteer hours to conservation and community projects during their weekly commitments. This is in addition to involvement in prominent annual projects facilitated by local and State-wide agencies and organisations.



Cadets in Western Australia

Bush Rangers WA is part of a broader program known as Cadets WA, which funds a number of youth-orientated initiatives. The Armed Services, Red Cross, Police Rangers, St John Ambulance, Emergency Services and Surf Life Saving cadet programs all provide valuable training to young adults in WA's community.



DEC's benefit as a host organisation

The Bush Rangers WA program helps DEC achieve its objective of working with the community to conserve WA's diverse natural resources. It enables the conservation message to be transmitted beyond the cadets directly involved in the program to a State-wide audience through effective community interactions.

The diverse range of conservation and community opportunities that assist cadets in developing life-skills and achieving their full potential include:

- engaging local communities in biodiversity conservation;
- providing rewarding experiences for committed Bush Ranger cadets;
- maintaining a system of awards that acknowledges both cadets and adult volunteers;
- enabling Bush Ranger WA units to communicate their work to the community;
- providing work experience and pathways for cadets who want to pursue a career in conservation;
- providing professional development to the unit leaders and adult volunteers, as well as opportunities for them to work alongside DEC staff; and
- encouraging more than 100 DEC staff to form valuable partnerships with Bush Ranger units (see Appendix 3).

Program partnerships

Lotterywest

Lotterywest has supported the establishment of new Bush Ranger units with one-off grants for a number of years. Expansion of the Lotterywest funding criteria in 2006 enabled Bush Ranger units to present annual submissions for assisted funding. During 2008, seven Bush Ranger units received funding grants.

Duke of Edinburgh Award

In 2007, a new management team for the Duke of Edinburgh Award announced a change in the interpretation of the structure for membership in WA. Regular activities carried out by Bush Ranger cadets now qualify them for awards under the three levels following membership to the program. The patron, Prince Edward, Earl of Wessex, is planning to visit Australia in 2009 to commemorate the 50th anniversary of the award program in Australia.



Bush Rangers reward experiences

The Bush Rangers WA program has offered a number of reward experiences to cadets who have demonstrated excellence in their unit.

At these hands-on 'in the field' reward experiences, DEC's professional team of scientists come together with field leaders to share practical techniques, research and conservation management knowledge with the cadets. These rewards enrich the program and enable Bush Ranger cadets to communicate their new insights back to their unit and school community.

Reward experiences in 2008 included:

- monitoring the effect of fox baiting on native animal populations at Perup Nature Reserve with DEC's Science Division;
- an expedition to the Shark Bay World Heritage Area;
- Geographic Information Systems training and conservation project support;
- staffing the Perth Royal Show's *Land Experience* exhibit; and
- taking part in a DEC Fire Management Services Branch prescribed burn in Dwellingup, as part of the nationally accredited Basic Wildfire Awareness course.

In addition to these practical experiences, the three Bush Rangers sectors – Goldfields/Esperance, South West and Perth metropolitan – staged their annual regional camps around the State. The camps provided an opportunity for cadets to meet, socialise and exchange environmental experiences. These get-togethers provide cadets with acute learning opportunities through working together to establish common goals.



During the 2008 September school holidays, metropolitan-based Bush Ranger cadets from Rossmoyne Senior High School and Emmanuel Catholic College embarked on an journey east to join cadets from Wongutha and Coolgardie Christian Aboriginal Parent-directed Schools (CAPS) and Goldfields Baptist College at a regional camp at Morapoi Station, 180 kms north of Kalgoorlie.

The camp was a success, with 110 cadets collaborating to manage the daily logistics of the camp and taking part in camp activities. For many Bush Ranger cadets this was their first encounter with Indigenous culture in a remote bush setting.

The Bush Rangers reward experiences establish peer social networks that encourage cadets to keep in contact with other units throughout WA. Several cadets reported that their experiences helped them gain confidence and confirm career aspirations.

Monitoring the effect of fox baiting on native animal populations at Perup Nature Reserve with DEC's Science Division

Since 1999, 166 cadets and instructors have been involved in hands-on field work to monitor the effects of fox baiting on native animal populations at Perup Nature Reserve, east of Manjimup. The annual spring and autumn monitoring project carried out by DEC's Science Division includes baiting and clearing fauna traps, night fauna counts, monitoring and recording information using GPS units, completing safe and effective native animal handling and analysing data collected.



An expedition to Shark Bay World Heritage Area

Each April and October, DEC staff in the Shark Bay World Heritage Area, provide a small group of cadets with practical field experiences during a week-long excursion. This reward experience gives cadets an insight into rare native animal breeding programs and exposure to the daily work projects and maintenance of national parks. Practical assistance with the dolphins at Monkey Mia is a coveted highlight of this excursion.

Geographic Information Systems (GIS) training and conservation project support

In 2006, DEC's GIS section established a new partnership with the Bush Rangers WA program and the Environmental Systems Research Institute (ESRI). This partnership sees cadets adopt the use of sophisticated computer applications to communicate and record accurate data for their environmental conservation projects.

ESRI provides sponsorship to cover the ArcView computer software needed for participating cadets and instructors, while DEC's GIS section have developed

training programs and provide resource data. All Bush Ranger units now have the opportunity to take part in these training workshops.

The Duncraig Senior High School Bush Rangers unit has worked with BP Australia to develop a salinity-based education project in schools throughout WA called 'Save Our Soils'. This long-term project incorporates water salinity testing, data mapping and analysis using the skills developed in their GIS training.

Helping with the Perth Royal Show's *Land Experience* exhibit

During the past 10 years Bush Ranger cadets have contributed around 3,300 volunteer hours to staffing conservation displays at the Perth Royal Show.

In 2008, 136 Bush Rangers and their unit leaders delivered the conservation message to visitors at the *Land Experience* exhibit. The cadets informed people about the exhibit and provided general assistance and maintenance to the exhibitors and their displays, recorded and tallied visitor numbers and cared for the range of wildlife on display.



Fire Management Services control burn at Dwellingup

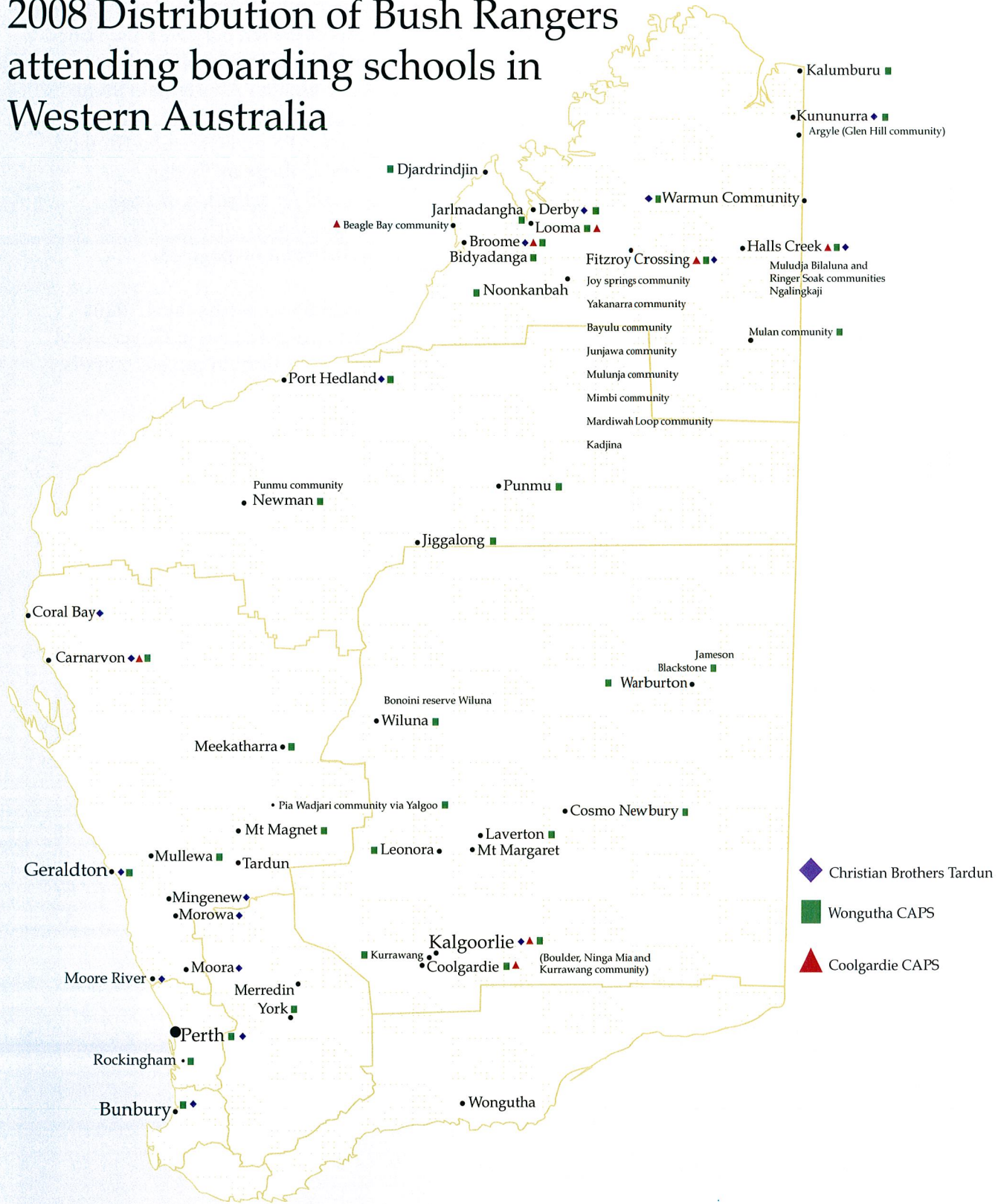
Twelve of the most committed cadets from six units completed the nationally accredited 'Basic Wild Fire Awareness' course in Dwellingup. This training reward experience is offered to Bush Ranger cadets by DEC's Fire Management Services Branch. The comprehensive course includes activities in safety, health and fitness for the fire line and planning and conducting a prescribed burn at the Forest Heritage Centre. Cadets are tested on fire theory and practical fire management. More than 120 cadets and unit instructors have enrolled in the annual two-day event.



2008 Location of Bush Ranger units in Western Australia



2008 Distribution of Bush Rangers attending boarding schools in Western Australia



Bush Rangers: equity and diversity

Teamwork and leadership are cornerstones of the Bush Rangers WA program and enable its flexible structure to attract and cater for a diverse range of young people and adult volunteers from school communities across the State.

The inclusive nature of the program affords a rich mix of local solutions to social and environmental challenges, while maintaining a State-wide outcomes-based framework.

Of the 47 Bush Ranger units active in 2008, more than half are located in rural areas of WA.

There is a strong Indigenous presence in Bush Ranger units throughout all regions (158 cadets or eleven per cent) and units in regional boarding schools such as Wongutha Christian Aboriginal Parent-directed School (CAPS) in Esperance, Coolgardie CAPS and Christian Brothers Agricultural College in Tardun.

See map *2008 Distribution of Bush Rangers attending boarding schools in Western Australia* on page 13.

A total breakdown across the 47 units shows that two-thirds are in Government schools and one-third in private schools.

Table 1. *Distribution of Bush Ranger units across the education sector*

Year	Govt SIDE	Govt SHS	Govt DHS	Education support	Catholic schools	Independent schools	Remote community schools	Total
1998	-	2	-	-	-	-	-	2
1999	-	7	1	-	2	1	-	11
2000	1	10	5	-	3	3	-	22
2001	1	12	7	-	5	3	-	28
2002	-	13	6	-	4	5	-	28
2003	-	13	5	-	3	6	-	27
2004	-	13	5	1	1	7	-	27
2005	1	13	6	1	4	10	1	36
2006	-	14	7	2	4	11	2	40
2007	-	12	12	2	7	11	3	47
2008	-	11	12	3	4	13	4	47

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SIDE – Government School of Isolated and Distanced Education

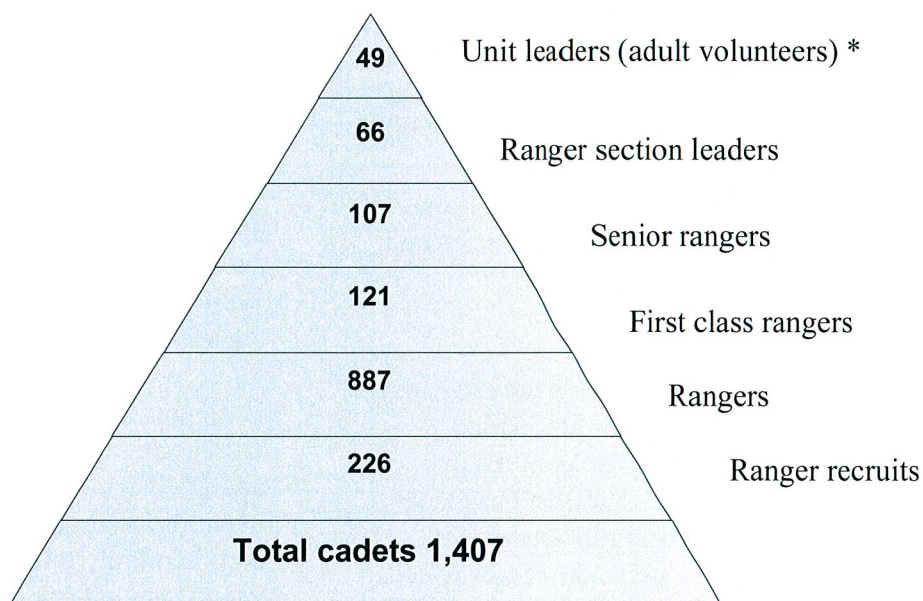
SHS – Senior High School

DHS – District High School



The 2008 figures indicate that four per cent of Bush Rangers describe their unit as catering to members with a disability and of the 1,407 Bush Ranger cadets there was an even distribution of male and female over both semesters, demonstrating the diversity and equity of the program.

	MALE	FEMALE
Semester 1	54%	46%
Semester 2	49%	51%



* Unit leaders not included in total.



Communicating about Bush Rangers

Communicating and celebrating the personal and collective unit achievements builds resilience and durability in the Bush Rangers WA program. Individual cadets proudly represent their units in the school community and in the field during their activities.

One of the most visible activities that promotes the program and its conservation messages to a wide audience is the presence of Bush Ranger cadets at the annual Perth Royal Show. Cadets take this opportunity to actively engage members of the public and present their connections to government agencies and community groups committed to environmental conservation.

The DEC Science Division reward camps arm Bush Rangers with first-hand experience of the issues involved in rehabilitating habitats for the threatened species in Perup Nature Reserve. On returning to their units, the cadets re-tell the stories to their peers and write articles for their school newsletters, magazines and local newspapers, reaching audiences beyond their school environment.



Units also raise their profile through involvement in highly significant conservation tasks in local communities. They contribute to large-scale projects in the Shark Bay World Heritage Area, by planting habitat for Carnaby's black cockatoos and also take part in World Wide Fund for Nature-Australia conservation projects.

Each unit documents its activities through articles and imagery. Photographic, video and DVD records of their projects and expeditions are used to create a commemorative DVD for cadets each year. Some units have used their documentation to produce a formal DVD, which is screened to hundreds of school families as well as new students entering the school.

The varied ways units communicate their activities to the wider community are:

- school newsletters and magazines;
- community newspapers and magazines;
- powerpoint, video and DVD;
- intranet and internet sites;
- radio and TV;
- award events;
- artwork;
- photo histories; and
- display presentations at shows and events.

Professional development

In 2008, professional development opportunities were offered to Bush Ranger units, DEC district offices and local communities as-needed to provide information about the Bush Rangers WA training program and DEC.

The 2008 annual in-service conference was held at the Ern Halliday Recreation Camp in Hillarys. Eighty unit leaders and instructors attended the conference, which had a theme of ‘climate change’. The conference delivered a varied program of current environmental trends, including guest speakers from specialty areas of science.

DEC Herbarium Curator Kevin Thiele delivered an engaging and informative speech about the function and responsibility of the WA Herbarium and the opportunities available to Bush Ranger cadets to take part in field activities lead by the herbarium’s botanists.

Other guest speakers at the conference included DEC staff, who addressed their speciality fields, and representatives from the Curriculum Council, Cadets WA, Leave No Trace Australia and Lotterywest.

Participants learned new activities, such as ‘citizen science’, which they can initiate with their own cadets.

The conference incorporated two workshops dedicated to reviewing the content of the Bush Rangers WA program training manuals.

These workshops provided feedback for consideration in the major review and update of the program’s training manuals and the development of a new website to encourage unit leader collaboration.

Evaluation from participants revealed that the outcomes achieved included:

- acknowledgment of the instructors’ commitment to the program;
- consolidation of a network of instructors across WA;
- exchange of information about conservation and community service opportunities;
- gaining new information about the function and potential links with DEC and its partners; and
- gaining knowledge and skills for team-building and leadership development.



DEC also introduced a new Bush Rangers WA annual report template and guidelines in 2008 to assist unit leaders with reporting to DEC. The template and

guidelines were received with enthusiasm and have been successfully embraced by most Bush Ranger WA units.

For more information about Bush Rangers WA please contact:

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Appendix 1 – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
<p>John Forrest Senior High School</p>	<ul style="list-style-type: none"> • Taking part in monthly bird monitoring, water-quality testing and monitoring the pH, dissolved solids, temperature and turbidity of the lake in the Eric Singleton Bird Sanctuary, Nora Hughes Lake on Drake St and Brown Lake on Coode St, Morley. • Monitoring the growth of vegetation planted on the Nora Hughes Lake and Brown Lake. • Taking part in air-quality monitoring near the school to determine particle and NO₂ pollution from traffic. • Collaborating with the education support unit to extend the school's paper recycling project to up to 72 kilograms a week. • Taking part in the propagation and maintenance of seedlings for the rebuilding of gardens in the school's infrastructure redevelopment program. • Maintaining the school's permaculture garden and propagation of cuttings to vegetate the new frog pond and herb tower. • Weeding and revegetating a piece of remnant bush within the school grounds. • Taking part in Clean Up Australia Day. • Flag raising during the ANZAC Day ceremony. • Taking part in the <i>Land Experience</i> exhibit at the 2008 Perth Royal Show. 	<p>Ribbons of Blue</p> <p>The Water Corporation</p> <p>DEC's Air Watch Branch</p> <p>School community</p> <p>Clean Up Australia Day committee</p> <p>Royal Agricultural Society DEC</p>



Above left and right: Monitoring vegetation changes on the Nora Hughes Lake.



Above: John Forrest Senior High School Bush Ranger cadets monitor water quality at Nora Hughes Lake and Brown lake.

Appendix 1 continued – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
Mercy College	<ul style="list-style-type: none"> • Writing an article for <i>Western Wildlife</i> on the captive breeding program at Barna Mia Sanctuary. • Taking part in a litter pick up at Koondoola Reserve and Point Peron. • Weeding at Sorrento beach dunes and Porteous Park. • Taking part in the ANZAC Day ceremony and leading the parade. • Taking part in a fundraising cake stall for the Fauna Rehabilitation Centre in Malaga. • Fundrasing for Mercy College charities. 	<p>DEC's Narrogin Office</p> <p>Wanneroo Council Joondalup Coast Care</p> <p>School community</p>



Above left and right: Cadets weeding at Sorrento Beach.

Above: Cadets planting at Koondoola Reserve.

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
Bunbury Cathedral Grammar School	<ul style="list-style-type: none"> • Building and installing possum habitat boxes in school grounds. • Collating a photographic herbarium of plants occurring in the school grounds. • Planting trees and regenerating the school paddock. • Taking part in the school paper recycling project – averaging 20 kgms per week. • Taking part in fire safety and management activities. • Taking part in Clean Up Australia Day. • Taking part in a vegetation survey of the school grounds. 	<p>School community</p> <p>DEC's South-west Region Fire Management staff</p> <p>Clean Up Australia Day committee</p>
Emmanuel Catholic College	<ul style="list-style-type: none"> • Maintaining the school native garden and water features. • Weeding and maintaining walkways at Bibra Lake. • Planting 16,000 salt and frost tolerant plants with Duncraig Senior High School on a farm in Tammin to revegetate and provide habitats for Carnaby's black cockatoo. • Collected for Red Cross Street Appeal at Spearwood Bunnings. • Taking part in the <i>Land Experience</i> exhibit at the 2008 Perth Royal Show. • Collecting 6000 kilograms of paper for the school recycling program. • Assisting the Beelias Primary School community to build a sensory garden and worm farm in their pre-primary area. • Assisting school maintenance staff with maintenance duties. 	<p>Emmanuel College school community</p> <p>Cockburn Wetlands Education Centre</p> <p>Murdoch University Environment Centre</p> <p>Fairbridge Village</p> <p>Katanning and Tammin community landcare</p> <p>Red Cross</p> <p>Beelias Primary School</p> <p>Western Recycling</p>

Appendix 1 continued – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
<p>John Septimus Roe Anglican Community School</p>	<ul style="list-style-type: none"> • Weeding and planting at Yanchep National Park. • Taking part in the rehabilitation and maintenance of Wellington National Park. • Taking part in the ANZAC Day service. • Taking part in the Kids with Cancer christmas party. • Assisting the Dean of Students with parking at the Year 12 valedictory dinner. • Controlling traffic at the St Marks church fete. • Taking part in the Bush Rangers exhibit and assisting with activities during School Family Day. • Taking part in the <i>Land Experience</i> exhibit at the 2008 Perth Royal Show. 	<p>DEC Yanchep National Park DEC's Wellington Discovery Centre Margaret River Eco Discovery Centre Princess Margaret Hospital Oncology Ward Kids with Cancer support group Royal Agricultural Society DEC</p>



Above: Planting salt-tolerant plants at Katanning.



Above: Cadets undertaking wetland rehabilitation.

Appendix 1 continued – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
<p>Carmel Adventist College</p>	<ul style="list-style-type: none"> • Constructing a school shade house to grow plants for revegetation projects. • Constructing a bush trail for the school community. • Removing rubbish from an old dump site ready for Shire collection. • Collecting rubbish along a section of the Murray River, between Island Pool and Baden Powell. • Assisting DEC by pruning a section of the Mundi Bidli Trail near Dwellingup. • Cleaning up rubbish in the school grounds and adjacent road side. • Assisting at the Carmel Community Agricultural Open Day. • Making 35 jars of strawberry jam for Christmas hampers for the needy. 	<p>DEC's Dwellingup Training Centre Carmel Adventist school community</p> <p>School community</p>
<p>Albany Secondary Education Support</p>	<ul style="list-style-type: none"> • Taking part in a nature conservation project at Cooina Reserve Mount Melville. • Taking part in restoration work at Mount Lockyer Primary School following vandalism. • Taking part in invasive weed removal and restorative planting at Cooina Reserve and Mount Clarence. • Cleaning up the beach at Two People Bay Reserve. • Taking part in an invertebrate survey and removal of <i>Typhaceae</i> for the Monitoring Healthy Water Ways project. • Taking part in community ANZAC Day march and ceremony and led the school ANZAC Day ceremony. • Taking part in the National Youth Week expo. • Assisting in maintaining the Hawthorne house kitchen garden. 	<p>TAFE City of Albany Mount Lockyer P&C City of Albany Bush Care</p> <p>DEC's Albany Work Centre The Department of Water City of Albany</p> <p>City of Albany School community</p> <p>Alzheimers Association</p>
<p>Corrigin District High School</p>	<ul style="list-style-type: none"> • Planting trees and installing tree guards at Gorge Rock. • Mulching town garden. • Taking part in the local bioblitz. • Taking part in water-quality testing at Fairbridge Village. • Removing rubbish from the Ern Halliday Recreation Camp and Lane Poole Reserve. • Taking part in the ANZAC Day school service and the community dawn service. 	<p>Corrigin Shire Town community WWF DEC Fairbridge Village staff</p> <p>RSL Local community</p>
<p>Geographe Education Support Centre</p>	<ul style="list-style-type: none"> • Taking part in Coast Care Cleanup Day and Clean Up Australia Day. • Planting trees and maintaining the Ribbons of Blue project at West Street Reserve. • Weeding at the 'Gate Keeper Project' at Warnclyff Mill, Margaret River. • Taking part in the community garden busy bee. • Making paper bricks for the Busselton Senior Citizens Centre. • Constructing a 'grow tunnel' for the community garden. • Organising recycling bins for Busselton Senior High School. • Taking part in a coastal clean up at Rottnest Island. • Taking part in the Red Cross Street Appeal. 	<p>Clean Up Australia Day committee</p> <p>Ribbons of Blue DEC's Margaret River Office Community Action Group Busselton Senior Citizens Centre ACTIVE Rottnest Island Authority Red Cross</p>

Appendix 1 continued – Examples of conservation and community projects

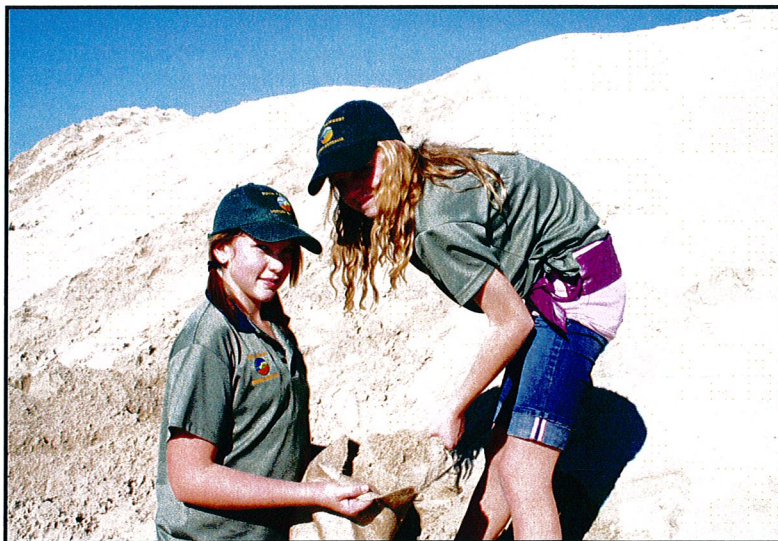
Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
<p>Duncraig Senior High School</p>	<ul style="list-style-type: none"> • Taking part in trail maintenance, mulching and facility development at Mundaring National Park. • Taking part in native tree planting, lupin removal, litter control and bushland restoration at the Duncraig Bushland plot adjacent to the school. • Propagating and raising native flora seedlings for planting in salt affected areas at Tambellup farm. • Taking part in water salinity testing and monitoring at Tambellup farm. • Maintaining the trail at Donnelly River Village. • Taking part in coastal dune weeding, litter pick up, sandbagging the shore line and counting marsupials at Point Peron. • Taking part in the <i>Land Experience</i> exhibit at the 2008 Perth Royal Show. 	<p>DEC's Perth Hills District</p> <p>School community</p> <p>Local farming families</p> <p>Donnelly River Village staff</p> <p>DEC's Swan Region Shoalwater Islands Marine Park</p> <p>Royal Agricultural Society</p> <p>DEC</p>



Above: Trail maintenance at Mundaring National Park.



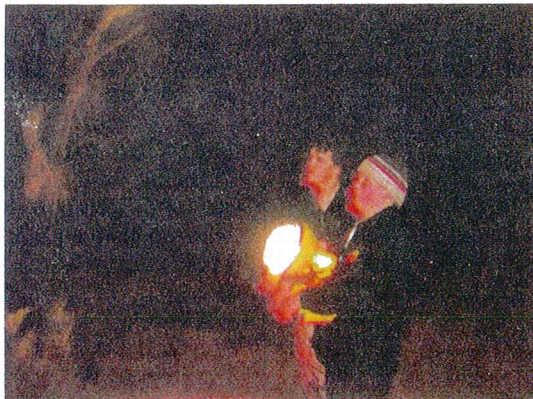
Above: Lupin removal.



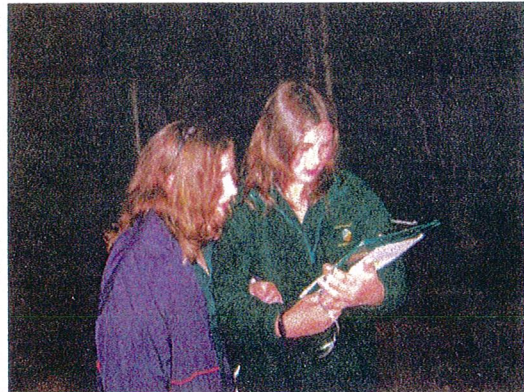
Above: Rehabilitation of shoreline at Point Peron.

Appendix 1 continued – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
Christian Brothers Agricultural College Tardun	<ul style="list-style-type: none"> • Taking part in seed collection, propagation and tree planting at Irvine River, Tardun farm and surrounding farms. • Maintaining and collecting rubbish at cultural sites and along Murchinson River banks. • Taking part in bush tucker capture and preparation. • Monitoring wildlife including emu nests and eggs and bird boxes. • Monitoring and identifying wildflowers. 	DEC's Geraldton District Office Coalseam School Tardun community Irvine River Catchment Group Pia Wadjari community Mullawa Shire Council
Katanning Senior High School	<ul style="list-style-type: none"> • Taking part in an annual tree planting project at Dryandra including planting 13,500 trees. • Rehabilitating and revegetating for Carnaby's black cockatoo and salt-affected areas. • Sampling water in salt-affected areas around Katanning. • Taking part in Perth Zoo night stalk at Johns Well Reserve. • Reconstructing local gravel pit hollows. • Taking part in a native orchid search. • Surveying birds at Lake Ewlymartup. • Monitoring bird boxes. 	Katanning Landcare Local farmers Katanning Landcare Shire of Katanning DEC



Jack and Matt with the spotlights



The girls filling in the spotters log

Bushrangers go on the stalk

A PERFECTLY clear starry night with not a whisper of a breeze made wonderful conditions for the Katanning High School Department of Environmental Conservation Bushrangers to participate in the Great Australian Night Stalk at Johns Well Reserve last Wednesday night.

"It's a great opportunity to get the Bushrangers outside and actually seeing what it is their conservation activities are trying to protect," Unit Leader Damon Jeffery said.

The Night Stalk is an annual

national event co-ordinated by Perth Zoo which encourages communities to spotlight their local bushland and report what they see.

Results go into a national database and assist with understanding what animal populations are where.

The Bushrangers' stalk started off well with the spotting of a female brush-tailed possum who had her very inquisitive and energetic baby riding up on her back.

Along the rest of the walk, an

owl startled the group as it took off from branches above, and another possum was spotted.

Some beautiful cowslip orchids were also sighted.

Landcare Officer Ella Maesepp invites the Katanning community along to another Night Stalk to be held on Tuesday, September 9.

Meet at the Katanning Landcare Centre at 6pm, and make sure you wear warm clothes and sturdy footwear.

To RSVP for the Night Stalk, contact Landcare on 9821 4327.

Appendix 1 continued – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
<p>Northam Senior High School</p>	<ul style="list-style-type: none"> • Taking part in a catch, monitor and release program of black-flanked rock wallabies at Kelleberrin and red-tailed phascogales at Tutanning Reserve, Pingelly. • Taking part in a revegetation project at the Northam rubbish tip. • Building a school bush tucker garden. • Building an 'enviromental roll' at Wooleen station on the Robe River to reduce erosion caused by cyclones. • Taking part in conservation work on Rottnest Island. • Recycling paper and aluminium cans for the school community. • Removing rubbish at Northam Weir. • Taking part in the Northam Remembrance Day ceremony. • Assisting in a river clean up for the Avon Descent. • Taking part in the Vincent Serventy memorial opening at Dryandra. • Taking part in the <i>Land Experience</i> exhibit at the 2008 Perth Royal Show. 	<p>DEC's Narrogin District WWF</p> <p>Shire of Northam Northam Church of Christ WWF</p> <p>Station owner Rottnest Island Authority Northam RSL and school community DEC Murdoch University The Serventy family Royal Agricultural Society DEC</p>
<p>Jerramungup District High School</p>	<ul style="list-style-type: none"> • Eradicating Victorian tea tree weed in Bremer Bay. • Planning and developing the 'working outside classroom' for Jerramungup District High School. • Taking part in dieback research and developing a community awareness brochure. • Developing an action plan to become a 'waste-wise' school. • Taking part in St John Ambulance training. • Collecting water samples for Duncraig Senior High School's water salinity project. 	<p>Fitzgerald Biosphere group South West Conservation group School community Jerramungup local community Waste-Wise St John Ambulance Duncraig Senior High School</p>
<p>Kolbe Catholic College</p>	<ul style="list-style-type: none"> • Assisting with tagging loggerhead turtles. • Taking part in the ongoing eradication of Geraldton carnation weed and rubbish clean up Point Peron and Lake Richmond. • Planting and watering trees at Lake Richmond. • Taking part in project maintenance at 'Adopt a Plot' in Point Peron. • Taking part in the <i>Land Experience</i> exhibit at the 2008 Perth Royal Show. 	<p>Naragebup Rockingham Regional Environment Centre Friends of Point Peron</p> <p>DEC Royal Agricultural Society</p>



Above: A proud moment on ANZAC Day.



Above: Budding scientists from Phoenix West Vocational College doing marine research.

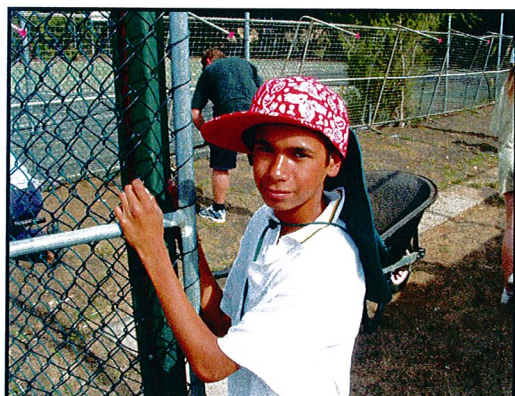
Appendix 1 continued – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
<p>Esperance Senior High School</p>	<ul style="list-style-type: none"> • Maintaining the park, including fire prevention at Woody Island. • Maintaining the campsite at Thomas River and assisting with trapping activities. • Removing Caltrop seeds from verges of the main road leading to the harbour. • Planting trees at Esperance Lakes, Six Mile Hill and Quarry Road. • Rehabilitating dunes at Twilight Beach. • Planting trees at Cape Le Grand National Park. • Taking part in Clean Up Australia Day by collecting rubbish on Wylie Bay Road and West Beach cycle/walk path. • Taking part in rabbit-proofing fences. • Introducing blue recycling bins as part of a school recycling project. • Taking part in the Salvation Army Red Shield Appeal. 	<p>DEC's Esperance District</p> <p>Esperance Weed action group – Coral Turley Esperance Regional Forum</p> <p>Shire of Esperance</p> <p>Esperance Home Care</p> <p>Red Cross</p>
<p>Phoenix West Vocational College</p>	<ul style="list-style-type: none"> • Planting trees at the community nursery and Coal Seam. • Researching preservation initiatives for local catch and release fishing at Batavia Coast Marine Centre. • Researching the horticulture industry. 	<p>DEC</p> <p>Geraldton Community Nursery</p> <p>Central West TAFE</p>
<p>Rossmoyne Senior High School</p>	<ul style="list-style-type: none"> • Weeding both sides of Bull Creek behind the high school. • Collecting rubbish along Bull Creek during Clean Up Australia Day. • Planting local natives in Yalgan Reserve for a future seed harvest with the Canning River Regional Environment Protection Association in Shelley and Rossmoyne. • Taking part in veldt grass weeding at Wireless Hill Park. • Collecting rubbish along the Bibbulmun Track. • Collecting spinifex and collecting and distributing seed and removing old fencing at Francois Peron National Park in Shark Bay. • Cleaning birdcages and assisting at the Native Arc sanctuary. • Assisting at the Canning River Eco Education Centre opening. 	<p>Year 8 Environmental Education students</p> <p>CRREPA</p> <p>Wireless Hill Friends Group</p> <p>DEC's Dwellingup Office</p> <p>DEC's Shark Bay District</p> <p>Native Arc North Lake</p> <p>Canning River Eco Education Centre staff</p> <p>Member for Riverton Tony McCrae</p>
<p>Wongutha Christian Aboriginal Parent-directed School</p>	<ul style="list-style-type: none"> • Replacing burnt markers on the walk trail from Lucky Bay to Hell Fire Bay. • Rehabilitating the wetland on Wongutha farm plots. • Planting 10,000 trees to affect salt encroachment at Wongutha farm. • Rehabilitating school grounds including removing weeds from fire affected areas. 	<p>DEC's Cape Le Grand National Park</p> <p>DEC's Esperance District</p>



Appendix 1 continued – Examples of conservation and community projects

Bush Ranger unit	Conservation and other community service projects undertaken	Community involvement
<p>Warnbro Community High School</p>	<ul style="list-style-type: none"> • Monitoring human impact on the dune systems of Warnbro Beach and Point Peron. • Taking part in track maintenance and clean up at the Wilyabrup sea cliffs. • Assisting with a Department of Fisheries project involving species identification in Mangles Bay. • Conducting a 'State of our Waters' clean up by kayaking around the Shoalwater Islands Marine Park disposing of floating debris. • Taking part in a clean up in the Boranup Forest. • Weeding and beach clean up in the Hamelin Bay sections of the Cape to Cape Track. • Taking part in cotton bush removal and maintenance at Waroona. • Taking part in the ANZAC Day service and leading the ANZAC Day parade. • Cleaning school grounds and the YMCA Aqua Jetty. 	<p>School community DEC Marine Ranger David Leirich</p> <p>DEC's Margaret River Office Department of Fisheries School community Outdoor Education staff</p> <p>Forest Edge Recreation Camp Port Kennedy RSL</p>



Left and below: Staff, students and volunteers from the Waroona Bush Ranger unit, Alcoa, Greening Australia and the Harvey River Restoration Taskforce (HRRT) participated in various activities to clean-up and restore a shade house at Waroona District High School. Bush Rangers applied for funding through Alcoa enabling them to purchase materials and equipment and secure the services of volunteer's from the Alcoa-Wagerup refinery. The shade house will be used for a variety of purposes including the propagation of native seedlings for revegetation projects in Waroona.



Appendix 2 – Bush Rangers unit statistics 2008

Bush Ranger WA Unit	Unit started	No.of cadets	Volunteer hours	Instructor
Albany Secondary Education Support Centre	2006	7	1437	David Cockburn
Atwell College	2008	13	444	Linda Harrup
Bunbury Cathedral Grammar School	2005	14	4179	Rob Brooksbank
Bunbury Catholic College	2006	N/A	N/A	Mandy Connor
Canning Vale College	2006	39	*3412	Clive Claudius
Carmel Adventist College	2007	10	2208	Norrie Taylor
Christian Brothers Agricultural College Tardun	1999	49	7399	Jimmie Magoo
Clarkson Community High School Education Support Centre	2007	30	*2635	Gary Thirwell
Coodanup Community School	2005	29	*2549	Katrina Wilson
Coolgardie CAPS	2000	15	75	David Woods
Corrigin District High School	2007	18	3500	Trevor Sholson
Darkan District High School	2007	11	3500	Maureen Chip
Duncraig Senior High School	1998	107	27684	Darryl Deacon
Ellenbrook Christian College	2001	39	10120	Paul Baumargten
Emmanuel Catholic College	2000	47	15576	Marina Verone
Esperance Senior High School	1998	38	1478	Craig Snow
Gascoyne Junction Remote Community School	2007	12	*1087	Marita Henry
Geographe Education Support Centre	2004	26	3700	Bronwen Worthington
Goldfields Baptist College	2001	49	*4269	John Coman
Jerramungup District High School	2006	26	2632	Katie Warner
John Forrest Senior High School	1998	20	2450	Steve Bauer
John Septimus Roe Anglican Community School	1999	65	8784	Carleen Edwards
Kalbarri Senior High School	2000	13	2310	Craig Addison
Katanning Senior High School	2001	22	6777	Phil Hogan
Kolbe Catholic College	2006	26	4329	Carol Henderson
Lake Joondalup Baptist College	2007	19	*948	Kylie Nicholson
Leonora District High School	2007	12	180	Daniel Wheeler
Manjimup Senior High School	1999	29	*2549	Graeme Gibson
Meekatharra District High School	2005	35	3960	Michael Ostaszewski
Mercy College	2005	30	6240	Amanda Huke
Merredin Senior High School	2005	11	*1001	Penny Neilson
Mount Lawley Senior High School	1999	27	*4322	Andrew Paul
Mount Magnet District High School	2007	N/A	N/A	Tony Dixon
Mundaring Christian College	2003	105	11458	Nathan de Bruyn
Newman Senior High School	2002	6	121	Ashley Copping
Newton Moore Senior High School	1998	40	3752	Dave Barbour
Northam District High School	2001	47	5085	Andrew Vallance
Onslow District High School	2009	14	374	James England
Phoenix West Vocational College	2005	35	7181	Helen Hill
Roleystone District High School	2000	23	1472	Paul Huisman
Rossmoyne Senior High School	1998	30	3358	Wendy Corrick
Thornlie Christian College	2006	87	1351	Wendy Brownhill
Wagin District High School	1999	17	192	Claire Goodin
Warnbro Community School	1999	35	5800	Darren Russell
Waroona District High School	1999	25	1020	Dion Russell
Wongutha CAPS	1999	55	21860	Gary Paul
Yulga Jinna Remote School	2006	N/A	N/A	Zelda Marsh
TOTAL Bush Ranger units = 47**		1,407**	208,138**	

* Actual figures not provided – estimates are based on the number of cadets and minimum participation.

** Figures based on estimates provided.

Appendix 3 – DEC staff partnerships with Bush Rangers WA 2008

CORPORATE SERVICES DIVISION	People Services Branch Risk Management Section	John Ireland – Manager Risk Management
NATURE CONSERVATION DIVISION	Wildlife Conservation Section	Peter Mawson – Principal Zoologist Matt Swan – Wildlife Officer
PARKS AND VISITOR SERVICES DIVISION	Aboriginal Heritage Unit	Koodah Cornwall – Cultural and Community Coordinator
	Regional Parks Unit Beeliar Regional Park Woodman Point Regional Park Jandakot	Tony Eddleston – Reserves Manager Tim Fisher – Operations Officer John Harding – Overseer
REGIONAL SERVICES DIVISION	Fire Management Services Branch	Rick Sneeuwjagt – Manager Peter Henderson – Parks and Visitor Services Regional Leader, Bunbury Alex Moylett – Fire Training Officer, Bunbury Ross Mead – Senior Fire Training Officer, Kensington
	Goldfields Region	Vanessa Jackson – Reserves Officer
	Midwest Region Shark Bay District Kalbarri National Park and Jurien Bay	Cathy Zwick – Senior Ranger Roger Whitelaw – Ranger Colleen Sims – Project Eden Staff at Monkey Mia Reserve Mike Paxman – Senior Ranger
	South West Region Blackwood District Bunbury Wellington District Leeuwin-Naturaliste National Park	Tracey Robbins – Park Ranger, Margaret River Work Centre Peter Henderson – Regional Leader Hannah Hampson – EcoEducation Officer Christy Pengelly – Admin EcoEducation, Collie Work Centre Bill Taplin – Senior Ranger
	South Coast Region Albany Work Centre Esperance District - Cape Le Grand National Park	Luke Coney – Parks and Visitor Services Officer Cameron Hennessy – Ranger
	Swan Region Nearer to Nature Perth Hills District Shoalwater Islands Marine Park Penguin Island Conservation Reserve Swan Coastal District – Yanchep National Park	Marie Milagro – Manager, Mundaring Jill Francis – Programs Coordinator, Mundaring Dwellingup Training Centre staff Elisa Skellen – Mundaring (Dwellingup) Dave Lierich – Marine Ranger Shawn Thomas – Ranger Rick Jenkins – Conservation Officer John Wheeler – Ranger
	Warren Region Manjimup Work Centre Frankland District – Walpole Office	Julia Wayne – Conservation Officer Katie Pettersen – Park Ranger Mark Virgo – Senior Ranger Chris Stewart – Parks and Visitors Service Coordinator Karlene Bain – Nature Conservation Officer Staff at the Valley of the Giants – Tree Top Walk

Appendix 3 continued – DEC Staff partnerships with Bush Rangers WA 2008

REGIONAL SERVICES DIVISION	Wheatbelt Region Avon-Mortlock District - Northam Narrogin District Katanning District Yilgran District - Merredin	Paul Tholen – District Nature Conservation Officer David Pongraz – Reserves Officer Wayne Elliot – Regional Operations Manager Des Plumb – Reserves Officer Chris Phoebe – A/District Manager
SCIENCE DIVISION	Herbarium Manjimup Research Centre	Kevin Theile – Herbarium Curator Bruce Ward – Senior Technical Officer Graeme Liddelow – Senior Technical Officer
STRATEGIC DEVELOPMENT AND CORPORATE AFFAIRS DIVISION	Director, Strategic Development and Corporate Affairs – Ron Kawalilak	
	Programs and Publication Section Community Information and Web Section Graphic Design Unit EcoEducation Section	Rhianna King – Publications Manager Catherine Jack – Project Officer Communications David Gough – Manager Electronic Media Gooitzen van der Meer – Senior Graphic Designer Alison Hansen – Bush Rangers State Coordinator Elaine Horne – Senior Project Officer– EcoEducation Melissa Patterson – Project Officer Stephen Crane – EcoEducation Team Leader

