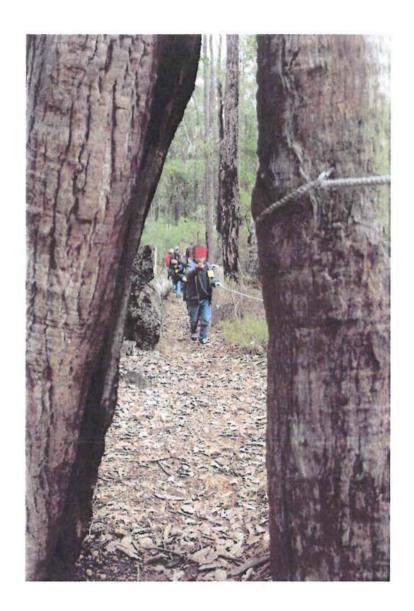
# South West Region EcoEducation



# Annual Report 2013





**ecceducation** 

#### Overview of 2013

#### Centres

The South West Region continued operation of EcoEducation programs at two Centres during 2013; namely the Wellington Discovery Forest Centre (WDF) and Wharncliffe Mill (WM), leased to private operators since the beginning of the year. *Sustainable forests* excursions were also run from the Dwellingup Forest Heritage Centre (DFHC).

#### Mobile education centre

Due to the leasing of Wharncliffe Mill under the WA government's Naturebank program, storage facilities are no longer available for excursion equipment. Whilst this has raised some minor logistical challenges, it has also presented new opportunities for EcoEducation South West.



Out of a range of options considered it was decided to acquire a lockable trailer for storage of equipment and props. A suitable trailer was available in Blackwood district which came with a marquee, tables and chairs and a range of taxidermies in various states of disrepair. Set up costs for the trailer were minimal, limited to a set of locks and a small number of storage containers to protect taxidermies.

In addition to specific school based programs, the use of this trailer at a range of events throughout the year has allowed us to engage with thousands of children and members of the

wider community on key issues such as biodiversity conservation, Western Shield and fire management. Some excursion bookings have also resulted from interaction with teachers at these events.

Events at which the trailer has been deployed include:

- Beach to Bush. An interactive display conducted in conjunction with the South West Catchments Council (SWCC) over the summer holiday period at a range of popular coastal venues including the Busselton Festival where our display attracted several hundred children and parents
- Balingup Small Farm Field Day. A joint stand with the Department of Food and Agriculture, FAWNA, Land for Wildlife and the WA Wildlife and Rehabilitation Council was voted as the most interesting and informative display by visitors to the BSFFD.
- The Ocean Forest Lutheran College Science Spectacular Day. A joint display with SWCC and the Brunswick River Restoration Group.
- SW Capes Schools Confluence at Ellensbrook House. Around 200 students from local primary schools participated in a "round robin" of activities from a range of presenters.

#### Incursions

During 2013 EcoEducation continued to offer free incursions to primary schools both as a means of introducing concepts of biodiversity and conservation to a wider audience of students and also as a way of raising the profile of EcoEducation programs amongst teachers. These incursions have been a remarkably effective marketing tool, with over 50% of incursions run during term 4 2012 and term 1 2013 resulting in subsequent excursion bookings during the 2013 school year.

#### Rebranding of EcoEducation



Since the beginning of 2013, management of EcoEducation in the Perth Hills has been merged with the Nearer to Nature vacation program and has been rebadged as Nearer to Nature Schools. In order to present a consistent image across the state, it has been decided to rebrand our regional program as Nearer to Nature South West. The latest newsletter reflects this name change and the 2014 excursion brochures will also reflect this new look along with the rebranding to Department of Parks and Wildlife.

#### Staffing

John Anderson continued in the position of Project Officer EcoEducation (Level 4 permanent, full-time). Unfortunately due to illness Bonnie Patience decided to take long term unpaid leave. Julie-Anne Oliver acted in her role in her role as Administrative Assistant – EcoEducation (Level 2 permanent, 0.8FTE) and continues to lead excursions at both centres as well as incursions. This arrangement has proved beneficial in 2013 by allowing us to remove our minimum student number charge normally required to cover the cost of casual leaders. This has meant that smaller senior school groups who may have been unable to otherwise participate have continued to book excursions.

Lauren Scanlon became a mother early in 2013 but has continued to lead some excursions at Wharncliffe Mill when available.

Trapping programs in 2013 were conducted by John Anderson.

Blackwood District assisted us during our inaugural Living with fire excursion by sending a fire appliance and crew to Wharncliffe Mill.

Casual positions as EcoEducation officers were advertised internally during Term 2 and some promising candidates have come forward for both Wellington and Blackwood districts. These people will begin training as excursions recommence in 2014 with the intention that they will be ready to lead a range of excursions for our busy period from July-October.

#### Extra duty

At WDF, the cleaning of the Centre has been carried out by Julie-Anne Oliver and John Anderson during 2013. These extra duties have not incurred any additional costs in 2013 since both staff members are currently paid out of recurrent funding.

#### Prop maintenance

No significant prop maintenance was required at either centre beyond replacement of consumables. Two major cleanouts were undertaken at Wellington Discovery Forest to improve utilisation of storage space and rationalise equipment.

A new display cabinet for taxidermies has been installed at the centre which is still to be completed and an alarm system has also been installed covering the classroom and resource room.

Two infrared cameras, one still only and one video capable, were purchased to supplement monitoring activities during trapping weeks and on night walks.

#### New programs

In response to the new Australian Curriculum in Geography and teacher requests, a new excursion on bushfire for Year 5/6 students was developed and successfully trialled with two schools in the second half of 2013. This new excursion will be offered from 2014 under the title *Living with fire*. *Biodiversity's base* will now be targeted at a lower age group (Year 3) since many of the concepts addressed by this excursion are now covered earlier in the curriculum. A number of new or updated incursions have also been introduced.



#### Newsletter

Three editions of the South West Region's 'EcoEducation News' newsletter were written and circulated to a wide distribution list in 2013, in February, July and October. 'EcoEducation News SW' will continue to be distributed via post, email, the internet and at the Centres during 2014.

Access to current and previous issues can be obtained from the "Newsletters" section on the DPaW Education website (http://education.dpaw.wa.gov.au).

#### Flyers and Website

2013 saw two printed flyers being distributed in a mail out to schools in the Bunbury, Warren-Blackwood, Narrogin and Albany Education Districts. The flyers were the EcoEducation Opportunities for WDF and MREDC.

Flyers continued to be a successful method of promoting EcoEducation activities, however producing separate brochures seems to be a slightly wasteful process. In 2014, only a single brochure will be produced to cover excursions at both venues as well as incursions.

John Anderson continued in an active role as administrator of the EcoEducation website and assisted with work on the DEC Education portal. Advertising literature has referred to both sites, although the portal was unfinished until well into 2013. Booking efficiencies for Nearer to Nature Community programs was a driving force behind redevelopment of the portal, however the demerger of DEC has resulted in a somewhat fragmented web presence for Nearer to Nature/EcoEducation spread over 3 distinct sites, much of which still retains DEC branding. It seems there is an intention to redevelop the portal and it is hoped that this project will take place in the not too distant future.

#### Program promotions

A number of incursions have been conducted which give us the opportunity to address the staff body of the school and have resulted in bookings for excursions during 2013.

EcoEducation South West has been involved in a number of professional learning events during 2013:

- A curriculum planning day in January at Adam Rd Primary School attended by teachers from a number of Bunbury primary schools;
- Two PL events for trainee teachers from Edith Cowan University;
- A follow up to The Great Western Woodlands symposium in Kalgoorlie;
- A training and information event for a small number of teachers and volunteers at the Dwellingup Forest Heritage Centre.

Community events which assisted in raising the profile of EcoEducation included:

- A Western Shield and biodiversity display at the Ocean Forest Lutheran College Science Spectacular Day;
- A joint display at the Balingup Small Farm Field Day which attracted several thousand visitors;
- A number of joint Beach to Bush displays at popular coastal holiday spots in conjunction with the South West Catchment Council.

Word of mouth remains very effective in spreading the word of programs with over half of new teachers hearing from friends or colleagues. Flyers and newsletters were also effective at informing teachers of opportunities.

#### **Program Evaluation**

Both formal and informal evaluation of all EcoEducation programs and professional learning events continued to be very positive. In evaluation of programs teachers commented that excursion activities were relevant, fun, and increased students' knowledge.

A strategic plan has been drafted for EcoEducation South-West Region. This strategic plan will be reviewed in 2014. The following is reported against the Strategic Plan 2010 – 2012 Performance Indicators:

#### Awareness

It is the intention of the South West Region EcoEducation program to increase awareness in school communities for the biological and physical diversity of the Region, as well as the management of Conservation Parks and National Parks.

#### Level of participation of school communities in programs offered by EcoEducation

Total participation for 2013 for the entire South West region has increased on 2012 by around 15%. This was in spite of very small year 11 groups throughout the year (mostly less than 10 students per group) due to the half-year cohort reaching Year 11 this year. Some of the increase has been due to an increase in incursions, which we have been actively promoting during 2013. Incursions are not all classroom based, since the EcoEducation trailer which was set up in early 2013 has allowed us to present hands-on "in-field" incursions at a number of venues.

There was a noticeable drop in the number of primary school groups attending Wharncliffe Mill which may be in part due to uncertainty regarding the status of the centre and in particular "sole use" capability. We have been actively working with the new operators to address these issues. During 2013 a significant amount of infrastructure work has been undertaken at the venue, at times limiting availability but also largely occupying the attentions of the operators. However they have been actively promoting their venue and our programs to schools in the latter half of the year and we would expect this to result in increased bookings in 2014.

Transport costs and an ever-increasing duty-of-care compliance burden to take students on excursions continue to be an issue for many teachers.

#### Level of participation in Wellington District

The total number of visitors to Wellington Discovery Forest for EcoEducation excursion programs was 2082, a 14% increase on 2012 participation. This was in spite of some very small senior school groups.

Table 1: Number of visitors to Wellington District

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
3390	3714	2389	1965	1676	2133	1855	1769	2369	1828	2082

#### Level of participation in Blackwood District

The total number of visitors at Wharncliffe Mill for the EcoEducation program was 813; this is a small decrease on last year. There was a significant increase in numbers of secondary students and a corresponding decrease in primary students.

Table 2: Number of visitors to Blackwood District

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
943	1010	1310	1209	1300	1869	1257	1431	838	813

#### Level of participation in Incursions

During 2013 we have been actively promoting incursions via newsletters and word of mouth and these are becoming increasingly popular. Around 60% have been classroom based, with the remainder field based incursions.

Table 3: Number of participants in incursions

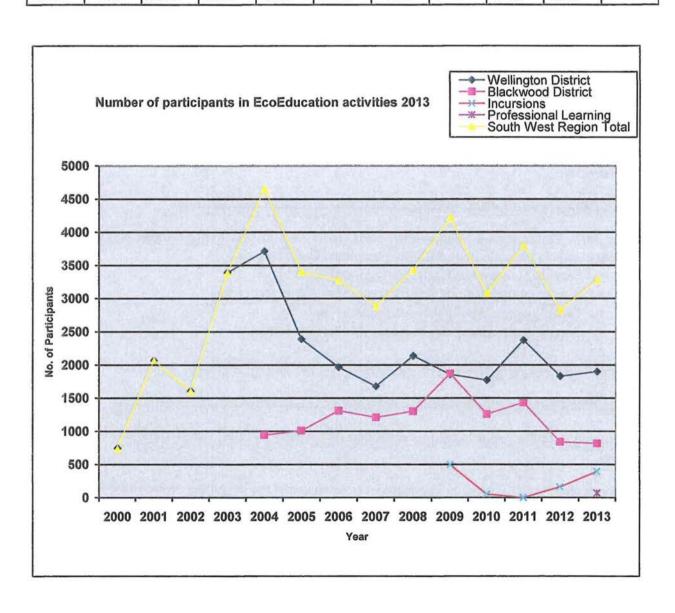
2009	2010	2011	2012	2013
496	51	0	160	391

#### Total participation in Southwest Region

For 2013 total participants was 3282. This is an increase of 14% on 2012.

Table 4: Total number of visitors to Southwest Region EcoEducation

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
3390	4657	3399	3275	2885	3433	4220	3077	3800	2826	3282



September remains the most popular month for excursions and more generally the period from midterm 2 until the end of term 3. This coincides with generally good weather for excursions and flowering of many plant species, however there was a larger than normal rate of cancellations and rescheduling due to unsafe weather conditions towards the end of term 3. November was noticeably quieter than in past years. Please refer to Appendix 3 for further details.

During the 2013 school year, 46 schools and 4 other groups visited our venues, 38 at WDF, 10 at MREDC and 2 at DFHC. In addition 10 schools were involved in incursions. This was a modest increase 5% on 2012. Of these, 18 of the groups/schools participated with only one class in one excursion. All other schools either booked 2 classes at once, more than one excursion as a camp or booked more excursions with different students later in the year. All Year levels (PP to 12) were represented. The schools attending were represented by classes from year levels as below.

Table 5: Number of excursions at each school year level

Year	PP	1	2	3	4	5	6	7	8	9	10	11	12
2012	4	12	7	3	10	5	4	4	7	6	5	38	7
2013	12	12	12	9	6	10	6	4	1	3	4	44	9

Note: This does not represent the number of individual groups since some excursions had multiple year levels in a single class, particularly for smaller schools

Uptake of available programs was greatest by Year 11 and early childhood groups.

Attendance was similar for primary and secondary students in Blackwood district. In Wellington District there were around 60% primary students, reflecting the smaller class sizes of year 11 groups. The most significant increase was in middle childhood (years 5 & 6). Please refer to Appendices 1, 2 and 3 for further details.

In addition there were 2 tertiary groups, 1 Bush Ranger group and 2 groups from school holiday programs.

#### Level of participation of 'new' teachers in programs offered by EcoEducation

During 2013, EcoEducation South West conducted or was involved with a range of Professional Learning events to promote EcoEducation programs. These included:

- Presentations to staff bodies during incursions.
- A professional learning day for teaching students from ECU
- Great Western Woodlands symposium follow up
- Curriculum planning day at Adam Rd Primary School

In total, 65 teachers participated in EcoEducation PL opportunities in 2013.

### Level of promotion of EcoEducation and coverage of events and programs in the media

The programs, professional learning events and newsletters have all been promoted on the DEC website.

Two flyers and the EcoEducation Brochure were produced at the beginning of the year. These were distributed by mail, placed in PL packs and emailed to our mailing lists. Leaders have been encouraged to help promote the programs and other Centres during lunch and morning tea with visiting teachers. Flyers have been given out with teacher resource packs and evaluation sheets.

EcoEducation events received media coverage in 3 regional papers for two incursions and the Balingup Small Farm Field Day. Please see Appendix 6.

#### Education

During 2013, EcoEducation offered 19 different excursions at our centres. They were divided into standard day excursions (10am to 2pm) and excursions students could participate in whilst on camp. Of the camp-based excursions, 'Monitoring Marsupials' was offered for two weeks (effectively eight nights) at WDF, during which four nights of trapping were actually conducted.

Excursions offered for 2013 at both centres were as follows:

### Standard day excursion, WDF and MREDC

- Back from the Brink
- Biodiversity's Base
- Biology
- Busy in the Forest
- Discovering the Forest
- Living with Fire
- Caring for Places
- Climate Change Measuring baseline biodiversity
- Ecosystem Explorers
- Fire a force of life
- Geography
- Sustainable Forests
- Investigating the Forest
- Our South West
- Leave no Trace

#### WDF only

The Nyoongar Way

#### Camp based excursions, WDF and MREDC

- Sense-ational Nightlife
- Marvellous Macroinvertebrates

#### WDF only

Monitoring marsupials (Western Shield trapping)

In addition, Sustainable Forests is offered at Dwellingup (for metropolitan schools which cannot manage a day trip to Wellington Discovery Forest). Investigating the Tuarts continued to be offered at Leschenault Peninsula Conservation Park and Ludlow Tuart Forest, however there was again no uptake during 2013.

Each excursion is targeted to particular year levels within the school system. The excursion popularity has been ranked. Please refer to Appendix 4.

#### The following standard incursions were offered in 2013:

- The forest is a busy place (Years PP-2)
- Biodiversity's base (Years 3-5)

- Back from the brink (Years 5-10)
- Biodiversity quiz (Years 7-11)
- Conservation strategies (Biology Stage 3)

The number of secondary schools participating in 2013 decreased from 31 to 27. Just under half of these participated in more than one activity with an overnight stay. The number of primary schools participating in 2013 increased from 19 to 31.

In 2013 there were initially 5 sessions booked out of a possible 8 trapping nights. Unfortunately only 3 nights of trapping took place since one group had to cancel due to small student numbers and another was refused accommodation at the cottages due to unruly behaviour and poor supervision during a previous visit.

#### Level of recurrent participation of school communities in programs offered by EcoEducation

During 2013, 54 schools, 2 tertiary institutions and 2 other groups were involved with EcoEducation in the South West Region. Of the 58 communities involved, 9 had not participated in EcoEducation activities before. Of the 49 recurrent schools participating in 2013, 41 attended in the last 2 years.

The number of schools from outside the South West region participating in the programs was 16.

Please refer to Appendix 2.

#### Number of classes of school communities involved in programs offered by EcoEducation

Appendix I shows the year levels of the schools involved with EcoEducation at MREDC and WDF. Of the 54 schools attending just under half (26) booked more than one year level during 2013. These numbers are unchanged from 2012.

The most popular excursion at MREDC was again 'Sense-ational Nightlife', which is promoted for Years 6 to 12 and is a favourite camp activity, followed by 'Biology' (reflecting the reduction in the number of primary schools attending). Third was 'Investigating the forest'.

At WDF the most popular excursion was 'Busy in the forest' followed by 'Investigating the forest'. Third was 'Biodiversity's base'. The ranking of secondary programs dropped due to small class sizes. Please refer to Appendix 4.

#### Level of recurrent participation of teachers in programs offered by EcoEducation

Of the 62 teachers that booked excursions in 2013, 32 teachers had been on excursions with EcoEducation in previous years.

### Responses from evaluation of excursion activities

Formal and informal evaluation of all EcoEducation programs and professional learning events were very positive. Feedback has been very valuable in assessing and improving new incursions and excursions introduced in 2013.

During 2013, 125 programs were conducted; each teacher attending an excursion or incursion received an evaluation form with their confirmation letter and were also given an evaluation form on the day of their excursion, with a teacher resource package assembled appropriate to the year level and subject area of the students, to complete and return via mail or fax to the Administrative Assistant - EcoEducation. There were 25 evaluations returned, or about 20% which has changed little over the years. Some of these evaluations covered more than one excursion though many teachers rely on verbal feedback and do not to return evaluation forms.

#### Responses from evaluation of professional learning events

From evaluation of professional learning all respondents felt that the aims of the session had been achieved and all gave very positive feedback on the experience.

#### Action

It is the intention to provide school communities with opportunities to engage in participatory experiences relating to sustainable use of forests and their resources and biodiversity conservation.

Level of involvement of school communities in activities that benefit the biodiversity conservation of, and enjoyment of visitors to, WDF and MREDC

Three school groups participated in Western Shield trapping at WDF in 2012.

The Duncraig SHS Bush Ranger group once again camped at the Wellington Forest Cottages and assisted with a range of conservation activities in the area. They spent several hours assisting with weed control and tree guard maintenance at the Wellington Mill Community Park in conjunction with the Wellington Mill Community Association. They also made a significant impact on a range of weeds around the EcoEducation centre and the cottages, in particular infestations of blue periwinkle, removal of a large number of exotic acacia seedlings and other less pervasive weeds such as thistles. Students also engaged in some fire season preparation by raking ground fuels from around the centre and fences.

#### **Networks and Partnerships**

EcoEducation has collaborated with the South West Catchment Council to provide a number of informative and interactive displays at community engagement events throughout 2013 and this partnership is set to continue into 2014.

Other collaborators have included the Leschenault Catchment Council, Brunswick River Restoration Group, Koomal Dreaming, Land for Wildlife and the WA Wildlife and Rehabilitation Council.

The Wellington Mill Bush Fire Brigade has continued to support EcoEducation in 2013 by allowing the use of its fire appliance during Fire excursions at WDF which enhances the students' experience as well as raising awareness of the role of volunteer BFB's in fire management in the South West.

John Anderson Project Officer EcoEducation South West Region December 2013 Appendix One

## Attending schools, year levels and excursion participation in Blackwood District

School	Excursion	Year
Cowaramup PS	Incursion	5-7
Cornerstone Christian College (Primary)	FPBInc	1
Cornerstone Christian College (Secondary)	SF	11
Geographe Edu Support Unit	BB, Macros	8,9
Georgiana Molloy Anglican School	BFTBSr	11,12
Manea Senior College	BIOL, FIRE, NW	11
Margaret River Lions Club	NW	9-12
Margaret River PS	Incursion, IF	2, 5-7
Newton Moore SHS	NW, BIOL	11
Ocean Forest Lutheran	BB, NW, IF	4
Rockingham SHS	Macros, NW, Bioquiz, BFTBJr	7-12
Rosa Brook Home School Group	Incursion	PP-10
Vasse PS	FBPInc, Macros, BFTBJr, LWF	5-7

### Number of school excursions in Blackwood District

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6	8	7	8	5	1	0

This is 3 more excursions than in 2012 (an increase of 9%)

# Attending schools, year levels and excursion participation in Wellington District, including Dwellingup

Adam Road PS	BITF, IF	1, 2
All Saints College (Dwell)	SF	11
Allanson PS	BITF	1,2
Amaroo PS	BITF, WSInc	1&2, 6&7
Australind SHS	Fire	11
Balingup PS	BITF, BB	1-7
Braeside PS	BITF	PP-1
Bunbury Cathedral Grammar	BITF, IF, Fire, NW	1,2,9,11
Bunbury Catholic College	Fire, CSInc	11,12
Bunbury SHS	MM	11
Carey Park PS	BB	3-5
Chisholm Catholic College	SF, NW	11
Dalyellup PS	BB	6
Dardanup PS	FBPInc	PP-1
Donnybrook PS	BB	5
Duncraig SHS B/R	CFP	8-11
Dwellingup PS	FBPInc	PP-3
Frederick Irwin Anglican School	GEOG, Macros, BIOL, MM, ST	11
Glen Iris YMCA	DTF	PP-7
Grace Christian School	Fire	11
Harvey PS	BITF	PP
Hope Christian College	BITF, LWF	1,5
Iona Presentation College	SF, NW	11
John Tonkin College	BFTBSr, MM, TNW	10
Kingston PS	lF IF	3
Leschenault Catholic PS	BITF	PP
Living Waters Lutheran College	Biol, NW, BFTBSr	11-12
Mandurah Baptist College	BioQuiz	11
Mandurah Catholic College	CCMBB	11
Newman College (Dwell)	SF	11
Newton Moore Edu Support Unit	NW	11,12
Parkfield Primary School	IF	3
Peter Moyes Anglican College	Fire	11
River Valley PS	FBPInc	PP-2
Sacred Heart Sorrento	Fire, NW	11
Servite College	SF, NW	11
St Annes PS	BITF	PP
South Fremantle SHS	Biol, MM, NW	11-12
SWIT	Geog	Tertiary
Tuart Forest PS	IF	2-3
Wilson Park PS	WSInc	6-7

## Number of excursions in Wellington District (including Dwellingup)

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
12	23	16	20	15	1	1

This is 10% increase in number of excursions from 2012

Appendix Two

# School attendance history at MREDC

School	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Adam Rd Primary School			000					2 N N		
Augusta Primary School										
Blue Spirit Retreats										
Bridgetown-Greenbushes Education Centre										
Brookton District High School		- N 6 - 1								
Bunbury Cathedral Grammar School										
Bunbury Catholic College								- W		
Busselton Primary School										
Busselton Senior High School							ii .			
Canning Vale College										
Cape Naturaliste Senior High School										
Carey Park Primary School								2 278		
CBC Fremantle										
Christchurch Grammar										
Coodanup Community College							HE LIN			
Cornerstone Christian Community College			843							
Corrigin District High School								-		
Cowaramup Primary School	E 110 V 1					-				
Dardanup Primary School										W. W
Davallia Primary School	-					TANK ENTE		-		
Denmark Agricultural School	_									
Denmark Primary School	_									
Donnybrook Scouts						-				
Dunsborough Primary School	+	-						-		
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East Manjimup Primary School	-			(Series rates a						
Ellenbrook Christian College	-			- WATE	10000000			assound		
Emmanuel Catholic College							1450400			0
Esperance Senior High School	-					_				
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Georgiana Malloy Anglican School		(I-II)	THE THE		35475975	E 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-			
Goldfields Baptist College	-									
Gosnells Senior High School (BR)	-				7	-				
Great Southern Grammar						rold medical si		-		<u> </u>
Halls Head Community College Ed Supt	-				7			-		
Helena Valley Primary School										
Holmes Vacation Care	-								object See	
Hope Christian College	-								- 3	
John Septimus Roe		F-91 ( 97.5)	15	_		_		-		
Kalbarri District High School	-		-		DE LA					
Karridale Primary School			-			TE LATE		ten s		
Kolbe Catholic College				×						
Lake Grace Primary School										
Lumen Christi College					M. D. R.					
Lynwood Senior High School						ATE S		JE D.		
MacKillop Catholic College		-FV57484	ALL S				POPUL	-		

Manea Senior College										
Manjimup Senior High School										
Margaret River Kidz Club										
Margaret River Independent School				7.400.24						
Margaret River Lions Club	. Units									
Margaret River Montessori School		0.125,01			1311913					
Margaret River Primary School										
MR Out of Hours										
Mercy College (BR)				(1200.04)						
Mt Lawley Senior High School		Į.								
Newman College										
Newton Moore Senior High School		1000						No.		
Nyindamurra Family School						Markey				
Ocean Forest Lutheran College										
Our Lady of the Cape Primary School						The said				
Outdoor Discoveries									FINAN	
PCYC - Collie										
Penrhos College						P. CANADA	JID BA			
Perth Waldorf School						AT VIEW				
Peter Moyes Anglican School							ALD M			
Picton Primary School										
Rockingham SHS	The This									
Roleystone District High School (BR)				15/57						
Rosa Brook Home School group	MAG									
Rossmoyne Senior High School (BR)			Herita		C COL					
St Mary's Anglican Girl's School					S 4 2 12					
St Thomas Moore Catholic Primary	TO SE					ATTENTO				
School										
South Fremantle Senior High School										
Vasse Primary School							RESE		2.1164	
Wagin District High School				- type			2001			
Warnbro Community High		110 7 00 1								
West Busselton Primary School			U.S. P.					POTE		
Wickepin Primary School										
Wubin Primary School			1							
Yallingup Steiner School										

# School attendance history in Wellington District

School	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
2nd Bunbury Scout Group										
Adam Road Primary School			R. Die	N Family				No Sale		
Allanson Road Primary School										
Amaroo Primary School							£	E Hone		
Australind Primary School									-	
Australind Senior High School	White and	THE LINE		elo life	45 67					
Balingup Primary School	0.7									
Ballajura Community College							William Trail			
Boyanup Primary School										
Boyup Brook District High School				WELL.						
Braeside Primary School										
Bremer Bay Primary School			Solling.							
Brunswick Junction Primary School										
Bunbury Cathedral Grammar School	TOWN NO.			NATIONAL PROPERTY.						
Bunbury Cathedral Grammar School						10,122		- SIMIN		
(BR)										
Bunbury Catholic College										
Bunbury John Calvin School										
Bunbury Primary School										
Bunbury Senior High School						my SV				
Capel Primary School										
CAPS Kurrawong										
Carey Park Primary School										
CBC Fremantle										
Childside School										
Chisholm Catholic College										
Collie Library			aliakinsis	ALC: N						
Collie Senior High School		THEFT					A STATE OF			
Coodanup Community College		14.14								
Cooinda Primary School										
Corrigin District High School (BR)		SER.								
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Djidi Djidi Aboriginal School							and the			
Donnybrook District High School								Samuel		
Donnybrook Primary School	Market Market	ES VIEW				ARKS!				
Duncraig SHS (BR)	BUS IS									
Eaton Community College				RIPE						
Eaton Primary School			97.07				ST ST			
Eaton Recreation Centre			4							
Edith Cowan University									\$ 1, La	
Ellenbrook Christian College			122176							
Emmanuel Catholic College									i	
Fairview Primary School				July 18/100 W					al a say	
Frederick Irwin Anglican College	EN ESTE		GRACES.		EERVE	Uran-	HE ME LON			- No. 11-
Geographe Bay Primary School		and the second				-EXCEPTED	and the state of t		4	
Georgiana Malloy Anglican Girls School		-					(asms)			
Glen Huon Primary School				THE WORLD				DI BRAID		

Glen Iris YMCA	Tames de la		M. Dett. S				1			
Grace Christian School		-3 T (8)					<del> </del>			
Harvey Primary School							1	ENGAGE		
Harvey Senior High School	ATTENDED TO						2 55 W			
Hope Christian College	The solution								Desired Gray	Marie Lea
Hyden Primary School	NACTURE A	DI SOU			-	-			-	
Iona Presentation College	1									/
John Calvin School	1000000		195955/1591						TS TISS	
John Septimus Roe Anglican			-		-	Table 1	-		6 - 4 - B. C. C.	District Control
Community School										
John Tonkin Senior College										
John XXIII College										
Katanning Senior High School										
Kearnen College					1000					
Kingston Primary School	S-Emily		SINE III							
Kingsway Christian College						(SALTIES)				
Kirup Primary School					BILLIA	Tall 1 - U.S.			SILE OF	
Kolbe Catholic College		4 1 1 1 1	-				<del></del>			
Leschenault Catholic College			mark sam							
Leschenault Catholic College  Leschenault Catholic Primary School	A THE RES			<u> </u>		(1=51x3)	-	(VALUE V	BANK-TICK	THE HARD
									5 4 10 1 1 1 1 1	
Living Waters Lutheran College	F 4 5 5 1 1 1		SERVICE SERVICE					_		
Lumen Christi College				2 - 3 A 3 A						
Lynwood Senior High School		MIII EAR								
MacKillop Catholic College	Karabas									
Mandurah Baptist College										
Mandurah Catholic College				107/19/19/19	RECTION N		6-> CDX			
Mandurah Senior College			PALESTER ST.							
Manea Senior College		U AS OIL	a analy	191						
Manjimup Senior High School					10.3					
Mercy College (BR)										
Mirrabooka Senior High School										
Mt Lawley Senior High School						I SI E SI E I				
Mt Lawley Senior High School (BR)										
Mumballup Home School Group					The Line					
Newton Moore Education Support Unit										
Newton Moore Senior High School										
Notre Dame University										
Ocean Forest Lutheran College										
Ocean Forest Senior High School				A THE						
Our Lady of Lourdes Primary School										
Our Lady of the Cape Primary School										
Parkfield Primary School	E cair in	E Digues				5635				
PCYC Collie							THE PARTY			
Peter Moyes Anglican Community									TO SERVE	
School										
Picton Primary School									MUT IL	
Pinjarra Senior High School										
River Valley Primary School	EMS-51									
Riverlands School										
Riverlinks Vacation Care										
Roche Park Out of Hours School Care										
Rossmoyne SHS (BR)										
Sacred Heart Catholic School			ISTANIA.	LA TIE					WE HE	

Santa Maria College									
Servite College	Fally/3		D-Arch	NAME OF THE OWNER, OWNE					
Singleton Primary School									-
South Bunbury (Ed Supt)									 PHILIP
South Bunbury Primary School									white
St Anne's School Harvey									
St Bridgids School						TU.			AMERIC
St Joseph's Catholic Primary School Bunbury									
St Joseph's College Albany									
St Joseph's Waroona									
St Mark's Anglican Community School									
St Mary's Anglican Girls School									
St Mary's Catholic Primary School									
St Michael's Catholic PS Brunswick					3	7500 1100			
St Patricks Primary School (Katanning)									
South Fremantle SHS									
South West College of TAFE		HOLEN.							
South West Institute of Technology									
South West Sports Centre				THE LIVE					
Taylors College									I CHAN
The Kings College									
Tincurrin Primary School									
Tranby College							ON DESIGNATION OF THE PERSON O		
Tuart College Primary School									
Unity Christian School								Acres 1	edular
Wagin District High School						arin cess			
West Busselton Primary School		E HAVE							
Wilson Park Primary School									

School attendance history at Dwellingup Forest Heritage Centre (pink) and LPCP (grey)

School	2013	2012	2011	2010	2009
All Saints College					
Australind Senior High School					
Bunbury Catholic College			2057		
Chisholm Catholic College					
Dwellingup Primary School	0.517				
Frederick Irwin College					
Newman College	<b>从为门的</b>				
Warnbro Community College					

Appendix Three

Table: Analysis of days available, school groups and excursion uptake

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Totals
No. of school days	0	19	19	14	20	19	13	22	20	14	21	14	195
No. of school days booked		3	5	5	7	5	4	11	11	7	5	3	66
No. of excursions on school days	1	4	8	7	13	8	5	15	28	14	7	5	114
No. of excursions on non-school days	-	0	0	0	0	1	0	1	0	6	0	1	9
Term		1			2			3			4		TOTAL
No. of schools from outside district		2			4			9			1		16
PL days		1			2			1			0		6

Current uptake is 34% of school days available, a small increase of 1% on 2012.

Considerations to remember when reading this table are:

- > Teachers require approximately six weeks to plan and implement an excursion, effectively reducing the use of the Centres in February to zero days and in March to 13 at best, unless the teacher/s have been to the Centres previously and book excursions in advance. In addition, DET rules prohibit forest based excursions on days of extreme fire danger.
- At the beginning and end of each year it is usually very hot and although the WDF Centre has refrigerated air-conditioning, all programs have forest-based activities and MREDC is not air-conditioned. Term 4 was particularly quiet this year, though the end of term 1 and beginning of term 2 somewhat busier.
- End of year schedules for teachers are extremely hectic with functions, reports and often swimming lessons and senior students have examinations and finish the term early, therefore the use of the Centres is once again reduced for EcoEducation excursions and bookings are mostly for primary and pre-primary groups.
- > August, September and October remain the most popular months at both centres.

**Appendix Four** 

Table 1: Uptake of EcoEducation Opportunities in 2013 in Blackwood District.

Excursion	Year	N°.	N°.	2013	2012	2011	2010	2009	2008	2007	2006
LACGISION	range	conducted	attending	ranking	ranking	ranking	ranking	ranking	ranking	ranking	ranking
Back from the Brink	5-12	4	88	5	9	4	2	3	2	3	2
Biodiversity's Base	4 – 9	2	32	9	6	3	4	2	3	2	8
Biology	11	4	107	2	4	5	5	7	5	6	7
Busy in the Forest		0	0		2	2	3	5	9	5	4
Caring For Places	6 – 10	0	46	8	6		7		8		
Living with fire	5	1	26	10		9					
Discovering the Forest	4-6	2	54	7	5			12			
Ecosystem Explorers		0	0					6	6	7	10
Fire A Force of Life	11 - 12	2	66	6	8	7		10	9	9	
Biodiversity Quiz	8 – 11	1	20	11		10	9				
Sense-ational Trail		0	0					9		10	3
Geography		0	0					13	7	4	5
Sustainable Forestry	11	1	6		10						
Investigating the Forest	2-4	4	104	3	3	6	6	4	1 2 2 2 2 4 1 2 2	8	6
Leave No Trace		0	0			11					
Marvellous Macros	5 – 11	4	93	4		8		11			
Our South West		0	0			12	8	15	4	-	9
Sense-ational Nightlife	4 – 11	7	157	1	1	1	1	1	1	1	1
Incursions		5	177				14				

Attendance	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Primary school	50%	70%	52%	50%	53%	40%	54%	64%	76%	89.5%
Secondary school	50%	30%	48%	50%	47%	60%	46%	36%	24%	10.5%

Table 1a: Attendance figures in Blackwood District 2013

EXCURSION		PRIMAR	Υ			SECONDA	RY		TAFE/UNI/STUDENT TEACHERS				PROGRAM
	Students	Teachers	Others	Total	Students	Teachers	Others	Total	Students	Teachers	Others	Total	TOTAL
Back from the Brink	56	2	8	66	32	3		35				0	101
Biodiversity's Base	15	4	3	22	17	5		22				0	44
Biodiversity Quiz				0	20	2		22		PS - 201 - 1010		0	22
Biology				0	107	10		117				0	117
Busy in the Forest				0				0				0	0
Caring for Places				0				0				0	0
Discovering the Forest				0				0				0	0
Ecosystem Explorers				0				0				0	0
Fire - A Force for Life				0	92	7	5	104				0	104
Forest Walk/Sense-ational Trail				0				0				0	0
Geography				0	24			0				0	0
Investigating the Forest	104	8	17	129				0				0	129
Leave No Trace				0				0				0	0
Marvellous Macroinvertebrates	56	2	8	66	37	7		44				0	110
Our South West				0				0				0	0
Sustainable forests				0	6	1		7				0	7
Sense-ational Nightlife	15	4	3	22	142	12	3	157				0	179
Excursion Total	246	20	39	305	453	47	8	508	0	0	0	0	813
Incursions	177	11	18	206									206
													0
Professional Learning	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	"	U	0		1 0	U	0		1 0		0		U
GRAND TOTAL	1019												

Table 2: Uptake of EcoEducation Excursions in 2013 in Wellington District.

Excursion	Year range	N°. conducted	N°- attending	2013 ranking	2012 ranking	2011 ranking	2010 ranking	2009 ranking	2008 ranking	2007 ranking	2006 ranking
Back from the Brink	5 – 12	2	33	12	6	11	4	4	6	5	5
Biodiversity's Base	3 – 7	5	199	3	9	3	1	1	2	4	10
Biodiversity Quiz	11	3	45	10							7 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -
Biology	11 – 12	3	51	9	10	12	15	6	8	9	11
Busy in the Forest	PP - 2	16	357	1	1	1	2	2	3	1	1
Caring for Places	8 – 12	2	52	8	14				16		
Climate Change	11	1	12	16				17	14		
Discovering the Forest	PP - 7	1	29	13	11	8	7	8	7	7	8
The Nyoongar Way	10	1	18		5	4			13	8	6
Ecosystem Explorers		0	0			14	11	15	12	11	12
Fire - a force of life	11	6	64	5	4	13	6	14			
Forest Walk/Sense Trail	11	1	17	14	16	9	12	5	10	14	7
Geography	11 – 12+	3	35	11	12	10	8	9	4	2	4
Sustainable forests	8 –11	5	62	6	3	2	8	11			
Investigating the Forest	2-4	12	325	2	7	5	5	13		15	3
Living with fire	5-6	1	18					J			
Monitoring Marsupials	11	3	54	7	8	7	13	12	11	12	11
Marvellous Macros	11	1	15	15	15	15	14	10	1	13	9
Our South West		0	0		13	16	8	7	9	10	
Sense-ational Nightlife	5 – 12	9	142	4	2	6	3	3	5	3	2
Tuarts		0	0			16	16	16	15		

Attendance	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004
Primary school	60%	52%	46%	53%	55%	63%	64%	72%	87%	85%
Secondary school	40%	48%	54%	47%	45%	37%	36%	28%	13%	15%

Notes:

**GRAND TOTAL** 

Monitoring Marsupials was only offered for two weeks of the year.

Figures include programs at Dwellingup Forest Heritage Centre

Table 2a: Attendance figures in Wellington District 2013

2147

EXCURSION		PRIMAR	Υ			SECONDA	RY		TAFE/U	NI/STUDENT	TEACHE	ERS	PROGRAM
	Students	Teachers	Others	Total	Students	Teachers	Others	Total	Students	Teachers	Others	Total	TOTAL
Back from the Brink				0	33	5		38				0	38
Biodiversity's Base	199	19	20	238				0				0	238
Biodiversity Quiz				0	45	4	6	55				0	55
Biology				0	51	7		58				0	58
Busy in the Forest	357	36	61	454				0				0	454
Caring for Places				0	52	4	4	60				0	60
Climate Change - MBB				0	12	1		13				0	13
Discovering the Forest	29	6		35				0				0	35
The Nyoongar Way				0	18	3	m 18_251.	21				0	21
Fire - A Force for Life				0	64	9		73				0	73
Geography				0	15	2		17	20	5		25	42
Investigating the Forest	325	31	51	407				0				0	407
Living with fire	18	1	4	23				0				0	23
Marvellous Macroinvertebrates				0	15	2		17				0	17
Monitoring Marsupials				0	108	16		124				0	124
Our South West				0				0				0	0
Sense-ational Nightlife				0	142	25		167				0	167
Sustainable Forests				0	62	8	2	72				0	72
Excursion Total	928	93	136	1157	617	86	12	715	20	5	0	25	1897
Incursions	159	14		173	11	1		12					185
DFHC PL day									0	2	8	10	10
Adam Rd Primary PL day									0 40	24	0	24 41	24 41
Professional Learning Total	0	0	0	0	0	0	0	0	40	25	0	65	65

Appendix Five

Samples
of
school thank yous
and
evaluations



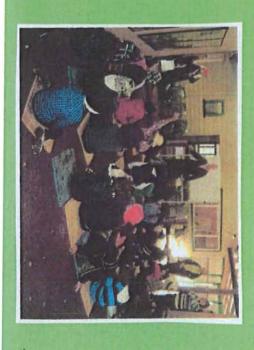




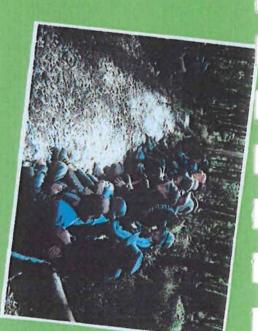




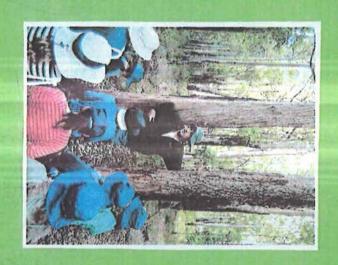




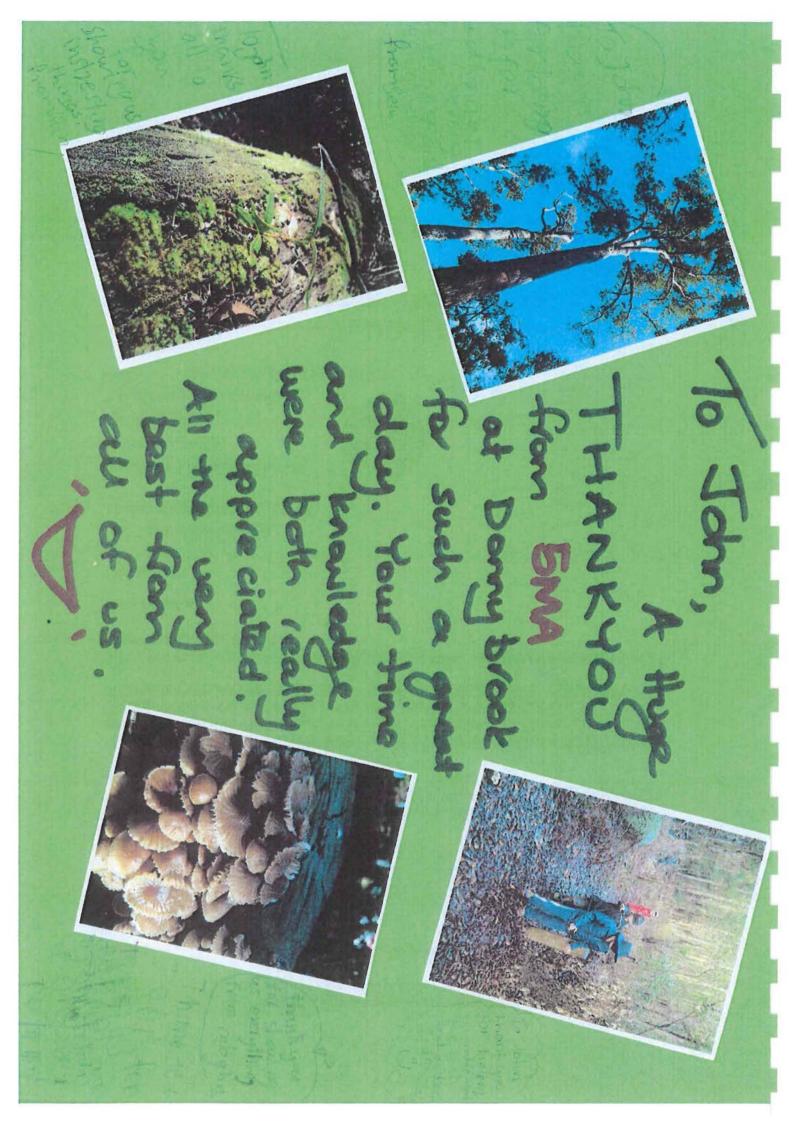




Thankyou so Much!







From:

Samuels, Cam <Samuels.Cameron@cathednet.wa.edu.au>

Sent:

Friday, 25 October 2013 12:24 PM

To:

Anderson, John

Subject:

Re: Commendation for Ms Julie-Anne Oliver, Environmental Officer,

**DPaW** 

Follow Up Flag:

Follow up

Flag Status:

Completed

Dear John,

On behalf of my Year 11 Geography class, I would like to formally commend to you the work of Ms. Julie-Anne Oliver as an Environmental Education Officer at the "Wellington Mills Discovery Centre" on the 10 Sept. 2013.

I always have found Ms. Oliver to be energetic, well prepared, knowledgeable and empathic to the needs of the students and teaching staff. My students have further commented on Ms. Oliver's positive attitude as well as her ability to encourage them to achieve of their best. Ms. Oliver's contribution to the teaching and learning of Geography at Bunbury Catholic College is noteworthy.

On my next visit to your excellent facilities at Wellington Mills, I hope that we may again call on Ms. Oliver's expertise and support.

Yours Sincerely,

Cam Samuels

#### Mr. Cameron Samuels

Teacher of Society and Environment

## **Bunbury Catholic College**

Rodsted Street, WA 6230 Tel: (08) 9721 0000 Fax: (08) 9721 0044

Website: www.bunburycatholic.wa.edu.au

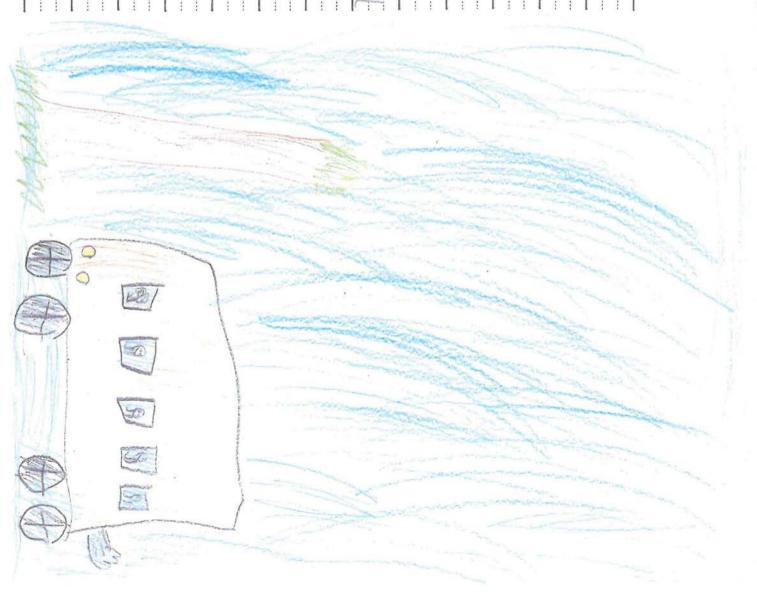
Email: samuels.cameron@cathednet.wa.edu.au



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# **Excursion Evaluation**

We value your comments and will use this information to improve the quality of your educational experiences and our programs.

10 10 0 5	
Name of School / Educational Institution: King Ston P S	
Primary / Secondary (please circle) Year Level: Excursion Date:	12/04/2017
EXCURSION TITLE: (Please use one evaluation sheet for each program)	
Busy in the Bushland	
EcoEd Officer leading the excursion: John Andreson	
How did you find out about this program? (Please Tick)	
*Flyer() *Friend/Colleague() *GAWA() *STAWA()	
*Other, please specify: Price executions	
INTRODUCTION to EXCURSION	
Do you view this as a necessary part of the excursion?	Yes ( No ( )
Please Comment:	
EXCURSION ACTIVITIES (Hands on Experiences)	
Did your students extend their knowledge & understanding?	Yes (V) No ()
Did your students extend their knowledge & understanding?  Please Comment: They increased their case of other senses with the numbered.  Did your students enjoy this experience?	hen working
Did your students enjoy this experience?	Yes ( ) No ( )
Did your students enjoy this experience?  Please Comment: They were cryaged in me  Did the excursion meet with your expectations?	est activities
Did the excursion meet with your expectations?	Yes ( No ( )
Please Comment:	

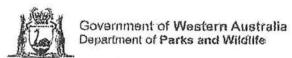
CONCLUSION to EXCURSION	5
Did the conclusion session reinforce the day's key concepts? Yes ( ) No ( )	
Please Comment: We had a very strict trueline that are into	
GENERAL	
Have you attended one of our Professional Learning sessions? Yes ( ) No ( )	
If So, When?	
What did your students enjoy most about the excursion? The sensory walk  definately had the most comments about diving  the trip back to school and at school the following to  What was the least valuable part of the excursion? Long parade at waltery  at each "clue" or "infrance transport to the school of the	
walk to key sports (indicated with lobel/tag) to ensure spacing and schence of participants	

Please return this form to:

Bonnie Patience
Department of Environment and
Conservation - EcoEducation
PO Box 1693
BUNBURY WA 6231

Or fax to: 9725 4351

Thank you for your time in completing this evaluation  $\ \odot$ 



# eceducation

## **Excursion Evaluation**

We value your comments and will use this information to improve the quality of your educational experiences and our programs.
Name of School / Educational Institution: AMAROO PRIMARY
Primary Secondary (please circle) Year Level: PP Excursion Date: 13/11/13
EXCURSION TITLE: (Please use one evaluation sheet for each program)
BUSY IN THE FOREST
EcoEd Officer leading the excursion: Julez and John
How did you find out about this program? (Please Tick)
*Flyer() *Friend/Colleague() *GAWA() *STAWA()
*Other, please specify:
INTRODUCTION 10 EXCURSION
Do you view this as a necessary part of the excursion? Yes (\( \sqrt{No} \) No ( )
Please Comment: Many students needed the rules reinforced!
EXCURSION ACTIVITIES (Hands on Experiences)
Did your students extend their knowledge & understanding? Yes ( No ( )
Please Comment: Many students completed fullow up activities well
Did your students enjoy this experience? Yes (✓) No ( )
Please Comment: They loved answering the chies
Did the excursion meet with your expectations? Yes ( ) No ( )
Please Comment: Well organised and fun

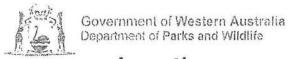
CONCLUSION to EXCURSION
Did the conclusion session reinforce the day's key concepts?  Yes ( No ( )
Please Comment: a lovely way to share thoughts
GENERAL
Have you attended one of our Professional Learning sessions? Yes ( ) No (
If So, When?
What did your students enjoy most about the excursion? Their enjoyed the risk-take while blindfolded and hunting for clues in the forest kept them engaged  What was the least valuable part of the excursion? I don't thank there was one.
Suggestions/Improvements: Nine 1 really apprecia toes all the information + leaching resorces
emailed to me. The staff were fun and
informative the children were
engaged Thank-you
11 11

Please return this form to:

Bonnie Patience
Department of Parks and Wildlife - EcoEducation
PO Box 1693
BUNBURY WA 6231

Or fax to: 9725 4351

Thank you for your time in completing this evaluation ©



**ec**education

DEPARTMENT OF PARKS and WILDLIFE

2 8 OCT 2013

BUNBURY

### **Excursion Evaluation**

Managed the control of the control o
We value your comments and will use this information to improve the quality of your educational experiences and our programs.
Name of School / Educational Institution: Harvey Primary School
Primary Secondary (please circle) Year Level: Primary Excursion Date: 25 19 113
EXCURSION TITLE: (Please use one evaluation sheet for each program)
Busyin the Forest & Sense-sational Trail.
EcoEd Officer leading the excursion: John & Julie-Anne.
How did you find out about this program? (Please Tick)
*Flyer() *Friend/Colleague(/) *GAWA() *STAWA()
*Other, please specify:
INTRODUCTION to EXCURSION
Do you view this as a necessary part of the excursion? Yes ( No ( )
Please Comment: The Introductory Activities that were sent to the school plus the Introduction carned out on the EXCURSION ACTIVITIES (Hands on Experiences)
EXCURSION ACTIVITIES (Hands on Experiences)
Did your students extend their knowledge & understanding? Yes (/) No ( )
Please Comment: They learned what animal and plants lived and glew in their local Jarrah forest.  Did your students enjoy this experience?  Yes (1) No ()
Please Comment: For Some student) it was their first time out in the bush (+ on a bus') and they loved the puddles of the bush Did the excursion meet with your expectations?  Yes (x) No () expense no
Please Comment: It was well run, educational and
age appropriate. I would definitely come again.

## CONCLUSION to EXCURSION Did the conclusion session reinforce the day's key concepts? Yes ( ) No ( ) Please Comment: The children enjoyed looking at the animals in the centre + reflecting on the day. GENERAL Have you attended one of our Professional Learning sessions? Yes ( ) No (X If So, When? What did your students enjoy most about the excursion? They loved the Sense-Sational trail and walking in puddles on the treasure hint. What was the least valuable part of the excursion? It was all valuable but some of the information would have gone over the children's heads. Suggestions / Improvements: It was a wonderful day that all the staff a students enjoyed. Next time I would bing more

Please return this form to:

insect repellant!

Bonnie Patience
Department of Parks and Wildlife - EcoEducation
PO Box 1693
BUNBURY WA 6231

Or fax to: 9725 4351

Thank you for your time in completing this evaluation ©

9				
,				

## **Appendix Six**

Media coverage and public relations



## Students learn about hotspot

THE Department of Parks and Wildlife visited Amaroo Primary School on Monday to educate students on local endangered species.

DPAW's Julianne Oliver gave an eco education session focusing on the western shield program to improve students' knowledge and awareness.

Amaroo teacher Cas Saarc said the program would help students recognise what they could do to contribute positively to the surrounding environment.

"Because so many of these native animals are nocturnal, the students don't see them very often.

This will raise their awareness of what is in the bush in the local area," she said.

Ms Saare said the bush surrounding Collie and the South West was a biodiversity hotspot, with 149 known species of native terrestrial mammals, 11 of which had become extinct and with



Endangered species: Amaroo Primary School students Jai Fraser and Alex Garrett were some of the students who learnt about the Western Shield program on Monday.

another 30 currently threat-

The students played educational games and watched a presentation given by Ms Oliver, learning about captive breeding programs, specifically the numbat program at Perth Zoo.

"I hope that it fires their interest and that they want to learn more.

It would be good if it gets them to ask further questions and get interested," Ms Saare said.

## Drink driving proves expensive

TWO people pleaded guilty in the Collie Magistrate's Court last week and got fines of more than \$2000 each for serious drink driving offences.

Pamela Marie Grazier, 46, was stopped by police in Prinsep Street on the night of June 28 and recorded a blood alcohol level of 0.172.

Grazier's lawyer said she had been drinking with her boyfriend at his house when they got into an argument and she left the premises because of fears she would be assaulted.

She was fined \$2100 with costs of \$68 and had her licence suspended for 30 months.

Darren James Nettleton, 34, was stopped by police on the same night in Wittenoom Street and recorded a blood alcohol reading of 0.188.

It was his second drink driving charge in four months and he got a fine of \$2300, plus costs of \$68 and had his licence suspended for 30 months.

Nettleton also pleaded guilty to driving with a suspended licence, for which he got a fine of \$400.



#### Pregnancy Gingivitis:

Many women find that their gums are more red and bleed more hormone levels which make your gums more sensitive to plaque. S up to form a "pregnancy epulis" which can interfere with eating, b

#### Acid Damage:

Nausea with reflux and vomiting occurs commonly during pregnan your teeth leading to erosion and increased risk of tooth decay. Rin vomiting helps but you should not brush for 30 minutes. This is to a

#### Cravings

Pregnant women often crave sticky or sweet foods. Please be mir increase in snacking frequently increase your risk of tooth decay. We dairy or nuts

#### Old Wives Tales:

TIIABII/ VAIII

The notion that a women loses a tooth after every pregnancy is not teeth. Teeth are fully and definitively formed when they erupt and things because women often get caught up with caring for the despregnancy, and immediately after pregnancy.

Proper oral hygiene and regular dental care will see you through yo affect you, or you are planning a pregnancy, please consult your unborn child.

#### Collie River Dental Centre



All emergencies seen on the day 11 Johnston Street Dr Peter L. Froud

9734 2132 Dr Peter L. Froud Dr Kate Kelly

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fashion on display

PAGE 8

## ousands flock to field day

By NINA SMITH

BALINGUP was packed to the seams with tourists on the weekend when the annual Small Farm Field Day attracted thousands to the small town. There was plenty to see and do at the

A major attraction, as always, was the displays of farm animals.

displays of farm animals.

Plenty of people took the opportunity to get up close to alpacas, llamas, chooks, cows, piglets, miniature horses and sheep

cows, piglets, miniature horses and sheep to pet, feed and admire them.

A few lucky children even got the opportunity to shear a sheep.

Children were well catered for at the event, with everything from rock climb-ing and camel rides to the kids kitchen and the opportunity to try some circus ricks tricks.

There was even a barrel where children could fish for goldfish – and then either put their fish back or take it home

for \$5.

Display tents set up by the Department of Environment and Conservation, the Department of Agriculture and Food and the Society for the Preservation of Raptors allowed kids and adults to get up close and personal with owls, study skeletons of feral animals and find out about different aspects of the environment.

Entertainment included buskers, fashion parades featuring natural fibres and

Entertainment included buskers, fash-ion parades featuring natural fibres and designs from the Bunbury Felting Group and Jalbrook Alpaca Knitwear, bush poetry recitation and local musicians. Demonstrations of working sheep dogs, sheep shearing, wood turning, wool spinning and blacksmithing gave tourists a taste of farm life and traditional skills. A high number of market stalls gave.

A high number of market stalls gave the event a busy, festive atmosphere. The weather was cool, sunny and per-

fect for another successful Small Farm

☐ More photos page 11 and online at donnybrookmail.com.au.

Fuzzy friends: Donna Mazza gets acquainted with the alpacas - a farm animal always popular with the crowds.



Harcourts Kendall Ranieri 0438 939 619 P: 9761 1566 kendall renieri@harcourts.com.au www.bridgetown.bercourts.com.au



by the state government's Royalties for Regions program.

Mr Blumenthal, English celebrity chef and owner of the The Fat Duck restaurant, was scheduled to appear at last year's event, but had to pull out at the last minute after a traffic crash killed two of his chefs.

Alex Atala is described as the most celebrated chef in Brazil, while Sat Bains of Britain is a Michelin-star awarded chef, and Australian Neil

region, the state and its premium produce and wine.

"We expect it will develop into one of the best in the Asia-Pacific region." he

Regional Development Minister Brendon Grylls said the event offered opportunities for producers from around the state to showcase their prod-

Last year's event included a gourmet beach barbecue at Smiths Beach, a

conge Caromodris, went Redzepi, Matt Moran and Kylie Kwong.

The 2013 Margaret River Gourmet Escape will run from November 22-24.

Tickets are on sale from July through Ticketek.

For more information visit www. gourmetescape.com.au.

Master Chef: English celebrity chef Heston Blumenthal, will be visiting the region for this year's Margaret River Gourmet Escape.





Blindfold: Emily Bunker, 9, helps Silvan Bennett, 7, explore the feel of bark

## Homeschoolers go to the bush

MARGARET River Home Education a care of the forest, how bark protects trees Group had fun on Friday in Rosa Brook with a walk through the bush with Department of Environment and Conservation eco-educator John Anderson.

Children and their parents learnt about

The local homeschoolers meet regularly so their children can socialise with

☐ More pictures on page 21.

## **FAMOUS SCRATCH & DENT PAINT SALE**

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## Homeschoolers go bush



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Fun the forest: Max Palmer, 2, is fascinated by tree bark.



Sisters: Jessica, 7, Charlotte, 3, and Emma Price, 5, at Rosa Brook Hall.



On the log: Kiara Falls, 3, has fun in the bush setting.



Slugs and bugs: DEC eco-educator John Anderson talks about how to search for invertebrates in the bush.



**South West Region** 

Term 1, February 2013, Number 30

### Dear colleagues,

With the start of Term 1, now is a good time to be planning EcoEducation excursions for 2013. Once again, a huge thanks to all those teachers—regulars and new—who have supported EcoEducation in 2012 by giving their students the great opportunity to learn about our amazing biodiversity within the wonderful setting of our local forests. This year has been a little quieter at our centres than last year and I know a lot of potential visitors are finding costs to be getting a little high, so next year we are going to be helping those teachers with smaller classes by removing our minimum student charge.

EcoEducation South West has been involved in a number of events throughout the year to raise awareness of biodiversity issues, the work of DEC in general and the environmental programs we offer to schools. These have included:

- presentations at CONSTAWA on the use of the Western Shield fauna recovery program as a context of study for science from K-12
- a presentation to GAWA on timber as a sustainable resource and the forest management issues surrounding it
- a Western Shield and biodiversity display at Ocean Forest Lutheran College's Super Science Spectacular day
- launching EcoEducation in the Great Western Woodlands.
- I was also honoured to be a judge at the inaugural Science Fair at Eaton Community College where I saw some great displays of science inquiries by year 8 and 9 students.

During our trapping weeks at WDF this year, we were saddened to find that our regular possum visitor to the traps was no longer there. He has been regularly getting a feed and a sleep in the inviting cage traps for many years but has probably grown old. We did, however, see a number of mardo up close (a carnivorous marsupial mouse)—one of whom was sporting nine pups—and rather excitingly a healthy young male chuditch.

Australian Curriculum mapping documents are now available on request for all of our programs to help you with your planning and these documents will be published on a new website by the end of the year.

Kind regards, and I look forward to seeing you and your students in the forest in 2013.

Regards,

John Anderson,
Project Officer SW, EcoEducation, DEC

### Wharncliffe Mill under new management

From late 2012 the Wharncliffe Mill site, where the Margaret River Eco Discovery Centre is located, will be leased out to private managers under the state government's *Naturebank* program. The new lessees, Claire and Adrian Prendergast, are experienced tourism operators who have previously managed Kooljaman at Cape Leveque—an Aboriginal owned wilderness camp in the Kimberley, and have spent the last seven years consulting in Indigenous and Eco-Tourism. An important focus will be remaining accessible for school groups and offering 'exclusive use' options for the parts of the year when we have traditionally been busiest with EcoEducation programs.

The new managers have expressed a strong commitment to partnering with EcoEducation to continue offering good value accommodation in conjunction with our curriculum linked forest education programs and their own range of activities. We look forward to a productive relationship in years to come. Accommodation bookings for 2013 should be made directly through Claire and Adrian on 9758 8227 or by emailing stay@wharncliffemill.com.au.

### Free incursions for your class

In order to bring environmental education to the classroom and to promote EcoEducation to schools in our region, during Term 4, 2012 and in Term 1, 2013 we are offering a free incursion to primary schools in the region in exchange for an opportunity to present what we offer to staff. Your principal has received a letter making this offer and only one free incursion per school can be offered, so see your principal now to make sure your class is it. We are offering a choice of 4 incursions to address all year levels:

- Pre-primary to year 3 students (1–2 periods)
   The Forest is a Very Busy Place
   Story Time 'Tuart Dwellers' read with the help of a special puppet guest;
   Bark, leaf and nut crayon rubbings;
   Explores the principles of Living and non-living things.

Julz reads Jane a story

Incursion for years 3, 4 and 5 students (2 periods)
 Biodiversity Base, Incredible Invertebrates.
 Students learn collection, observation and identification techniques of invertebrates at different levels in the natural environment, by the use of shake sheets, loupes (magnifiers), pooters and petri-dishes. Students investigate invertebrate fauna and relationships with the health of the environment, gaining experience of the diversity of animal life in the natural environment.



Photo by Jennifer Harrison

- Incursion for years 5 to 7 students (2 periods)
  Find out how DEC's Western Shield wildlife recovery program has made significant advances in native fauna recovery in WA. Learn about methods for control of introduced fauna and efforts to re-establish native species. Students will learn the procedure of live trapping (using mock animals) and data collection for the purposes of nature conservation; as well as getting an introduction to native fauna with the use of taxidermy specimens.
- Incursion for years 5 to 7 students. (1-2 periods)
   Biodiversity Quiz.

What is an ecosystem? What is biodiversity? This Quiz introduces 16 different components of a Jarrah Forest eco-system which showcases the diversity and interrelationships between fauna and flora.

### EcoEducation South West helps your budget in 2013

At EcoEducation we believe that giving students opportunities to engage with the natural world is immensely important and would like to help you reduce barriers to participation.

In the past, we have required payment for a minimum number of students participating in excursions at our centres in order to cover our expenses. We understand that this can place cost pressures on smaller schools, particularly given the ever increasing price of bus hire. In addition, with the half-year cohort now reaching Year 11, we understand that this minimum will represent a huge disincentive to senior school teachers trying to provide their reduced classes with fieldwork experience.

In recognition of these financial pressures, we will no longer be charging for minimum numbers from 2013 for the majority of our South West excursions, so you will only pay for the number of students that attend. Unfortunately, due to the high cost of staging Nyoongar Cultural programs, a minimum payment for 23 students will still be needed for these.

### The chuditch (Dasyurus geoffroii)

During our May trapping week at WDF this year, we were delighted to discover a healthy young male western spotted quoll ('chuditch' is the Nyoongar name, 'quoll' was recorded by Captain Cook as the name used by Aboriginals on the east coast). We have never previously trapped one there and in talking to the district Nature Conservation officers, who have trapped chuditch at other locations this year, it seems the chuditch may be making a comeback locally.

The chuditch is a lively, attractive animal with golden-brown fur, conspicuous white spots, a pointed snout with plenty of teeth and a long tail ending in a brush of long black hairs. It is about the size of a small cat, with adult males weighing around 1.3 kilograms and females about 0.9 kilograms.

The chuditch is Western Australia's largest carnivorous marsupial. They are crepuscular, meaning they are mostly active around dawn and dusk. They feed mostly on invertebrates but also small mammals, birds, reptiles, frogs, freshwater cravfish and carrion and are also adept at helping themselves to the



A chuditch being released after measuring. Photo by J Harrison

contents of poultry runs. Chuditch were once relatively abundant across semi-arid Australia in every mainland state but today only survive in the very south west of WA in jarrah forests, woodlands and mallee shrubland. Population declines are the result of habitat loss and change and also competition with and predation by foxes and cats. Fox baiting has been successful in allowing a recovery of numbers in the south west. Chuditch will eat fox baits but since they are native to the area, they have a good level of tolerance to the 1080 poison used.

They are nocturnal and usually solitary animals though often have shared latrine areas. They forage mostly on the ground but are also exceptionally good climbers. Their range can extend for several kilometres in which they will have a number of dens in hollow logs or similar. During the mating season in winter, males will travel widely with their range typically overlapping that of several females. The female does not have a true pouch and the young are initially protected by shallow folds of skin around the teats. As the pups grow, they dangle from the mother's belly and are later carried on her back or left in her den whilst she forages.

## Western Shield marsupial trapping dates for 2013 are 13–17 May and 2–6 September

Dates for trapping week are based on moon phase—trap success rates are likely to be higher when the nights are darker, so around the time of the new moon. Our license allows us to trap twice a year for four consecutive nights, once in May and once in September.



A mardo trapped by students of Ellenbrook Christian College

This is a great chance for students to be involved in monitoring marsupials for the Western Shield fauna recovery program. In addition to learning about various aspects of Western Shield, they also mix bait and set traps in the evening, then check the traps early in the morning, recording details about any animals caught for the Western Shield database. Groups can stay overnight at the Wellington Forest Cottages. Places are limited so book early.

## Contacting EcoEducation in the South West Region

For any enquiries and bookings for excursions or PLs please contact Bonnie Patience, Administrative Assistant at DEC's South West Regional Office.

Phone: 9725 4300 Fax: 9725 4351

Email: swecoed@dec.wa.gov.au

For the development of programs and educational liaison please contact John Anderson, Project Officer at DEC's South West Regional Office.

Phone: 9725 5944 Mobile: 0427 980 306

Email: john.anderson@dec.wa.gov.au





# eceducation news

South West Region

Term 3, July 2013, Number 31

### Dear colleagues,

Heading into winter marks the start of our busiest time at EcoEducation. The cooler weather makes a visit to the bush more pleasant as the forest wakes up from the dry summer and begins to bloom. Winter and spring were the times when the Nyoongar people would move away from the coast and up into the forest where food was plentiful and easier to find. As these are the busy times for us, it seems that not much has changed.

If you are thinking of booking an excursion later this year, don't wait until the last moment. The sooner you book the more likely we are to have a time available that suits you.

We have had some changes to staffing during term 1. Bonnie Patience has made the difficult decision to take extended leave without pay and her skills in the office

Commence of Commen

The new mobile EcoEducation centre.

will be greatly missed. Julie-Anne Oliver ('Julz' to many of you) is filling in for Bonnie so we will be sharing the administrative tasks and will both continue to lead excursions. Hopefully not too much will get missed as we learn the ropes.

Our congratulations go to Lauren Scanlon on both a new baby and a new husband at the beginning of the year. Lauren will still be available to help us out with excursions at Margaret River from time to time.

In term 2, we were joined by a new EcoEducation officer, Matt Kovacs. Matt is a qualified teacher with a background in environmental science, forestry and resource management, and will provide a valuable addition to our team.

As a result of the leasing of Wharncliffe Mill to private operators, we have taken the opportunity to create a mobile EcoEducation centre. The trailer contains all of our equipment and a range of taxidermies and other interesting artefacts, which will enable us to travel to a range of venues to deliver EcoEducation programs. The trailer had its first outing at the Balingup Small Farm Field Day where we, along with other conservation groups sharing our stand, were voted the most interesting and informative display.

See you in the forest!

Regards,

John Anderson, Project Officer SW, EcoEducation, Department of Parks and Wildlife

### The new Department of Parks and Wildlife

As of 1 July 2013, the Department of Environment and Conservation (DEC) was split into two new departments—the Department of Parks and Wildlife (DPaW) and the Department of Environment Regulation. The Department of Parks and Wildlife will be an agency dedicated to the conservation, protection and promotion of Western Australia's national parks and conservation estate, while the other agency will deliver environmental regulation, approvals and support for appeals processes.

The ministerial statement regarding this change can be found at www.mediastatements.wa.gov.au/pages/StatementDetails.aspx?listName=StatementsBarnett&StatId=7284.

EcoEducation is part of Parks and Wildlife since this is the department which focuses on scientific research and conservation efforts, environmental education and promotion of the tourism potential of our state's natural assets.

This change will have no immediate impact on the programs we offer but hopefully in the longer term will provide opportunities to expand and improve our already popular offerings. Naturally, the location of our website will change at some point and potentially some contact details, but we will keep teachers informed of any such changes as they occur.





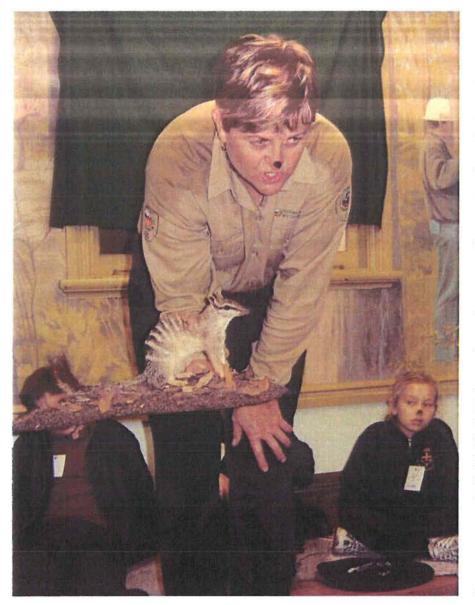
## eceducation news

### Nearer to Nature Schools

In a move unrelated to the new departmental arrangements, Nearer to Nature (which provides school holiday programs for kids and families) and EcoEducation activities at the Perth Hills Centre have merged into a single entity, Nearer to Nature. What was known as EcoEducation is now called Nearer to Nature Schools. In order to maintain a consistent presence across metropolitan and regional centres, EcoEducation South West will be rebadged as Nearer to Nature South West from 2014. In conjunction with this change we hope to launch a limited range of school holiday activities. In the meantime you may find your web access redirected to Nearer to Nature, but the great resources and excursions we offer remain the same.



## Nearer to Nature Schools



### **Primary Connections**

So far this year we have had a lot of interest in fitting our excursions into the Primary Connections framework. Many of our programs are well suited to the biological science units and we can even come into you school to deliver an incursion. During the year we will be looking at ways to create and modify primary programs to provide the ideal complement to a range of units. Investigating the forest (Years 2-4) is well suited to the unit Feathers, fur or leaves. For more advanced groups, Incredible invertebrates—Biodiversity's base, can also be presented at a level to suit this age group. Ecosystem explorers would be an ideal excursion for the Primary Connections unit Beneath our feet, giving students an opportunity to observe and identify long and short-term changes in our forest environment. If you are interested in fitting an EcoEducation excursion into the context of any of your Primary Connections units, please contact us to discuss possibilities.





# eceducation news

### The western ground parrot (Pezoporus flaviventris)

The western ground parrot is one of only five ground-dwelling parrots in the world. It is also one of the rarest birds in the world, with the current estimated population being only 110 individuals. A nest has not been found in the past 100 years, although young birds have been sighted in recent times which offers some hope for the future of the species. Known as the Djardoon-gur-ree to the Nyoongar people of the Perth region, and the Ky-lor-ing to those of the Albany region, this bird was once

widely distributed in coastal areas from Geraldton to Israelite Bay.

As a result of widespread land clearing from the late 19th century, most of its habitat had been destroyed by the mid-20th century. The greatest threats to the western ground parrot currently are inappropriate fire regimes and predation by feral cats and foxes. Most of the remaining population survives in Cape Arid National Park, with possibly as few as 10 in Fitzgerald River National Park. Recovery efforts are being led by the non-profit organisation Friends of the Western Ground Parrot in conjunction with DPaW and the Perth Zoo. More information about this elusive parrot and efforts being made to bring it back from the brink of extinction can be found at www.western-ground-parrot.org.au.



The western ground parrot. Photo by Alan Danks

## Places still available for Western Shield marsupial trapping, 2-6 September 2013

We still have two evenings available for our spring trapping week during the first week of September. This program gives students a hands-on opportunity to learn about the *Western Shield* fauna monitoring program and be involved in setting and clearing traps to monitor populations of marsupials at Wellington Discovery Forest. The excursion involves setting traps in the evening and then checking them early the following morning. It is possible to return to Bunbury overnight, however an overnight stay at the Wellington Forest Cottages turns this into an experience your students will never forget. We

have recently added motionsensitive infrared cameras to our equipment and installed some sand pads to monitor tracks giving a wider range of methods to detect animals in this and other Western Shieldrelated excursions.



## Contacting EcoEducation in the South West Region

For any enquiries and bookings for excursions or professional learning days please contact Bonnie Patience, Administrative Assistant at DPaW's South West Regional Office:

Phone: 9725 4300

Fax: 9725 4351

Email: swecoed@dpaw.wa.gov.au

For the development of programs and educational liaison please contact John Anderson, Project Officer at DPaW's South West Regional Office.

Phone: 9725 5944

Mobile: 0427 980 306

Email: john.anderson@dpaw.wa.gov.au







## South West Region

### Term 4, October 2013, Number 32



Bush Rangers make bush jewellery at Wellington Discovery Forest.

## Dear colleagues,

The end of the school year is in sight and now is the time to begin planning excursions for 2014. The dates for next year's *Western Shield* marsupial trapping program have been set so if you wish to take part in this exciting program, please book early. The removal of minimum charges has allowed smaller groups to enjoy our programs and help achieve fieldwork goals for the year.

We have had some wild weather out in the forest this spring, but we hope every student has still had a memorable and enjoyable educational experience. We appreciate the understanding from those teachers we have had to reschedule. I am sure everyone understands that safety is always our number one priority. Despite the treacherous weather, students were prepared to get wet and cold in the name of knowledge.

For 2014, as the Department of Parks and Wildlife, we hope you continue to bring your classes to the bush to experience our excursions, including a new fire program for primary schools that addresses the new Geography AC. We will also continue to offer our expanding range of incursions to help bring nature to the classroom.

Wishing you all a Merry Christmas and a Happy New Year.

Regards,

John Anderson, Project Officer, Nearer to Nature, Department of Parks and Wildlife

### Incursions

During 2013 a number of incursions ran at primary schools throughout the South West to introduce students to biodiversity and conservation. The incursion programs have been modified based on feedback from teachers and now include some options for high schools. There are no current plans to reintroduce charges for single class incursions within the South West Region. Term 1 and the beginning of Term 2 are ideal times to introduce biodiversity to students.

If you would like to run a whole-school day incursion, the new Nearer to Nature mobile Education centre can visit your school.



Jane the puppet helps Julz with a story.







## South West Region

## Living with Fire - new Year five program for 2014

The move to the Australian Curriculum has brought some changes, bringing new content to the classroom. With the earlier focus on biodiversity, excursions have been adapted so that the biodiversity's base suits Year 3.

In 2014, a new excursion is being introduced - Living with Fire. The excursion addresses the new Year 5 geography content description ACHGK030, which involves understanding "The impact of bushfires or floods on environments and communities, and how people can respond". The excursion also addresses the AC Learning Areas of Science and English.

Bushfires are a natural part of our environment. They can have a major impact on our communities and the environment but are also important in maintaining

biodiversity. In this program students learn about the impacts of bushfires, how to respond and how to mitigate the effects. Students learn when, where and why bushfires occur and the impacts they have on our native plants, animals and communities. Students are introduced to methods of bushfire prevention, mitigation and suppression, and learn the importance of being prepared. The excursion includes hands-on experience with a range of firefighting tools and equipment. Generally, a visit from a fire truck can be arranged for a close up look, although availability of a truck is dependent on operational priorities.

The excursion package includes a teacher and student resource pack for pre and post excursion activities to enhance and reinforce learning.

A 90 minute incursion is also under development and should be available from early 2014.



Below: Students from Vasse Primary School explore a fire appliance.







WA Chief Scientist Lyn Beazley on the tools.







## South West Region

### Western Shield trapping dates 2014

Twice a year, over a series of four consecutive nights, the Western Shield fauna recovery program runs live marsupial trapping at the Wellington Discovery Forest. This is a great opportunity for students to be involved in real life scientific research. Students are introduced to Western Shield through a discussion about threats to our native fauna. Students bait and set the traps in the late afternoon.

Early the following morning, after a brief discussion about fauna handling techniques and measurement recording, students check the traps and assist with emptying, measuring and recording as required.





A mardo trapped at Wellington Discovery Forest.

During 2013, several mardo were caught. A chuditch was also trapped that was first tagged in May 2012 and seemed to be very healthy indeed.

The excursion generally requires an overnight stay at the Wellington Forest Cottages (unless you are prepared for an early start from Bunbury) and may be combined with other Nearer to Nature activities to provide a memorable and informative experience. Trapping dates are chosen to coincide with a new moon, which increases trap success rates.

Trapping weeks for 2014 are:

Monday 26 May – Friday 30 May

Monday 25 August – Friday 29 August



This newsletter and the 2014 brochures have a new look that reflects the new Department of Parks and Wildlife. EcoEducation in the metropolitan region has been renamed Nearer to Nature Schools to reflect a merger with the school holiday Nearer to Nature programs. In order to present a consistent and recognisable message across the state about the great forest-based educational programs on offer, EcoEducation in the South West is now known as Nearer to Nature South West.

Also, as a result of the change staff contact emails have also changed. Please find the new details in the Contact Us section at the end of this newsletter.







## South West Region

## Fabulous Jungi

Western Australians have a fascination with furry and scaly creatures and the wonders of our wildflowers, but an important and intriguing part of the state's biodiversity is often overlooked. From the early rains of autumn through to the end of winter, the forest sprouts a staggering variety of fungi in all shapes and sizes. In Western Australia it is estimated there are almost150 000 species of fungi. The majority of these are microscopic, but there are thousands of species of "macrofungi" able to be seen with the naked eye.



Austroboletus niveus at Wellington Discovery Forest (Photo by Peter White).

Fungi play a number of very important roles in the forest ecosystem and without them a lot of plants and animals would struggle to survive. One important function is as recyclers. Saprophytic fungi are decomposers that break down dead plant and animal matter and return valuable nutrients to the soil. Obvious examples of these are bracket fungi that can often be found adorning tree branches, either on the forest floor or still attached to living trees.

Most of the biomass of a fungus is in the form of a mycelium; a network of very fine threads known as hyphae, embedded in their food source. These can often be seen under wet leaf litter, resembling spider webs and can cover enormous areas. One individual fungus in North America has been recorded to have a mycelium spreading over around 1000 hectares and is estimated to be over 2000 years old.

These hyphae are very fine, as little as a cell in thickness. It has been estimated that a spoonful of healthy forest soil could contain up to 100 of these threads. Their small size makes them very efficient at obtaining nutrients from the soil. Mycorrhizal fungi form a symbiotic relationship with plants, exchanging nutrients for sugars. A jarrah tree may get 25 per cent of its nutrients from these fungi.

Fungi are an important source of food and shelter for various animals. Native truffles, which are mycorrhizal, can form up to 80 per cent of the diet of small marsupials, such as woylies, which spread their spores through the forest.

### Useful resources:

www.fungiperth.org.au (Includes a freely downloadable field guide)

http://www.countrysideinfo.co.uk/fungi/contents.htm

## Contacting Nearer to Nature in the South West Region

For any enquiries and bookings for excursions or professional learning days please contact Julie-Anne Oliver, Administrative Assistant at DPaW's South West Regional Office:

Phone: 9725 4300

Fax: 9725 4351

Email: swecoed@dpaw.wa.gov.au

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