

Working together for marri *By Cielito Marbus*

Issue 84

Summer 2012–2013

*Time of Birak and Bunuru
in the Nyoongar calendar.*

**Camera fauna survey
at Mirrabooka** Page 2

**Weedwatch:
Hydrocotyle
ranunculoides** Page 3

Econote: Ticks Page 4

Sun moth de-listed
Page 4

**Red Card for
Red Fox** Page 5

Feral diet Page 5

What's on Page 6

Learning opportunities
Page 6

**Online mapping
viewer** Page 7

Cat control legislation
Page 7

Funding opportunities
Page 7

Regional reports
Page 8

Quenda deaths
Page 10

**Group profile:
CREEC** Page 11

Resources Page 12

www.dec.wa.gov.au

The State Centre of Excellence for Climate Change, Woodland and Forest Health has received a steady flow of phone calls about dying marri (*Corymbia calophylla*) trees in recent years. The centre commenced a three-year project in June to explore the underlying causes of marri decline in south-west Western Australia and help formulate management solutions. Community participation will be an important part of successful research outcomes.

After trying for a few years to get funding to look at the marri problem, we received the great news that our \$275,000 grant application to the Australian Research Council was successful. The East Metropolitan Regional Council has recently received NRM funding to develop a mobile phone app, and we will play a major role in its development. The app will enable people to record disease symptoms and locations contributing to the research effort.

Marri is a prominent woodland and urban tree found throughout the south-west of WA and is currently suffering from a complex decline syndrome. Its loss would have dramatic impacts on the integrity of our ecosystems. We will undertake this project with active community support and participation, and it is this element that we are really looking forward to. The action of the Margaret River community and the Cape to Cape Catchments Group has been key to successfully achieving funding toward the research and we believe that the community's involvement



Treena Burgess (third from left) discusses marri health with community members at a recent workshop 'How has their landscape changed?' Photo – Cielito Marbus



The introduced fungus Quambalaria pitereka infects new shoots and flower buds. What does this mean for cockatoo food resources and honey production? Photo – Giles Hardy

will also be central to the success of our research outcomes. It is a reflection of the importance of the issue that involvement is so widespread – it transcends the disciplines, and we feel it is only fitting to tackle such a complex issue from multiple perspectives.

The canker and shoot blight diseases are very widespread over the marri range. A canker infection will eventually kill a tree, but marri are very resilient and this can take

many years. The shoot blight disease, introduced recently from the east coast, affects young leaves, flowers and buds. We are concerned about its potential impacts on long-term growth and fecundity of the trees and availability of resources for fauna. Our research will look at the multitude of possible causes of the decline – biotic and abiotic, determining marri's tolerance to different environmental stresses, characterising pests and symptoms and looking for natural resistance to disease. We will explore different management techniques for single trees and stands, with the aims of alleviating stress and maintaining tree health.

We are looking forward to starting this project and working with the wider community to solve what we believe is a significant problem. For further information on the project please email c.marbus@murdoch.edu.au.

Clay pans listed for protection *By Kate Brown*



Floristic plot in clay pans at Bandicoot Creek Reserve just north of Waroona. Photo – Kate Brown

In March 2012 the clay pan communities of the Swan Coastal Plain were listed under the federal *Environment Protection and Biodiversity Conservation Act 1999* as critically endangered. The listing recognises the plant communities of the clay-based wetlands as amongst the most threatened in WA. In the early 1990s a series of floristic plots were established in clay pan communities as part of a regional survey of the Swan Coastal Plain. During spring 2012 the Urban Nature team and Swan Coastal District staff, together with Science Division staff, revisited and rescored these plots, hoping to gain an insight into change in our clay-based wetlands during the past 20 years.

Camera fauna survey at Mirrabooka *By Julia Cullity*

The Friends of Mirrabooka Bushland recently teamed up with Urban Nature to investigate fauna usage of their 85 ha patch of banksia woodland in suburban Mirrabooka. The Friends knew the area was habitat for the black-gloved wallaby (*Macropus irma*), a Department of Environment and Conservation (DEC) listed priority 4 species, but there were no formal records with DEC. Urban Nature has access to camera traps which trigger photos or video when they sense changes in heat and motion. A two-and-a-half week preliminary study with four cameras took place in autumn. This study helped assess suitable deployment sites and identify any technical difficulties in image capture or data collation. Ten cameras were then deployed for four weeks in spring 2012. Cameras were not baited and have an invisible infra-red night flash so they do not affect the behaviour of the animals. However, in urban settings they do attract the attention of people during the day and one was tampered with and another stolen.

Frequency indices were calculated as photos /1000 trap nights. Black-gloved wallabies were filmed on both trapping occasions at low frequency (autumn frequency 14.7 versus spring frequency 15.4). Western grey

kangaroos (*Macropus fuliginosus*) were not sighted in the autumn preliminary survey but were the most abundant capture in the spring survey with a frequency of 54.1. They were also the species photographed at the most stations, appearing at five of the 10 stations, on both sides of Northwood Drive.

Feral animals are a concern at the site and so information was also sought on these. With this aim in mind, many cameras were located on tracks as these are often used by feral predators. After the preliminary survey the Friends requested that fox (*Vulpes vulpes*) and cat (*Felis catus*) trapping take place. This occurred between surveys with three foxes and three cats trapped in June 2012. Fox frequency decreased from 132.4 in autumn to 11.6 in spring; however, cat frequency increased from 14.7 in autumn to 23.2 in spring. Quite surprisingly, rabbits (*Oryctolagus cuniculus*) don't occur at Mirrabooka Bushland with no photos and no evidence of scats or diggings.

Special mention must go to Sue Rose of the Friends of Mirrabooka for all her work in both surveys deploying cameras, swapping



Sue Rose from the Friends of Mirrabooka setting up a camera. Photo – Julia Cullity



The target species, a female black-glove wallaby (*Macropus irma*) taken during the May 2012 preliminary survey. Photo – Urban Nature

memory cards and downloading and sorting through thousands of photos. Unfortunately if the weather is windy the cameras can false trigger. The cameras were out for a combined total of 327 trap nights. Four hundred fauna shots were recorded but 11,500 false triggers were also sorted through.

Contacts

Urban Nature office

Julia Cullity 9423 2925
Grazyna Paczkowska 9423 2914
Kate Brown 9423 2905

Department of Environment and Conservation, Swan Region office, 7 Turner Avenue, Bentley WA 6102

PO Box 1167, Bentley Delivery Centre WA 6983
Fax 9423 2901 Email urban.nature@dec.wa.gov.au

Current and archived issues of *Bushland News* are available at www.dec.wa.gov.au/management-and-protection/programs/urban-nature.html

Autumn Bushland News

Autumn *Bushland News* contributions should be sent to Urban Nature at urban.nature@dec.wa.gov.au by **Friday 15 February 2013**.

Bushland News seeks original contributions. If your submission has been or may be published elsewhere please let us know. Compiled and edited by Jo Tregonning.

Hydrocotyle ranunculoides By Matt Grimby

***Hydrocotyle ranunculoides* is a declared plant in Western Australia. Although restricted in its distribution to waterways and wetlands surrounding the Canning River and isolated sites in the south-west, it has the potential to be a major ecological and economic threat in WA. While *H. ranunculoides* has been a greater problem in WA, it is important that the similar *H. bonariensis* is also recognised as being a potential threat and controlled accordingly.**

There are 22 native and two exotic species of *Hydrocotyle* in WA. The exotic species *H. bonariensis* and *H. ranunculoides* are both native to South America. *H. ranunculoides* is a perennial, emergent aquatic macrophyte with creeping stolons that root at the nodes (Klemm, 1996). Leaves are circular with a deep radial split and are 4–12 cm across. *H. ranunculoides* and *H. bonariensis* should not be confused with the native *Centella asiatica*.

Threat to waterways

H. ranunculoides is capable of doubling its biomass every three days during the warm spring and summer months and quickly forms dense mats that completely cover a waterway. These mats can grow to half a metre above the water level with the roots reaching half a metre below the water surface, blocking light and severely altering the ecology of the waterway.

In the early 1990s *H. ranunculoides* covered the Canning River for hundreds of metres from bank to bank, threatening biodiversity and destroying public amenity. The resulting clean-up bill was around \$2 million at the time. It is an extremely serious weed in Europe with the annual cost of control in the millions of euros. Years of management in the Canning River region since the 1990s has resulted in the infestations now reducing to a level where local eradication is possible.

Control methods

Chemical control and manual removal are both important tools to be considered when attempting to eradicate *H. ranunculoides*. Glyphosate can be used and is effective at reducing the biomass



Hydrocotyle growing at Wilson Wetlands in 2010 attached along the banks and out into the water to form thick rafts. Photo – Matt Grimby

to a manageable level. A major difficulty with controlling *H. ranunculoides* is its propensity to grow amongst native fringing and emergent vegetation, making the use of glyphosate impractical without damaging native vegetation.

The use of metsulfuron methyl as a more selective herbicide makes it possible to target *H. ranunculoides* growing amongst dense native vegetation. Initial trials by the South East Regional Centre of Urban Landcare (SERCUL) have shown metsulfuron to be more effective at killing the entire plant, including the roots, than glyphosate.

Manual removal should be considered in areas where *Hydrocotyle* is persistent. This could potentially involve using an excavator to physically remove the roots that are growing into the bank of the waterway. Hand removal of small pieces of *H. ranunculoides* from the waterway may be necessary as they can float away and establish elsewhere following chemical control or manual removal.

It is imperative when working towards eradication that control occurs regularly (around every six weeks) to prevent the infestation rapidly re-establishing from any surviving plants. *H. ranunculoides* has been listed as a 'declared plant' to protect WA agriculture and the environment. Being a 'declared plant', any *H. ranunculoides*



H. ranunculoides showing the leaf shape and its tendency to creep via stolons to form dense mats. Photo – Julie Robert

that is found should be reported to the Department of Agriculture and Food WA and the landholder must take appropriate control measures.

References and more information

Ruiz-Avila R J and Klemm VV (1996) Management of *Hydrocotyle ranunculoides* L.f., an aquatic invasive weed of urban waterways in Western Australia. *Hydrobiologia* **340**:1-3, pp.187–190.

Klemm VV, Siemon NL and Ruiz-Avila RJ (1993) *Hydrocotyle ranunculoides*: A control strategy for the Canning River Regional Park. *Swan River Trust Report* No. 6

European and Mediterranean Plant Protection Organization, data sheets on quarantine pests: *Hydrocotyle ranunculoides*, <http://www.eppo.int/>.

Those irritating ticks

By Alan Lymbery

This is the time of year when ticks are most active, waiting at the top of a shrub for a passing host. Sometimes they will wait for weeks or months at a time, legs outstretched for that chance encounter that means they can have another meal.

Most people who have spent time in the bush have suffered from tick bites. The bite is itchy and irritating, the tick can be hard to remove and some species of ticks (fortunately not in WA) have a toxin in their saliva that can cause paralysis. Ticks can also act as carriers of viral, bacterial or protozoal diseases.

There are many different species of ticks (both native and introduced) found in Australia, for example the dog tick (*Rhipicephalus sanguineus*), cattle tick (*Boophilus microplus*), bush tick (*Haemaphysalis longicornis*), kangaroo tick (*Amblyomma triguttatum*) and possum tick (*Ixodes tasmani*). Although the ticks commonly found on domestic animals have been quite well studied, this is not the case for the ticks usually found on wildlife. The Parasitology group at Murdoch University is currently investigating ticks and other parasites found on native animals, including some of our most endangered small mammals. As a rule, most ticks are not particularly host-specific and are quite happy to bite a wide range of hosts, including humans.

Most people view ticks in the same way they view all parasites; as something disgusting to be avoided or killed. However, we should be



Engorged ticks (species unconfirmed) taken from a woylie (*Bettongia penicillata*).
Photo – Craig Thompson

a little more open-minded. Ticks, like all parasites, have an important role to play in healthy ecosystems. Parasites help to regulate the population size of their hosts and, in so doing, contribute to maintaining species diversity. For example, parasites such as ticks can mediate competition between their hosts, preventing stronger competitors from out-competing weaker species. Parasites can make it easier for predator species to catch their prey – individuals with many parasites are more likely to be captured and eaten than those with few parasites. Parasites can themselves be prey; bobtail lizards, for example, will eat any ticks they find.

So, the next time you are scratching those irritating tick bites, take some solace from the knowledge that ticks are contributing to the biodiversity of the wonderful environment we all share.

This poem was written following a school excursion to bushland at Baldvis Children's Forest by a year 5 Baldvis Primary School student.

A Tick's Life by Maya Tregonning (age 11)

For years I've been waiting in this never ending queue,
For a bit of flesh to come into my view,
But no one takes pity on a stomach on legs,
They only take pity on those with large heads
I'm the one to blame if there is any strife,
And that my friend is a tick's life.

Every night I dream,
Of flesh that is lean,
And blood that's as thin,
As water in a tin,
But everyone's scared 'cos my mouths like a knife,
And that... well that's a tick's life.

All shiny and black I think I'm quite handsome,
And personally I think I should live in a mansion,
But no one loves me and I don't have a wife,
Yep, you guessed it – that's a tick's life.

Graceful sun-moth de-listed in WA

The graceful sun-moth (*Synemon gratiosa*) was removed from the WA threatened fauna list, effective 6 November 2012, following extensive surveys.

The surveys led to the discovery of new populations and confirmation of extensive habitat to the north of Perth, including habitat containing a different host plant, *Lomandra maritima*, to the previously known host, *L. hermaphrodita*. The species is restricted geographically to a specific series of coastal Holocene dune systems which make it susceptible to future threats. The graceful sun-moth will be retained on the state's 'Priority Fauna List' as priority 4 fauna so that it will continue to be monitored to ensure it remains non-threatened. The graceful sun-moth is still listed under the federal *Environment Protection and Biodiversity Conservation Act 1999* as endangered.

DEC surveys for the graceful sun-moth will continue in February and March 2013. For more information email Matt Williams at matthew.williams@dec.wa.edu.au. For graceful sun-moth survey reports visit www.dec.wa.gov.au/our-environment/science-and-research/animal-conservation-research/5695-conservation-of-the-graceful-sun-moth.html.

Red Card for Rabbits and Foxes program By Graham Murray

Now in its eighth year, the Red Card for Rabbits and Foxes program brings together more than 1,000 landholders from Northampton to Esperance for a targeted, landscape-scale approach to pest control.

Following the concept of 'many hands make light work', local volunteers coordinate baiting and shooting activities at a community level. The impact this coordinated approach can have is significant. More than 4,000 foxes, 230 feral cats and 3,700 rabbits were culled in the Stockbrands Community Foxshoots in just two weekends during February and March 2012. In addition, 18,500 fox baits and more than four tonnes of rabbit bait were laid. Through sponsorship from Stockbrands and David Grays more than \$20,000 was donated to the Royal Flying Doctors.

Community baiting programs for fox control have been demonstrated to be more effective than efforts by individuals. Isolated efforts to control foxes usually result in relatively small pockets of de-population meaning that foxes on the periphery of those areas can move in and re-populate them. When baiting is simultaneously coordinated over a larger area, fox populations are reduced on a



More than 4,000 foxes (*Vulpes vulpes*) were culled in the Stockbrands Community Foxshoots in March 2012. Photo – RCRF Program

widespread basis. Local populations are therefore diminished for much longer.

The impact that feral animals have on our native fauna and flora is significant. Red Card is linking with research efforts including Murdoch University and University of Queensland to better understand pest distribution and predation effects, and effectiveness of various control programs. It is agreed that through habitat destruction, competition and predation, the fox and rabbit have played a major role in the decline of ground-nesting birds, small to medium-sized mammals such as the black-flanked rock wallaby (*Petrogale lateralis*), bilbies and other ground dwelling species such as lizards and frogs.

The Red Card for Rabbits and Foxes program runs a spring baiting program as a precursor to its main program in March to April each year. Volunteers are required to coordinate local baiting and shooting programs, and all land managers across the WA agricultural region are urged to participate. A wide range of resources are available from www.redcard.net.au, including fact sheets on major pests and control options, accreditation forms for the safe use of 1080 poison, how to run local events, free resources and merchandise, and a register of volunteer shooters willing to assist landholders. To get involved, please contact info@redcard.net.au.



Carrion feeds ferals By Heather Crawford

A Murdoch University study investigated the diet of red foxes and feral cats in south-west WA. The high level of scavenging observed in both fox and cat diets suggests carrion is an important food source during summer months.

Five hundred and thirty-five foxes (*Vulpes vulpes*) and 56 feral cats (*Felis catus*) caught during the Red Card for Red Fox program during February and March 2010 had their stomach contents examined as part of the investigation. I found that while these two carnivores were eating similar foods, native animals comprised a much smaller proportion of the fox diet (19 per cent) than that of cats (52 per cent).

Foxes predominantly consumed sheep carrion which comprised 59 per cent of the overall fox diet. Several foxes had consumed lamb rings, placentas and lamb carcass but only a single stomach contained newborn lamb. This is most likely due to sample collection occurring prior to the start of lambing for many flocks. Other food items identified from foxes included invertebrates (12 per cent of diet) and food plants (12 per cent). Stomachs were often full of figs, mulberries and grapes as well as seed, corn and wheat (sometimes as much as 1kg).

Feral cats preyed heavily on native birds such as galahs, parrots and magpies (27 per cent of overall diet), and house mice (21 per cent) were also eaten in large quantities.

Contrary to popular belief, feral cats deliberately consumed a large proportion of plants (15 per cent of diet), made up of refuse scraps, vegetables, fruit, corn, seed and wheat. Sheep carrion was also present in nine per cent of stomachs indicating that cats were struggling to find fresh prey.

Reducing the access that foxes and cats have to these 'free' feeds could help in reducing the number of these pests throughout the south-west and increase the effectiveness of culling programs such as Red Card for Red Fox.

For more information contact Heather at crawfh01@gmail.com.

what's on

Opportunities for you to take part! Visitors always welcome but please confirm activities with the contact person. Most activities are FREE!

Recurrent activities

-  **Saturdays Bushcare activities** with the **Mt Henry** Conservation Group are on the fourth Saturday of each month. Email Jan.King@acquinas.wa.edu.au.
-  **Saturdays 8am-9am Guided walks** with Friends of **Koondoola**. Second Saturday of the month. Meet at Gate 2, corner of Koondoola and Burbridge Ave.
-  **Saturdays 8am-9am Guided walks** and meeting with Friends of **Landsdale**. First Saturday of the month. Meet at third gate Landsdale Rd, east of Landsdale Farm School, Darch.
-  **Saturdays 9am Bushcare activities** with the Friends of **Brixton Street** Wetlands are on the third Saturday of the month. Meet Alton St, Kenwick. Contact Regina 9459 2964 or tjdrd@bigpond.net.au.
-  **Saturdays, Sundays 9am-12 noon Koala maintenance** at **Yanchep** National Park. Call Kerstin 9303 0771.

Highlights

Bibbulmun Track Foundation events suit all ages and most fitness levels. From guided walks to learning how to cook on a fuel stove. Visit www.bibbulmuntrack.org.au/walk-the-track/events-calendar/.

7-20 January

Nearer to Nature sparkling summer events. Visit www.dec.wa.gov.au/n2n.

January-March

Evening walks with Friends of Bold Park Bushland Volunteer Guides. Meet at the WA Ecology Centre, Perry Lakes Dr, Floreat. For more information phone 9480 3996, email friendsbp@bgpa.wa.gov.au or visit www.bgpa.wa.gov.au.

18-22 February

Global Herbicide Resistance Challenge Conference, Perth. Visit www.herbicideresistanceconference.com.au.

16 Saturday February

Romantic Valentine's Day paddle on the picturesque Canning River at sunset. Includes guided canoe trip, talk and supper. Bookings 9295 2244.

WA Citizen Science Conference has been postponed from November 2012 until 2013. For revised conference notices visit www.cwa.org.au/content/citizen-science-conference.

Sundays

-  **Work morning** with the **Wilson Wetlands** Action Group. Exact site is decided a week prior. Email wilsonwetland@gmail.com.
-  **Sundays 8am-9am Guided walks** with Friends of **Marangaroo**. Fourth Sunday of the month. Meet at Gate 3, Decourcy Way.
-  **Sundays 8am-10am Bushcare activities** every Sunday with the Friends of **Shenton Park** Bushland. Contact Dani 9381 3470 or bojel@it.net.au.
-  **Sundays 8.30am Bushcare activities** with the Friends of **Wireless Hill** are on the second and fourth Sunday of each month. Meet at main car park. Contact Margaret 0402 105 649 or s3mmatthews@hotmail.com.
-  **Sundays 8.30am-9.30am Guided walks** followed by meeting with Friends of **Mirrabooka**. First Sunday of the month. Call Jan 9344 2872.
-  **Sundays 9am-11am Bushcare activities** with **Cottesloe** Coastcare are on the first Sunday of each month. Visit www.cottesloecoastcare.org for details or contact Robyn on 9384 7668 or info@cottesloecoastcare.org.
-  **Sundays 9.45am-12 noon Bushcare activities** with the Friends of **Piesse Brook** are on the third Sunday of each month. Contact Gerry Brown 9293 2517, Bridgett Hogarth bhogarth@ozemail.com.au, linda@johnstanley.cc.
-  **Sundays 9am-12 noon Bushcare activities** with the Friends of the **Spectacles** (Kwinana) are on the third Sunday of each month. Contact Lynda Smith on 9439 1928 or outback3@inet.net.au.

Activities key

-  **Hands on** – bushland and wetland management activities.
-  **Walks and tours** – look, listen and enjoy guided walks and excursions.
-  **Skills development activities** – talks, presentations, training courses and workshops.
-  **Meetings and events** – group meetings, expos, festivals and conferences.

-  **Mondays 8.30am-10am Bushcare activities** with the Friends of **Mary Carroll Lake** (Gosnells). Volunteers also work the fourth weekend of each month. Eudoria St car park. Contact Unice 9398 7126 or unicerobinson@gmail.com.
-  **Mondays, Wednesdays, Fridays 9am-12 noon Bushcare activities** and wetlands walk trail maintenance with **Yanchep** National Park Volunteers. Call Kerstin 9303 0771.
-  **Thursdays 8am-9am Bushcare activities** every Thursday with **Byford** Enviro-Link. Call Johanne Garvey or Kristy Gregory 9526 0199.

-  **Thursdays 9am-2pm Bushcare activities** in **Margaret River** with the Capes Volunteer Team. Call 9757 2202.
-  **Thursdays 9am-11am Bushcare activities** on the fourth Thursday of the month at **Baldviss** Children's Forest. Contact Jo 0410 341 087 or jo.tregonning@education.wa.gov.au.
-  **Conservation Volunteers activity schedule**. Free one-day local activities or overnight country trips. Call Jodi 9335 2777 or visit www.conservationvolunteers.com.au.
-  **Research into bird populations** with the **Herdsmen Lake** Bird Banding Group. Call Bill Rutherford (ABBBS Coordinator) 0438 910 252.

Learning opportunities

2012 Wetland Management Conference Friday 1 February 2013, Cockburn Wetlands Education Centre

The conference will feature keynote and poster presentations, concurrent workshop sessions and interpretive tours of local restoration sites. Due to the generous support of the City of Cockburn, DEC and WALGA's Perth Biodiversity Project, delegate fees have been kept to a minimum (\$60 or \$20 concession). For more information contact Denise Crosbie on 9417 8460 or denise@cockburnwetlands.org.au.



Loch McNess. Photo – Cockburn Wetlands Education Centre.

Catchments Corridors and Coasts 2013 16-18 January 2013

Presented by Australian Association for Environmental Education (WA). CCC provides a 'snapshot' of environmental education, resources and support that help address core environmental and sustainability issues in WA. Contact Amy Krupa on 0407 427 054 or info@aaeewa.org.au. Visit aaeewa.org.au.

For information on **DEC volunteer programs** visit www.dec.wa.gov.au/community-and-education/volunteer-programs.html.

Please send us your April, May and June 2013 events by Friday 15 February 2013.

Online mapping viewer for Perth and Peel Region

By Renata Zelinova

This public online mapping viewer has been designed to provide access to the results of local natural area prioritisation for biodiversity conservation mapping for Perth and Peel. You will find information about biodiversity values for any selected area, whether it is your local reserve or land proposed for rezoning.

Access and use of the information is free and no previous experience with mapping applications is needed. Visit http://pbp.asn.au/index_public.html. The user guide and explanatory notes available for downloading through the mapping viewer are designed to self-guide users. Read the information on the home page, tick the acknowledgement of terms and conditions box and press 'Enter

the map viewer'. All underlined text is linked to an explanatory text which provides access to relevant websites with further information.

The function tools allow simple manipulations of information layers, and the ability to zoom in and out, pan, measure distances and areas, select areas and generate reports on available environmental information.

This is a State NRM Program-funded initiative delivered through the Western Australian Planning Commission/ Department of Planning and Western Australian Local Government Association's Perth Biodiversity Project.

For further information or assistance contact Perth Biodiversity Project Manager, Renata Zelinova on 9213 2047 or email rzelinova@walga.asn.au.

Cat control legislation

The Cat Act 2011 will come into effect on 1 November 2013. The public consultation period in July 2010 attracted 590 submissions. The legislation will encourage responsible pet ownership and reduce the number of unwanted cats being bred. It will enable local government to reunite cats with their owners, deal with irresponsible owners (including cat hoarders) and deal with cats that are not owned (that is, feral cats). Two cat pounds will be established in Perth and two around Mandurah and Bunbury.

The owner of a cat that has reached six months of age must ensure their cats are sterilised, micro-chipped and registered with their local government (registrations commenced 1 November 2012). Subsidies to sterilise and microchip cats are available for pensioners and low income earners at some facilities (for example, Shenton Park shelter). Fines of \$5,000 apply for non-compliance. A person must not breed cats unless they are a registered cat breeder. Approved cat breeders may apply to be exempt from the laws.

Funding opportunities

Caring for our Country NRM Community Action Grants

The government is compiling information collected through the recent consultation and developing the program design for the next five years of *Caring for our Country*. New projects will be able to start work from July 2013. To keep up to date about *Caring for our Country* please subscribe to Econewsletter at nrm.gov.au/news/subscribe.html.

City of Armadale Community Grants Program

provides up to \$1,000 for initiatives that benefit the local community. Likely to **close March 2013**. Visit www.armadale.wa.gov.au/Home/Your_Community/Community_Support.

City of Busselton Community Bids grant financial assistance to organisations that provide services or activities that align with the City's strategic plan and deliver sustainable social, environmental and/or economic benefit to the community. Applications for major funding (\$5,001–\$50,000) are likely to **open in March 2013**. Visit www.busselton.wa.gov.au/community/community%20bids%20and%20sponsorship.

City of Joondalup Community Funding for Environmental Development

grants aim to assist community groups and schools with projects, events and activities that increase awareness of environmental issues, promote positive environmental behaviour and protect the City's natural areas. A total of \$25,000 is shared over two funding rounds each year. **Opens February 2013**. Visit www.joondalup.wa.gov.au/Govern/GrantsandFunding/CommunityFunding.aspx.

City of Rockingham Community Grants

fund community projects including environmental initiatives for the Rockingham community up to \$20,000. Funding quarterly. **Closes 15 March 2013**. Visit www.rockingham.wa.gov.au/Leisure-and-recreation/Grants-and-awards/Community-grants.aspx.

City of Vincent Environmental Grants

up to \$1,000 are offered for environmental projects that target current environmental issues and may benefit the Vincent community. **Closes February 2013**. Visit www.vincent.wa.gov.au/Services/Environment_Sustainability/Environmental_Grants_Awards.

City of Wanneroo Community Funding Program

provides the opportunity for not-for-profit community organisations to apply for funding to support community events, activities and projects. Electronic grant application **opens 4 February** and **closes 29 March 2013**. Visit www.wanneroo.wa.gov.au/Council/Community_Funding.

City of Mandurah Community Association Fund

provides funding for projects and services from \$1,000–\$5,000 that increase community participation and develop the skills of community associations. Applications **open 18 February** and **close 29 March 2013**. Round two **closes 31 August 2013**. Visit www.mandurah.wa.gov.au/support.htm.



Please send us your regional report (150–200 words) and a photo by Friday 15 February 2013 . Text may be edited in response to volume of submitted reports.

SNEC's couch and pellitory trials

The City of Stirling's 6.5 km of coastal dunes and beaches are some of the most attractive and heavily used sections of the Perth metropolitan coastline. In winter 2012, Stirling Natural Environment Coastcare (SNEC) planted 4,760 plants. After a trial in 2011, SNEC carried out its first wider-scale planting of local indigenous marine couch grass (*Sporobolus virginicus*) in winter 2012. During the trials it was found to establish well and do an excellent job of retaining the edges of access paths to mitigate erosion.

In 2010 SNEC carried out a successful pilot project to introduce native pellitory (*Parietaria debilis*) into SNEC's area of operation. In November 2009, seeds were sourced from Robert Powell's bush garden. In February through to April 2010, eight sites were selected and lightly weeded. Approximately 1,000 *P. debilis* seed were scattered over 1 m² areas within each of the eight chosen sites. In September, breeding yellow admiral butterflies (*Vanessa itea* (Fabricius)) were attracted to the

pellitory and had laid eggs and larvae were observed. Visit www.bushlandperth.org.au/resources/tool-kit for a full report. Georgina Lambert and Sheldon Pritchard have continued to successfully raise both the plants and members' interest in becoming and staying involved. This will ensure the continuing survival of this plant on Stirling's dunes to the benefit of the Australian yellow admiral butterfly.

MOTT Rockingham–Kwinana *By Cedric Bakewell*

The mission of Men Of The Trees (MOTT) is to bring people together to grow the local diversity of trees and shrubs to achieve healthy, productive, sustainable landscapes. MOTT Rockingham–Kwinana Branch was formed 22 years ago. During the past six years our branch has propagated 1,374,116 plants for restoration on the Swan Coastal Plain. Our many customers include revegetation companies, landscapers, councils, Friends groups, farmers, universities, mine sites and property owners as well as the general public. We also carry out seed collection, seed storage and flora surveys. We have a herbarium of Lake Cooloongup at the nursery.

Our branch supports our own Friends of Rockingham Lakes which concentrates on the restoration of Lake Cooloongup Regional Park. Over a number of years, in conjunction with DEC, we have concentrated on the removal of the weeds *Juncus acutus*, *Cortaderia selloana*, *Gomphocarpus fruticosus* and *Arundo donax*. Although we have had considerable success with weed control (*Juncus acutus* was reduced by 95 per cent) they have not been eradicated and remain a constant problem. Other weed species such as onion weeds *Trachyandra divaricata* and *Asphodelus fistulosus* are widespread, as are many exotic grasses.



Frank Hutchison (from left), Brenda Kent, Jim Linton, Pam Linton and Cedric Bakewell staff a Rockingham-Kwinana MOTT plant sale stall. Photo – Janet Hutchison

We have, however, managed to remove Paterson's curse (*Echium plantagineum*) and yellow soldier (*Lachenalia reflexa*).

We continue to work with DEC and were fortunate to receive another grant of \$15,000 recently. This will enable us to continue much-needed weed removal and help restore the park to as near its original state as possible.

It is pleasing to see that we are having some success and the park is now showing some improvement, which gives us a little encouragement to continue what sometime appears to be a never-ending task.

For more information contact Brenda Kent on 9527 3142 or rockingham@menofthetrees.com.au.

Landcare award celebrates sustainable efforts of WA school

By Fran Bennett

Integrating education and environment into our everyday school community saw North Dandalup Primary School take home the 2012 National Landcare Award. Awarded the Best Landcare School in Australia, the school's environment programs promote sustainability, preserve local resources and encourage a culture of hands-on learning.

School principal Marilyn Jones and students Grace Watts and Aleks Gurak were presented with their award during a ceremony in Sydney's Darling Harbour, in attendance with Landcare Ambassador Catriona Rowntree and former Prime Minister Bob Hawke.

The school enjoys 'Environmental Mondays', colloquially known as 'Environment' by students. Children of all ages take part in different sustainable activities, rotating through the tasks in groups each week. Activities range from tree planting, composting and recycling, to managing their frog pond, chicken coops and butterfly garden. Working closely with parents and local community members, the school boasts a record of planting 800–1,000 seedlings in just over one hour. This Landcare award also recognises our specific school projects such as Ribbons of Blue, which has students monitoring the health of the local river by collecting biological and chemical data.

North Dandalup Primary School has previously been recognised as finalists in four United Nations World Environment Day Awards and has won more than 17 state and national awards since their environmental program began.

For more information contact Fran on 9530 1202 or Fran.Bennett@education.wa.edu.au.



Thomas Gurak with some fresh vegetables from North Dandalup Primary School's permaculture garden. The school's environmental programs secured their recent National Landcare Award. Photo – Marilyn Jones

Exploring the Swan *By Catherine O'Neill*



Freya and Aditi were among twenty year 9 students selected from schools in the City of Melville who spent three days' intense investigation of the Swan River Estuary during their school holidays. Photo – 'Sense of Place' Network

Swan Estuary Reserves Action Group Inc. recently collaborated with Swan River Trust, DEC, Millennium Kids and The University of Western Australia on the *Explorers Project*.

Twenty students were taken on an intricate journey from Fremantle Harbor up-stream on the Canning River to Kent Street Weir and then along the Swan River to the Eric Singleton Bird Sanctuary in Bayswater. Students were immersed in the social, cultural and environmental dimensions of the river system, learning of its Dreamtime creation with Aboriginal Elder Professor Noel Nannup, its past uses and issues with Dr Sue Graham-Taylor and its current health and management with Joselyn Fissoli from the Swan River Trust and Steve Goodlich from DEC. Local artist Angela Rossen also engaged them in an artistic response to their learning with the students transforming their investigations of macro-invertebrates and birdlife into wonderful paintings.

The project was coordinated by the 'Sense of Place' Network (Regional Centre of Expertise Western Australia) and part-sponsored through the Melville City Community Grants Program. Given its enormous success, we hope to offer the program to other year nine students in future years.

What's killing our quendas?

By Katherine Howard and Geoff Barrett

The greatest threats to quendas (*Isoodon obesulus fusciventer*) in the metropolitan area are cars, predators and the backyard swimming pool, according to the results of the 2012 Quenda Survey.

The survey coordinated by DEC and WWF-Australia gathered information from the public about sightings of live and dead quendas (bandicoot), and the known causes of death. Residents reported seeing at least 378 dead quendas (over a number of years). It may sound gruesome, but animal remains can teach us a lot about a species, its distribution and threats.

Vehicle strike

The most commonly reported cause of death (44 per cent) was vehicle strike – mostly cars, but it seems even fast-moving pushbikes can prove fatal to small, unwary mammals.

Introduced predators

As expected, introduced predators are also a big problem for quendas. Cat, dog and fox predation made up almost a third of all reported mortalities. On the flipside, many people also called to tell us that their cat or dog seemed to have embraced a 'live and let live' philosophy and would even tolerate the resident quendas stealing food from their bowls. But however friendly your own pet seems towards quendas, unfortunately the evidence shows that non-native predators are having a large impact on native wildlife. Please be a responsible pet owner! Keep your cat indoors and prevent your dog from roaming.

Drowning

Worryingly, the garden swimming pool or pond has emerged as a threat that we didn't expect. Residents reported a total of 62 quendas that had drowned in pools, fish ponds or drain pipes. At 16 per cent of reported mortalities, that's a significant proportion of the total reported.

Impressively, many people who had experienced the trauma of finding a dead or drowning quenda in their pool found resourceful ways to prevent it happening again. A pool cover is probably the best solution, and it has the added benefit of reducing water loss through evaporation. If you haven't got a pool cover, a brick placed on the top step might be all a quenda needs to get a foothold and escape a watery death.



Quenda (*Isoodon obesulus*) photographed at Bibra Lake as part of the 2012 Quenda Survey. Photo – Boab class, Blue Gum Montessori School

A shallow dish of water placed elsewhere in the garden may help attract the quendas to a safer source of water, although we suspect quendas sometimes fall into pools while running or fighting, not just when attempting to drink.

Poisoning

Although only a few incidents of known poisoning were reported (one per cent), there were a large number of deaths by unknown causes, some of which may have been attributable to toxins. Rat and snail baits will also kill quendas and care should be taken when using these around the garden or buildings. Place rat baits on structures that rats can climb to but quendas can't, at least a metre off the ground. And if you are lucky enough to have quendas in your garden, consider letting them control your snails and avoiding the use of snail baits altogether!

Assisting quenda conservation

It is likely that ongoing urban development into bushland areas will more frequently expose quendas to cars, cats, dogs and swimming pools. A shallow, safe water source and maintaining some low, dense vegetation to provide cover from predators are good ways to encourage quendas in your garden. A pet bowl or the tray from the bottom of a terracotta or plastic plant pot makes an ideal quenda drinking station.

The 2012 Quenda Survey has now closed but you can still lodge your quenda sightings with the Species and Communities Branch of DEC by emailing the location, a description of the animal and your contact details to fauna@dec.wa.gov.au. For updates on the Quenda Survey visit <http://blog.wwf.org.au/tag/quenda/>. For more information about quendas visit www.dec.wa.gov.au/management-and-protection/animals/living-with-wildlife/7009-the-quenda.html.

Quenda tissue needed for DNA analysis

Kym Ottewell is studying the genetic diversity and connectivity of quenda populations across their range in WA. She wants to find out how quenda populations have been impacted by habitat fragmentation and what landscape features may be acting as barriers to dispersal. This information could then be used to plan nature reserves to aid in quenda conservation.

If you find a recently killed quenda that is not too decomposed and you wouldn't mind collecting a small sample for DNA analysis, please contact Kym on 08 9219 9086 or kym.ottewell@dec.wa.gov.au as quickly as possible to find out how to go about it.

Engaging a generation at CREEC By Hayley Bullimore

Fostering a sense of care for living things may well be one of the most important things we can do for our children. The Canning River Eco Education Centre (CREEC) provides practical learning opportunities such as the Cockatoo KIDS Club which complement the on-ground activities of Canning River Regional Park Volunteers.

The Cockatoo KIDS Club recognises the importance of capturing the interest of children through the exploration of the natural world in fun and engaging ways. Initiated by the City of Canning via CREEC, the club provides an opportunity for kids to investigate cockatoos and other animals, share this with others and take part in conservation action. The club is supported by Perth Zoo and Kaarakin Black Cockatoo Rehabilitation Centre.

This year the Cockatoo KIDS have participated in bird surveys, created a calendar with their own paintings of local birds and worked with Simon Cherriman, National Geographic's Society Young Conservationist of the Year (2010), to mount bird nesting boxes in the Canning River Regional Park (CRRP). One child went straight home from the bird box workshop to build his very own bird box. That is what the club is all about – inspiring the next generation to understand, care and act for the environment for its future.

Black cockatoo observations

The CRRP volunteers, who have been directly involved with on-ground rehabilitation in the park for more than 20 years, have observed black cockatoo species throughout the park on a regular basis. Bird surveys, conducted by the volunteers with support from members of BirdLife Western Australia, are completed twice a year and provide a valuable comparative tool for observing cockatoo movements over time. Forest red-tailed black cockatoos (*Calyptorhynchus banksii naso*) have been recorded regularly since April 2008. Although usually seen in low numbers, up to 50 have been recorded on surveys. In March this year, a flock of 36 were seen feeding on berries of Cape lilac (**Melia azedarach*) at Adenia Lagoon.



Canning River Regional Park Volunteers weeding work day near Nicholson Road. Photo – Pam Agar

Carnaby's cockatoos (*Calyptorhynchus latirostris*) have also been recorded on each of the April surveys since 2009, but never in November to date, which is likely to reflect their seasonal movements. Numbers recorded have increased from 21 in April 2009, to more than 80 in April 2011. In August 2009, volunteers observed a small party of Carnaby's feeding on grubs in golden wreath wattle (*Acacia saligna*) during a work day in the park. CRRP volunteer Pam Agar recalls "The cockatoos spent a good twenty minutes or so ripping apart the branches of the acacia to get at the grubs inside". These bird surveys and anecdotal evidence of cockatoo movements provide a valuable snapshot of how these birds use CRRP; however, on-going collection of data needs to be maintained to achieve a more complete picture of their overall numbers in the region.

Planting for black cockatoos

The CRRP volunteers are very conscious of the need to provide additional food sources for black cockatoos. Plant species such as slender banksia (*Banksia attenuata*) and swamp banksia (*B. littoralis*) have been planted in suitable areas, along with jarrah (*Eucalyptus marginata*) and coastal blackbutt (*E. todtiana*) in higher, drier areas.



Cockatoo KIDS Club participants signing a bird box prior to it being mounted in CRRP, October 2012. Photo – CREEC

If you would like to know more about the Cockatoo KIDS Club or the Canning River Regional Park Volunteers please contact CREEC at creec@canning.wa.gov.au or 9461 7160.



Resources

New publications

Rare butterflies of the south-west (2012) DEC. RRP \$6.95.

This is a great companion product to *Common butterflies of the south-west*. With these two pocket-sized guides you're well equipped to identify butterfly species spotted on your bush walks. Learn about their habitat, conservation status, distribution, life history and behaviour and when you're mostly likely to see them. Visit www.dec.wa.gov.au/shop.



Rediscover Perth outdoors (2012) DEC. RRP \$24.95.

This book provides information on 37 parks around Perth including walk and cycle trails. Visit www.dec.wa.gov.au/shop.



Apps

ClimateWatch FREE iPhone app enables you to record the seasonal behaviour of plants and animals to help scientists understand how Australia's environment is responding to climate change. Listen to bird, frog and mammal calls to help identify species. Record your observations through GPS, date and time stamps in real time even if you have poor mobile signal. Available online at the App Store.

Website watch

Kaarakin Black Cockatoo Rehabilitation Centre in Martin, WA has a new website. Visit www.blackcockatoorecovery.com.

Our Banksia Woodlands video was produced for the Urban Bushland Council with funding assistance by Lotterywest. It aims to raise awareness of the wonders of our ancient and unique banksia woodlands. Visit www.bushlandperth.org.au/activities/perths-banksia-woodlands/perths-banksia-woodlands.

Carnaby's Cockatoo Recovery Plan 2012–2020 provides background information on Carnaby's cockatoo, threatening processes, recovery objective, success criteria and actions required to progress towards the longer-term recovery of this species. Download at www.dec.wa.gov.au/management-and-protection/threatened-species/recovery-planning-and-implementation/approved-recovery-plans.html.

New **Aquatic Ecosystems Toolkit** has been prepared in collaboration with states and territories as a set of best practice tools designed to provide a nationally consistent framework for mapping and

classifying aquatic ecosystems, identifying high ecological value aquatic ecosystems and assessing their ecological condition. Visit www.environment.gov.au/water/topics/aquatic-ecosystems.html.

The **National Landcare Conference 2012** held in Sydney in September provided pragmatic insights into Landcare around Australia and identified new innovations in Landcare and sustainable agriculture. View highlights at www.youtube.com/AGDAFF.

Report on the changing climate of WA (2012) was released by DEC, CSIRO and Bureau of Meteorology on the changing climate of WA. It provides an insight into the further drying of the south-west climate and the likely intensification of future tropical cyclones impacting the north-west. Visit www.dec.wa.gov.au/news/site-news/7153-report-on-the-changing-climate-of-wa.html.

2012 update of the **Threatened Species List for WA** has been released, and includes an additional 16 fauna species and eight flora species. Visit www.dec.wa.gov.au/news/7155-wa-threatened-species-list-updated.html.

Are your details correct?

Please check your mailing details and let us know if we need to change anything by phoning us on 9423 2914. If you'd prefer to receive this newsletter electronically, send an email entitled 'email me' to urban.nature@dec.wa.gov.au.

