

Issue 92

Summer 2014-2015

Time of Birak and Bunuru in the Nyoongar calendar.

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Find a conservation group *By Julia Cullity*

People looking for a conservation group working in their area can now do so quickly and easily with the Urban Nature 'Find a Conservation Group' web app.

The app uses Google maps to find groups in a given area and will work on a computer, tablet or smartphone. Users can zoom, scroll and click on the map or use the address search function to locate conservation groups, their contact details and website link. It is simple to use and has a useful 'help' function if you get stuck.

The app focuses on the Department of Parks and Wildlife's Swan Region, and, so far, maps 146 groups. There are 130 friends groups which, in combination, work to conserve and manage 32,000ha across a range of land tenures, working

with State and local government land managers. There are also 14 regional groups that work across catchments and local government areas. Regardless of the size of their patch and the way in which they work, all of these groups make a huge contribution to the work of managing and maintaining our local bushlands.

Urban Nature created this app to help link people to each other and to their bushland. Conservation groups are always looking for new members. We hope the app will help people looking to become involved make

contact with their local groups and also provide a way for groups to let others know what they are doing.

We know there are many other groups out there. If you would like to get your group on the map, please contact Urban Nature (see page 2).

The app is interactive and the best way to find out more is to visit www.dpaw.wa.gov.au/find-a-conservation-group.



Friends of Talbot Road. Photo – Kate Brown.



Friends of Brixton Street Wetlands. Photo – Grazyna Paczkowska



Friends of Forrestdale. Photo - Bryony Fremlin.



South East Regional Centre for Urban Landcare. Photo – Bryony Fremlin.



Department of Parks and Wildlife



Bushland News is a quarterly newsletter of Urban Nature, a Department of Parks and Wildlife program to support community involvement in bushland conservation.

www.dpaw.wa.gov.au

Urban nature update *By Julia Cullity*

Technology is bringing changes to the way Urban Nature operates and interacts with conservation volunteers. Our exciting new app is profiled on the cover page and after this issue, *Bushland News* will be an electronic publication only. This will save paper, printing and postage costs and is a more environmentally friendly way of bringing you our newsletter. This current issue will be our last hardcopy. For our hardcopy subscribers please visit our webpage and subscribe so we can continue to deliver *Bushland News* to you. *Bushland News*, including our back catalogue from Issue 44 Spring

2002 onwards, is online at www.dpaw.wa.gov.au/bushlandnews.

Web-based resources give us the functionality and immediacy to publish information as it comes to hand. Swan Weeds, provided through the department's FloraBase website, delivers current information on the biology and management of 345 environmental weeds in our region. Urban Nature recently updated the management notes for blue periwinkle (*Vinca major*) to include additional information on timing of control. See <https://florabase.dpaw.wa.gov.au/browse/profile/6575> or search for *Vinca major* in FloraBase.

Bushland News is going digital

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If you have no internet access, phone us 9442 0320 to discuss alternative ways of accessing *Bushland News*.

Australian hollyhocks blossoming *By Kate Brown*

In the winter issue of *Bushland News* we reported on a vegetation restoration project on Penguin Island that included the re-establishment of populations of Australian hollyhock (*Malva preissiana*) on the island. The project involved direct sowing trials with seed collected from Carnac Island. The Australian hollyhock is restricted to guano deposits on offshore islands and has not been seen on Penguin Island since the 1970s.

Carnac Island protects the only remaining population of the species in the Shoalwater Islands. The direct seeding trials revealed it may well be possible to re-establish plants on Penguin Island provided the weeds are managed.



June 2014, seeds are sown into old Pelican nest sites.



September 2014, seedlings are established.



October 2014, plants are flowering. Photos – Kate Brown.

Seeds that were sown in June germinated in July/August and by October were flowering! Hopefully they will go on to produce seed.

Contacts

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Current and archived issues of *Bushland News* are available at www.dpaw.wa.gov.au/bushlandnews

Autumn *Bushland News*

Autumn *Bushland News* contributions should be sent to Urban Nature at urban.nature@dpaw.wa.gov.au by **Thursday 5 March 2015**. *Bushland News* seeks original contributions. If your submission has been or may be published elsewhere please let us know. Compiled and edited by Jill Griffiths.

This publication is available in alternative formats on request.

Food crops as environmental weeds By Julia Cullity

Native to the Mediterranean the fig (*Ficus carica*) and olive (*Olea europaea* subsp. *europaea*) are well suited to Perth's climate and have escaped from cultivation into natural areas becoming environmental weeds. Both species are low growing trees that bear fleshy fruits containing viable seeds. Birds and other mammals appreciate the abundant fruits and provide long-distance dispersal via their droppings.

Figs tend to prefer moist soils and are most often found invading wetlands and wetland fringes. Figs can also invade low-light, low-disturbance, intact bushlands.

Olives grow on a wide range of soil types in areas with high winter rainfall and dry summers. They will not survive in water-logged soils. South Australia has a greater problem with olives that we have yet experienced in WA. The collapse of the olive industry in the late 1800s led to trees being abandoned. Birds have spread the seeds into bushland, where mixed-age olive thickets form and out-compete native plant recruitment. Olives are extremely long lived, with some Mediterranean plants growing for more than 1000 years, so they will have long-lasting impacts if not controlled.

Regeneration strategies

Figs and olives are capable of re-sprouting if cut or burnt, and the roots can sucker, forming multi-stemmed thickets after a disturbance. Figs can spread by layering, where stems that touch the ground form roots. Olives have a long seed life of greater than five years, whereas fig seeds are short-lived, lasting less than one year in the soil seedbank. However figs are quick to flower; stem fragments may flower within the first year and seed-grown plants within four years. Olives will generally take 10-12 years to flower without irrigation.

Identification

Fig (*Ficus carica*): Tall tree, 1-10m, single or multiple trunks, smooth grey bark. Large, deeply lobed, palmate (like the fingers of a hand) leaves. Deciduous in winter. Flowers and fruits in summer. The fruits are pear-shaped, green to purple when ripe.

Olive (*Olea europaea* subsp. *europaea*): Tall tree, 2-10m, occasionally 15m, single trunk unless damaged, branching low at the base with rough, grey bark. Leaves are opposite, elongated, oval-shaped with a pointed tip, 5-10cm long by 2cm wide. The top of the leaf is glossy green and the underside white or silver. Flowering in spring, the small creamy-white flowers have four petals that are joined into a very short tube at the base. Fruits are oblong, green, turning purple when ripe, 2-5cm long.

Management

Olive control: During warmer months but not in the height of summer – October-December or March-May, occasionally January-February and June. Hand pull or dig out seedlings and small plants, ensuring all roots are removed. For mature plants cut to base and paint 50 per cent glyphosate or apply 250ml Access® in 15L of diesel to base 50cm of trunk (basal bark). Monitor sites for seedling recruitment. Harvest all fruits from ornamental plantings.



Figs invading the understory of a paperbark forest at Bullsbrook Nature Reserve. Photo – Karen Bettink.



Olives invading grey box woodland at Tilleys Hill, South Australia. The Adelaide Hills has a serious problem with olives as environmental weeds at a level not yet experienced in WA. Photo – Andrew Hall.

Fig control: During December-February, occasionally November or March. Hand remove seedlings. Stem inject with 50 per cent glyphosate. Foliar spray regrowth with 10 per cent glyphosate. For stems less than 30cm diameter apply 250ml Access® in 15L of diesel to basal 50cm of trunk (basal bark). Take care when handling figs. Figs have a milky, white sap that irritates the skin. We no longer recommend cut and paint as a technique for fig control, but I recall a workmate getting a nasty reaction when the chainsaw splattered him with sap causing lots of small blisters on the skin of his arms.

More information

Weed management notes for olive <http://florabase.dpaw.wa.gov.au/browse/profile/6503>. Weed management notes for fig <http://florabase.dpaw.wa.gov.au/browse/profile/1747>.

The elusive brush-tailed phascogale

By Karen Bettink and Dr Tracey Moore

The brush-tailed phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*), also known as the Wambenger, is a small grey, brushy-tailed carnivorous marsupial. This species hasn't received the attention it deserves in the south-west of WA and by most accounts is declining.

Little is known about this arboreal species in Western Australia. Within Australia it has a disjunct distribution, with two sub-species currently recognised. Historically it has been recorded in a range of treed habitats that have reliable annual rainfall, but generally prefers open dry forest. Most of the knowledge of brush-tailed phascogales in south-west WA comes from the jarrah forest and more recent research investigating ecology, habitat and diet preferences south of Rockingham on the Swan Coastal Plain. Reproductively-viable populations require large areas of suitable habitat as male home ranges are often greater than 100ha. Seasonal male die-off makes the species particularly vulnerable to random events. Brush-tailed phascogales are nocturnal and prefer to use hollows for their dens. Although generally solitary, they often nest together for warmth and food availability.

Conservation concern

Brush-tailed phascogales are one of a number of dry forest and woodland species under threat due to loss of habitat and introduced predatory species, and are prone to local and possibly regional extinctions. They are listed by the International Union for Conservation of Nature as near threatened, with a decreasing population trend. Nationally they are classed as vulnerable and are classed as threatened in WA. In south-west WA there are very few formal occurrence records, with even fewer on the Swan Coastal Plain, particularly north of Perth. The species is sparsely distributed and difficult and unreliable to detect via traditional trapping methods, so its abundance within its range is difficult to assess. This is particularly problematic in south-west WA where the species is found in lower densities and populations fluctuate markedly between years in response to climatic conditions. It is assumed this species may have declined locally in the past decade, with fewer records in spite of increased survey effort.

Nest boxes – more than a survey tool

Nest boxes are a useful tool for monitoring small arboreal mammals that are not readily caught by traditional trapping methods. While installation is initially labour intensive, when appropriately designed and installed, boxes can reveal not only the presence of a species like the brush-tailed phascogale, but also provide insight into their biology. Parks and Wildlife has begun a program of installing nest boxes strategically at particular reserves north and south of Perth to learn more of the brush-tailed phascogale.

Major conservation aims

The program aims to develop survey techniques to increase knowledge of the species' current distribution and abundance, and



Nest boxes and motion-sensing cameras are useful tools for monitoring brush-tailed phascogales, a species that is difficult to detect with traditional, ground-based trapping techniques.



Nest boxes similar to this design have been installed on the Swan Coastal Plain to research brush-tailed phascogale distribution, abundance and biology. Photo - Paul Tholen.

identify key habitats and populations. Nest boxes also provide suitable nesting habitat and shelter where natural hollows have declined or are limited, helping to maintain viable populations.

Nest box installation

The nest boxes used by the department are of a similar design to that successfully trialled in the south-west by Rhind (1998), with large entrance holes (for pregnant phascogales) and carpet-lined internal roofs to avoid bee infestation. Nest boxes are filled with a mixture of dry plant material, installed 3-4m high on suitable trees, and spaced at intervals adapted for the purpose of the study (Rhind, 1998). Motion sensing cameras and temperature data loggers are being used to monitor initial activity. After this, boxes will be monitored twice yearly. While boxes are still being installed, early results suggest brush-tailed phascogales are using boxes in at least one of the study sites.

More Information

Rhind, S. (1998). Ecology of the brush-tailed phascogale in jarrah forest of southwestern Australia. PhD Thesis. Murdoch University, Western Australia.

Menkhorst, P., Rhind, S. & Ellis, M. (2008) *Phascogale tapoatafa*. The IUCN Red List of Threatened Species. Version 2014.2. <www.iucnredlist.org>.

Department of Sustainability and Environment, Victoria (1997) Action Statement No. 79: Brush-tailed Phascogale *Phascogale tapoatafa* Available at: www.depi.vic.gov.au/_data/assets/pdf_file/0005/246479/Brush-tailed_Phascogale_Phascogale_tapoatafa.pdf

Contact:

Karen Bettink, Parks and Wildlife. Phone: 9303 7724.
Email: Karen.Bettink@DPaW.wa.gov.au.

Ever seen a rakali?

By Sue Pedrick

WWF-Australia and Parks and Wildlife are excited to launch a new citizen science survey to search for rakali or water rats in southern WA.

The rakali (*Hydromys chrysogaster*) is a large, amphibious native rodent. They have a broader face than other rats, partly webbed hind feet and a long, thick tail with a characteristic white tip. They may be active at any time of day but can be difficult to see. Their presence can be indicated by footprints in mud or sand, or by their feeding 'middens', which are small piles of remains from their meals of crabs, crayfish, aquatic insects or mussels.

Little is known about these shy mammals and by taking part in this community survey, you can help us to discover more about their distribution, habitat requirements and causes of mortality.

Water rat populations have declined due to fur trapping in the 1930s and 40s, river and wetland habitat degradation, and drowning in illegal fish traps. It is believed that the presence of water rats is an indicator of good river health, and they may also help to suppress numbers of introduced black rats.

The Rakali Community Survey runs from December 2014 to March 2015. If you see a rakali, or its prints or middens, email rakali@wwf.org.au. Go to wwf.org.au/rakali for more information. The Rakali Community Survey is supported by Lotterywest.

Contact: Dr Sabrina Trocini.
Phone: 08 6231 0223.
Email: rakali@wwf.org.au.



The rakali, or Australian water rat, is a large, native rodent, with a partly webbed feet and long, thick tail with a characteristic white tip. Photo - Tracy Oliver.

Welcoming the shorebirds By Kimberly Onton



Counting shorebirds on the Vasse Estuary. Photo: Kimberly Onton.

During spring and summer, Australia plays host to millions of migratory shorebirds that have travelled over 10,000km from their breeding grounds in the Arctic to feed and rest on our shores.

BirdLife Australia's Shorebirds 2020 project coordinates Australia's national shorebird population monitoring program. In WA, we currently have more than 30 shorebird areas (comprised from at least 300 survey sites) that are counted regularly. The sites extend from north of Broome to east of Esperance. A national count is undertaken at these sites every summer to provide a snapshot of shorebird populations across Australia. This involves more than 30 regional count coordinators plus a tribe of dedicated count teams, all volunteering their time and effort to improve our knowledge of shorebirds and assist in their conservation.

While it takes years of data collected in a consistent manner to detect shorebird

population changes on a local level, at the flyway level these surveys have provided convincing evidence of dramatic declines for some migratory shorebird species. Evidence of declines in eastern curlew (*Numenius madagascariensis*) and great knot (*Calidris tenuirostris*) have been significant enough to warrant having these species internationally listed as vulnerable on the International Union for the Conservation of Nature red list. Key threats to migratory shorebirds include loss of habitat and disturbance throughout their migratory pathways.

The next annual summer shorebird survey is scheduled for 7-8 February 2015 for south-west WA, with other regional sites surveying at specific dates in February and March 2015. Volunteers are welcome.

Contact: Birdlife Australia.
Email: shorebirds.wa@birdlife.org.au.
Web: www.birdlife.org.au/projects/shorebirds-2020.



Reimagining Perth's Lost Wetlands featured a three-dimensional digital model of Perth's wetlands as they existed in the Claise Brook catchment from Herdsman Lake to the Swan River before 1827. Like many other cities around the world, Perth was founded on wetlands and these environments have played a significant role in the city's development and are important for a range of species. Plans are underway to have the material and maps from the exhibition placed on a website and published in a book. Photo © Edith Cowan University, 2014. Created in collaboration between Dimitri Fotev, 3D Model Coordinator, City Design, City of Perth and Jeff Murray, Cartographic Technician, ECU-Industry Collaboration Research Team.

Contact: Assoc. Prof. Rod Giblett, ECU. Email: r.giblett@ecu.edu.au

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 15 minutes before sunrise

 **Research into bird populations** with the **Herdsmen Lake Bird Banding Group**. Contact Bill Rutherford (ABBBS Coordinator) 0438 910 252 or calidris@inet.net.au.

Saturdays 8am-9am

 **Guided walks** with Friends of **Koondoola**. Second Saturday of each month. Meet Gate 2, corner Koondoola and Burbridge Ave.

Saturdays 8am-9am

 **Guided walks** and meeting with Friends of **Landsdale**. First Saturday of each month. Meet at third gate Landsdale Rd, east of Landsdale Farm School, Darch.


Saturdays 8.30am-10.30am

 **Bushcare activities** with Friends of **Booragoon and Blue Gum Lakes**. First Saturday of each month. Contact Mary-Ann 9316 9716 or molly.olly1@bigpond.com.

Saturdays 8.30am-10.30am

 **Bushcare activities** with Swan Estuary Reserves Action Group at **Alfred Cove** A-Class Nature Reserve. Fourth Saturday of each month. Contact Cathie on oneillc@westnet.com.au or 9339 2439.


Saturdays 9am

 **Bushcare activities** with Friends of **Brixton Street Wetlands**. Third Saturday of each month. Meet Alton St, Kenwick. Contact Regina 9459 2964 or tjdrd@bigpond.net.au.

Saturdays 1.30-3.30pm

 **Bushcare activities** with **Mt Henry Peninsula Conservation Group**. Third Saturday of each month. Contact Mavis 0407 447 669 or mavis.andrews@aquinas.wa.edu.au.


Saturdays, Sundays 9am-12noon

 **Koala maintenance** at **Yanchep National Park**. Call Ciara 9303 7771.

Sundays

 **Wilson Wetlands** Action Group undertakes regular work mornings throughout the year on Sunday mornings. Contact 9258 7301 or wilsonwetland@gmail.com.

Sundays 8am-9am

 **Guided walks** with Friends of **Marangaroo**. Fourth Sunday of each month. Meet at Gate 3, Decourcey Way.


Sundays 8am-10am

 **Bushcare activities** every Sunday with Friends of **Shenton Park Bushland**. Contact Dani 9381 3470 or bojel@inet.net.au.

Sundays 8am-10am

 Friends of **Lake Claremont** busy bee and morning tea, second Sunday of every month. Meet at the south end of Strickland St, Swanbourne. Current focus: hand weeding. Wear closed in shoes, hat and long-sleeves. Gloves and tools provided. Call: 0416 614 696 or visit: www.friendsoflakeclaremont.org.

Sundays 8.30am

 **Bushcare activities** with Friends of **Wireless Hill**. Second and fourth Sunday of each month. Meet at main carpark. Contact Margaret 0402 105 649 or s3mmatthews@hotmail.com.


Sundays 8.30am-9.30am

 **Guided walks** followed by meeting with Friends of **Mirraboona**. First Sunday of each month. Call Jan 9344 2872.

Sundays 9am-11am

 **Bushcare activities** with **Cottesloe Coastcare**. First Sunday of each month. Visit www.cottesloecoastcare.org for details or contact Robyn 9384 7668 or info@cottesloecoastcare.org.

Sundays 9am-12 noon

 **Bushcare activities** with the Friends of the **Spectacles** (Kwinana). Third Sunday of each month. Contact Lynda 0419 983 956 or fotsmail@gmail.com.

Sundays 9.45am-12 noon

 **Bushcare activities** with the Friends of **Piesse Brook**. Third Sunday of each month. Contact Gerry 9293 2517 or Bridget bhogarth@ozemail.com.au.


Mondays 8.30am-10am, Fridays 9.30am-2noon, Sundays 4pm

 **Bushcare activities** with the Friends of **Mary Carroll Wetland** (Gosnells) every Monday. Volunteers also work fortnightly on Friday, 9.30am-12noon and meet at 4pm on first Sunday for cockatoo watch and bushcare. Contact Unice 0434 831 230 or unicerobinson@gmail.com.


Mondays 9am-11am

 **Litter collection** with Swan Estuary Reserves Action Group at **Milyu A-Class Nature Reserve, South Perth**. Second Monday of each month. Contact Cathie oneillc@westnet.com.au or 9339 2439.


Mondays, Wednesdays, Fridays 9am-12 noon

 **Bushcare activities** and wetlands **walk trail maintenance** with **Yanchep National Park Volunteers**. Call Ciara 9303 7771.


Tuesdays 7am-9am

 **Bushcare activities** with Swan Estuary Reserves Action Group at **Alfred Cove** A-Class Nature Reserve each Tuesday. Contact Cathie 9339 2439 or oneillc@westnet.com.au.

Wednesdays, 3pm-5pm during school term

 **Wildlife Wednesdays**. Join 'Eco-Warriors' at **Herdsmen Lake Wildlife Centre**. Contact 9387 6079 or Jenny@wagouldleague.com.au.

Thursdays 8am-9am

 **Bushcare activities** every Thursday with **Byford Enviro-Link**. Call Kristy 9526 0199.

Thursdays 9am-1pm

 **Bushcare activities** in **Margaret River** with the Capes Volunteer Team. Call 9757 2202.


Thursdays 9am-11am

 **Bushcare activities** on the fourth Thursday of each month at **Baldivis Children's Forest**. Email education@baldivis-childrens-forest.org.au. Web: www.baldivis-childrens-forest.com.au.


Thursdays and Sundays 10am-12noon

 Every Thursday and Sunday, **Discovery Centre Tours, Kanyana Wildlife Centre**. Close encounters with native animals and interactive Discovery Centre. \$15/adult, \$10/child, \$12/senior, \$40/2A2C. Bookings essential info@kanyanawildlife.org.au or 9291 3900.

Fridays and Saturdays 7pm-9pm

 First Friday and second Saturday every month, **Nocturnal Tours, Kanyana Wildlife Centre**. Meet nocturnal native wildlife and hear about endangered species breeding programs. \$20/adult, \$12/child, \$55/2A2C. Bookings essential info@kanyanawildlife.org.au or 9291 3900.


Conservation Volunteers activity schedule

 Free one-day local practical conservation activities or overnight country trips. Contact Katie on 9335 2777, at perth@cva.org.au or visit www.conservationvolunteers.com.au.


17 Saturday, 8am

 Friends of **Lake Gwelup Nature Walk**. Meet at the Scout Hall, Huntriss Rd Lake Gwelup. Call Christine 0430 013 364

18 Sunday, 7.30am


 **Bird walk. Lake Gwelup**, Stirling. Meet in the car park, corner of Stoneman St and Huntriss Rd, north of Karrinyup Rd. Contact **BirdLife WA**.

20 Tuesday, 6pm


 **Evening walk** with Friends of **Bold Park** Bushland Volunteer Guides. Contact **BGPA**.

February


1 Sunday, 4-6pm

 Friends of **Lake Claremont** official launch of **Adopt a Spot and sausage sizzle**, Stirling Rd Park, Claremont. Call: 0416 614 696 or visit www.friendsoflakeclaremont.org.


2 Monday, 6pm

 **Evening walk** with Friends of **Bold Park** Bushland Volunteer Guides. Contact **BGPA**.


10 Tuesday, 6pm

 **Evening walk** with Friends of **Bold Park** Bushland Volunteer Guides. Contact **BGPA**.

11 Wednesday, 7.30am

 **Bird walk. Wireless Hill Park**, Ardross. Meet at the first car park on the right hand side of Telefunken Dr. Contact **BirdLife WA**.


22 Sunday, 7am

 **Bird walk. Bibra Lake**, Cockburn. Meet in the first car park at the northern end of the lake off Progress Dr. Contact **BirdLife WA**.

24 Tuesday, 7.15pm


 **Wildflower Society of WA, Northern Suburbs** branch meeting at Henderson Centre, Groat St North Beach. Speaker: Allen Lowrie 'Carnivorous Plants of Australia'. All welcome, \$2 entry with door prizes. Call Christine 0430 013 364.

28 Saturday, 8am


 Friends of **Star Swamp Bushland Nature Walk**. Meet at Henderson Environment Centre, Groat St North Beach. Call Christine 0430 013 364.

March

9 Monday, 5.30pm

 **Evening walk** with Friends of **Bold Park** Bushland Volunteer Guides. Contact **BGPA**.

12 Thursday, 7.30am

 **Bird walk. Lake Monger**, Cambridge. Meet at the most westerly car park off Lake Monger Dr. Contact **BirdLife WA**.

Registration/contact details


BirdLife WA. Contact 9383 7749, wa@birdlife.org.au or www.birdlife.org.au/wa.

BGPA Botanic Parks and Gardens Authority. Walks leave from the WA


Ecology Centre on Perry Lakes Dve, City Beach. For more information visit www.bgpa.wa.gov.au, call 9480 3996 or email friendsbp@bgpa.wa.gov.au.

January

12 Monday, 6pm

 **Evening walk** with Friends of **Bold Park** Bushland Volunteer Guides. Contact **BGPA**.

15 Thursday, 7.30am

 **Bird walk. Baigup Wetlands**, Bayswater. Meet at the car park near the rowing club, Milne Street, Bayswater. Contact **BirdLife WA**.

Highlights

7 January – 14 February
Sparkling Summer. *Nearer to Nature's* sparkling summer holiday program has activities for children of all ages. Explore butterflies, ladybeetles, caves, canoes and more in Perth's outdoors. Bookings 9295 2244. Visit www.dpaw.wa.gov.au/n2n.

Catchments, Corridors & Coasts
 Run by the Australian Association for Environmental Education (WA), CCC provides a 'snapshot' of environmental education in WA from catchments, through corridors to the coast. Each year participants are taken on a journey, exploring important environmental issues, including sustainability. Places are always limited so book early. Go to: www.aaeewa.org.au. Two courses will be run in January:

14-16 January, Perth CCC 2015
 Contact Catherine Baudains 0409 374 231 or c.baudains@murdoch.edu.au.

14-16 January, South Coast CCC 2015. The first ever CCC course on the South Coast. Contact Jacqui Foster 9845 8546 or jacqui@southcoastnrm.com.au.

2 February
2015 WA Wetland Management Conference

Celebrate World Wetlands Day at the 11th annual WA Wetland Management Conference. Contact Cockburn Wetlands Education Centre 9417 8460, community@cockburnwetlands.org.au or cockburnwetlandscentre.wordpress.com/world-wetlands-day.

7-8 February
Shorebirds 2020 shorebird survey for south-west WA. Contact shorebirds.wa@birdlife.org.au or visit www.birdlife.org.au/projects/shorebirds-2020.

Sunday 12 April, sunset 5.30–6.30pm
Great Cocky Count. Join this annual survey which counts black cockatoos across WA as they come in to roost. **Registrations essential by 29 March 2015.** Visit birdlife.org.au/carnabys/great-cocky-count.

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/.

Parks and Wildlife volunteer programs Visit www.dpaw.wa.gov.au/get-involved/volunteering-opportunities.

WA Museum has a great range of natural history events, including school holidays activities. Visit museum.wa.gov.au/whats-on/school-holidays/.



Join *Nearer to Nature's Sparkling Summer* holiday program. Photo - Parks and Wildlife.

15 Sunday 10am-4pm

Turtle Rehabilitation Workshop, CREEC in Wilson. This workshop is designed for wildlife rehabilitators and will cover all aspects of rescuing and rehabilitating these physiologically complicated animals. Limited numbers, bookings essential. More information: treasurer@turtleoblonganetwork.org.au.

17 Tuesday, 5.30pm

Evening walk with Friends of Bold Park Bushland Volunteer Guides. Contact [BGPA](http://BGPA.org.au).

21 Saturday, 8am

Friends of Lake Gwelup Nature Walk. Meet at the Scout Hall, Huntriss Rd Lake Gwelup. Call Christine 0430013364.

22 Sunday, 7.30am

Bird walk. Herdsman Lake, Stirling. Meet in the Perth Pony Club car park. Contact [BirdLife WA](http://BirdLifeWA.org.au).

28 Saturday, 8am

Friends of Star Swamp Bushland Nature Walk. Meet at Henderson Environment Centre, Groat St North Beach. Call Christine 0430 013 364.

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.

Please send us your April, May and June 2015 events by Thursday 5 March 2015.

Funding opportunities

Regional NRM funding

The Australian Government recently opened the National Landcare Programme (NLP) Regional Funding 2014-15 to 2017-18 application period. This draws an end to the previous Caring for our Country funding program.

From February 2015, Perth Region NRM will deliver NLP outcomes using a Resilient Landscapes approach based around the findings of the Planning for Climate Change Project. This approach aims to restore ecological connectivity and protect high value natural areas, such as state and federally listed species and ecological communities.

Community groups will be invited to apply for funding under the Resilient Landscapes Program through an Expression of Interest process that Perth Region NRM will run early next year. Projects will be required to begin in July 2015 and can be funded for up to three years. To be eligible, projects must align with NLP outcomes and objectives and the draft Swan Region Strategy. More detail regarding this process will be made available **early next year**, so keep an eye on www.perthregionnrm.com/ for updates.

Trails grants available

Offered by the Department of Sport and Recreation and Lotterywest, Trails Grants are available for incorporated not-for-profit organisations and local government authorities. Grants are available for trail planning, trail construction, upgrades to existing trails, and promotion and marketing. Please note that trail maintenance is not eligible under this program.

Applicants for **large grants** (\$25,000–\$100,000) will **open early in 2015**. **Small grants** of up to \$25,000 are **open throughout the year**. More information: www.dsr.wa.gov.au/funding/trails.

Joondalup environmental grants

The City of Joondalup provides \$25,000 in funding each year, as part of the Environmental Development Community Funding Program. Funding is provided over two funding rounds and is available to community groups and schools. The next round of funding will **open in February 2015**. Contact 9400 4397 or www.joondalup.wa.gov.au/Live/Environment/community/EnvironmentalDevelopmentCommunityFunding.aspx.

Cockburn sustainability grants

The City of Cockburn has grants available to assist with sustainability projects within the city. Funding **closes on 31 March 2015**. Successful applicants can receive up to \$4,000. Contact 9411 3444, customer@cockburn.wa.gov.au or www.cockburn.wa.gov.au/Council_Services/Environment/Sustainability.

NRMA Insurance Community Grants

NRMA Insurance Community Grants will re-open in 2015. In the environment category, grants are provided to organisations that directly engage communities in on-ground activities that address local environmental issues and raise awareness about ways they can reduce their carbon emissions. Register your interest to receive an email when grants re-open at www.communitygrantsprogram.com.au.

Please send us your regional report (200 words) and a photo by Thursday 5 March 2015. Text may be edited in response to volume of submitted reports.

New film a great resource on Aboriginal culture *By Diana Neuweger*

Did you know that layers from paperbark trees were used by Aboriginal people to water-proof tents? Or that the long leaves of the sedges and rushes made great hair-ties and belts once they were peeled, chewed, soaked and dried?

These and other interesting stories are told in a beautiful short film recently released by Perth Region NRM and Friends of Forrestdale. Set in Forrestdale Lake, the film showcases Aboriginal language and traditional ecological

knowledge. Elders Vivienne and Morton Hansen recount how Noongar people once relied on wetlands for water and shelter, and on bush tucker for food and medicine.

Lake Forrestdale, a shallow, seasonal lake of approximately 220ha, is 25km south-east of Perth in the City of Armadale. It was once a place of abundance, providing food for Aboriginal people who camped around its shores and hunted for reptiles, waterfowl and mammals, some of which

are now locally extinct. It also has cultural significance and is associated with the Waugyl, a powerful and important water serpent in Noongar Dreaming that created rivers and lakes, and maintained the flow of these waters to resting places. Today, urban development threatens the lake and it is classified under the Ramsar Convention as a wetland of international importance. It is a significant site for black swans, several species of ducks, waterfowl, and migratory and non-migratory wading birds.

The film helps raise awareness about the importance of conserving wetlands and is a great learning resource for schools and those wanting to gain an insight into Aboriginal culture. View the film at www.youtube.com/user/perthregionnrm.

More information: www.perthregionnrm.com/pr-nrm-programs/cultural-heritage/traditional-ecological-knowledge.aspx.

Contact: Diana Neuweger, Perth Region NRM. Tel: (08) 9374 3333. Email: diana.neuweger@perthregionnrm.com.

Friends of Forrestdale Lake: forrestdalefriends.com.au/forrestdale-lake.



Noongar connection to Forrestdale Lake is the focus of a new short film released by Perth Region NRM and Friends of Forrestdale. Photo – Bryony Fremlin.

Community fights pink gladioli *By Shire of Kalamunda*

'Grab-a-Gladdie' day, held at Maida Vale Reserve in October, was hugely successful with about 30 residents collecting more than 30 bags, or about 5000 plants, of pink gladioli.

Pink gladioli (*Gladiolus caryophyllaceus*) is a bulbous garden escapee originally from South Africa, which has taken hold in bushland across the Shire of Kalamunda, including Maida Vale Reserve. Pulling up these bulbs in October prevents seed set and helps reduce the weed's impact. The removal of the 5000 gladioli plants is estimated to have stopped more than a million pink gladioli seeds dropping into the reserve this summer.

More than 52 volunteer hours were spent with an in-kind value of \$1,300 in volunteer effort. All volunteers had their shoes treated with a fungicide to

stop the spread of Phytophthora dieback within the reserve.

Maida Vale Reserve is a unique and threatened habitat for rare and threatened plants and animals making control of pink gladioli an important action to protect their critical habitat. The Friends of Maida Vale received funding from Parks and

Wildlife through the Banksia Woodland Community Restoration Grants to undertake weed control and planting at Maida Vale Reserve, with the support of the Shire of Kalamunda.

Contact: Shire of Kalamunda. Phone: 9257 9999. Email kala.shire@kalamunda.wa.gov.au.



Participants were jubilant at their haul of 30 bags of pink gladioli pulled from Maida Vale Reserve. Photo – Shire of Kalamunda.

'Green bridging' in Black Cockatoo Reserve By Glenn Tuffnell

Dieback Treatment Services recently completed a track sheeting exercise, funded through the Dieback Working Group, in Black Cockatoo Reserve. We moved about 34m³ of crushed limestone, which covered around 160m of bush track, and crossed over two *Phytophthora* dieback infested sites.

The process employed is called 'green bridging'. We started with a clean machine (sterilised with Phytoclean®.), which laid limestone from a limestone base, never actually coming into contact with the infested soil that we were sheeting over. The risk was further reduced by doing this work when the soil was dry.

This particular section of the track is heavily used by walkers and when combined with moist soil conditions, means it posed a high risk to the rest of the reserve through uncontrolled, unhygienic access. As a result, the investment in limestone and labour to improve the track was worthwhile.

When a track passes over a mixture of dieback infested and uninfested areas, sheeting it with limestone has several benefits:



The 'green bridge' through the dieback infested area. Photo – Kaylene Watts.

- The alkaline nature of limestone is less suited to *Phytophthora cinnamomi* (as it prefers acidic soils).
- The limestone path is less likely to become boggy, therefore the risk of soil movement is reduced.
- The contrasting colour of the limestone compared to the natural soil makes it more obviously a track

and therefore users will be less inclined to stray into the bush and into the infested area.

- The contrasting colour also makes the track more user-friendly for visually impaired people.

Contact: Glenn Tuffnell, Dieback Treatment Services. Phone: 1300 785 311. Email: glenn@diebacktreatments.com.

Adopt a Spot at Lake Claremont By Rose Senior

A concern for many bushland conservation groups in Perth is how best to control weeds in an on-going way so that newly-planted seedlings have the best chance of survival. Apart from spraying herbicides – an effective short-term solution but undesirable long-term practice – the most effective weed control strategy is to uproot weeds as soon as they are spotted, before they become well established and deprive new plants of light and nutrients. How best can members of the local community be encouraged to become involved in an ongoing manner in the time-consuming and often seemingly thankless task of weed control?

The Friends of Lake Claremont (FOLC) have trialled a number of strategies for encouraging local people to become more involved in weed control in the bushland area surrounding Lake Claremont. One approach has been a regular Monday morning weeding group, which targets a specific area where weeding is urgently needed. This program, while successful, does not suit everyone. Some people can't participate because of getting to work or taking children to school, while others

prefer to contribute individually rather than participate in group activities.

Early in 2014, FOLC members came up with the concept of Adopt a Spot which, as the name suggests, gives individuals, families or student groups the responsibility to care for a specific area of bushland. The Adopt a Spot brochure outlines the key features of the program: the size of plots (normally 5m x 5m), the suggested number of visits (monthly), the task (to ensure that plots are kept weed- and rubbish-free) and basic hand-weeding techniques. Volunteers are issued with T-shirts and hats, and weed identification handouts.

Although Adopt a Spot hasn't yet been officially launched (scheduled for Sunday 1 February), there's already been considerable interest in the project. Two people who have already adopted spots talk enthusiastically not only about the sense of satisfaction that caring for their plots has given them, but also about the interest shown by the local community – people walking or riding along the paths around the lake stopping to chat and find out what they're doing.



Friends of Lake Claremont are encouraging local people to 'Adopt a Spot'. Photo – Heidi Hardisty.

Although in its infancy it's possible that this new approach to weed control may be of interest to other bushcare organisations. Not only does the flexibility of Adopt a Spot suit the lifestyles of busy people, but also having 'ownership' of a specific bushland area gives individuals a personal commitment: this is my spot and it's my responsibility to ensure that it remains in tip-top condition. An additional benefit is that self-motivated volunteers know that their small-scale efforts are contributing to a broader plan to restore their priceless local wetland area to its former glory.

Contact: FOLC. Phone: 9384 2820. Email: folc.wa@gmail.com.

Is that signpost clean? *By Michael Pez*

Yes, that's right, 'Is that signpost clean?' Many of you know about basic hygiene for phytophthora dieback: keep your tools, vehicles, and other equipment clean of soil and plant material; don't bring infested material into uninfested areas; always check seedlings before you plant them.

But what about moving a post from one location to another? What is the chance that the post may be contaminated? Did you clean the post before moving it?

This issue was highlighted by an act of vandalism in a south-west national park. A trailhead sign, which was erected in an infested area to inform park visitors of the phytophthora dieback risk, was removed, carried to the top of a peak in the park and planted in the ground. This caused a new infestation at the peak, which eventually will spread downslope with water flow and root-to-root contact, carrying the disease.

The moral of the story is that contaminated signposts can be a vector for spreading dieback disease. Not a usual suspect, but one that highlights how easy it is to unwittingly spread the pathogen. If you do have to move a post or anything else stuck in the ground, check it first. If it can't be decontaminated on-site, then it will need to be removed or only used in known infested sites.

Decontaminating

All equipment that comes in contact with soil must be cleaned. This includes hand tools, boots and vehicles. Cleaning should be carried out where the contamination occurred to reduce the risk of spreading the infestation.

The object of disease hygiene cleaning is to remove any contaminated material that is likely to come off at another location. You are trying to prevent moving the material from one location to another.

Physical removal of material is the most effective way to reduce the risk. Research has shown that applying sterilants alone is not enough, although applying sterilant after removing material will help reduce the risk. Use a household bleach (1:4 dilution) or 70 per cent methylated spirits (30 per cent water assists passage through the cell walls), or Phytoclean®. Give the sterilant five to ten minutes to work. If using Phytoclean®, follow the manufacturer's instructions.

Field washdown kits

Some simple household items can be used to make a field washdown kit. Toilet brushes

are excellent as the bristles are stiff and the long handle makes it easier to reach the soles of your boots. A brush and pan for larger areas is also a good idea. A long-handled broom can be used to get hard to reach spots on vehicles.

A tub to collect material removed from boots and equipment can prevent spreading an infestation. A spray bottle of disinfectant and a scraper to remove material from hard to reach spots are also useful.

Cleaning vehicles needs to be thorough. Check underneath where material is likely to collect. Don't forget to check behind the wheels. Also check the inside of the vehicle for mud and weeds. Bag any material from the cab so that it can't enter the environment.



Vehicles must be thoroughly cleaned of any mud and dirt after they have been in dieback infested areas or before they enter dieback free areas. Photo – Michael Pez.

More information:

Parks and Wildlife: www.dpaw.wa.gov.au/management/pests-diseases/phytophthora-dieback.

Dieback Working Group: www.dwg.org.au.

Contact: Emer O'Gara, Department of Parks and Wildlife. Phone: 9219 9384. Email: Emer.OGara@DPaW.wa.gov.au.

Strategic vision for the Swan Region

The rich mosaic of natural and cultural heritage assets across Perth and the Swan Region makes for a truly charismatic landscape and a highly liveable city. The Swan Region Strategy seeks to protect and conserve these vital assets by providing a framework for government, business and industry, research and education institutions and the community to work together.

Perth Region NRM has been working with individuals and organisations over the past 18 months to review and update the strategy. The new strategy builds on the strong foundation of the original 2004 Swan Region Strategy for NRM and translates it into a contemporary, holistic and integrated framework that is accessible and practical for the



The Draft Swan Region Strategy for NRM is open for comment. Photo – Gary Tate

broad range of stakeholders in the region. It presents a comprehensive, big-picture view of NRM in the region so decision makers and natural resource managers can make informed choices about where action is most needed.

The draft strategy is open for public comment until 16 January 2015. Visit www.swanregionstrategy.com.au.

Tangaroa Blue Foundation By Renee Mouritz



Smiths Beach volunteers very happy at having removed this bundle of rope from the beach.
Photo – Renee Mouritz



Alkimos Progress Association volunteers with their haul from the 2014 WA Beach Clean Up.
Photo – Hayden Morgan

Tangaroa Blue Foundation is an Australian registered charity focused on the health of our marine environment. Starting off small in the south-west corner of WA in 2004, Tangaroa Blue Foundation has grown over the past 10 years to include other parts of Australia. The organisation was named after Tangaroa, the great Polynesian god of the sea. He made laws to protect the ocean and its sea creatures: ‘Tiaki mai i ahau, maku ano koe e tiaki... If you look after me, then I will look after you...’. The name was chosen to highlight the importance of protecting our oceans and creating programs and resources to help communities look after their local coastal environment.

Tangaroa Blue Foundation coordinates the Australian Marine Debris Initiative, an on-ground network of volunteers, communities, organisations and agencies around the country monitoring the impacts of marine debris along their stretch of coastline. Since the program started in 2004, more than three million pieces of marine debris have been removed from the Australian coastline and data on this debris collated and entered into the Australian Marine Debris Database.

The database is used to firstly identify what is impacting different sections of the coast, and then, wherever possible, to track the source of those items. Lastly, stakeholders are brought together to work on practical solutions and create source reduction plans to stop debris entering our oceans. The database has open access to all contributors who are also recognised when data is used. It has been used by CSIRO, James Cook University, all levels of government and communities.

Seas of plastic

While an estimated 18,000 pieces of plastic float in every square kilometre of ocean, it is only when they wash ashore that people

become aware of just how much rubbish is in our oceans and the impacts that this has on marine life and seabirds. This is also our best opportunity to remove it from the environment before the next tide washes it back out to sea again. Volunteers, organisations and communities from around the country are invited to join forces in the Australian Marine Debris Initiative to find practical solutions in reducing ocean pollution.



Tangaroa Blue Foundation is able to provide support to communities, organisations, agencies and schools. Support includes training, clean-up materials, logistical support, educational resources, and analysis of the debris. This feedback has provided valuable data on the types and amounts of marine debris impacting sections of coast and has resulted in communities having real on-ground success in reducing the impact of marine debris in their area.

Each October, Tangaroa Blue Foundation coordinates the annual Western Australian Beach Clean Up. This event sees volunteers from across the State cleaning up their local beaches. During the 2014 clean up, 120 coastline sites, stretching from Beagle Bay in the Kimberley right around to Cocklebidy in the State's south-east were cleaned. In early 2015 Tangaroa Blue Foundation will hold Source Reduction Plan Workshops in coastal communities around WA.

Contact: Tangaroa Blue Foundation.

Email: info@tangaroablue.org. Phone: 0410 166 684.

Web: www.tangaroablue.org.

Resources

New publications

Carnivorous plants of Australia Magnum Opus, volume one, two and three.

Lowrie, Allen. 2013. Poole: Redfern Natural History Productions. 458 pp. \$80.00 each volume. Colour photographs, line drawings and maps. Allen Lowrie has revised, updated and improved his original books completing five decades of work on carnivorous plants. This comprehensive study offers a definitive, unparalleled and up-to-date examination of all Australian carnivorous plants.

Private Landholder–Bushland Information Package.

The Shire of Kalamunda has released the Private Landholders Bushland Information Package to assist landholders with implementing conservation initiatives on existing natural areas and with the creation of new natural areas on their property. Download from: www.kalamunda.wa.gov.au/Waste-Environment/Environment/Landholders-Information or obtain a hard copy from the Shire of Kalamunda, 2 Railway Rd, Kalamunda.



Regional Aboriginal Consultation Guidelines

The East Metropolitan Regional Council has developed guidelines for local government officers and others to facilitate a process of engagement with the Aboriginal community

in relation to Aboriginal cultural heritage matters. Available from www.emrc.org.au/swan-and-helena-rivers.html#regionaboriginalconsultationguidelines.

Firewood banksia.

2014. Nikulinsky, Philippa. Fremantle Press. 54 pp. \$35. A celebration of *Banksia menziesii* (Firewood or Menzies' banksia) by botanical artist Philippa Nikulinsky in a series of detailed drawings and paintings that record the banksia's lifecycle.



Revisiting the Blackwood River and the Hardy Inlet, 40 years of change.

An environmental review of the Blackwood River Estuary Western Australia 1974–2010. 2013. Brearley, A. Ernest Hodgkin Trust for Estuary Education and Research. 88pp. Present knowledge and highlights changes since the 1970s. Bound copies \$20 from author. Email: Anne. Brearley@uwa.edu.au or download chapters www.oceans.uwa.edu.au/research/ernest-hodgkins-swanland.



Apps

Shorebird ID. A shorebird ID app (for iPhone or Android) available at www.birdlife.org.au/projects/shorebirds-2020/counter-resources.

Website Watch

Tuart Forest National Park Management Plan 2014 available from: www.dpaw.wa.gov.au/parks/management-plans/approved-management-plans.

The report from 2014 Great Cockey Count, the sixth count overall, has been released. It includes a trend analysis for the five year period 2010-2014. Visit birdlife.org.au/documents/CBC-2014GCC-Report.pdf.

Debalnara. A new website being developed by CSIRO's Coastal Collaboration Cluster, Curtin University and the City of Cockburn. The website depicting the Nyungar people's ocean knowledge trail of Cockburn Sound and Districts, NYUNGAR WARDAN KATITJIN BIDI – DERBAZ NARA, is available to all and includes Nyungar history, stories, vocabulary and place names. www.derbalnara.org.au.

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