

Helping wildlife 24/7 *By Lee Hollingsworth*

Issue 90

Winter 2014

*Time of Makuru and
Djilba in the Nyoongar
calendar.*

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www.dpaw.wa.gov.au

Twenty-four hours a day, seven days a week a call to Wildcare Helpline will be answered by a trained volunteer who can provide advice on caring for sick or injured wildlife.

This remarkable service began in 2002 and in that year Wildcare Helpline received 2821 calls. Since then, about 86,000 wildlife-related calls have been answered and around 150 volunteers have been involved. In 2012-13, the helpline received more than 10,000 calls from concerned members of the public, with the spring and summer wildlife breeding season being the busiest.

Operated wholly by volunteers and managed by the Department of Parks and Wildlife's Community Involvement Unit, the helpline provides assistance to members of the public who find sick, injured or orphaned native wildlife and are seeking advice on how to help the animal.

While the service does not offer a rescue service, helpline volunteers are knowledgeable in a number of areas and are equipped to provide advice and assist whatever the situation may be. This can range from finding ducks swimming in someone's pool to possums in the roof, or suspected cane toad sightings, through to seriously ill or injured wildlife.

If unable to resolve the situation over the phone, the helpline has a further network of volunteers including more than 200 reptile removers (licensed to remove potentially dangerous snakes from homes) and nearly 3000 individual wildlife rehabilitators and 10 major rehabilitation centres in Western Australia.



Volunteer wildlife rehabilitator with a patient. Photo – DPaW

The helpline works closely with the Department's wildlife officers including the reporting of illegal wildlife activity.

If you are interested in volunteering for the Wildcare Helpline or taking a basic course in wildlife rehabilitation see page 8. For more information about the Wildcare Helpline and helping wildlife generally please visit www.dpaw.gov.au/about-us/contact-us/wildcare-helpline.

If you find injured wildlife, please call the 24-hour Wildcare Helpline on (08) 9474 9055.

Basic first aid for wildlife

If you find sick, injured or orphaned wildlife, the best thing you can do to increase the animal's survival chances is to take it to an experienced wildlife rehabilitator or vet.

- Do not keep wildlife without seeking expert advice.
- Contain the animal securely so that it does not injure itself further or injure you.
- Use a towel or something similar to place over the animal and gently pick it up. Place it into an appropriately sized, ventilated box.
- Keep the animal: WARM in the DARK in a QUIET place.
- Have as little contact with the animal as possible.
- Do not offer food or water.
- Remember your own safety as well as the safety of the animal. Injured wildlife will be frightened and stressed, and can be very dangerous.
- Always wash your hands thoroughly after handling wildlife.

A new management note for golden crown beard (*Verbesina encelioides*), an alert species for the Swan region

by Kate Brown

A list of 86 species of plants naturalised in the Swan region, but not yet found on Parks and Wildlife-managed lands, can now be found on the department's new website www.dpaw.wa.gov.au/plants-and-animals/plants/weeds/156-how-does-dpaw-manage-weeds. These are 'alert' species and are a high priority for management if they are found in any of the agency's reserves.

In spring 2014, golden crown beard was collected from Paganoni Swamp and Yalgorup National Park by departmental staff undertaking routine management works. Both reserves are of high conservation significance, protecting large, intact areas of banksia and tuart woodland.

Often there is little biological or control information available for alert species, however in the case of golden crown beard, a serious weed in many parts of the world (including the USA, South America, Europe and Central and Southern Africa), there was enough published information available to compile a management note on the species. We were also able to draw on work from the Abrolhos Islands off Geraldton where golden crown beard has been the focus of management efforts for a number of years. The note covers basic biology and up-to-date control information. It is available at <http://florabase.dpaw.wa.gov.au/browse/profile/15725> or search for *Verbesina encelioides* on florabase.



Golden crown beard invading banksia woodland, Paganoni Swamp.
Photo – Kate Brown

Community banksia woodland restoration

By Julia Cullity



Congratulations to the 20 community conservation projects that were successful in receiving funding under the Perth Banksia Woodland Community Restoration Grants. Under its Banksia Woodland Restoration Program, Parks and Wildlife is investing offset funding specifically to assist community efforts to restore and manage banksia woodland. The recent funding round was highly competitive, with 35 applications requesting almost double the available funds. About half the funding has been allocated to support projects that will create new Carnaby's cockatoo habitat through the revegetation of degraded areas, with the remainder allocated to assist groups to protect high conservation value banksia woodland from the threats of weed invasion, feral animals and dieback. Visit www.dpaw.wa.gov.au/get-involved/perth-banksia-woodland-community-restoration-grants for a list of successful projects.

Contacts

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Swan Region Office, Cnr Australia II Drive and
Hackett Drive, Crawley WA 6009

Locked Bag 104, Bentley Delivery Centre WA 6983
Fax 9386 6399 Email urban.nature@dpaw.wa.gov.au

Current and archived issues of *Bushland News* are available at www.dpaw.wa.gov.au/management/off-reserve-conservation/urban-nature/93-bushland-news

Spring Bushland News

Spring *Bushland News* contributions should be sent to Urban Nature at urban.nature@dpaw.wa.gov.au by **Thursday 28 August 2014**.

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.

Errata for Bushland News, Autumn 2014

In the last issue there was an error in the Project snapshot *Restoring fringing vegetation along the Serpentine River, Lowlands*. The results presented in Table 1 were incorrect. The abundance values for before and after treatment were switched for some species (including arum lily, the target weed species). This disrupted the meaning of the article and made the table contradict the text. The mistake was with the Bushland News team and not the author, Kate Brown, who also wasn't credited.

We also omitted crediting Adrian Wayne as the author of the cover story on woylie translocation.

Apologies to both authors. Apologies also to any readers who were confused by the mistakes. A corrected pdf version of the newsletter is available on the web www.dpaw.wa.gov.au/management/off-reserve-conservation/urban-nature/93-bushland-news or by emailing us urban.nature@dpaw.wa.gov.au

Cape tulips By Julia Cullity

Cape tulips are highly invasive environmental weeds that are found in many different soil and vegetation types in the south-west of WA. They grow on sands, clays, limestone, laterite and granites in coastal heath, pasture, shrublands, woodlands, creek-lines and wetlands. Highly adaptable to our ecosystems, they are a serious threat to bushland and wetlands. All parts of the plants are poisonous to stock and both species commonly found in WA are declared pests under the Biosecurity and Agricultural Management Act 2007.

Biology

Cape tulips are from the genus *Moraea* and are native to the Cape region of South Africa. They are perennial species that die back each summer to an annually-renewed corm, which is an underground storage organ. Autumn rains and falling, but still warm, soil temperatures are the cue for corms to shoot and new leaves emerge above ground. As the leaves develop, the parent corm is slowly depleted and one or two daughter corms start to develop above the parent. In early spring, as the parent corm is exhausted, cape tulips flower. Flowers have six symmetrical salmon pink or orange (rarely yellow) petals with a yellow centre. Fruiting follows soon after flowering. All aerial growth dies back in summer leaving the renewed corm underground. Some plants form a fleshy root below the corm. This root dries in summer, pulling the corms deeper into the soil. As a result, young plants have corms near the surface and older plants have corms about 100mm deep. A cold, late break to winter results in increased dormancy with up to 60 per cent of corms remaining dormant over winter. Fire can bring corms out of dormancy. Corms may remain viable in the soil for over eight years.

Identification

The long, thin leaves are ridged, not smooth, and one side of the leaf is darker and shinier than the other. Before flowering, cape tulips can be recognised by the browning-off of the leaf tips.

One-leaf cape tulip (*Moraea flaccida*)

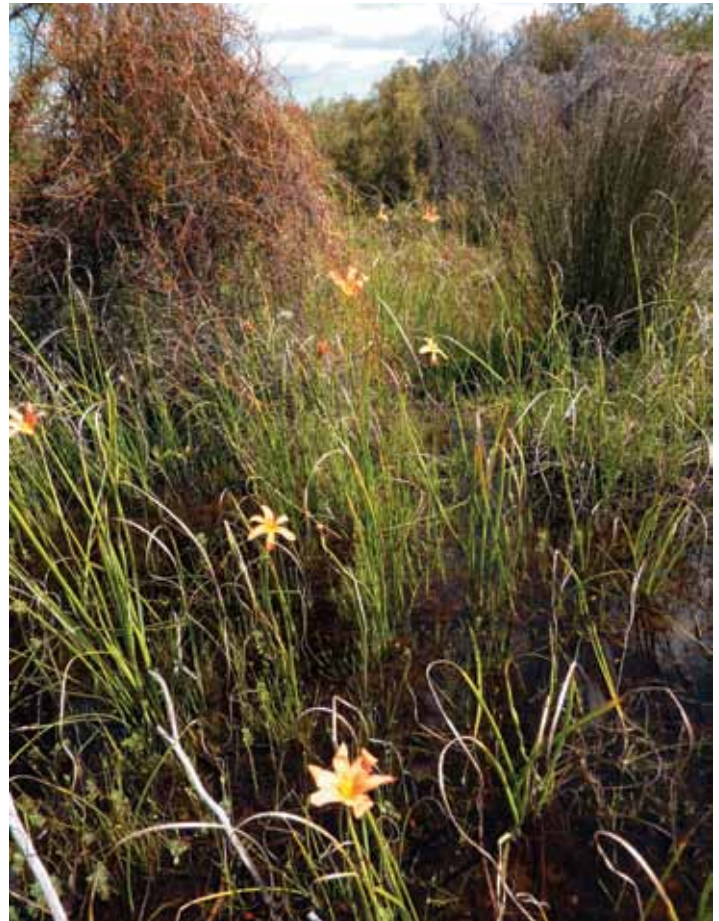
One-leaf cape tulip only produces one leaf up to 1m long that droops, hence its species name *flaccida* from flaccid. It reproduces by seed as well as corms. Seed is produced soon after flowering. As the fruit dries in summer it opens into three parts and drops the seed, which lasts less than two years. Plants from seed take 2-3 years to build up corm size and flower.

Two-leaf cape tulip (*Moraea miniata*)

Two-leafed cape tulip has 2-5 leaves up to 50cm long. The upper leaves are shorter than the ones at the base. It doesn't produce viable seeds, but produces cormels below the corm and where the leaves join the stem. It takes 2-3 years to build up corm size and flower.

Distribution

Like many environmental weeds, cape tulips were introduced as garden plants and have naturalised in agricultural and natural areas. One-leaf cape tulip is common south-west of Jurien, in Perth, the Avon and Swan valleys, and the upper Great Southern. The two-leaf cape tulip has a similar range but extends east towards Kalgoorlie. Both species spread through water flow, animal droppings and contaminated soil on machinery and through cultivation.



One-leaf cape tulip can form dense infestations in intact bushland on a variety of soil types. Here, it is invading the winter-wet clay soils at Anstey Keane damplands. Note the browned off dead ends to the leaves, this distinctive feature helps with identification prior to flowering.
Photo – Julia Cullity

Also keep an eye out for another five *Moraea* species that are weedy in WA: *M. fugax*, *M. lewisiae*, *M. ochroleuca*, *M. setifolia* and *M. vegeta*.

Management

Spot spray metsulfuron methyl 0.2 g/15 L or chlorsulfuron 0.2 g/15 L plus Pulse® or 2,2 DPA 83 g/15 L plus Pulse®. Apply just on flowering at corm exhaustion. This timing usually falls between July and September each year. Physical removal can be used for small populations or in wet areas that are still under water when herbicide is applied in spring, but care must be taken to not spread cormels. Because a significant proportion of the population can be dormant in any year, follow up management must take place over a number of years. Fire is a particularly important time to control cape tulips as fire can bring corms out of dormancy and stimulate flowering.

More information

Brown, K.L. and Bettink, K.A. (2009–) Swan Weeds: Management Notes, *FloraBase — The Western Australian Flora*. Department of Parks and Wildlife <http://florabase.dpaw.wa.gov.au/browse/profile/19179> and <http://florabase.dpaw.wa.gov.au/browse/profile/19180>

Brown, K. & Paczkowska, G. (2006), Cape Tulips (*Moraea flaccida* & *M. miniata*), *Managing Weeds in Bushland*, Urban Nature, Department of Conservation and Land Management, Western Australia 213.24 KB <http://www.dpaw.wa.gov.au/management/off-reserve-conservation/urban-nature/95-brochures>

Roadside environmental weeds *By Gillian Stack*

The Roadside Conservation Committee has collaborated with key weed experts to develop a *Roadside Environmental Weeds List* – a list of weeds with the potential to significantly lower the conservation value of roadside vegetation in WA.

The list is endorsed by WA's Minister for Environment in recognition of the significance of the issue of environmental weeds in transport corridors and is intended to raise the profile of these weeds, and to prioritise and guide best practice management of weeds on road and rail reserves. It does not pose any requirement for land managers to control these weeds on their land, or have implications for the commercial use of the species.

The committee exists to promote best practice management of rail and roadside vegetation. Roadside vegetation is often narrow and subject to edge effect, but is still very important to native flora and fauna conservation in highly cleared landscapes. Apart from being habitat in its own right, it can provide a link between other remnants of native vegetation, thereby increasing their viability.

When it is in good condition, bushland is reasonably resistant to weed invasion, but once disturbed or invaded by particularly



Watsonia has become established on this disturbed section of road verge south of Porongorup National Park. From here it can invade into less disturbed vegetation. Photo – Lisa Braun

aggressive weeds, it may become more vulnerable to fire and invasion by other weeds, and so continue to decline. Road maintenance activities can provide near-ideal conditions for weeds to establish, so it is important that the activities required to maintain a safe and effective road

system are undertaken in a way that vegetation disturbance is minimised.

An RCC VergeNote provides the list and supporting information, and is available from the Executive Officer at rcc@dpaw.wa.gov.au or 9334 0423.

Re-Imagining Perth's Lost Wetlands *By Rod Giblett*

Have you ever wondered what Perth was like before it was a city? Re-imagining Perth's Lost Wetlands aims to show just that. It is a three-dimensional digital modelling of Perth's lost wetlands based on archival maps, geological soil mapping, vegetation complex mapping, and botanists' and early settlers' accounts of the flora. It will cover all of the Claise Brook catchment from Herdsman Lake to the Swan River.

The digital modelling, archival maps and botanical illustrations will be exhibited downstairs at the Perth Town Hall from 19 September to 10 October. All welcome. Further details, such as the opening and times, are to be finalised.

It is joint project between Edith Cowan University (ECU), City of Perth, Landgate, City of Vincent and Claise Brook Catchment Group led by Associate Professor Rod Giblett, Co-Convenor of the International Centre for Landscape and Language at ECU. For more info contact Rod at r.giblett@ecu.edu.au.



In March the Urban Nature Program ran a one-day weed management workshop for Swan Region conservation officers and operational staff, focusing on weed identification, best practice management and accessing up-to-date information including the weed management notes on florabase. Photo – Julia Cullity.

Four fungi books for the season By Sapphire McMullan-Fisher

The welcome rain has mushrooms, earthstars and other fungi fruiting bodies popping up in lawns, mulch and stumps in our gardens and bushlands. These are the visible and reproductive part of the fungi, which is working away all year round to help ecosystems. By fruiting when there is rain, the fungal spores have the best opportunity of spreading to a favourable new place. Fungi are important in decomposing materials and releasing nutrients into the ecosystem. Most plants depend on fungal partners called mycorrhiza that are associated with roots, providing nutrients and reducing the effects of drought.

People who love the magic of finding these fungal treasures and want to find the names of them will find it easier this year with the recent launch of three fungi field guides and one illustrated nature book. Unlike plants, which are often restricted to particular bioregions or climates, fungi appear to be less restricted so field guides from anywhere in Australia are very useful for identification here.



Ghost Fungus (Omphalotus nidiformis) was fruiting in Matilda Bay after rains in May and is species that is found in all four books. Photo – Sapphire McMullan-Fisher

Field Guides

Genevieve Gates, David Ratkowsky 2014 *A Field Guide to Tasmanian Fungi*. Tasmanian Field Naturalists Club, Hobart, Tasmania.

Sapphire McMullan-Fisher, Leonard, Patrick, Frances Guard 2014 *Australian Subtropical Fungi*. Suncoast Fungi, Buderim, Queensland.

Skye Moore, Pam O'Sullivan 2014 *A guide to common fungi of the Hunter-Central Rivers region*. Hunter Local Land Services, NSW.

Patricia Negus 2014 *The Magical World of Fungi*. Cape to Cape Publishing, Fremantle, Western Australia.

The Magical World of Fungi is an enlarged and updated 2nd edition with notes by Dr Richard Robinson and Jane Scott. It will delight those who appreciate watercolours and botanical art. The Hunter-Central Rivers region guide is available electronically. Visit http://hunter.lis.nsw.gov.au/__data/assets/pdf_file/0009/516807/guide-to-common-fungi-hcr.pdf.

Another local resource to help nature watchers is the Fungi Factsheets www.dpaw.wa.gov.au/about-us/science-and-research/fungi-research/144-fungus-factsheets. The Perth electronic field guide from 2009 is still available at www.fungiperth.org.au/.

So after rain arm yourself with a handy field guide or more, and head outside for some fungi spotting. Don't forget your camera – fungi can be fabulously photogenic!

Look out for aphids in native veg By Cameron Brumley

Aphids are common across WA and the bane of many gardeners, but their effects on native vegetation are poorly understood. The Department of Agriculture and Food WA (DAFWA) is encouraging the public to keep a look out for any aphids seen feeding within the natural environment on any plant types.

Aphids are ideally collected directly into ethanol, or a population can be left intact on the plant host and placed in a zip-lock bag. The host plant information is especially important for accurate identifications and should be recorded whenever possible. Specimens should be sent or delivered to Department of Agriculture and Food, Pest and Disease Information Service, 3 Baron-Hay Court, South Perth WA 6151.

Aphids infest all sorts of plants—ornamentals, fruit trees, vegetables, grasses, palms, ferns, deciduous trees – you name it there will be an aphid species somewhere in the world that is specialised to feed on it. Weeds in particular could harbor new exotic species that may then go on to cause significant damage to many industries.



Aphids found in the Perth metropolitan area. Photo – Pia Scanlon, DAFWA

Not only do aphids injure plants from direct feeding, they transmit many different plant viruses, and cause sooty mold to build-up on foliage. Of the 4,500 aphid species known across the world only around 150 are known to occur in Australia with almost all of these introduced. The constant increase of international trade and travel will ensure that exotic aphids continue to regularly appear in Australia.

DAFWA's South Perth Headquarters offers a free identification service through the Pest and Disease Information Service (PaDIS) (freecall 1800 084 881) or contact info@agric.wa.gov.au or www.agric.wa.gov.au/nursery-cutflowers/pest-and-disease-information-service-padis

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) on 0438 910 252 or calidris@iinet.net.au.

Saturdays 8am-9am

 **Guided walks** with Friends of **Koondoola**. Second Saturday of each month. Meet Gate 2, corner of 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 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-12 noon

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

Sundays 8am-9am

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


Sundays 8am-10am

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

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 Friends of **Mirrbooka** meeting. 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 on 9384 7668 or info@cottesloecoastcare.org.


Sundays 9am-11am

 **Bushcare activities** with Friends of **Jorgensen Park**. First Sunday of each month. Contact Joy 9291 6795 or jamvray@bigpond.com

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 bhogarth@ozemail.com.au.


Sundays 4.30pm-6.30pm

 **Cockatoo watch** with the Friends of **Mary Carroll Wetland**. First Sunday of each month. Eudoria St carpark, Gosnells. Contact **MCW**.


Mondays 8.30am-10am

 **Bushcare activities** with the Friends of **Mary Carroll Wetland** (Gosnells). Second and fourth Monday of each month. Contact **MCW**.


Mondays, Wednesdays, Fridays 9am-12 noon

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

Wednesdays 10am

 **Golly (Go Locally) short excursions** with the **Northern Suburbs Naturalists** every fourth Wednesday of the month. Contact Lutz at Innelber@bigpond.net.au.

Thursdays 8am-9am

 **Bushcare activities** every Thursday with **Byford Enviro-Link**. Call Kristy 9526 0012.



Thursdays 9am-2pm

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

Thursdays 8.30am-11am

 **Bushcare activities** on the fourth Thursday of each month at **Baldivis Children's Forest**. Email mary.rayner@education.wa.gov.au.

Thursdays and Sundays 10am-12noon

 **Discovery Centre Tours, Kanyana Wildlife Centre**. Native animal close encounters, interactive Discovery Centre. Fees apply, bookings essential info@kanyanawildlife.org.au or 9291 3900.


Fridays and Saturdays 7-9pm

 **Nocturnal Tours, Kanyana Wildlife Centre**. First Friday and second Saturday of each month. Meet nocturnal native wildlife and hear about endangered species breeding programs. Fees apply, bookings essential info@kanyanawildlife.org.au or 9291 3900.

 **Conservation Volunteers activity schedule**. Free one-day local activities or overnight country trips. Contact Jodi 9335 2777 or www.conservationvolunteers.com.au.

July


5 Saturday 9.30am

 **Morning walk, Bold Park**. Leaving from Tuart Car Park, Perry, Lakes Drive, Floreat. Contact **BP**.


6 Sunday 9am-11am

 **Work morning with Wilson Wetlands Action Group**. Contact **WWAG**.


10 Thursday 9.30am

 **Morning walk, Bold Park**. Leaving from Tuart Car Park, Perry, Lakes Drive, Floreat. Contact **BP**.


12 Saturday 8.30am-10.30am

 **Planting, Bicton Environmental Action Group**. Meet at Kent Street. Contact **BEAG**.

12 Saturday 6.00pm-9.00pm

 **Remote Camera Trapping** (workshop and practical) Hartfield Park Recreation Centre, Morrison Rd, Forrestfield. Contact **BSFH**.


15 Friday-17 Sunday

 **Seagrass Monitoring, Roebuck Bay, Broome**. Contact Environs Kimberley 9192 1922, seagrass@environskimberley.org.au.


16 Wednesday 6.30am

 **Mud sampling, Roebuck Bay, Broome**. Come and get muddy collecting samples, or join us back at the observatory to sift through the collection. Contact **BBO**.

20 Sunday 9am-11am

 **Work morning with Wilson Wetlands Action Group**. Contact **WWAG**.

20 Sunday 9.30am


 **Morning walk, Bold Park**. Leaving from Tuart Car Park, Perry, Lakes Drive, Floreat. Contact **BP**.



25 Friday 12 noon

 **Men of the Trees world record attempt** Help plant over 100,000 WA native plants in one hour at Whiteman Park. Contact Paula 9250 1888 or paula@menofthetrees.com.au.

25 Friday 12 noon-1pm

 **New Water Ways Water Sensitive Cities Speaker Series**. The Atrium Theatre, 168 St Georges Tce, Perth. Visit www.newwaterways.org.au.

26 Saturday 8.30am-10.30am

 **Weeding, Bicton Environmental Action Group**. Contact Peter **BEAG**.

27 Sunday 9.00am-11.00am

 **Activity Day, Friends of Yellagonga**. Contact 9302 4677 or www.friendsofyellagonga.com.au/clubhouse/calendar.

Registration/contact details

BBO Broome Bird Observatory
Meet at Broome Bird Observatory
www.broomebirdobservatory.com/events

BEAG Bicton Environmental Action Group Contact Peter 0439 467 855 or pneesham1@hotmail.com.


BP Friends of Bold Park Bushland Volunteer Guides Contact 9480 3996 or friendsbp@bgpa.wa.gov.au or www.bgpa.wa.gov.au.

BSFH Bush Skills for the Hills
Free workshops. Contact Jaya Vaughan on 9424 2216 or jaya.vaughan@emrc.org.au or www.emrc.org.au/bush-skills-for-the-hills-workshops.html

MCW Friends of Mary Carroll Wetland
Contact Unice 9398 71269 or unicerobinson@gmail.com.


WWAG Wilson Wetlands Action Group
Call Russell 9258 7301 or wilsonwetland@gmail.com.

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.


Send your October, November and December 2014 events by Thursday 28 August.


August

 **2 Saturday–10 Sunday Burrup/Murujuga Rock Art Tour:** step 29,000 years back in time, to before the last ice age when the people of the Burrup Peninsula expressed what they saw around them in thousands of rock art carvings. Join a 9-day tour to see this art and contribute to its protection. Visit www.fara.com.au

 **3 Sunday 9am–11am Work morning with Wilson Wetlands Action Group.** Contact **WWAG**.

 **9 Saturday 8.30am–10.30am Weeding. Bicton Environmental Action Group.** Contact **BEAG**.


 **9 Saturday 9.00am–12.00noon Botanical Drawing. Gidgegannup Hall, Old Toodyay Road, Gidgegannup.** Contact **BSFH**.


 **14 Thursday 7.30pm Bushfire Management in WA** with Roger Underwood. Busselton Naturalists Club. Lesser Hall, Senior Citizens Centre, Peel Tce, Busselton. Contact Bernie_bmasters@inet.net.au.


 **14 Thursday 6.30am Mud sampling. Roebuck Bay, Broome.** Come and get muddy collecting samples, or join us back at the observatory to sift through the collection. Contact **BBO**.


 **17 Sunday 9am–11am Work morning with Wilson Wetlands Action Group.** Contact **WWAG**.

 **17 Sunday 1.30pm–4.30pm Nature walk and bush care.** Focus on spring wildflowers. Friends of **Warwick** Bushland. Meet at Bowling and Tennis Club bitumen car park, Lloyd Dr, Warwick. Contact [Brian 0403 262 589](tel:0403262589) or friendsofwarwick@gmail.com.


 **18 Monday Great Southern Great Science.** Presentations on nationally-significant work, important for the Great Southern and local research and development by scientists and professionals in the Great Southern. Visit www.cenrm.uwa.edu.au/community/conference.


 **20 Wednesday 7.30pm Wildflower Journey north from Perth** with Alan Notley. Northern Suburbs Naturalists Club. Henderson Environmental Centre, Star Swamp Reserve, off Groat St, North Beach. Contact [Lutz at Innelber@bigpond.net.au](mailto:Lutz@Innelber@bigpond.net.au).


 **23 Saturday 8.30am–10.30am Foreshore clean-up, Blackwall Reach Pde.** Bicton Environmental Action Group. Meet at Bicton car park or Kent Street. Contact **BEAG**.

 **24 Sunday Excursion to Rica Erickson Reserve, Calingiri.** Northern Suburbs Naturalists Club. Contact [Lutz at Innelber@bigpond.net.au](mailto:Lutz@Innelber@bigpond.net.au).





 **29 Friday 12 noon–1pm New WATER Ways Water Sensitive Cities Speaker Series.** The Atrium Theatre, 168 St Georges Tce, Perth. Visit www.newwaterways.org.au.


 **30 Saturday 9.00am–11.00am Activity Day.** Friends of **Yellagonga**. Contact [9302 4677](tel:93024677) or www.friendsofyellagonga.com.au/clubhouse/calendar.

 **31 Sunday 9am–11am Work morning with Wilson Wetlands Action Group.** Contact **WWAG**.


September


 **11 Thursday 7.30pm Conserving Australia's threatened wildlife and ecosystems through private land purchase and cutting-edge research** with Atticus Fleming. Busselton Naturalists Club. Lesser Hall, Senior Citizens Centre, Peel Tce, Busselton. Contact Bernie_bmasters@inet.net.au.


 **12 Friday 6.30am Mud sampling. Roebuck Bay, Broome.** Come and get muddy collecting samples, or join us back at the observatory to sift through the collection. Contact **BBO**.

 **12 Friday–13 Saturday 10.00am–3.00pm Aboriginal Cultural Heritage,** Gidgegannup Hall, Old Toodyay Road, Gidgegannup. Contact **BSFH**.

 **13 Saturday 8.30–10.30am Weeding. Bicton Environmental Action Group.** Contact **BEAG**.

 **14 Sunday 9am–11am Work morning with Wilson Wetlands Action Group.** Contact **WWAG**.

 **19 Friday 12 noon–1pm New WATER Ways Water Sensitive Cities Speaker Series.** The Atrium Theatre, 168 St Georges Tce, Perth. www.newwaterways.org.au.

 **20 Saturday 9.00am–12.00noon Water Quality Monitoring. Jorgensen Park Pavilion, Crescent Road, Kalamunda.** Contact **BSFH**.

 **27 Saturday 9.00–1.00am Activity Day.** Friends of **Yellagonga**. Contact [9302 4677](tel:93024677) or www.friendsofyellagonga.com.au/clubhouse/calendar.

 **27 Saturday–29 Monday 10.00am–4.00pm**

 **Kings Park Festival Plant Sale** organised by the Friends of Kings Park. Funds raised support research and special projects at Kings Park and Botanic Garden. Exhibition ground off Fraser Avenue, Kings Park. Visit <http://friendsofkingspark.com/component/eventlist/details/10-wildflower-festival>

Highlights

18 July, 8.30am–4.30pm

13th Annual Dieback Information Group Conference, Murdoch University. \$100 full price, \$80 concession. Contact [Katherine Sambrooks on 9360 2605](mailto:Katherine.Sambrooks@murdoch.edu.au), info@dieback.info or www.dieback.info/dig-conference.

19 July–21 September

Shorebird banding, Roebuck Bay, Broome. Join ornithologists from the Global Flyway Network and local volunteers to help catch and band birds in Roebuck Bay using cannon netting. Meet Broome Bird Observatory. Various dates and times, visit www.broomebirdobservatory.com/events.

1–4 September

19th Australasian Weeds Conference Science, Community and Food Security: the Weed Challenge. Hotel Grand Chancellor, Hobart. Visit www.australasianweeds2014.com.au.

1 September–16 October

Night Stalk is easy, fun and something everyone can do. All you need is a torch and a copy of the Spotter's Log. Choose one or several nights and spotlight in your local bushland. Record all of the mammals, birds, reptiles and frogs you find and send your Spotter's Log to Perth Zoo. Visit www.perthzoo.wa.gov.au/nightstalk.

Sunday 7 September

Bushcare's Major Day Out. A national day to encourage everyone to get involved in managing bushland. Visit www.bushcaresmajordayout.org.

8–12 September

Kids Teaching Kids week.

Visit www.kidsteachingkids.com.au.

15–18 September

17th International Riversymposium. National Convention Centre, Canberra. The theme for 2014 is 'Large River Basins', with the study tour incorporating sections of the nearby Murray Darling Basin. Visit www.riversymposium.com.

19 September–10 October

Re-Imagining Perth's Lost Wetlands, Perth Town Hall. Digital modelling, archival maps and botanical illustrations of Perth's wetlands in 1827. Email r.giblett@ecu.edu.au.

23–24 September

Revegetating the Future The 2014 Revegetation Industry Association of WA Seminar. Technology Park Bentley. Visit www.riawa.co.au.

28 September–3 October

Ecological Society of Australia 2014 Annual Conference. Alice Springs Convention Centre. Visit www.esa2014.org.au.

17–27 October

Australian Naturalists Network. Hobart Tasmania. Visit www.tasfielddnats.weebly.com/australian-naturalists-network.html.

27–31 October

Coast to Coast Conference, Coastal Knowledge for Coastal Change. Performing Arts Centre, Convention Centre and The Sebel Mandurah, WA. Visit www.promaco.com.au/coasttocoast2014/index.php.

29–31 October

International Youth Coast, Climate and Communities Conference. Mandurah Performing Arts Centre. This Kids Teaching Kids event allows students from across Australia and internationally to look at issues affecting our climate, coast and communities. Visit www.kidsteachingkids.com.au/events/2014-international-kids-teaching-kids-conference-wa.

12–19 November

6th World Parks Congress. Sydney. Visit <http://worldparkscongress.org/index.html>.

Learning opportunities

Basic course in wildlife rehabilitation

Run by Parks and Wildlife, this course is for anyone interested in the rehabilitation of sick, injured or abandoned native wildlife. It caters for those interested in volunteering at an established wildlife rehabilitation centre and is a required for registration as a wildlife rehabilitator with the department. The course format does not provide for the handling of native wildlife.

Three courses will be held in the coming months. Saturday 26–Sunday 27 July in Geraldton and Tuesday 5–Wednesday 6 August and Saturday 13–Sunday 14 September in Kensington. Fees apply. Contact 9334 0251 or www.dpaw.wa.gov.au/get-involved/wildlife-rehabilitation-and-courses/159-wildcare-courses.

Piney Lakes Environmental Education Centre

The Piney Lakes Environmental Education Centre, in the City of Melville, hosts a variety of educational, interactive and practical programs aimed at promoting community awareness, knowledge and change for the benefit of our environment, sustainable living and Nyoongar culture. Upcoming events include workshops such as Building Backyard Bird Boxes and community planting and activity days for black cockatoo habitat restoration site. Contact Penelope on 9364 0790, penelope.musgrove@melville.wa.gov.au or www.melvillecity.com.au/pineylakes.



Piney Lakes regularly runs activities with local Aboriginal women in winter that are designed to share our Nyoongar culture. Photo – Penny Musgrove

Understanding and assessing the vegetation and flora of natural areas on the Swan Coastal Plain

Join workshop leader Bronwen Keighery from the Wildflower Society of Western Australia's Bushland Plant Survey Program for a two day workshop, including a field trip, to better understand the flora, vegetation and landforms of the Swan Coastal Plain. Department of Parks and Wildlife, Kensington office 7–8 August 2014. Fees apply which include meals and transport. Field trip places are limited. For more information or to register your interest email harveyjm@live.com.au before Monday 7 July.

Funding opportunities

Canon Environmental Grants

Canon Oceania is calling for applications for its annual environmental grants program. Grants in-kind worth \$45,000 (\$25,000 AUD and \$20,000 NZD) are available to Australian and New Zealand organisations making a positive impact on their environment and community. The grants will be awarded under the following categories; National Award, Regional Award, Education Award and Grass Roots Award. Applications close **30 August 2014**. Visit www.canon.com.au/About-Canon/Sustainability-Environment/Environment/Environmental-Grants

LIFE funding

Landcare is For Everyone. Landcare Australia offers a number of grants programs to the Landcare community through its corporate partnerships. Keep an eye on www.landcarelife.com/get-involved/fundings/ to see what funding opportunities are available and whether they suit the type of work you're doing.

City of Wanneroo Community Development Grants

fund projects in environmental sustainability \$500–\$3000. Opens 9.00am Monday 1 September and **closes 4.00pm Friday 24 October 2014**. Phone 9405 5691 or email grants@wanneroo.wa.gov.au. Visit www.wanneroo.wa.gov.au/Council/Community_Funding.

City of Joondalup Environmental Development Grants

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. The key focus areas are water conservation, energy efficiency, waste minimisation, sustainable transport, biodiversity conservation and environmental research. Funding of \$25,000 is available across two rounds each year. Round one **opens in September 2014** and round two **opens in February 2015**. All applicants should discuss their proposal prior to submitting. Phone 9400 4397. Visit www.joondalup.wa.gov.au/Governor/GrantsandFunding/CommunityFunding.aspx.

City of Mandurah Community Assistance Grants Scheme

provides funding of \$1,000 to \$5,000 for projects that increase community participation and develop the skills of community associations. Two funding rounds per year. Opens 14 July. **Closes Friday 29 August 2014**. Visit <http://www.mandurah.wa.gov.au/support.htm>. Grants are available to community groups operating in the Mandurah area.

Volunteering for the Wildcare Helpline

Training is provided for people wanting to volunteer for the Wildcare Helpline with strong support from other volunteers and Parks and Wildlife staff. Wildlife knowledge is not essential, but a desire to help native wildlife is.

If you are interested in becoming a Wildcare Helpline volunteer visit the website www.dpaw.wa.gov.au/get-involved/volunteering-opportunities or call the Community Involvement Unit on 9334 0279.

Please send us your regional report (150–200 words) and a photo by Thursday 28 August 2014. Text may be edited in response to volume of submitted reports.

Community fight to stop dieback *By Nicole O'Neill*

The Friends of Northwood Reserve recently joined Shire of Kalamunda staff and students from Midland Polytechnic to protect native vegetation in the reserve from phytophthora dieback in a project supported by the Dieback Working Group. Northwood Reserve, in Maida Vale, is threatened by phytophthora dieback, a root-rotting fungus, which could potentially kill up to 40 per cent of the shire's native plant species. The Friends and students injected trees and sprayed understorey species with phosphite.

The Friends group, represented by Gillian Smith and Margaret McRobbie, were pleased not only to learn how to inject phosphite into jarrah trees, but also with the interest shown by the Polytechnic students.

The shire is planning more dieback treatment days in the coming months and encouraged all involved in the efforts at Northwood Reserve to attend future days. Community members who are keen to get involved or join a local friends group are encouraged to contact the shire on 9257 9999 or by email at kala.shire@kalamunda.gov.au or visit www.kalamunda.wa.gov.au.



Glenn Tuffnell from Dieback Treatment Services demonstrating the correct technique for filling chemjet syringes to Midland Polytechnic students. Photo – Mick Davis/Shire of Kalamunda.

For further information on the Dieback Working Group or how to help stop the spread of phytophthora dieback call 9360 2605 or visit www.dwg.org.au.

Your Way, Our Way *By Diana Neuweger*

Two highly successful 'Your Way, Our Way' workshops were held by Perth Region NRM during March. The workshops provided attendees with information on Aboriginal consultation and engagement practices – essential information for grant applicants. The first workshop was for government and industry groups and the second for community volunteers.

The workshops received a wonderful response, with both booked out and more than 90 people attending. Many attendees requested that the workshop be run again in the future. We can now happily confirm that 'Your Way, Our Way' will be back in 2015 due to popular demand!

A big thank you must go to the supporting organisations – South West Aboriginal Land and Sea Council, Eastern Metropolitan Regional Council and Maar Koojal, with more Nyoongar community elders and leaders present.



Noel Nannup sharing wisdom at 'Your Way Our Way' workshop. Photo – Sharon Munro, Perth NRM.

New natural area management functionality built into the Online Mapping Viewer *By Sonia Lamond*

The public Online Mapping Viewer, developed by WALGA's Local Biodiversity Program (LBP), has been updated. New functions for mapping, recording and monitoring vegetation condition, weeds and management history have been added. The tool can:

- create new map layers to represent different natural area attributes and show them in relation to each other, such as weed mapping overlaid on vegetation condition mapping;
- create layers using templates that are pre-defined, and custom-made for natural area management. Using templates, such as for vegetation condition, weed density and infrastructure, which helps with consistency when collecting data;
- draw layers that don't have overlapping shapes, which is essential for data such as vegetation condition;
- download GPS coordinates, import GPX files from your GPS or smartphone/tablet mobile data-capture app and to inform the location of your custom layers; and
- export layers to ESRI shape files for sharing data with other GIS systems.

Friends groups can use this free resource to plan and monitor on-ground activities and communicate with land managers or contractors by emailing project files or shape files generated through the Online Mapping Viewer.

First time users are encouraged to read the Tips for Beginners, available from the login page. To access the mapping viewer go to www.lbp.asn.au/index_public.html.

For more information or assistance contact LBP Manager, Renata Zelinova at rzelinova@walga.asn.au or phone 9213 2047.



The Banksia Woodland Restoration Project By Mark Brundrett

Restoration work is underway in banksia woodland on the Swan Coastal Plain in the Perth metropolitan region to provide habitat for Carnaby's cockatoos (*Calyptorhynchus latirostris*) and the grand spider orchid (*Caladenia huegeli*).

The Banksia Woodland Restoration Project (BWR) is managed by Parks and Wildlife and funded by Jandakot Airport Holdings Pty Ltd (JAH). The project is part of the Australian Government's requirement for JAH to offset the impacts of clearing 167ha of native vegetation at Jandakot Airport. In the first two and a half years the project has:

- established 20ha of new banksia woodland in cleared areas using topsoil from Jandakot Airport, as well as direct seeding and planting seedlings over an additional 20ha
- controlled the most serious environmental weeds in 20 conservation areas (about 500ha of bushland)
- fenced 25km of reserve boundaries to reduce illegal access and disturbance, with associated rubbish dumping, weed and *Phytophthora* dieback spread
- planted banksia trees in areas where existing native canopy cover is sparse due to disturbance (10ha)
- established a network of sites to monitor the condition of banksia woodland
- provided funding for community groups and local government to manage banksia woodland.

Establishing new woodlands

New banksia woodland is being established at Forrestdale Lake and in the Anketell Road area of Jandakot Regional Park. Flora surveys provided data on plant diversity and density to set restoration targets and provide species lists for local provenance seed collection and nursery orders. Topsoil was transferred from Jandakot Airport during April to May 2012, followed by planting of nursery-raised seedlings and direct seeding from 2012 onwards. In 2012, direct seeding trials, conducted in collaboration with Greening Australia (WA), successfully established tree and shrub



Volunteers from BirdLife Australia helped us to restore habitat for Carnaby's cockatoos by planting banksia seedlings and other native plants at the Anketell Road site in 2012.

cover. A larger area is now being seeded. The BWR project has worked closely with the Threatened Flora Seed Centre to create a seed collection for banksia woodland restoration (more than 500 batches for 68 species have been produced).

At restoration sites, recruitment from topsoil provided 83 native plant species, many of which are difficult to propagate in the nursery. In total, more than 110 species of native plants were established by planting and direct seeding. This compares favourably with plant diversity at reference sites. However, numbers of trees and understory plants change dramatically twice each year, as new seedlings germinate from topsoil in winter and many plants die over summer in dry years. It is anticipated that it will take two more years to reach plant density and diversity targets.

Managing weeds in established woodlands

The second major component of the BWR project is to manage weeds in existing banksia woodlands in Parks and Wildlife-managed land. Weeds were mapped in 20 reserves (1400ha) and priorities for weed control were established. Weed control efforts began in 2013 and will continue for several more years. About



Banksia woodland restoration site in the second year showing many native plants growing from the topsoil seed bank.

330ha of perennial veldt grass (*Ehrharta calycina*) was targeted using grass-selective herbicides. Seven other serious environmental weeds were targeted by spraying or hand removal. Weed management now extends over 500ha in 20 reserves.

Ongoing monitoring

The BWR project has established 32 permanent monitoring sites in bushland. These monitoring sites will be used along with satellite imagery to assess vegetation condition in weed management areas and vegetation recovery after restoration. These plots are also being used to measure vegetation recovery after the

Baigup Wetland Interest Group By Penny Lee

Baigup Wetland Interest Group started life in early 2013 as a virtual network of people who care about our wetlands. We encourage community interest in Baigup by building awareness of its history, natural assets and challenges.

Quarterly newsletters are emailed to more than 100 local residents, government representatives and members of other interested organisations. Primarily a tool for community education, the newsletters share information about the ecology and history of Baigup, as well as news about events or developments relating to the reserve.

Our primary aim is to see Baigup Wetland protected and preserved into the future as a valuable natural resource for wildlife, the health of the Swan River and for human recreation, wellbeing and education. We liaise with government and non-government agencies to ensure timely awareness of any problems that arise and to support ongoing understanding of issues relating to site management and protection.

Baigup means 'place of rushes' in Nyoongar. Local residents remember a series of healthy freshwater springs along the scarp behind the reserve 60 years ago. These, together with the wealth of food sources in the original swamps, grasslands and river, and the existence of higher ground nearby, made the area typical of summer camp grounds used by Whadjuk Nyoongar along the river for thousands of years. Before Europeans arrived in 1829, the original landowners skilfully managed their natural resources by using fire to create a mosaic of woodlands and open grasslands that facilitated hunting for game and maintenance of yam gardens and other food sources. Later in the nineteenth century, after Nyoongar people were pushed out, dairy farms and Chinese market gardens were established, persisting into the 1950s.

The wetlands are unusual along this stretch of the Swan in that they have never been used as an official landfill site. Nevertheless, intensive clearing and



Birds on the Primary Lake at Baigup Wetland, Garratt Road Bridge end of the reserve. Photo – Penny Lee

modification for modern pasture and horticulture meant that much of the natural vegetation was replaced by dense weedy growth, including willow and poplar trees, bulrushes, castor oil bushes and pampas grass, along with various introduced grasses, ground covers and other smaller weeds.

Today revegetation is a high priority and two lakes constructed in existing swamps and weed-infested marsh in 2000–01 now provide permanent water for more than 70 species of birds that have been identified in and around Baigup since August 2012. Native water rats and oblong turtles also call Baigup home. Extensive riverside sedgeland and remnant patches of *Melaleuca-Casuarina* woodlands are other reasons Baigup is part of Bush Forever Site 313 and an important section of the Swan-Canning Riverpark and the wildlife corridor connecting the hills to the ocean. Baigup is registered in the *Directory of Important Wetlands in Australia* and is protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

BAIGUP



Battling with weeds beside Secondary Lake at Baigup Wetland. Photo – Penny Lee

Baigup lies between Garratt Road in Bayswater and Kelvin Street in Maylands, a distance of about 1km. About 200m wide, it has a dual-use path running end-to-end parallel to the river. Between 7am and 6pm on Sunday 18 May 2014 (an overcast day with occasional showers) 442 people were counted in the reserve, including 176 adult and 48 child walkers and runners, 200 adult and 11 child cyclists, seven fishers, and 19 dogs.

New members always welcome!

Baigup Wetlands Interest Group organises occasional weeding and planting days and is currently applying for funding for interpretive signage along the dual-use path. Individuals can become members by putting their names on our email list. To do this, email Penny Lee at baigup@iinet.net.au. An informal management committee shares the administrative load.

For more information: www.bushlandperth.org.au/member-groups/3-north-of-the-river/205-baigup-wetland-interest-group.

Resources

Website watch

Weeds of national significance

Several new resources for weeds of national significance are available. There are nine new films detailing the identification and control of asparagus weeds. New management manuals for African boxthorn, water hyacinth and brooms have also been published. Visit www.weeds.org.au/wvons.

New, free wetlands guide

A guide to managing and restoring wetlands in Western Australia is available free at www.dpaw.wa.gov.au/wetlandsguide. The guide describes WA's wetlands, and provides practical guidance on common management challenges, as well as monitoring, protection and planning. It covers a wide range of wetland types, including those that are waterlogged or inundated permanently, seasonally or intermittently, but not waterways, estuaries, or artificial wetlands such as dams.



Natural Area Management Online Mapping Viewer

The easy to use public Online Mapping Viewer developed by WALGA's Local Biodiversity Program (LBP) has just been updated. It can be accessed at http://lbp.asn.au/index_public.html. Also see page 9.

Apps

Field Guide to Western Australian Fauna by Western Australian Museum.

Detailed descriptions of animals, maps of distribution, endangered species status and images of their habitats, sometimes audio records are included. The content has been developed by scientists at the Western Australian Museum and supplemented by scientists from other museums around the nation.

The app holds descriptions of more than 800 species encompassing birds, fishes, frogs, lizards, snakes, mammals, freshwater, terrestrial and marine invertebrates, spiders, and insects - a fraction of the complete fauna of WA. It contains common and more wide ranging species, as well as some unique animals that speak of the state's amazing diversity. The app is available both on iTunes and Google Play, for smartphone and tablet devices.



Numbat, Myrmecobius fasciatus, John Gould, F.R.S (1863) Mammals of Australia, Vol. 1 Plate 4)

Recent research

Brown K, Cullity J and Paczkowska G (2014) Recovery of Native Plant Communities following Control of Terracina Spurge (*Euphorbia terracina*): Three Case Studies from South-west Western Australia. *Ecological Restoration* 32:1, 37-45

Stock WD, Finn H, Parker J, Dods K (2013) Pine as Fast Food: Foraging Ecology of an Endangered Cockatoo in a Forestry Landscape. *PLoS ONE* 8(4): e61145. doi:10.1371/journal.pone.0061145

Valentine LE, Reaveley A, Johnson B, Fisher B, Wilson BA (2012) Burning in Banksia Woodlands: How Does the Fire-Free Period Influence Reptile Communities? *Plos ONE* 7(4): e34448. doi:10.1371/journal.pone.0034448

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Please check your mailing details and let us know if we need to change anything by phoning us on 9442 0322. If you'd prefer to receive this newsletter electronically, send an email entitled 'email me' to [urban.nature@dpaw.wa.gov.au](mailto:nature@dpaw.wa.gov.au)

