

Special protection for banksia woodlands

By Rebecca Ong and Val English

On the Swan Coastal Plain, remnant patches of banksia woodland support over 600 native plant species and provide crucial habitat to 32 fauna species, many of which rely on the woodlands for their survival including the turtle frog (*Myobatrachus gouldii*) and honey possum or Noolbenger (*Tarsipes rostratus*). Banksia woodlands of the Swan Coastal Plain are now offered greater protection thanks to an update to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. As part of the update, the ecosystem was listed as a threatened ecological community (TEC), rank endangered.

What does this mean?

This new national listing complements the State vegetation laws by enhancing protection of specific areas of banksia woodlands. In certain cases, activities that may damage banksia woodland will now need to be referred to the Commonwealth Department of the Environment and Energy for assessment under the Act.

What is protected?

The national listing protects patches of woodlands that meet key criteria, including diagnostic characteristics, size and condition.

In order to be considered a 'Matter of National Environmental Significance' (MNES), as defined under the EPBC Act, patches ranked 'Good' condition need to be at least 2ha in size; 'Very Good' patches must be at least 1ha in size; 'Excellent' condition patches need to be at least 0.5ha. There is no minimum patch size for areas in 'Pristine' condition

Some very degraded or modified patches can still retain important natural values that are crucial for certain species or habitats. These areas should not be excluded from conservation actions as management may improve the condition of these patches so that they may then be regarded as part of the TEC.

The presence of rarer sub-types such as sub-communities listed as TECs or Priority ecological communities in WA may be considered in the assessment of development proposals under the EPBC Act.

Are all banksia woodlands protected under this listing?

The banksia woodlands of the Swan Coastal Plain TEC is located largely within the Swan Coastal Plain IBRA



Firewood banksia (*Banksia menziesii*) flowering in Shenton Bushland. Banksia woodland on the Swan Coastal Plain has recently received further protection through listing as endangered under the EPBC Act. Photo – Kate Brown

bioregion which extends from around Jurien Bay in the north to Dunsborough in the south, then east into the Whicher and Darling escarpments of the jarrah forest IBRA bioregion.

A key feature of the TEC is a prominent tree layer of candlestick banksia (*Banksia attenuata*), firewood banksia (*B. menziesii*), acorn banksia (*B. prionotes*) or holly-leaved banksia (*B. ilicifolia*), often with other trees present. Swamp banksia (*B. littoralis*) may also be co-dominant but where it becomes dominant it typically indicates a different dampland community. Buerdett's banksia (*B. burdettii*) from the Dandaragan plateau can be a co-dominant banksia species, however where it becomes dominant it typically forms a tall shrubland and not the banksia woodlands TEC. The understorey is a species rich mix of shrubs and herbs, characterised by high endemism and considerable localised variation in species composition across its range. For example, banksia woodland near Perth contains an average of 50 different plant species within 100m² (Keighery and Keighery 2016).

Where can I find out more?

For more information about this TEC, including threats, what should be referred for assessment and priorities for protection, please see [Species Profile and Threats Database](#).

References:

Keighery G & Keighery B (2016). How many banksia woodlands? Floristics of Banksia Woodlands of the Swan Coastal Plain. In Stevens JC, Rokich DP, Newton VG, Barrett RL & Dixon KW (eds) (2016, in press). Restoring Perth's Banksia woodlands. UWA Publishing. Crawley, WA.

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Summer 2016-2017

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Urban Nature Update By Rebecca Ong

Welcome to the 100th issue of *Bushland News*! Scanning back through the past issues it is amazing to see where we have come from and the progress that has been achieved in restoring and managing our native bushland, wetland and foreshore communities. We all know that there is still much work to be done so I hope that Urban Nature can continue to grow and be a useful resource for those working to improve our natural areas. We would love to hear from you if you would like to see certain topics covered in future issues, and we always appreciate stories about your groups activities within your reserves.

The team at Urban Nature has been working on a number of projects in 2016, with major projects in Lowlands, Brixton St Wetlands, Deefor wetland (Wandoo National Park), Paganoni Bushland, Talbot Rd Bushland and Penguin Island. Restoration trials on Penguin Island have been so successful that we are now looking to run a workshop in February/March to plan how we might scale up in 2017 – please let us know if you would like to be involved.



Baseline monitoring was established to determine appropriate weed management around the only known location of a critically endangered mulla mulla in the Greater Brixton St Wetlands. The work is being undertaken as part of a Perth NRM living landscapes grant to manage threatening processes across the reserve. Photo – Kate Brown



To monitor the impacts of grazing by western grey kangaroos on the flora of long unburnt banksia woodland, a series of exclusion plots were established at Lowlands over spring 2016. Twenty 10m x 10m plots were established and cover of all species measured across each plot. The data collected will provide a baseline to guide fauna management in the reserve. Photo – Kate Brown



Our silver gull exclusion trials were very successful in rapidly establishing a resilient native shrub cover on Penguin Island. Where shrub cover was absent though, the average rainfall this year meant annual weeds were prolific. Also our efforts to reintroduce the Australian hollyhock to the Island were temporarily put on hold with the return of nesting pelicans to the trial site. Photo – Kate Brown



Can you spot the drone? Establishing transects at Deefor wetland within Wandoo National Park to monitor wetland recovery following management of illegal four-wheel drive activity and feral pigs. We were joined by local volunteer and Track Care WA inc. Chairperson John Collins who is interested in trialling a vegetation monitoring method using drone technology.

Autumn Bushland

Autumn *Bushland News* contributions should be sent to [Urban Nature](#) by **10 March 2017**. *Bushland News* seeks original contributions. If your submission has been or may be published elsewhere please let us know.

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

Amazon frogbit (*Limnobium laevigatum*) in Perth's waterways

By Daniel Friesen

Limnobium laevigatum is a floating aquatic plant, commonly referred to as Amazon frogbit, which originates from Central and South America. Amazon frogbit is sold as an easy-to-maintain plant for use in aquariums but is a highly invasive species when allowed to populate waterways. It was initially discovered in Western Australian waterways in 2013 in Liege St. Wetlands (City of Canning) by the Swan River Trust and South East Regional Centre for Urban Landscare (SERCUL). Then, in 2014, it was discovered in Banister Creek (City of Canning) and was only just recently discovered in Ballanup Drain (City of Armadale) and Yangebup Lake (City of Cockburn). Each infestation has been an isolated incident thought to be introduced through residents inappropriately disposing of their aquarium.



Biology

Amazon frogbit poses a real threat to Western Australian waterways as it reproduces prolifically through both seed and vegetatively. Each plant can produce multiple seed pods with each pod containing 20–30 seeds that are viable for at least three years and can germinate readily. It is known to form dense mats across waterways with up to 2000–2500 plants per square metre. These dense mats congest drains and waterways, displace native vegetation and greatly impact water quality.

Control methods

Prevention and early detection are key to managing Amazon frogbit and, like many weeds, using a number of methods in coordination is the most successful approach.

The first step is to map the infestation and identify its initial source point. It is very important to understand the extent of the infestation because if even one plant is not controlled it has the potential to re-infest and spread very quickly. Assessing the extent will also aid in deciding its control methods. Once its extent is established mesh barriers or booms should be installed to contain the infestation. Barriers will need to consider water flow, taking care not to create obstructions that will impede water and create flooding or erosion. Following that, assess the maturity of the plant by looking for flowers or seed pods at the base of the plant. If flowers and/or seed pods are discovered, SERCUL advises to use mechanical methods such as excavators (where accessible) and hand weeding in a timely fashion in order to prevent seed from being dispersed. If the plant is juvenile and not flowering chemical applications can be considered for initial control. Chemical applications alone will not be sufficient for control and will require hand weeding to follow.

Amazon frogbit biomass needs to be carefully disposed of and equipment thoroughly washed to prevent it accidentally spreading. If Amazon frogbit is found amongst vegetation, the native plants should be trimmed and cut back and any weeds should be removed entirely to enable access for treatment and easy visibility for follow-up treatments. Care should be taken to reduce impact whenever possible.



Amazon frogbit (Limnobium laevigatum) is not a declared weed in Western Australia and can be grown in home gardens. Care must be taken to ensure the weed is not dumped or translocated into our waterways where it quickly spreads. Photos - Daniel Friesen

Quick facts

Family: Hydrocharitaceae

Genus: Limnobium

Species: laevigatum

Common names:

Amazon or smooth frogbit, South American spongeplant.

Native distribution:

Central and South America

Height: 50cm

Follow up is crucial; when infestation levels are reduced regularly revisit the site to thoroughly map and remove any plants. Ongoing mapping will aid in identifying any hot spots, re-infestation points or aid in determining if it is germinating from a seed bed. Weekly visits should be carried out in the early stages of control with monthly visits carried out once the infestation is reasonably controlled (only a few plants being found per visit).

Eradication is a long term goal so visits should continue for several months after Amazon frogbit is no longer detected in the area and through the following warmer months to ensure success.

How can volunteers assist?

Volunteers can play a very helpful role in early identification and even prevention in the spread of Amazon frogbit. If you see a new plant you do not recognise, getting it properly identified before controlling it is important as it is easy to mis-identify plants. Volunteers can also play a role in working with the landowner to actively hand remove the infestation as this can be very costly and time consuming.

Contact: SERCUL, by [email](#)

A win for the fight against traps



Rakali (Hydromys chrysogaster) (pictured), turtles, cormorants and shags are often found dead in abandoned traps in our waterways. Large retail giants have now agreed to stop selling these traps, reducing the threat to native wildlife. Photo – David Judge

By Tahryn Thompson

The illegal use of a variety of traps in Western Australian waterways poses an ongoing threat to our native wildlife. As such, increasing community awareness about the implications of using these traps presents an ongoing challenge for organisations such as the departments of Fisheries and Parks and Wildlife.

In 2014-15 a Rakali Community Survey was conducted by WWF-Australia, in collaboration with Parks and Wildlife, to establish the current and historical distribution of rakali in southwest WA. Sadly, the most commonly reported cause of rakali death was drowning in illegal traps (see [full report](#)).

This latest research revitalised a collaborative effort between the departments of Fisheries and Parks and Wildlife to educate the community, particularly recreational fishers, about the impact of using any form of trap in natural waterways. Fisheries and marine officers from the south-west region of WA regularly find abandoned traps in waterways containing dead turtles, cormorants, shags and rakali.

WA legislation states that you may only fish for marron or crabs using other legal gear that allows untargeted wildlife to escape, such as drop nets or scoop nets (for more information see [website](#)). An element of confusion surrounding this law arises because it is legal to use traps in isolated dams on private property, and so they remain to be stocked by many retail outlets.

WWF-Australia recently took this issue to the top of the large retail chains BCF, Rays Outdoors, Kmart and Big W. After discussions about the direct impact that traps are having on rakali, these companies responded very positively and either made the decision to stop stocking any form of trap or commit to never selling them again in their retail outlets in WA - a big win in the fight against using these traps!

Ongoing education is integral to raise community awareness about the plight of the rakali. Assistance from members of the public is extremely valuable, both in reporting sightings of traps and rakali. To report sightings of illegal traps, contact FISHWATCH on 1800 815 507. If you see a rakali, please [email](#) Parks and Wildlife with the details.

Contact: Tahryn Thompson, Department of Fisheries, by [email](#).

Hazards of Hardenbergia in wetland contexts

By Penny Lee

Native wisteria (*Hardenbergia comptoniana*) is a beautiful Western Australian “twining shrub or climber” especially happy in sandy soils, including “coastal limestone, sandplains and dunes”, according to [Florabase](#). But it has also proved adaptable to a wider range of situations. As a vigorous climber used on a strong fence, it offers a spectacular floral display over several months from late winter. As a ground cover, it can function well as a pioneer species, protecting the soil and laying down a substantial amount of natural mulch in a short period of time.

Experience at Baigup Wetland from 2014 to 2016, however, suggests caution in wetland contexts. Although the plant was successfully used on a tall fence around a steep cliff on an arid hill comprised almost entirely of building rubble, it proved counterproductive on the flats where the water table is close to the surface in an area thickly covered by woodchips over slashed Typha. Here it grew rapidly, often smothering nearby seedlings. It also over-ran otherwise healthy sedges along the margin of a lake, shading them from the sun, rapidly covered and compromised a large seedling eucalypt and contributed to a mature *Melaleuca rhapsiphylla* splitting in half.

Contact: Penny Lee, Baigup Wetland Interest Group, by [email](#)



Volunteers John Castro and Anita Winkler pulling Hardenbergia off sedges beside the Secondary Lake at Baigup Wetland. Photo – Penny Lee

An unusual visitor to Shoalwater Islands Marine Park

By Rebecca Ong

A special delivery arrived at Shoalwater Islands Marine Park in late November when a southern elephant seal mother hauled up on a small beach to give birth to a single pup.

Southern elephant seals (*Mirounga leonina*) are listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*. They are cold-water animals that usually breed in the sub-Antarctic waters south of Australia and rarely venture up the WA coastline. In fact, Parks and Wildlife only has two other records of this occurring along the WA coastline, with mixed success.

"We don't know exactly what sub-Antarctic island mum is from nor the survival chances of the pup" Parks and Wildlife Swan Coastal Marine Parks Coordinator, Melissa Evans said.

"It is also unknown why she chose to give birth in such a warm area."

Parks and Wildlife is collaborating with researchers from the Australian Institute of Marine Science to answer these and other questions about this species.

"Apart from monitoring the mother and pup's condition every day, the main concern is keeping the seals safe and free from stress with the amount of public interest that this is expected to generate" Marine Park Ranger Stephen Goodlich said.

In response to the thousands of people who visited the bull elephant seal on Sorrento beach in 2014 and the ensuing irresponsible and dangerous behaviour from some members of the public, Parks and Wildlife formally closed the waters within 20 metres of the animals.

In addition, media outlets agreed to delay reporting on the pair to give rangers an opportunity to establish measures to manage the expected crowds. Sign-posted buoys were created and installed, regular monitoring was arranged and extra staff were brought in from nearby marine parks to assist during peak visitation periods to ensure the safety of the public, mother and pup.



Southern elephant seal (Mirounga leonina) female and pup in Shoalwater Islands Marine Park. Photos - Jane Dawson

Luckily, the elephant seal had chosen to haul up on an inaccessible island. Together with the remoteness of the location, it was hoped that this may give the mother and pup a bit more privacy.

"All things going well, the pup will stay on this beach with its mother for around three weeks, and at that time the mother will head off back out to water and leave the pup to continue growing" Ranger Stephen said.

"The nutrients in the milk allow the pup to keep growing without any further input from the mother for another four to six weeks, when the pup is now called a weaner. After this time the pup will slowly start venturing out into the water and learn how to feed itself".


Contact: Stephen Goodlich, Department of Parks and Wildlife on 9303 7784


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**
Research into bird populations with the **Herdsmen Lake** Bird Banding Group. Contact Bill 0438 910 252 or [email](#).


Saturdays 8am-9am
 **Guided walks** with Friends of **Koondoola**. Second Saturday of each month. Meet Gate 2, corner Koondoola and Burbridge Ave, Alexander Heights.

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 the Friends of **Booragoon** and **Blue Gum Lakes**. First Saturday of each month. Meet at the boardwalk into Booragoon Lake on Alridge Rd, Booragoon. Contact Mary-Ann 9316 9716 or [email](#).


Saturdays 8.30am-10.30am
 **Bushcare activities** with Swan Estuary Reserves Action Group at **Alfred Cove** Nature Reserve. Fourth Saturday of each month. Contact Cathie 9339 2439 or [email](#).

Saturdays 9am
 **Bushcare activities** with Friends of **Brixton Street** Wetlands. Third Saturday of each month. Meet Alton St, Kenwick. Contact Regina 9459 2964 or [email](#).

Saturdays, Sundays 9am-12 noon
 **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 [email](#).


Sundays 8am-9am
 **Guided walks** with Friends of **Marangaroo**. Fourth Sunday of each month. Meet at Gate 3, Decourcy Wy, Marangaroo.


Sundays 8am-10am
 **Bushcare activities** every Sunday with Friends of **Shenton Park** Bushland. Contact Dani 9381 3470 or [email](#).


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.


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 [email](#).

Sundays 8.30am-9.30am
 **Guided walks** followed by meeting with Friends of **Mirraboopa**. First Sunday of each month. Call Jan 9344 2872.


Sundays 9am-11am
 Friends of **Lake Claremont** busy bee and morning tea, second Sunday of every month. Meet at the south end of Strickland St, Swanbourne. Gloves and tools provided. Call 0416 614 696 or visit [web](#).


Sundays 9am-11am
 **Bushcare activities** with **Cottesloe** Coastcare. First Sunday of each month. Contact Robyn 9384 7668, [email](#) or visit [web](#).


Sundays 9am-12 noon
 **Bushcare activities** with the Friends of the **Spectacles** (Kwinana). Third Sunday of each month. Contact Lynda 0419 983 956 or [email](#).

Sundays 9.45am-12 noon
 **Bushcare activities** with the Friends of **Piesse Brook**. Third Sunday of each month. Phone Gerry 9293 2517 or [email](#) Bridget.

Mondays 7am-8am
 Norma's Monday Morning **Weeding Group**. Friends of **Lake Claremont** weekly hand weeding. Learn basic weeding techniques and identification. Meet at south end of Strickland St. Phone 0413 282 515.

Mondays 9am-11am
 **Litter collection** with Swan Estuary Reserves Action Group at **Milyu Nature Reserve, South Perth**. Second Monday of each month. Contact Cathie 9339 2439 or [email](#).


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 Nature Reserve** each Tuesday. Contact Cathie 9339 2439 or [email](#).

Tuesdays and Thursdays, 8am-10am
 **Coastcare activities** with **Stirling** Natural Environment CoastCare (SNEC). Contact Sheldon 0488 190 651, Rae 0419 191 710 or visit [web](#).


Wednesdays and Saturdays 7.30am-9.30am
 **Bushcare activities** with **Bicton** Environmental Action Group. Planting, weeding and foreshore cleanup. Various dates. Contact Peter 0439 467 855 or [email](#).


Thursdays 7.30am-9.30am and some Saturdays 8.30am-12 noon
 **Coastcare activities** with Friends of **Sorrento Beach** and **Marmion Foreshore** followed by morning tea. Call Mike 0438 710 527.

Thursdays 8am-9am
 **Bushcare activities** every Thursday with **Byford** Enviro-Link. Call Johanne or 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](#) or visit web.

Thursdays, Saturdays and Sundays 9am
 **Morning walks** with Friends of **Bold Park** Bushland Volunteer Guides. Various dates. Contact 9480 3996, [email](#) or visit [web](#).


Thursdays and Sundays 10am-12 noon
 **Kanyana Wildlife Centre, Discovery Centre Tours**. Close encounters with native animals and interactive Discovery Centre. \$20 or less. Bookings essential. Visit [Web](#), [email](#) or 9291 3900.


Thursdays or Fridays 9am-4pm
 **Wetland, bushcare and nursery activities** with **Cockburn Wetlands** Centre. Contact Denise 0412 081 540 or [email](#).

Thursdays 7.30pm
 **Talks** with **Murdoch** Branch of the **Wildflower Society** to share passion and knowledge of nature. First Thursday each month. Cockburn Wetlands Education Centre. Call Pawel 0410 305 034 or [Facebook](#).

Friday evenings
 **Nocturnal Woylie Walks**, Woodland Reserve, **Whiteman Park**. 7pm-8.30pm through January and February, 6:30pm-8pm through March. Bookings essential, cost \$15 Adult, \$10 Child, Family (2A +2C) \$45, see [web](#).

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 or less. Bookings essential. Visit [Web](#), [email](#) or 9291 3900.


Fridays 8am
 **Bushcare activities** at **Piney Lakes**. Volunteers need a site induction. [Email](#).


Fridays 9am
 **Coastcare** with **Mullaloo Beach** Community Group. Planting, weeding and collecting marine debris. Equipment and refreshments provided. [Email](#).


WA Naturalists hold regular **talks** and **excursions** each month. [View](#) their calendar for the activities of the four branches.


Wildflower Society of WA holds regular **talks**. [View](#) their calendar.


January


9 Monday 6pm
 **Twilight walk** with Friends of **Bold Park** Bushland Volunteer Guides. Meet at WA Ecology Centre, Perry Lakes Dr, City Beach. Details [online](#), call 9480 3996 or [email](#).


11 Wednesday 6pm-8pm
 **Kids Nocturnal Woylie Walk**, Woodland Reserve, **Whiteman Park**. Bookings essential, cost \$18 Adult, \$14 Child, Family (2A +2C) \$55, see [web](#).

12 Thursday 7.30am
 **Bird walk** at **Baigup Wetlands**, Bayswater. Meet at the car park near the Rowing Club at the end of Milne St. Call Birdlife on 9383 7749

15 Sunday 7.30am
 **Bird walk** at **Waterford Foreshore**, Salter Point. Meet at the Curtin University Boat Club on the corner of Elderfield Rd and Fairview Gdns. Call Birdlife on 9383 7749


18 Wednesday 6pm-8pm
 **Kids Nocturnal Woylie Walk**, Woodland Reserve, **Whiteman Park**. Bookings essential, cost \$18 Adult, \$14 Child, Family (2A +2C) \$55, see [web](#).

21 Saturday 9am-11am
 **Tour and Tucker**, Piney Lakes Environmental Education Centre, Leach Hwy, Winthrop. Learn about the Noongar six seasons and explore how traditional practices can be applied to modern meal preparation. Includes a light snack. Cost \$5 pp, bookings essential [online](#).


24 Tuesday 6pm
 **Twilight walk** with Friends of **Bold Park** Bushland Volunteer Guides. Meet at WA Ecology Centre, Perry Lakes Dr, City Beach. Details [online](#), call 9480 3996 or [email](#).

February


13 Monday 6pm

 **Twilight walk** with Friends of **Bold Park** Bushland Volunteer Guides. Meet at WA Ecology Centre, Perry Lakes Dr, City Beach. Details [online](#), call 9480 3996 or [email](#).

16 Thursday 8am

 **Bird walk** at **Eric Singleton Bird Reserve**, Bayswater. Meet in the car park on Bellevue St at the end of Leake St. Call Birdlife on 9383 7749

18 Saturday 9am–midday

 **OH&S for Volunteers**, Kalamunda. Register [online](#).

19 Sunday 7.30am

 **Bird walk** at **Lake Gwelup**, Stirling. Meet at the carpark at the corner of Stoneman St and Huntriss Rd, north of Karrinyup Rd. Call Birdlife on 9383 7749.

28 Tuesday 6pm

 **Twilight walk** with Friends of **Bold Park** Bushland Volunteer Guides. Meet at WA Ecology Centre, Perry Lakes Dr, City Beach. Details [online](#), call 9480 3996 or [email](#).




March


4 Saturday 7.45am–6 Monday 4pm

 **3-Day Wilderness First Aid Course** with Bibbulmun Track Foundation. **Mundaring**. Bookings close 3 March, cost \$400. Details [online](#) or call 0427 718 714


11 Saturday 10am–1.30pm

 **Volunteer Guide to Coastal Weeds, Tuart Hill** Community Centre. A Perth NRM workshop introducing weed identification techniques and control methods. \$30pp, bookings essential. Contact Sharon Munro on 9374 3333 or [email](#).


11 Saturday 4pm–9pm

 **Moon walk**, east of **Armadale** with Bibbulmun Track Foundation. 9km return, cost \$30. Bookings close 11 March. Details [online](#).

13 Monday 5.30pm

 **Twilight walk** with Friends of **Bold Park** Bushland Volunteer Guides. Meet at WA Ecology Centre, Perry Lakes Dr, City Beach. Details [online](#), call 9480 3996 or [email](#).

16 Thursday 7.30am

 **Bird walk** at **Blackwall Reach**, Bicton. Meet at the junction of Kent St and Blackwall Reach Pde. Call Birdlife on 9383 7749.

Highlights

Sparkling Summer a range of nature-based summer holiday activities for different age groups ages 3+ including adults. Activities include beach exploring, scavenger hunts, animal encounters, adventure caving, camping, canoeing, cooking and a special valentines day event for the adults. Check out the calendar on the Nearer to Nature [website](#) or [email](#).

Rottnest Island Holiday Activities Programme

runs all through January and covers a wide range of activities and tours including guided daytime walks, bird watching, beach exploring, children's treasure hunts, yarns for youngsters and evening activities such as star gazing, ghosts, myths and legends stories, sunset bus tours and family quiz nights. See [web](#) for more details.

WA Naturalists' Club – Many activities throughout the months. [Website](#)

Conservation Volunteers.

Opportunities to participate in bushland restoration activities. [Website](#).

18 – 20 January

Catchments, Corridors and Coasts 2017

A three-day course providing a snapshot of environmental education in WA, facilitating the development of networks with and between practitioners and an awareness of the resources and support across WA to help address core environmental and sustainability issues. Learn about environmental issues, what is being done by community groups and various levels of government, what resources are available and how we can all work together for a better environment. For more information and registrations see [web](#) or contact Catherine Baudains on 0409 374 231 or [email](#).

2 February


WA Wetland Management Conference

Celebrate World Wetlands Day at the 13th annual WA Wetland Management Conference. Contact Denise 9417 8460, [email](#) or [web](#).


19 Sunday 7.30am

 **Bird walk** at **Bibra Lake**, Cockburn. Meet in the first carpark at the northern end of the lake off Progress Dr. Call Birdlife on 9383 7749

21 Tuesday 5.30pm

 **Twilight walk** with Friends of **Bold Park** Bushland Volunteer Guides. Meet at WA Ecology Centre, Perry Lakes Dr, City Beach. Details [online](#), call 9480 3996 or [email](#).

25 Saturday 10am–1pm

 **Workshop – Healthy Wildlife**, Kanyana Wildlife Rehabilitation Centre, Lesmurdie. Register [online](#).

Please send us your April, May and June events by Friday 10 March 2017.

Funding opportunities

State NRM Community Capability Grants support volunteers to improve their capability, governance and management performance. It does not fund on-ground works. [Applications](#) are now open for small projects seeking from \$1000 - \$10,000 with a time frame of up to 12 months. Submissions close midday 29 May 2017 and are assessed on a first-come, first-served basis until the available funding is allocated

Swan Alcoa Landcare Program provides funding for revegetation and rehabilitation activities within the greater Perth region that retain, restore and manage bushland, coastal, wetland and foreshore vegetation; or protect and enhance the quality of surface and ground water. The official announcement of successful projects for the current round will be in February 2017, and an opening date for the next round of grants will most likely be announced at this launch. Keep an eye on the [website](#) for further details.

Small Grants for Rural Communities support rural, regional or remote communities with grants up to \$5000 for projects and activities that offer clear public benefit. Projects should contribute to the development of a community's social and community welfare, economic, environmental, health, education or cultural areas. Priority is given to those communities with 10,000 or less residents. [Applications](#) for round 31 will be open in January and likely to close in late February or early March.

Community Development Funding – Category 1

(Community Participation and Well Being) provides financial support for specific projects and activities that promote community well-being, with outcomes in the City of Fremantle. The City welcomes applications across the areas of community development, culture and the arts, sport and recreation, environment/sustainability and positive ageing. Locally based not-for-profit, charitable organisations and/or associations to support community development are invited to apply for grants from a total funding pool of \$10,000. [Applications](#) close 5pm 28 February 2017.

Coastal Management Plan Assistance Program

(CMPAP) Grants for 2017/18 provides funding to coastal land managers, primarily local government authorities, to implement State Planning Policy 2.6 – State Coastal Planning Policy (SPP2.6) through the preparation of Coastal Hazard Risk Management and Adaptation Plans, coastal strategies and coastal management plans. A total of \$275,000 is available with a maximum individual grant limit of \$75,000 per project. [Applications](#) are likely to open mid-January. Further information is available via [email](#).

Coastwest grants provide funds to enable the implementation of coastal strategies and plans. Grants are provided to partnerships between coastal managers (local governments and Aboriginal Land Councils) and community groups (including coastcare groups and schools), encouraging them to work together to improve the condition of Western Australia's coastline. A total of \$325,000 is available with a maximum individual grant limit of \$50,000 per project. [Applications](#) are likely to open mid-January. Further information is available via [email](#).

Youth Activities Grants are one-off grants of up to \$5000 for community organisations to develop projects that encourage young people to get involved in innovative and challenging community projects and activities. Projects must benefit young people between 12-25 years. [Applications](#) are open all year.

Please send us your regional report (200 words) and a photo by Friday 10 March 2017.
Text may be edited in response to volume of submitted reports.

Helping hands for Glen Forrest Super Block *By Carli Allen*

Local school children have been learning about the importance of the environment through a Shire of Mundaring-supported project in Glen Forrest.

Shire President David Lavell said the work being carried out at Glen Forrest Super Block was a joint effort between multiple groups.

"Parents at Glen Forrest Primary School secured a WA State Natural Resources Management grant of \$20,000 to continue the school's involvement in care of the reserve," he said.

"The project is run in conjunction with Glen Forrest Primary School, Friends of Nyaania Creek Glen Forrest, the Shire, Eastern Metropolitan Region Council's Bush Skills 4 Youth program and Millennium Kids."

"It delivers some great outcomes for the Super Block including woody weed removal to protect the high quality bushland."

On Friday 28 October children heard a talk from local environmental biologist and filmmaker, Simon Cherriman, about birds, nest boxes and how the boxes assist fauna to breed.



Simon Cherriman talks to school children about birds, nest boxes and how the boxes assist fauna to breed at Glen Forrest Super Block. Photo – Carli Allen

"Each class then had a chance to visit the Super Block and see him install different sized boxes, designed to provide breeding and roosting sites for a variety of fauna such as black cockatoos, owls and possums," Cr Lavell said.

Contact: Carli Allen, Shire of Mundaring by [email](#).

Sun orchid sighting sparks conservation effort *By Nicole O'Neill*

The Shire of Kalamunda, Department of Parks and Wildlife and the WA Orchid Society are calling for anyone who has seen the Crystal Brook sun orchid (*Themylitra magnifica*) to contact the Shire so local efforts to map and conserve the threatened native orchid can be actioned.

The Crystal Brook sun orchid can only be found in a handful of roadsides and bushland areas during spring. It grows on gravelly soils along the foothills of the Darling Scarp. This unique orchid was originally reported in local bushland by friends group member and WA Herbarium volunteer Gillian Smith, three years ago.

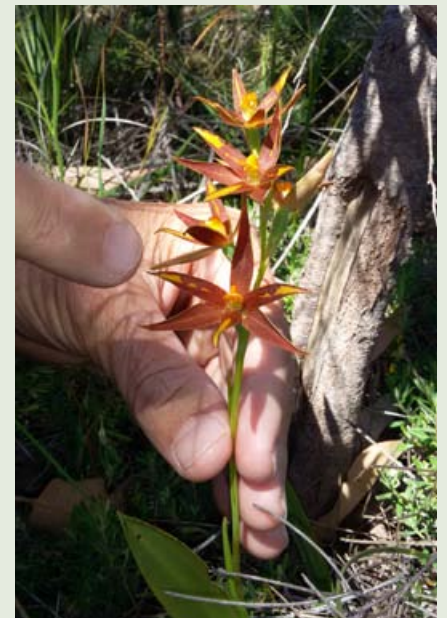
Shire of Kalamunda CEO Rhonda Hardy said, "Not flowering every year, it was thought to have been lost from Shire bushland reserves, but was recently re-discovered by WA Orchid Society member Bob Steed on a regular monitoring visit."

"Local friends group members, the Wildflower Society and WA Orchid Society volunteers have been searching for this orchid on roadsides and bushland reserves across the Shire for the past seven years. This recent re-discovery demonstrates the importance of volunteers – our citizen scientists – in ongoing efforts to protect this threatened orchid."

WA Orchid Society member Bob Steed said, "understanding where these orchids occur and what factors need to be managed to protect them will help the Shire of Kalamunda, Parks and Wildlife and the WA Orchid Society protect these spectacular orchids for future generations."

Estimates of the total number of the Crystal Brook sun orchid are hard to gauge, but there may only be less than a thousand individual plants left in the wild.

For more information see [web](#). If you think you have seen the Crystal Brook sun orchid, please contact the Shire of Kalamunda on 9257 9999 or [email](#).



Crystal Brook Sun Orchid (Themylitra magnifica)

You can also check your identification on the Florabase [website](#).

Contact: Nicole O'Neill, Shire of Kalamunda, 0417 591 777 or [email](#).

Enriching global biodiversity through local grants *By Kym Jefferies*

Six local land managers and community groups in the Northern Agricultural Region will receive grants for projects to improve the management and protection of the region's globally significant flora and fauna.

The Northern Agricultural Catchments Council (NACC) CEO Richard McLellan said "conservation of this globally significant area is crucial."

"Our region is home to Australia's only internationally recognised hotspot, recognised worldwide for its wealth of natural diversity – and it's the people working on the land that can help make the biggest impact," he said.

Contact: Kym Jefferies, NACC NRM by [email](#).



Bush Heritage Australia ecologist Ben Parkhurst at Eurardy Reserve, which will benefit from NACC's Biodiversity Community Grants for local provenance seed collection and seedling development. Photo – Jessica Stingemore

Recipients of the NACC Biodiversity Community Grants 2016 Round Two

- Shire of Coorow and Waddy Forest LCDC - Jam Bushland Reserve Rehabilitation.
- Chapman River Friends - How common the common brushtail possum is in the Chapman River catchment.
- Friends of Geraldton Gardens – Plant Identification Workshop.
- City of Greater Geraldton - Trialling of different methods of boxthorn control.
- Yuna Farming Improvement Group - Yuna Farm Improvement Group 2017 Community Baiting Day.
- Bush Heritage Australia - Local provenance seed collection and seedling development at Eurardy Reserve.
- Bush Heritage Australia - Motion-sensor cameras for the National Adaptive Management Malleefowl Project.

These grants are supported by the NACC, through funding from the Australian Government's National Landcare Programme.

Baigup Wetland Interest Group *By Penny Lee*

2016 has been an eventful and rewarding year at Baigup.

Our 2015 *Swan Canning River Recovery Project* grant of \$75,000 for restoration work has been mostly acquitted with intensive weed control efforts and over 8000 plants installed. We recently heard we've also been successful in winning a \$19,000 *Swan Alcoa Landcare Program* grant for 2017. This will continue work mostly taking place in the C Class Reserve at the Maylands end of the reserve.

Quarterly bird surveys build the Baigup BirdlifeWA database which now records 88 species identified in and around Baigup since mid 2012.

The BWIG email list for quarterly newsletters and occasional notices currently stands at 259 addresses, including 188 local, 49 'Govt. etc.' and 22 non-local recipients. Around 30 members attend each work day three or four times a year. During 2016, three high schools, two Green Army teams and CVA volunteers also helped with weeding and planting activities.

Our [Virtual Trail](#) was completed with eight QR codes affixed to benches placed through the reserve.

For further information about Baigup Wetland, see the [webpage](#) or [facebook](#)

Contact: Penny Lee, Baigup Wetland Interest Group, by [email](#).



Local member Luke Peachey removing rampant annual weeds from a revegetated area at Baigup Wetland. Photo – Penny Lee

Five years of restoring banksia woodland By Anna Wisoloth

The Banksia Woodland Restoration Project is managed by Parks and Wildlife and funded by Jandakot Airport Holdings to offset the clearing of 167 ha of native vegetation at Jandakot Airport. A major component of the project is to establish new banksia woodland in cleared areas using topsoil from Jandakot Airport, supplemented by direct seeding and planting. Sites for restoration were chosen in completely degraded areas dominated by weeds at Anketell Road Bushland (39 ha) and Forrestdale Lake (11 ha).



Planting day in June 2015 with Parks and Wildlife staff at the Anketell Road restoration site. Photo – Mark Brundrett.

Topsoil, planting and direct seeding

In April 2012, species-rich topsoil from the airport was transferred to the two areas. This has resulted in the growth of more than 100 native species, including many species that are often absent on restoration sites. However, the distribution of plants from topsoil transfer was patchy, and bare areas required additional planting and direct seeding. Planting and direct seeding were also necessary to provide trees such as the banksias, since these have canopy-stored seed and rarely recruit from topsoil.

Some species that were common at Jandakot Airport bushland rarely grew from topsoil and are not easily grown from seed, including rushes and sedges such as *Desmodcladus flexuosus* and *Lepidosperma squamatum*. To boost the number of these species, plant cuttings and divisions were collected from Jandakot Airport bushland in areas slated for clearing.

Vegetative propagation proved to be labour-intensive and consequently more expensive than growing plants from seed, but enabled the inclusion of important species that might otherwise be missing.

As the restoration sites could not be watered, survival of planted tubestock was low, with an average survival rate of 25 per cent at Anketell Road and 10 per cent at Forrestdale Lake. Annual infill planting was required to compensate for these high losses. As the sites are located on sandy, nutrient-poor Bassendean soils, planting in autumn, or as close as possible to the break of the season, and using correct planting techniques were crucial to maximise survival.

Direct seeding was carried out using seed drill technology, which rips and delivers seed into rows along with wetting agent, slow-release native fertiliser and other bulking agents such as vermiculite, and then covers the seed with soil.

This method uses seed efficiently in comparison to broadcasting.

Fencing

With high numbers of rabbits and kangaroos, fencing proved a necessity. Rabbit-proof fencing was installed with a mesh skirt buried underground and top sight-wires to discourage entry by kangaroos. Initially, only areas where topsoil was spread were fenced, with additional direct seeded areas fenced in 2014 following devastating seedling losses from herbivory.

Weed control

Initially, the sites were dominated by weeds such as perennial veldt grass (*Ehrharta calycina*), African lovegrass (*Eragrostis curvula*), and couch (*Cynodon dactylon*).



The Anketell Road restoration site still looked like a weedy paddock in April 2013, one year after topsoil transfer, however many tiny seedlings had germinated from the topsoil that were not yet visible at this scale (top). Three years later (March 2016), the same location showed a significant improvement with control of the perennial veldt grass (*Ehrharta calycina*), and a big increase in native vegetation cover, particularly from fast-growing shrubs such as *Adenanthos cygnorum* and *Jacksonia furcellata* (above). Photos – Anna Wisoloth.

Weed management included spraying of grasses, annual broadleaf weeds, and pigface (*Carpobrotus edulis*), as well as hand removal of the most invasive weeds. With control, perennial weed cover decreased from about 10 per cent to below one per cent, while annual weed cover fluctuates with the seasons. It is expected that these shade-intolerant annuals will gradually be suppressed as native plant cover increases.

Flowering and seed set

So far about 100 native species have flowered on the restoration sites. Substantial pollinator activity and seed set has been observed in many species, an important step towards the sites becoming self-sustaining. Last year three-year-old planted firewood banksia (*Banksia menziesii*) trees flowered for the first time, and this year produced mature seeds. Candlestick banksia (*Banksia attenuata*) and holly-leaved banksia (*Banksia ilicifolia*) trees planted four years ago flowered for the first time this year.

Reaching restoration targets

As of late 2016, around 160 native species were present on the restoration sites, including all six tree species from Jandakot Airport and other food plants of high importance to the endangered Carnaby's cockatoo (*Calyptorhynchus latirostris*). Many targets set for the sites are starting to be met, though as progress is slowed by plant losses following each summer drought, further infill planting or direct seeding and weed control will be needed to ensure the restoration's ongoing success.

Contact: Anna Wisoloth, Department of Parks and Wildlife, by [email](mailto:anna.wisoloth@dpaw.wa.gov.au).

Rottnest Voluntary Guides Association

By Alan Walker



RVGA guides David Heath and Tony Curtis. Photo – Brian Gunn



RVGA guide Ted Zappara discussing tours with a visitor. Photo – Brian Gunn

The Rottnest Voluntary Guides Association (RVGA) is an organisation that now has over 300 members who conduct more than 13 different tours for visitors to Rottnest Island. Environmental education began on Rottnest in 1984 with informal guided tours. The RVGA was formed in 1986 with the aim to promote an awareness of the natural and historical values of Rottnest. Many of the guides have expert knowledge of the plants, animals and ecosystems on the island and they have published a number of scientific papers over the years.

While the primary aim of the RVGA is to conduct guided tours, the RVGA aims to assist the Rottnest Island Authority in the achievement of its goals for environment and sustainability. Many guides have participated in flora and fauna surveys, seed collection, pest species and weed control programs over the years. There are other volunteer groups, including the Rottnest Foundation and the Rottnest Society, that undertake conservation work on the island, such as tree planting and dune restoration.

The RVGA conducts daily tours of the Wadjemup lighthouse, the Oliver Hill WW2 guns and tunnels, Reefs and Wrecks, Vlamingh Lookout, Secrets of the Lakes walk, history of the settlement and the guides conduct a popular afternoon Quokka Walk that informs visitors about the biology and the behaviour of the island's quokka population. In addition to those tours the guides provide information to visitors arriving on the ferries, conduct school holiday programs and special request tours for schools and corporate groups. Visitor numbers to Rottnest have been increasing each year and the guided tours are steadily increasing in popularity.

A recent review of the guides has revealed that there is an increased interest in environment and sustainability topics and so new tours are being developed that will focus on these topics. A coastal walking tour and a cycling sustainability tour (wind power, solar power, desalination, waste management etc.) are being developed.

New guides undergo an extensive training program covering all aspects of the tours that they will conduct. Trainees spend one evening training each week for three months and two full weekends on the island. Once they graduate, the guides purchase their own uniform, but ferry transport to the island for rostered tours is generously provided by the ferry companies. Most guides are rostered for two or three days each month but additional duties are available for keen guides.

Contact: Alan Walker, RVGA, by [email](#).



RVGA guide Pam Ghirardi photographing brine shrimp. Photo – Brian Gunn

Resources

New publications

Faunal Species Conservation in the Melanesian Pacific Islands.

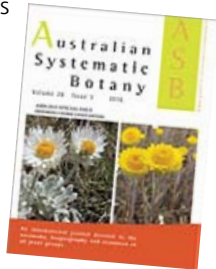
Pacific Conservation Biology Special Issue 22(3). Edited by Cara Miller, Gilianne Brodie & Helen Pippard. CSIRO Publishing 2016. \$75.

This special issue focuses on the species conservation and management of macrofauna in the developing Melanesian Pacific Islands. It includes new information related to known species as well as collations on species groups that are not well documented but are highly threatened. The publication arose from a species conservation symposium held during a Society for Conservation Biology (Oceania) conference hosted at the University of the South Pacific's Suva campus in July 2014.



Australian Systematic Botany Special Issue Volume 29, Number 3.

Edited by Endymion Cooper. CSIRO Publishing 2016. \$75.



This special edition provides a snapshot of the work of the Australasian systematic botany community which was presented at The Australasian Systematic Botany Society's 2015 annual conference in Canberra, Australia, entitled 'Building Our Botanical Capital.' Online issue now [available](#).

Noongar Bush Medicine: Medicinal Plants of the South-West of Western Australia.

By Vivienne Hansen & John Horsfall. UWA Publishing 2016. \$34.99. Noongar Bush Medicine provides for the first time comprehensive information on the medicine plants that were used by Aboriginal people of the south-west of Western Australia before European settlement. The book is a guide to how to use plants for alternative treatments and protection from common ailments. Written by Noongar elder Vivienne Hansen with retired nurse educator John Horsfall, Noongar Bush Medicine has been compiled from knowledge passed on by Noongar elders and covers over 90 different species and features images of each plant. There is currently no comparable book on plant medicines available.



Website Watch

Swarm Patrol

A new, Australian developed website allows the public to quickly contact local beekeeping swarm collectors to remove swarms. The website has been developed to help save as many bees as possible in the current times of diminishing bee populations. A flyer has also been produced to help spread the word. For more information, visit the [website](#) or contact Andrew Guzowski from Swarm Patrol on (02) 9906 3900.

Research

Brundrett M & Longman V (2016) Fire – Recovery of Banksia Woodland After Fire. Western Wildlife. May 2016. 20:1, 10-12.

Lookout for native bees

Hesperocolletes douglasi is listed as 'presumed extinct' under the Western Australian Wildlife Conservation Act. It was originally known only from a single male specimen collected in 1938 from Rottnest Island. In October 2015, 77 years since it was last seen, a female specimen was collected from the flowers of *Philothea spicata* in Gngangara State Forest. It is suspected that it may also be found in other bushland remnants on the mainland, having escaped identification as it looks superficially like a number of other native bees, with careful examination under a microscope required to distinguish a specimen. The bee is about the same size as a honeybee (body length about 12mm), generally black and brown and moderately hairy. For further identification notes, see the WA Museum [website](#).



Hesperocolletes douglasi female. Photos – Mark Murphy



Pepper and Salt (*Philothea spicata*). Photo – Kate Brown

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