

Where are they now?

Issue 79

Spring 2011

Time of Kambarang and Birak in the Nyoongar calendar.

Urban Nature update

Page 2

Bushland weedwatch: Senecio

Page 3

Econote: Black-striped minnow

Page 4

Turtle frogs

Page 5

What's on

Page 6

Funding opportunities

Page 7

Where are they now?

Page 7

Feature: Rodents

Page 10

Group profile:

Poison Creek Gully

Page 11

Resources

Page 12

The first issue of *Ecoplan News* (now *Bushland News*) was published in spring 1991. This issue celebrates 20 years of community involvement in bushland conservation.

Margo O'Byrne is credited with being the 'brainchild' behind *Ecoplan*. "I will always be proud of getting *Ecoplan* (and *Urban Nature*) off the ground and keeping it going for so long. I'm proud of recruiting good people who have contributed so much, but I'm most proud of 'pushing through' the handover of Brixton Street [Wetlands] from the housing department to conservation. Many people had tried to do this for years, so it was very satisfying. For such an important reserve to be 'in limbo' was not a good thing. Right now I'm enjoying my grandson (Kai, born in May) and my step-grand-daughter (Pippa born in August); volunteering with the Nyoongar community Cultural Corridors program; and working as a consultant with Curtin University/DAFWA on their Farm Business Resilience program. I continue to mentor young professionals and facilitators."



*Margo O'Byrne cuts the 'System 6' cake at the launch of *Ecoplan* on 12 April 1991. Photo – Urban Nature archive*



*Jeremy Dawkins, Keiran McNamara, Judy Edwards, Margo O'Byrne, Lisa Bland, Renee Evans (nee Miles) at the launch of *Urban Nature* (formerly *Ecoplan*) on 18 March 2004. Photo – Urban Nature archive*



Ecoplan Regional Coordinators meeting in 1994: Margo O'Byrne, Carina Calzon, Robert Watkinson-Slough, Brett Tizard, Jillian Harris and Linda Taman. Photo – Urban Nature archive

Cath Drake has lived in London for the past decade. "I was the *Ecoplan News* editor and writer for the lovely Margo [O'Byrne] for about five years," said Cath. "I loved the sense of community, catching up with everyone on their local news and finding [out] about new things [in the] bushland. I was inspired by the dedication of the *Ecoplan* community! It is great to hear the program and the bushland community is still going strong.

Margo was such an inspiration to me, a role model really – her dedication to the community, to the bushland and her incredible ability to know what was needed in each situation. [Margo] has been to visit [me] a couple of times in London and it is always such a joy to see her. I hope I will be writing about environmental issues again – I do miss it." Visit <http://cathdrake.wordpress.com/> to see what Cath is up to.

Continued pages 7–9.

www.dec.wa.gov.au

Urban Nature **UPDATE** *By Julia Cullity*

It's been 20 years since the first issue of *Ecoplan News* (now *Bushland News*) came out. We asked our readers for photos and to answer two questions:

1. Which achievement in bushland conservation are you most proud of?
2. What is the most interesting issue you're working on now?

It is important, every so often, to reflect on our achievements and gather strength and ideas on what to do next. I hope you enjoy this issue which celebrates some of the people and groups who have inspired us.

Have you seen a quenda? *By Dr Geoff Barrett*

Quenda or southern brown bandicoots (*Isodon obesulus fusciventer*) have all but disappeared from Australian cities yet they can still be seen throughout Perth, particularly where dense low vegetation persists. Conservation planning by the South West Australia Ecoregion Initiative has recognised the importance of protecting natural values across the Perth metropolitan area, and the bandicoot serves as a flagship species for protecting suburban biodiversity values.

The Department of Environment and Conservation (DEC) will survey for bandicoots throughout greater Perth in spring 2012 and results will be compared with an earlier 1984 survey to see how numbers have changed over the past 20 to 30 years. In preparation for a formal survey next year, DEC is interested in hearing from anyone who has seen bandicoots, anywhere



Quenda (*Isodon obesulus fusciventer*) in a Mundaring car park, July 2011. Photo – Mike Griffiths (WWF)

in the DEC Swan Region (from Lancelin south to Harvey – including the Perth hills). All sightings must have a clear location (GPS, Google map or street location) and the date on which the animals were seen. A photo to confirm the sighting would be ideal. Please email your sighting to DEC Regional Ecologist Geoff Barrett at geoff.barrett@dec.wa.gov.au or phone 9423 2907. Alternatively, you may wish to complete a fauna report form at www.dec.wa.gov.au/content/view/5388/2240/.

Weed mapping

The Urban Nature team has developed a standard operating procedure for weed mapping to be used across DEC. Although specifically written for use within the department, it may assist others who are working in weed management.

The document provides advice on techniques for detailed mapping of the distribution and cover of serious weeds in bushland and wetlands. Mapping

weed species is an important step in setting priorities for control work in reserves. If standard techniques are consistently applied, these records can provide a measure of the effectiveness of weed management activities over time. Techniques for mapping weed distribution and cover in bushland and wetlands are available at www.dec.wa.gov.au/content/view/5389/2363/#weeds.

We'll be in touch

Ellen O'Brien, an intern from the University of Notre Dame, has joined the Urban Nature team on a project to update our friends group database and link it to an interactive map of the Swan Region. We will provide links to your own websites to help people find and get in touch with their local friends groups. We hope to go live on the web by the end of the year. Ellen will be contacting everyone on our existing database over the next few months, so be prepared for a phone call or email.

We would love to hear from you at the Urban Nature office if you have changed your contact details in the past two to three years – it saves us having to track you down! Please phone 9423 2900 between 8.00am and 4.30pm, or email us at urban.nature@dec.wa.gov.au.

Public submissions on the Strategic Assessment of the Perth and Peel Regions – Draft Terms of Reference closes October 7 2011, visit www.dpc.wa.gov.au/Consultation/StrategicAssessment/Pages/Default.aspx

Contacts

Urban Nature office

Julia Cullity	9423 2925
Kate Brown	9423 2905
Karen Bettink	9423 2904
Grazyna Paczkowska	9423 2914

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

PO Box 1167, Bentley Delivery Centre
WA 6983

Fax 9423 2901

Email urban.nature@dec.wa.gov.au

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

Summer *Bushland News*

Summer *Bushland News* contributions should be sent to Urban Nature at urban.nature@dec.wa.gov.au by **Thursday 17 November 2011**. *Bushland News* seeks original contributions. If your submission has been or may be published elsewhere please let us know. Compiled and edited by Jo Tregonning.

Holly-leaved senecio

By John Moore

Holly-leaved senecio (*Senecio glastifolius*) is a serious environmental weed of New Zealand and was recorded as naturalised in Albany, Western Australia in 1986. In WA, it is showing the same weedy characteristics that have been experienced in New Zealand.

Holly-leaved senecio was introduced from the Cape region in South Africa to WA as a garden ornamental. It was planted in an Albany garden and soon showed its invasive potential by jumping the fence and quickly spreading up Mt Clarence and Mt Adelaide and then through neighbouring bushland and farms up to 20 km away. It is now on the *Alert List of Environmental Weeds*, which is a list of plants that have the potential to cause significant environmental damage.

Identification

Holly-leaved senecio is a multi-branched, stout, erect, perennial shrub approximately 1 m tall with toothed, oblong leaves. In spring it has clusters of purple to pink, daisy-like flowers with yellow centres at the ends of the branches. The leaves are coarsely serrated and prickly to touch. The lower leaves are much larger than those at the top of the plant. The name 'holly-leaved' refers to the distinctive shape and texture of the leaves.



Holly-leaved senecio (Senecio glastifolius) has clusters of purple to pink, daisy-like flowers (right) and white fluffy seed balls (left). Photos – John Moore

Life cycle

Senecio is a short-lived perennial but may act as an annual under drier conditions. The seeds germinate from late summer (February) through to late winter (August) with maximum seedling establishment occurring on bare areas. Early growth is rapid and stems form from mid-winter (July) and rapidly elongate. The first-year plants are usually single stemmed. Flowering occurs in spring and seeds ripen 2–3 weeks after flowering. A smaller flowering may also occur in autumn. White fluffy balls appear as the flower withers. These are comprised of many seeds with a pappus or hairy parachute to help them disperse in the wind.

Plants often die back over summer. New branches then arise from the axils of the flowers of the previous season. Thus the age of the plant can be estimated by counting the layers of flower stalks.

Few plants are more than 4 years old. They become top heavy with age and tend to break off at ground level. The plant may resprout where it has broken. Fallen stems may continue to grow and occasionally form roots where they contact the ground. Plants that appear to die after flowering usually re-shoot the following autumn.

Control

For the past decade, senecio has been the focus of control programs by DEC, Department of Agriculture and Food, City of Albany, South Coast NRM and Greenskills.

If you see this plant please pull it up, bag it, burn it and report the location to DEC in Albany. There is a good chance that we can control this weed with a dedicated effort. In WA there are a few hundred hectares infested with senecio compared to many thousands of hectares in similar environments in New Zealand.

In agricultural situations most of the herbicides that control capeweed will provide good control of senecio seedlings. For larger plants and in bushland areas, clopyralid herbicide (e.g. Lontrel®) is often used. Spot spraying with glyphosate (e.g. Roundup®) is also effective for plants that are too big to pull up. Plants that are pulled up can form roots and regrow if laid on the ground. Throw them on top of surrounding scrub so they dry out, or remove and burn them. The references below have specific details on control.

More information

www.herbiguide.com.au
www.weeds.gov.au/publications/guidelines/alert/pubs/s-glastifolius.pdf



Bushcare volunteers provide invaluable assistance in the holly-leaved senecio control program on Mt Clarence in Albany. Photo – John Moore 1999

A fish out of water

When winter rains begin many people, wildlife, plants and fungi 'breathe a sigh of relief'— including an unusual fish found only in the south-west of Western Australia.

There are only 10 species of native freshwater fish in South West WA, eight of which are endemic. The small size of our native fish species (<200 mm) and consequent lack of recreational value (except for cobbler which grow to about 400 mm) means they are often forgotten. Unfortunately there are now more species of introduced fish in our South West, which are generally better known than our native fish.

An unusual endemic freshwater fish is the black-stripe minnow (*Galaxiella nigrostriata*). These fish only grow to 48 mm and generally live in acidic black water (tannin stained) in seasonal wetlands between Muchoa and Albany, but mostly within the Scott Coastal Plain. These wetlands only hold water for about half of the year. This presents quite a challenge to a species that has fins and gills, and are normally known to prefer habitats that contain water!

Aestivation

Black-stripe minnow survive the dry times of the year (January–June) by entering the wetland sediments and following the groundwater down until it rises again the following winter. This method of survival is known as aestivation and is when animals hide away during the hot dry times of the year. While in aestivation it is thought that the black-stripe minnow's metabolism decreases to help them cope with a lack of food and poor water conditions. The commonly accepted theory is that they use crayfish (koonac or gilgie) burrows to follow the groundwater down, although my research seems to suggest that the fish may also be capable of burrowing.

Living in seasonal wetlands does have advantages for these fish. The wetlands where they are found are generally separated from permanent water bodies. That means they don't have to compete for food, shelter or territory with other native and introduced fish that are known to be aggressive towards them. However, as black-stripe minnow live for slightly more than one year, if another species (such as *Gambusia*) made its way into



Adult black-stripe minnow (*Galaxiella nigrostriata*), ~30 mm total length. Photo – Gerry Allen



Typical black-stripe minnow habitat (left) in March (dry) and (below) in November (>1 m deep). Kemerton Nature Reserve 2009. Photos – Dave Galeotti



a black-stripe minnow wetland, they could easily decimate the minnow population before the wetland dries.

The only other WA fish that aestivates is the endemic salamanderfish (*Lepidogalaxias salamandroides*). There are about five species in Australia and possibly two dozen in the world that also share this same life cycle.

Conservation issues

In addition to potential competition, there are other threats facing these unique fish. How long they can survive in aestivation has not been examined but groundwater is critical to black-stripe minnow aestivation. If climate change predictions are correct and declining rainfall trends continue in South West WA, then groundwater levels will fall and wetlands will stay drier longer.

Additionally, habitat removal or modification during the past 150 years has reduced the black-stripe minnow's distribution to three remnant populations on the Swan Coastal Plain. Luckily their more southern distribution, between Augusta and Albany, is mostly within national parks. However, these parks are not immune to introduced fish invasions, climate change and bushfire. A bushfire through a dry wetland can cause peat (common wetland sediments) to burn slowly for weeks or months, killing anything aestivating within.

Some of these threatening processes can be managed, but unfortunately others are beyond our control. Black-stripe minnow are listed locally as a Priority 3 species with DEC and internationally as 'Low Risk–Near Threatened' with the International Union for Conservation of Nature.

Black-stripe minnow are special and deserve to be looked after. We can all do our part by educating people about our unique native freshwater fish, reporting sightings of introduced species and by not dumping aquarium fish in our waterways. Conducting an inventory (with the appropriate permissions of course) in your own neighbourhood waterways will establish a baseline species list to monitor in future surveys.

More information

Dave Galeotti is a Master of Science (Environmental Management) student at Edith Cowan University. Phone 0424 602 617 or email d.galeotti@ecu.edu.au.

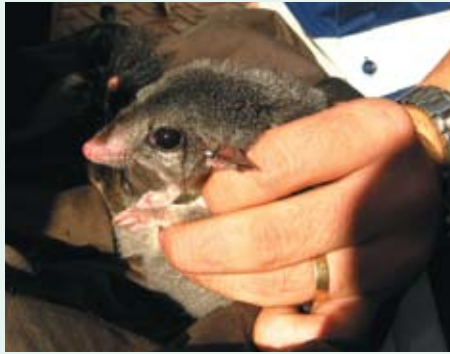
Galeotti D M, McCullough C D, Lund M A (2010) 'Black-stripe minnow *Galaxiella nigrostriata* (Shipway 1953) (Pisces: Galaxiidae), a review and discussion.' *Journal of the Royal Society of Western Australia* 93(1): 13–20.

New homes for Paganoni's phascogales

By Brian Chambers

A partnership between The University of Western Australia (UWA) and the Friends of Paganoni Swamp has seen the installation of nest boxes for brush-tailed phascogales (*Phascogale tapoatafa*) in Paganoni Swamp Reserve. The phascogale population in the reserve appeared to go through a dramatic decline last summer. Trapping in November 2010 resulted in the capture of seven phascogales from 57 traps set throughout the reserve, but in March 2011 only two individuals were captured despite using an additional 30 traps.

It is likely that a reduction in the amount of insect prey available due to last year's severe drought was responsible for the dramatic drop in the size of the phascogale population. As a result of the decline, the decision was made to install nest boxes to provide dens for the phascogales and to allow for monitoring of the population over the coming year and into the future. Brush-tailed phascogales readily use nest boxes and funding from an Environmental



Brush-tailed phascogale (Phascogale tapoatafa) captured at Paganoni Swamp Reserve. Photo – Linette Umbrello

Community Grant was used to install 31 throughout the reserve.

The nest boxes were installed in early June 2011 and a month later a female brush-tailed phascogale was found using one of the boxes. The boxes will continue to be monitored over the coming months when hopefully more females will use them as maternal dens to raise their young. Brush-tailed phascogales can breed very quickly and with good rains so far this winter the future is looking much brighter for this threatened species.

European wasp surveillance continues

By Jessica Sheppard

The Department of Agriculture and Food (DAFWA) will continue European wasp surveillance by responding to reports from the public and controlling the pest this financial year. Local governments responded in force when notified of the program's cessation and WALGA would like to thank all those who wrote to the Minister for Agriculture or DAFWA voicing their concerns.

DAFWA has commenced a review of the European wasp risk management program and will soon be consulting with key interest groups such as WALGA, pest controllers, DEC and the Health Department. WALGA will ensure local government is informed and consulted about DAFWA's plans. Any suspected presence of European wasp should be reported to DAFWA on 1800 084 881. For any local government biosecurity concerns please contact Jessica on 9213 2027 or jsheppard@walga.asn.au.

Now is the time to hear turtle frogs

By Ellen O'Brien

We're coming up to a very special time of the year. In late spring to early summer, the turtle frog (*Myobatrachus gouldii*), a unique WA burrowing frog, will come to the surface to call for a mate. It's a once-in-a-year opportunity for nature lovers to hear this reclusive amphibian.

Dr Nicola Mitchell, Assistant Professor of Animal Biology at UWA gave us some advice for hearing their distinctive 'ba-a-a-rk' mating call. "Listen for calls after dark and after any rainfall between October to December (even a rainfall of 0.5 mm is enough to get them going), but make sure to listen on the first night after rain. In my experience, if there is rain on consecutive days (or nights) then turtle frogs will only be heard on night one, and not on nights two or three. However, they should come up again after an intervening dry spell," she said.

In the Perth region turtle frogs are relatively common on the coastal plain, living 1–2 m underground in sandy burrows in *Banksia* woodlands. They feed on termites that colonise the roots of banksias.

Turtle frogs breed underground, mating in late summer to early autumn. They do not have a tadpole stage of development.

"Direct development is quite common in amphibians but uncommon in Australia," said Dr Mitchell. "Clutch sizes are small (approximately eight eggs) and egg sizes are large," she said. Development occurs within the egg capsule and young emerges two months later as small fully formed frogs.



The elusive turtle frog (Myobatrachus gouldii) may be heard following summer rains in October–December. Photo – B Maryan, ©2008 Western Australian Museum

To listen to their mating call visit <http://frogwatch.museum.wa.gov.au/Southwest/SwanCoastalPlain/435.aspx>. An interview with Dr Nicola Mitchell can be found at www.abc.net.au/local/audio/2011/03/15/3164337.htm.

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

Saturday, Thursday, Sunday 9am Guided walks with trained guides from the Friends of **Bold Park** Bushland, Floreat. First Saturday and second Thursday and third Sunday of each month. Call 9480 3996, or visit www.bgpa.wa.gov.au/bold-park/walks or friendsbp@bgpa.wa.gov.au.

Saturday 9am Bushcare activities with the Friends of **Brixton Street** Wetlands are on the third Saturday of each month. Call Regina 9459 2964.

Saturday Bushcare activities with the **Mt Henry** Conservation Group are on the fourth Saturday of each month. Email Jan.King@acquinias.wa.edu.au.

Sunday 9am–11am Bushcare activities with **Cottesloe** Coastcare are on the first Sunday of each month. Visit www.cottesloecoastcare.org for details or contact Robyn on 9384 7668 or info@cottesloecoastcare.org.

Sunday 9am–10.30am Bushcare activities at Throssell Reserve, **Eastern Hills** in the Jane Brook Catchment are on the second Sunday of each month. Phone Una Bell 9572 1447.

Sunday 9.45am–12 noon Bushcare activities with the Friends of **Piesse Brook** are on the third Sunday of each month. Contact Gerry Brown 9293 2517, Bridgett Hogarth bhogarth@ozemail.com.au, linda@johnstanley.cc or visit www.friendsofpiessebrook.org.au.

Sunday 8am–10am Bushcare activities every Sunday with the Friends of **Shenton Park** Bushland. Contact Dani 9381 3470 or bojel@it.net.au.

Sunday 9am–12 noon Bushcare activities with the Friends of the **Spectacles** (Kwinana) are on the third Sunday of each month. Contact Lynda Smith on 9439 1928 or outback3@iinet.net.au.

Registration/Contact details

BSH Bush Skills for the Hills
Free community workshops. Bookings 9424 2216 or envirotemp@emrc.org.au.

CLC Chittering Landcare
Bookings 9571 0400 or chitteringlandcare@iinet.net.au.

FWB Friends of Warwick Bushland
Meet at the bowling and tennis club car park, Lloyd Dr, Warwick. Contact Contact on Janina Pezzarini 9404 8756 or friendsofwarwick@gmail.com.

Sunday 8.30am Bushcare activities with the Friends of **Wireless Hill** are on the second and fourth Sunday of each month. Meet at main car park. Contact Margaret 0402 105 649 or s3mmatthews@hotmail.com.

Monday, Wednesday, Friday 9am–12 noon Bushcare activities and wetlands walk trail maintenance with **Yanchep** National Park Volunteers. Call Julia 9405 0771.

Tuesday, Thursday 8am–11am Koala maintenance at Yanchep National Park. Call Julia 9405 0771.

Thursday 8am–9am Bushcare activities every Thursday with **Byford** Enviro-Link. Call Johanne Garvey or Kristy Gregory 9526 0199.

Thursday 9am–2pm Bushcare activities every Thursday in **Margaret River** with the Capes Volunteer Team. Phone 9757 2202.

Conservation Volunteers Australia activity schedule. Overnight country trips or one-day activities. Contact Aaron Jaggar 9335 2777 or ajaggar@conservationvolunteers.com.au. Visit www.conservationvolunteers.com.au.

Research into bird populations with the **Herdsmen Lake** Bird Banding Group. Please call Bill Rutherford (ABBBS Coordinator) 0438 910 252 to organise a visit.

October

9 Sunday 7am Birdwalk at Lake Needonga, Clune Park. Contact **CLC**.

11 Tuesday 7.30pm Kangaroo paws with guest speaker Katherine Downes. \$2 door entry. Perth Branch of the Wildflower Society. Email Nina.wildflowers.perth@ozemail.com.au.

15 Saturday 9am–12 noon Rapid habitat assessment for healthy bushland with DEC Regional Ecologist Geoff Barrett. Parkerville Hall, Cnr Seaborne St and Riley Road. Contact **BSH**.

16 Sunday 9am Bushcare with the Friends of Warwick Bushland. Contact **FWB**.

18 Tuesday 6.30pm–8.30pm Native grasses with guest speakers Una Bell and Kate Brown. 'Mud Hut' Community Hall, corner Brixton St and Kenwick Rd. Gold coin donation. Call Regina 0407 544 679.

21 Friday 12–1pm Future of plant diversity with guest speaker David Coates. CIBC Seminar Series, Curtin University. Room 220, Building 300.

21 Friday 7pm Kanyana wildlife quiz night. Lesmurdie Club, Boronia Road. \$20 per ticket, tables of 8. Email Dusty.dustyp@kanyanawildlife.org.au.

21 Friday 7.30pm Guided nocturnal walk in Lake Gwelup Reserve. Bring a torch. Meet at scout hall, Huntriss Rd Gwelup. Email starswamp@hotmail.com.

22 Saturday 10am–12 noon Native freshwater fish conservation workshop presents results of the Helena River survey (EMRC), ecosystem and water quality impacts of Perth's water demand (SRT). Mahogany Creek. Contact **BSH**.

26 Wednesday 7–9pm Climate change community meeting with a presenter from Al Gore's Climate Project. Gumblossom Community Centre, Tapping Way, Quinns Rocks. Call David 9305 9575.

29 Saturday–30 Sunday 8.30am–1pm Garage sale for cockies with the Friends of Brixton Street Wetlands. Donations by Thursday prior. 87 Kenwick Road. Sausage sizzle, honey, plants. Proceeds Black Cockatoo Preservation Society. Call Regina 0407 544 679.

November

4 Friday 8am–3.45pm Canoeing on the Canning from Riverton Bridge to Kent Street Weir (return). Cost \$33. Call SERCUL 9458 5664.

4 Friday 12–1pm Modelling mine-site rehabilitation with guest speaker Jonathan Majer. CIBC Seminar Series, Curtin University. Room 220, Building 300.

5 Saturday 9am–12 noon Biological bulldozer workshop. Burley Park, Bullsbrook. Contact **CLC**.

13 Sunday 9am–12 noon Bushwalk and picnic at Lake Nowergup, Mindarie. Bring hat, water, food. Call Chris Plain 9562 4673.

16 Wednesday Phytophthora dieback management and planning workshop and 10-hour assignment. \$450 per person. Email Nari.n.williams@murdoch.edu.au.

18 Friday 12–1pm Working with nature: bushfire thresholds to protect communities and conservation values with guest speaker Neil Burrows. CIBC Seminar Series, Curtin University. Room 220, Building 300.

20 Sunday 7am Birdwalk at Lake Wannamal. Contact **CLC**.

20 Sunday 9am–10am North Mindarie coastal walk. Meet at Mindarie Marina northern car park, off Rosslare Prom, Mindarie. Call Kate Sputore 9285 5099.

20 Sunday 10.30am Nature walk and picnic with the Friends of Warwick Bushland. Contact **FWB**.

23 Wednesday 6pm–9pm 26 Saturday 9am–12.30pm 7 Wednesday December 6pm–9pm Be smart with seed—native seed collection short course over 3 days. Contact **BSH**.

26 Saturday 7pm–9.30pm Astronomy night at Baldwin's Children's Forest. Contact Mary 9524 1150 or mary.rayner@det.wa.edu.au.



December

2 Friday 12–1pm Climate change – learning to care with guest speaker Eric Leipoldt. CIBC Seminar Series, Curtin University. Room 220, Building 300.

4 Sunday 9am–11am Bushcare at Long Beach Prom, South Mindarie with **Quinns Rocks** Environmental Group. Bring hat, gloves and water. Call Karyn Shaw 9305 1405 or Renata.Zelinova.0305.9382.

13 Tuesday Dieback basic training workshop and a 1-hour online assessment. Murdoch University. \$220 per person. Email Nari.n.williams@murdoch.edu.au.

Please send us your January, February and March 2012 events by Thursday 17 November 2011.

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.



Highlights

2011 International

Year of Forests

celebrating forests for people. Visit www.un.org/en/events/iyof2011/index.shtml.



INTERNATIONAL YEAR
OF FORESTS · 2011

1 Thursday September–16 Sunday October

Tiwest night stalk Join this community conservation program by doing a nocturnal wildlife survey in your local area. Visit www.perthzoo.com.au/nightstalk.

2 Sunday–7 Friday October Australian Native Plants Society (Australia) National Biennial

Conference, Adelaide. 'Australian Plants in a Wondrous Web'. Visit www.australianplantsociety.com.au/the-society/anpsa-conference.html.

3 Monday–15 Saturday October

Nearer to Nature activities by DEC will be held daily during the spring school holidays for children 4+ years at numerous locations around Perth. Visit www.dec.wa.gov.au/n2n or contact 9295 2244 or n2n@dec.wa.gov.au.

7 Friday October 8.15am

Biodiversity and Forests Symposium, Curtin University Campus, Bussell Hwy, Margaret River. Cost \$90 (concessions available). Contact 08 9266 9825 or cibc@curtin.edu.au. Visit www.flourishmargaretriver.com.

12 Wednesday–13 Thursday October

Bushfire Research Forum. University Club Auditorium, UWA. Contact 9386 6399 or visit www.dec.gov.au/content/view/full/6562/1916/.

15 Saturday–22 Saturday October

Conservation Week: you in the environment, WA. Visit www.ccwa.org.au/conservation-week.

16 Sunday–22 Saturday October

National Water Week 'Healthy Catchments, Healthy Communities'. Visit www.nationalwaterweek.org.au/.

21 Friday October

Managing for healthy forests symposium, Henley Brook, WA. Visit www.foresthealth.com.au.

2 Wednesday–6 Sunday November

Australasian Facilitators Network Conference, Notre Dame University, Fremantle, WA. Learn to assist group planning, improve team function, facilitate youth and cross cultural groups. Visit <http://www.australianfacilitationconference.com/index.html>.

7 Monday–11 Friday November

WA State Coastal Conference, Exmouth, WA. 'Calling Currents to the Dreaming'. Visit www.2011wacoastalconference.com.au/.

21 Monday–25 Friday November

Ecological Society of Australia Annual Conference, Hobart. 'Ecology in Changing Landscapes'. Visit www.esa2011.org.au.

2011–2012 International Year of the Bat

Visit www.yearofthebat.org/.

Funding opportunities

Be Natural Landcare grants is a \$125,000 program to provide funding to voluntary environmental groups that have not received funding in the past 12 months. Groups are encouraged to tackle weed management, fauna surveys, management plans, provide formal access tracks and innovate ways to attract volunteers. **Closes 10 October 2011**. Visit www.landcareonline.com.au/news/archive/be-natural-landcare-grants-now-open/.

City of Cockburn Landowner Biodiversity Conservation grants give financial support and natural resource management training to Cockburn landowners who wish to conserve and enhance the natural bushland and wetland areas on their property. **Closes 31 October 2011**. Visit www.cockburn.wa.gov.au/Council_Services/Environment/Landowner_Biodiversity_Conservation_Grant/.

Invasive Animals CRC Photography Competition 2011

Do you have a great original photo of one of Australia's pest animals or the damage they cause? Major prizes. Finalists will feature in a competition calendar. Entries **close 31 October**. Contact Jessica Marsh at jessica.marsh@industry.nsw.gov.au.

where are they now?

Pam Agar from **Canning River Regional Park Volunteers** suggests they are most proud of their Urban Forest project. "[The project] has spanned more than 13 years and transformed a large area of wasteland into thriving plant communities, including wetland and dry upland areas. The removal of weed infestations, including blackberry, was followed by replanting, sometimes with plants grown from seed rescued from the Roe Highway development. Seed from these plants was [subsequently] used, together with other plants, to fill an extension of the site in 2009."

"We are also proud to have won the 2010 WA Environment Award for Community Involvement – Metropolitan, which recognised 20 years of work by the group over eight project sites," said Pam.

"One of our most interesting current issues is the *Litoria* sedge site. It initially involved transplanting mature sedges from a development site, followed by planting of

native species into this seasonally flooded area. A severe fire and several extremely dry years were major setbacks. In more recent years the focus has been on natural restoration rather than replanting as a variety of different plant species appeared. Following a second severe fire early this year, the group faces yet another challenge. The site is currently being monitored and we are looking forward to seeing how the area recovers in the following months."



Canning River Regional Park volunteers at Wilson Wetlands bushland care day, August 2000. Photo – Urban Nature archive



Phylis Robertson is a dedicated volunteer working mainly in Perth's northern suburbs. "I'm very proud of the good working relationship we've developed with officers of the City of Wanneroo [during many years of working in local bushland areas]," she said. "We respect them and they respect us. [Current work] managing weeds at **Koondoola Regional Bushland**, particularly in regard to Geraldton carnation weed is very interesting, as I'm seeing results from 10 years of ongoing works." Photo – Urban Nature archive

where are they now?

continued from page 1 ...

Vale **Andrew Thompson**

(March 1930–August 2004)

Caring for our precious bushland was one of the great loves of Andrew's life. Weeds were Andrew's passion and in the year 2002 he set himself the target of 1,000 hours of voluntary weeding for that year. That is nearly three hours a day for each and every day of the year! He was well into the 900s when his health failed and he was hopping mad that he fell just short of his target. Andrew attended a large number of community events representing one of the 35 environmental, social issue or teaching groups he belonged to. His environmental knowledge, understanding of political processes and capacity to get people working together, helped to inspire us all and convince us of the value of working for what we believed in. When Andrew was asked recently which was his favourite bushland he told Mary Gray that he thought it was the Waterford damplands. He was proud of the fact that he had removed the pampas grass and helped to save the many floristic communities there. (Excerpt from eulogy delivered by Margo O'Byrne at Andrew's funeral, 2004)

"The Friends of Star Swamp Bushland

is very proud of our campaign, during more than 25 years, to rid our reserve of lupins," said Friends group secretary Christine Curry. "Every year volunteers come to pull lupins and this has become the group's signature event. Over the years, lupin numbers have reduced by around 90 per cent, with small pockets now targeted rather than the sea of plants found in previous years. This has enabled the native vegetation to regenerate naturally, which is much better for the bush than planting by hand."

"The group has just received a grant to establish piezometer trials in three bushlands to monitor ground water levels. Bushlands chosen for the project are Star Swamp, Trigg Bushland and Cottonwood Crescent (Dianella). The trial will lead to improved knowledge

Please send us your regional report (150–200 words) and a photo by **Thursday 17 November 2011**. Text may be edited in response to volume of submitted reports.

Kate Brown works as an ecologist

for the Urban Nature program at DEC. "I have worked for a large number of years with colleagues and community volunteers to protect and restore significant bushlands in the Perth region," Kate said. "My favourite projects include restoration of the fringing vegetation along Gingin Brook; managing arum lily invasion and restoration of the flooded gum woodlands along Serpentine River at 'Lowlands'; protection of *Tuart/Banksia* woodlands at Paganoni Swamp from invasion of Geraldton carnation weed; and protection and restoration of clay-based wetlands including the Brixton Street Wetlands and Meelon Nature Reserve."

"There is increasing pressure to carry out prescribed burns in bushlands on the coastal plain at the moment. So probably the most interesting issue we are working on is how we can use fire as a restoration tool. The most enjoyable project I am working on is with Grazyna Paczkowska, to develop flora identification material for managers of clay-based wetlands."



*Kate Brown at Riverlands, a seasonal wetland near Cape Town, South Africa, which is home to many of our invasive bulbs including *Hesperantha falcata*. Photo – Rupert Koopman, Cape Nature, September 2009*

Mt Henry Peninsula Conservation Group

has been active since 1992. Although weed control is one of the group's many achievements, Jan King [coordinator] explains that the integrated approach to the conservation of Mt Henry Peninsula is probably their greatest achievement. "Of the many projects undertaken, I am grateful for the amount of support that has been received from government and non-government agencies and Aquinas College," Jan said. The contribution by so many has helped to achieve foreshore restoration, installation of an osprey nesting platform, veldtgrass and yellow soldier control, walk trail mulching, restoration of eroded escarpments, rabbit control leading to quenda habitat, installation of microbat roosting boxes, dieback disease control and weed mapping.

"[The most interesting project we are working on now] is our ongoing battle with 'invaders' – weeds, feral animals and human impacts. The current challenge is to involve Conservation Volunteers Australia, funded by City of South Perth, in control of pink gladioli (*Gladiolus caryophyllaceus*) during the second week of the October school holidays."

of ground water movement and condition in the bush and adjacent built areas and will run over several years," said Christine.



David Mathias with a group of school children [circa 1980] at one of the community planting events organised to raise awareness about the campaign to save the Star Swamp area from developers. David was one of the key people in the fight to have the bush around Star Swamp declared an A-Class Reserve. This was not achieved until 1985 when the 96 ha was gazetted. David has been on the Friends of Star Swamp Bushland committee since it was established in 1985 and is currently the vice-president. Photo – Friends of Star Swamp

David Wake is most proud of the long campaign to protect Quinns Rocks coastal bushland from urban development. "Part of the land proposed for urban development north of Burns Beach Road was reserved as parks and recreation (under the Metropolitan Regional Scheme) and is now proposed as a conservation park of 380 ha – a significant outcome," he said.

"My most interesting current issue is working towards a monitoring framework for local bushland. [The framework will] check bushland condition and biodiversity and [assess the efficacy] of management efforts by the City of Wanneroo and local volunteers. This will help give direction to local bushcare efforts and help build our partnership with the council."

"We [**Quinns Rocks Environmental Group**] have established a Climate Watch Trail in Gumblossom Reserve – providing a way to involve people in monitoring changes in timing of flowering and animal behaviour that may relate to climate change. This connects our long-standing bushcare activities with our work to promote community awareness of climate change."



John Hollywood (from left) and David Wake weeding in Mindarie Park bushland, Quinns Rocks in early 2000. Photo – Quinns Rock Environmental Group

Norma Calcutt was an active member and then chairperson of the **Friends of Bold Park Bushland**. The campaign for Bold Park achieved its main goal in 1998 when the 437 ha park achieved A-class status. "Securing the bushland of Bold Park is the most important and rewarding conservation issue I have been involved with," said Norma. "Back in 1987 when the Friends of Bold Park came together to protect the bushland, half of it was unprotected and much of it zoned for development."

"It was our well-publicised battle with the Bond Corporation to defeat its proposed 19 ha housing estate that really galvanised public support. Going in to battle with what was then WA's biggest corporate giant inspired hundreds to join the Friends to help win this 'David and Goliath' contest. Two Public Environmental Reviews (PER) were rejected by the EPA before the economic avalanche of the late 1980s finally saw the demise of the once-mighty Bond

Corporation. Road issues required more PERs and we engaged engineers and harnessed public support to win these battles too."

"With a petition of 10,000 signatures we called on the government to implement the 1983 System 6 Report recommendations and also lobbied for a Bold Park Regional Park. The state government, in response to community pressure, acquired the Bond land in 1993. In its 1994 PER, the City of Perth recommended all but 13.4 ha of its bushland be preserved. The critical point came in 1995 when Premier Richard Court announced that Bold Park and its adjacent bushland be set aside as a regional park."

"I am still a member of the Friends committee and continue to work for the conservation and promotion of Bold Park. The Friends are still working to remove the Stephenson Highway road reserve from the northern part of Bold Park," said Norma.



You couldn't miss the Friends of Bold Park Bushland campaign message at Parliament. Photo – Post Newspaper, 22 December 1987

"The Friends of Hepburn and Pinnaroo Bushland"

are most proud of the campaign to preserve Hepburn Heights Bushland," says Ralph Henderson. "The campaign was waged, with public support, for many years from the early 1990s. We only saved about 40 per cent, but it was still a considerable achievement. The campaign generated a lot of publicity in both the print and electronic media. This made people aware of the environment and the need to preserve urban bushland. It led to the establishment of the Urban Bushland Council and the formation of

many friends groups who now protect their own local piece of bushland. [The campaign also saw] a change in attitude of state and local governments leading to very active programs to save and protect urban bushland. Joondalup City Council is one of the leaders in this field. The publication of the book *Saving Hepburn Heights Bushland* (2009), which sets out a comprehensive account of the history of the campaign and other aspects of the area, was the final chapter of a long and drawn-out battle."



Protest rally in 1991 to save Hepburn Heights Bushland from development. Photo – Friends of Hepburn and Pinnaroo Bushland archive

Rodents – the good and the bad

By Karen Bettink

Rodents typically get bad press due to the notorious introduced invasive species; however Australia has a diverse and ecologically important group of native rodents. The native water rat and bush rat are important components of our local ecosystems, but are under threat from habitat loss and fragmentation, changes in hydrology, fire and introduced species.

Rodents are mammals in the order Rodentia. All have a single pair of incisor teeth in the upper and lower jaws, with a long gap separating the incisor and molar teeth. Australian rodents are very different to small marsupial insectivorous mice which are generally from the genus *Antechinus*.

Field identification can often be difficult, but the collection of reliable information is important to understanding native species and potential impacts of introduced rodents. There are two native and three introduced rodent species in the greater Perth metropolitan area.

The first and largest of these is rakali or native water rat (*Hydromys chrysogaster*). Arriving in Australia at least 2.5 million years ago, it is thought to be in low abundance in WA, where it is a Priority 4 species. Rakali is a large semi-aquatic species with partially webbed hind feet that spends much of its time in or close to permanent water. It is distinguishable by its large thick white-tipped tail. It is mostly nocturnal and shy, so seldom seen. It has been declining in the metropolitan area and beyond and is at risk from loss and degradation of wetlands.

The bush rat (*Rattus fuscipes*) has been present in Australia for less than 2 million years but has declined locally, now only occurring in restricted or isolated populations on the Swan Coastal Plain. The bush rat is small light-brown to grey coloured with a compact body and short thin tail. It is seldom seen outside of good condition bushland. Bush rats are truly nocturnal and prefer riparian areas and thick vegetation.

The Norway or brown rat (*Rattus norvegicus*) is a large introduced species with a broad blunt-shaped head, short thick tail, small eyes and ears. It is common along the edges of the Swan River. They scavenge and will consume almost anything,



Rodents found in the Greater Perth region are (clockwise from top) black rat (*Rattus rattus*), common mouse (*Mus musculus*), brown rat (*Rattus norvegicus*), water rat (*Hydromys chrysogaster*) and bush rat (*Rattus fuscipes*). Illustration – Karen Bettink

including rubbish and sewage. They are prolific breeders, burrow extensively, will readily swim and can be aggressive.

Black or ship rats (*Rattus rattus*) may range in colour from grey, brown to black. They have a long prehensile tail, large ears and eyes. Black rats are omnivorous and capable of prolific breeding. They have spread rapidly into urban and natural environments and are now abundant in Perth and beyond. Black rats tend to invade fragmented bushland near agricultural and urban areas and increase with the level of habitat disturbance; however they can also occur in pristine areas.

The smallest and perhaps most common of the rodent group is the house mouse (*Mus musculus*). They are largely ground dwellers and nesters and are associated with disturbed sites and may be the most frequently captured species in local fauna surveys.

Impacts of introduced rodents

Exotic rodents have followed human dispersal throughout the world. Their impacts on Australian ecosystem biodiversity have not been well studied, but they are known to have major impacts on native flora and fauna, particularly on island environments. They prey on native invertebrates, reptiles, birds and mammals often causing population decline or

extinction. In mainland areas they have been implicated in extinctions of native *Rattus* species and interact negatively with native rodents as well as other small mammals such as bandicoots. They are capable of much broader ecosystem level effects through grazing, changing pollination and seed dispersal, and eliminating sea birds. They can also introduce disease, parasites and attract predators.

Trials undertaken in Sydney have shown reintroduced native bush rats successfully out-compete black rats in nature reserves, and help prevent black rat reinvasion. In WA, programs to control and eradicate invasive black rats on offshore islands have been undertaken, with quarantine measures to prevent their spread to other islands.

More information

Identification guide to the native versus introduced rodents of Perth and surrounds. Email urban.nature@dec.wa.gov.au. Breed B and Ford F (2007) *Native mice and rats*, CSIRO Publishing, Canberra.

Cunningham DM and Moors PJ (1996) *Guide to the identification and collection of New Zealand rodents* 3rd edition. Department of Environment and Conservation, Wellington.

Poison Gully Creek restoration project

Poison Gully Creek is an important wildlife corridor, Bush Forever site 45 and a major drainage line allocated as public open space. Twelve years ago, Sylvia Netherway and Elaine Sargent formed a friends group of two to tackle weeds, rubbish and vandalism and to improve biodiversity.

The creek begins at Stirk Park in Kalamunda, meandering above ground and finally dispersing into Munday Swamp on airport land. The name Poison Gully is derived from the plant *Gastrolobium oxylobioides* that poisoned stock belonging to local settlers. This was thought to have been eradicated, but a few plants have re-appeared. The poison 1080 is derived from *Gastrolobium* for the control of foxes and feral cats.

Twelve years ago, Sylvia and Elaine decided 'something needed to be done' with the section of Poison Gully Creek between Roe Highway and Littlefield Road in High Wycombe. With permission from the Shire of Kalamunda they began work on the creek. Elaine also became a member of the Nature Reserves Preservation Group of which she is a committee member.

Back then, Poison Gully was a secluded creek-line bordered on either side by bushland and paddocks. It was choked with introduced plant species and rubbish. Initially, large quantities of rubbish were removed including car parts, industrial rubber, pipe, roofing iron, an office chair, car seat, bicycles, wire, timber, a water tank, a cast iron bath and parking meter.

Sylvia and Elaine hand-sawed about 100 introduced wattle saplings until a Lotterywest Gordon Reid grant paid for contractors to spray the most invasive introduced species. They planted 300 sedges in the first year, attended courses on creek-line and bushland restoration provided by the shire, and obtained their seed collectors' licenses. Armed with newly acquired knowledge, they envisaged that within 10 years they would have created utopia – but that hasn't eventuated. Part of the reason is constant vandalism, the impact of trail and quad bikes and the construction of 1,000 new homes close to the creek-line introducing the impact of children, cats and dogs.



Pond along Poison Gully Creek (top) inundated during winter rains causes bank erosion. The establishment of sedges and shrubs (above) at the pond stabilises the creek banks and provides fauna habitat. Photos – Elaine Sargent

Drought has also had a disastrous effect on many of the large established trees, the loss of which has changed the structure and ambience of the reserve. In spite of this, both women have spent thousands of hours planting, hand-weeding, spraying, direct-seeding local provenance seed, maintaining paths and collecting rubbish each week.

Ten years ago, the women extended their work up the creek-line to Dundas Road, Poison Gully West. About six years ago, they were fortunate to meet two very environmentally aware teachers from the local Edney Primary School. June Winter and Jenny Bannani became involved in the planting and care of Poison Gully West with their classes. It is hoped these children will instil the values they have learned regarding the preservation of flora and fauna to their peers. Elaine hopes to return to the school later this year to conduct educational bushwalks at school.

A few years ago, Poison Gully Creek Reserve was accepted as a Land for Wildlife site. Some small grants have enabled the Friends group to install nesting boxes, cyclone fence a potentially dangerous section of

the creek and install bollards along some of the pathways. The original goals of regenerating the creek-line and surrounds, creating habitat for local fauna, re-introducing local endemic plants and improving community awareness have been attained and are ongoing. The majority of weeds have been eradicated, giving the native seed bank a chance to regenerate. The fauna has returned to the creek. Visitors to the reserve can now hear birds singing, frogs croaking and the rustle of skinks and snakes through the undergrowth.

In 2010, the Friends of Poison Gully Creek were nominated for the WA Environment Awards and were highly commended finalists in the Bush, Land and Waterways section. In spite of numerous setbacks, they are proof that although one can't change the world, everyone can do their bit to make a difference in their own backyard. 'If everyone does what they can, it isn't too late to 'bring back the bush!'

For more information contact Elaine Sargent on sargente@tpg.com.au or Sylvia Netherway on 9454 5634.

Resources

New publications

A botanical journey: The story of the Western Australian Herbarium (2011)

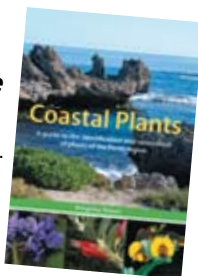
Underwood, R.
Department of Environment and Conservation,
Perth. RRP \$49.95 (soft cover)/\$64.95 (casebound). This

book tells the story of the WA Herbarium— its small beginnings in disparate Colonial government institutions, the contentious period of amalgamation during the 1920s, and its expansion over subsequent years to become one of WA's most important scientific institutions.



Coastal Plants: a guide to the identification and restoration of plants of the Perth region (2011) Dixon, K. CSIRO Publishing. RRP \$40.

This 277-page paperback edition provides a guide to the 100 most common plants of the Perth coastal region and includes the key species used in coastal restoration. Each species description includes diagnostic features and photographs, distribution map, natural history, pollination and uses in restoration and propagation.



Freshwater fish of the Ellen Brook and Brockman Catchments (2011)

Download at www.chitteringlandcare.org.au/.

Website watch

DEC's EcoEducation website now lists all programs by venue and subject. Resources, useful links, events, special offers and booking details are now online. Visit www.dec.wa.gov.au/eoeducation.

Our Page in History website is a community-based initiative launched by the State Library of Western Australia Foundation to encourage the digitisation of community, family and group histories. Visit www.ourpageinhistory.org/.

Terrestrial Ecosystem Research Network (TERN) is a national collaboration of researchers and infrastructure supporting the collection, storage, management and sharing of scientific data and knowledge on ecosystem science and management through the Australian Centre for Ecological Analysis and Synthesis. Visit www.tern.org.au/.

Urban Bushland Council re-launched their website on 3 August. The site features member groups, events, bushcare activities and photos. Visit www.bushlandperth.org.au/.

Recent research

Archibald RD, Bradshaw J, Bowen BJ, Close DC, McCaw L, Drake PL, Hardy GESTJ (2010) 'Understorey thinning and burning trials are needed in conservation reserves: the case of Tuart (*Eucalyptus gomphocephala* DC)'. *Ecological Management and Restoration* 11(2): 108–12.

Bradshaw S, Dixon K, Hopper S, Lambers H, Turner S (2011) 'Little evidence for fire-adapted plant traits in Mediterranean climate regions'. *Trends in Plant Science* 16(2): 69–76.

Gibson-Roy P, Moore G, Delpratt J (2010) 'Testing methods for reducing weed loads in preparation for reconstructing species-rich native grassland by direct seeding.' *Ecological Management and Restoration* 11(2): 135–9.

Krauss S, Sinclair L, Stingemore J, Hufford K (2010) 'A practical genetic contribution towards best-practice seed-sourcing guidelines for ecological restoration.' *Australasian Plant Conservation* 19(3): 23–4.

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