

Issue 61

Autumn 2007

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Community radio speaking for the environment

By Daniella Hanf

'UNDERSTOREY', Perth's only local community-based radio program dedicated solely to discussing local environmental issues, is giving a voice to community groups and effecting social change. Listeners tune in to RTRFM 92.1 each Tuesday from 7–8pm for subjects ranging from tips on sustainable living to feral bee control and 'debunking' myths behind global warming.

Each program explores contentious issues such as the nuclear power debate and discusses current issues and developments in 'green technology' with a relevant specialist. *Understorey* assists conservationists at a grass roots level by providing a voice for community groups to promote their environmental work and encouraging listeners to get involved in the variety of 'Walks and Talks' on offer.

Cultivators of 'cross-pollination'

The *Understorey* volunteer team possesses skills in biodiversity conservation, education, law, art and research. Its members have interests and knowledge in ecosystem management, Aboriginal culture, conservation policy and heritage. They work in private enterprise, non-government organisations and government departments and all share a passion for the principle 'think globally – act locally'.

The show blossoms – big name interviews and support

More than 400 community groups are registered with *Understorey* to advertise their activities in the 'Walks and Talks' session or engage in live interviews to promote their group's activities.

To date, it has attracted interviews with Sian Churcher (Greenpeace) promoting 'Kites for Kyoto', Nicole Hodgson (WA Collaboration) helping listeners create a sustainable Christmas, Cameron Crowe (Leave No Trace) encouraging low-impact tourism, Katrina Bercov (Cooks with a Conscience) offering catering alternatives and Michael Brisley



Michael Coote and Lisa Litijens, two of the nine members of the *Understorey* team, in the studio at RTRFM. Photo – Dave Houchin

informing us how to save money, recycle printer cartridges and minimise waste.

Understorey is strongly supported by high-profile environmentalists. Tim Flannery (2007 Australian of the Year) spoke about his book *The Weather Makers*. Chris Tallentire (Director, Conservation Council of WA) is a frequent guest on the program to discuss proposals such as the Gorgon Gas project. Jo Vallentine (community activist) has also been interviewed a number of times on issues such as the uranium debate, Moore River and sustainable activism. Tim Winton (WA author and environmental advocate) represented the Stop the Toad Foundation, Robyn Williams (ABC Science Show) spoke about his books, David Bellamy (British scientist) spoke about salinity and David Suzuki (environmentalist) spoke about sustainability.

The team regularly interviews politicians from all parties. Topics have included planning and infrastructure, a review of federal environmental issues, renewable

energy and the Denmark wind farm. *Understorey* has also recently presented live music from a number of local musicians.

Let it grow – subscribe!

Listener subscriptions to RTRFM are vital to *Understorey's* survival, as the station does not receive government funding. Generous support has come from individuals, businesses, non-government organisations and government agencies including the Conservation Council of WA and the Department of Environment and Conservation (DEC). Successful local musician John Butler also performed live during 'Radiothon' which is held once a year to attract subscribers.

A webpage is being developed to enable listeners to keep up-to-date with events and activities when the program is off air. It will include links to community groups.

To subscribe visit www.rtrfm.com.au/subscribe/. Feedback and suggestions for the show can be emailed to understorey.rtrfm@gmail.com or call 9260 9200.

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

The Department of Conservation and Land Management merged with the Department of Environment, forming the new Department of Environment and Conservation (DEC) on 1 July 2006.

Urban Nature UPDATE

After more than a decade of *Ecoplan News*, the time has come to change the newsletter's name to reflect the changes that the program itself has undergone over the years.

In 2004, the Urban Nature program was developed, based partly on principles from the former 'Ecoplan'. The focus has now

significantly broadened to include the science of bushland management, promoting best-practice weed management, rehabilitation and fire management. The name change to *Bushland News* will provide a clearer picture of our focus in the urban bushland environment, and the work of the Urban Nature program as a whole.

Learning opportunities

The invasive South African grass *Tribolium uniolae* (pictured) will be the focus of a half-day workshop by Urban Nature in the Perth Hills on Saturday 21 April. The workshop will help those wanting to understand more about this widespread weed in the Darling Scarp and eastern sections of the Swan Coastal Plain and ways to manage its spread. Contact Karen Bettink on 9423 2904 or email karen.bettink@dec.wa.gov.au.

This year the 'Managing Weeds in Bushland' course will be held in Busselton to provide an opportunity for regional land



The invasive South African grass *Tribolium uniolae* is the topic of an Urban Nature workshop in April. Photo – Karen Bettink

managers to take part. The DEC course has national accreditation and is open to both DEC staff and local government officers. The field component of the course will focus on weed management in bushland around Busselton, Augusta and Margaret River.

The phones ran hot with the February release of the 2007 'Skills for Nature Conservation' (SFNC) calendar for March–June. 'Propagation for Beginners' filled within the first two days so will be re-run in the second half of 2007.

A SFNC workshop on Geraldton carnation weed that was to be held on Friday 11 May has been rescheduled to Thursday 21 June at the Naragebup Rockingham Environment Centre. It will include topics such as distribution, other weedy *Euphorbia*, current research, biology and best-practice management. A field visit to a range of sites is included. (See this issue's 'Bushland weedwatch' on page 3 for more information.)

SFNC workshop themes include first aid, land management, biological threats, geomorphology, easy steps to obtain funding and techniques to measure your project's success. The SFNC calendar is available at www.wrc.wa.gov.au/swanavon. Contact Jo Gomersall on 9423 2924 or by email (joanne.gomersall@dec.wa.gov.au) to book. If you make a booking but are unable to attend please contact us so we can reallocate your booking and adjust catering.



Swan weed plan – opportunity for comment

Development of the *Swan Regional Weed Strategy* by DEC and the Swan Catchment Council is well underway with a number of key milestones due to be achieved in June. DEC's Greg Keighery has recently compiled a list of all weed species in the Swan NRM Region complete with rankings, which is now available for review and comment. Contact Karen Bettink on 9423 2904 or by email (karen.bettink@dec.wa.gov.au) for more information.

Winter Bushland News

Winter *Bushland News* contributions should be sent to Urban Nature by Friday **1 June 2007**.

Compiled and edited by Jo Tregonning.

Contacts

Urban Nature office

UN Coordinator	9423 2909
Kate Brown	9423 2905
Grazyna Paczkowska	9423 2914
Karen Bettink	9423 2904
Joanne Gomersall	9423 2924

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

Previous issues of *Bushland News* available at www.naturebase.net/urbannature

BUSHLAND WEEDWATCH:

Geraldton carnation weed (*Euphorbia terracina*)

By Kate Brown (Bushland Management Advisor, Urban Nature)

GERALDTON carnation weed or false spurge (*Euphorbia terracina*) is recorded to have been naturalised around Geraldton as early as 1914. Today it invades coastal heaths, wetlands and woodlands on calcareous soils from Geraldton to Cape Arid. With the ability to invade undisturbed vegetation, form dense monocultures and displace native flora, the weed poses a serious threat to remnant bushland on the Swan Coastal Plain and beyond.

Interesting biology

- Geraldton carnation weed is a short-lived perennial herb, growing to one metre.
- It dies back to a woody base over summer, producing new stems with autumn rains.
- Its peak flowering time is during August and September.
- Seedlings can mature within a few months, small plants flower and set seed any time following rain.
- A flush of germination follows autumn rain and any other heavy rain throughout the year.
- The hard-coated seed (three per fruit) are three to five millimetres long with a white, oily aril.
- Seed is scattered by the explosive action of dehiscent fruit and are dispersed by birds, ants and water flow.
- Long-distance dispersal occurs with soil movement, particularly crushed limestone into bushland for track construction.
- Seed may remain viable in the soil for up to five years.
- Following fire many plants will re-sprout from woody bases.
- Fire provides optimal conditions for germination and the establishment of new populations.

Implications for management

- Herbicide control is most effective on mature plants just before flowering, usually in July but depending on seasonal conditions.
- The current year's seedlings can be controlled at the same time.
- If heavy rains initiate a flush of germination, a second or third control later in the season is necessary.

- Intensive management following fire activity is effective at controlling and preventing the spread of populations. Re-sprouting plants are accessible and receptive to herbicide, and massive numbers of seedlings are easily targeted in the reduced native vegetation cover.

Suggested control methods

Physical control

Care must be taken to minimise soil disturbance when physically removing plants. Plants re-sprout from base or root material left in the soil, so the entire plant must be removed. Plants left lying on the soil surface can go on to produce seed, so all material should be carefully removed from the site.

WARNING

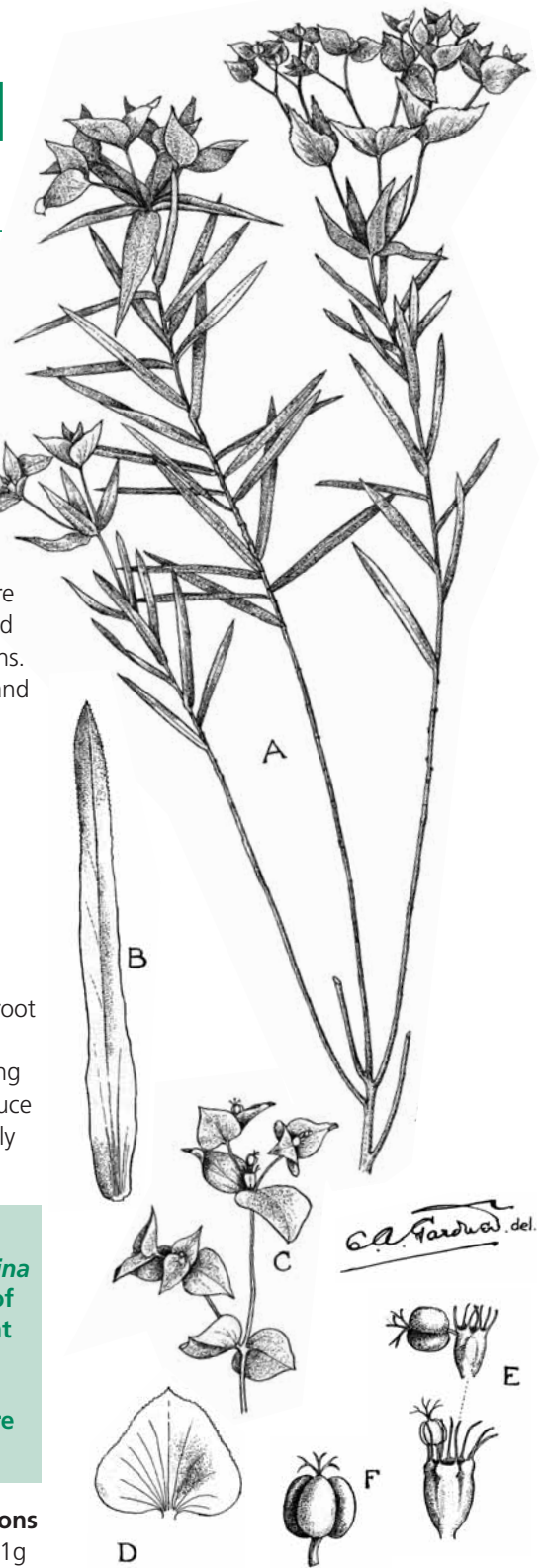
Contact with the sap of *E. terracina* can cause painful inflammation of skin and temporary or permanent blindness. When undertaking physical control, safety glasses, gloves and protective clothing are essential.

Current herbicide control suggestions

Metsulfuron methyl (Brushoff®) at 0.1g in 15 litres of water + Pulse® (2mls/litre) is reasonably effective but may not always kill adult plants. Removing large adult plants from a population by hand followed by herbicide control of smaller plants and seedlings is often recommended.

References and further information

Brown, K and Brooks, K. (2002) *Bushland Weeds; A Practical Guide to Their Management*. Environmental Weeds Action Network, Greenwood WA.



Keighery, BJ and Keighery, GJ. (2000) Biology and weed risk of *Euphorbia terracina* in Western Australia. In *Euphorbia terracina A guide to its biology and control and associated safety issues*. Proceedings of a workshop. Environmental Weeds Action Network, October 2000.

Randall, RP and Brooks, K. (2000) *Managing weeds in bushland. Geraldton Carnation Weed*. Environmental Weeds Action Network. Brochure.

Change in the weather?

By Mark Garkaklis (Regional Ecologist, DEC Swan Region)

THE LATEST assessment report from the Intergovernmental Panel on Climate Change (IPCC) was released in February 2007 and indicates with 90 per cent certainty that human activities since 1750 have led to a warming of the Earth's climate.

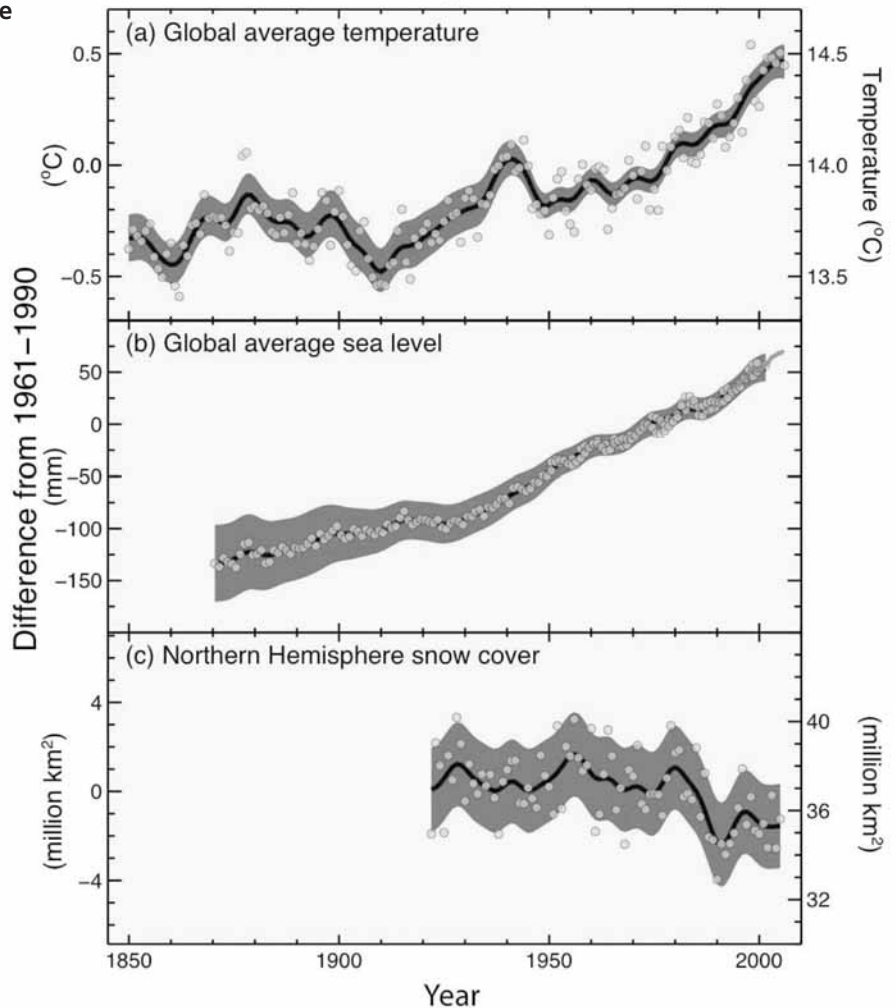
The reasons for the improvement in our understanding of the causes of climate change are simple – improved data sets and better analytical tools have increased the certainty of climate models. There is now no doubt that the Earth's climate is warming. This comes from direct observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.

Eleven of the 12 years from 1995 to 2006 rank within the top 12 warmest years recorded since 1850. The trends for temperature increases measured in the past 100 years are now higher than those published in the earlier IPCC report. Previously, the trend for twentieth century temperature increase was 0.6 degrees Celcius [in the range 0.4–0.8°C] for 1901–2000. This has now increased 0.74 degrees Celcius [0.56–0.92°C] for the 100 years from 1906–2005. The Earth is warming up faster as well – the rate of increase in the second half of the century was twice that of the first half.

The IPCC indicates that the rise in sea level attributed to the water simply heating up (thermal expansion), is real and measurable. Since 1961 oceans to a depth of 3000 metres have been warming, and the rate of sea level rise that has occurred from 1961 to 2003 from this heating is approximately 0.42 millimetres per year. How much the seas will rise as a result of melting glaciers and snow is a little less certain at this stage, but there can be no doubt that the melting of this frozen water is contributing to additional sea level rise. The combined effects of thermal expansion and ice melting have led to a global increase in sea levels of 170 millimetres [120–220mm] during the past 100 years.

These trends in changing climate and sea levels appear to be dramatic – almost alarmist. But actually the IPCC is extremely conservative. For example, the scientific

Changes in Temperature, Sea Level and Northern Hemisphere Snow Cover



In *Climate Change 2007 Intergovernmental Panel on Climate Change. Vol 1. Fourth IPCC Assessment Report. 2 February 2007.*

data available to measure the contribution to current and future sea level rise from the Greenland and Antarctic icesheets is uncertain. At this point the contributions from these potentially very large sea level rises from ice melt are very conservative. But the trends for the future outlined in the latest IPCC report are more likely; sea level rise will continue from thermal expansion alone leading to a sea level rise of 300–800 millimetres over the next 300 years – if Greenland ice melt does occur then this sea level rise is likely to be higher. Atmospheric temperatures will also continue to rise, with the best estimate for the low scenario showing a rise in air temperatures of 1.8 degrees

Celsius by the end of the century, and the best estimate for the high scenario 4.0 degrees Celsius.

At the public symposium for the IPCC report held at the Perth Convention and Exhibition Centre in February 2007, Dr Graeme Pearman of Monash University indicated that the high estimate of previous ranges published in 2000 appear to have occurred. This poses a question for policy-makers and the public, especially in our urban environment. How do we account and manage for climate change for the future?

In the next edition of *Bushland News*, DEC's Richard McKellar will discuss some of the implications of changing climates for the conservation of urban biodiversity.

Funding opportunities



Funding for 90 on-ground projects in the metropolitan area was received by 37 community environmental groups at the Swan Alcoa Landcare Program 2007 funding ceremony in February. Photo – Swan Catchment Council

Swan Alcoa Landcare Program

The Swan Alcoa Landcare Program provides funding to community groups or local governments working with community groups for on-ground revegetation, rehabilitation and other environmentally based projects. Guidelines and forms are available at www.swancatchmentcouncil.org or by contacting the Swan Catchment Council on 9374 3333. **Round 8 applications close Tuesday 1 May 2007.**

Australia Post Community Development grants 2007

The Australia Post Community Development grants 2007 scheme is a joint initiative of Australia Post and Landcare Australia to fund local

community landcare projects across Australia for up to \$3300 (including GST). Community groups undertaking strategic projects to care for the environment may apply for a grant. **Round 1 applications close Monday 30 April.** For more information, visit the 'Funding Opportunities' section at www.landcareonline.com.

Community water grants

The Australian Government's Community Water Grants program offers grants to help local community organisations save, recycle or improve the health of their local water resources. **Round 3 applications open early to mid-2007.** For more information, visit www.communitywatergrants.gov.au.

Where is your local nature spot?

A new initiative by the Perth Biodiversity Project aims to increase community appreciation of local natural areas and promote involvement in their management. Funded by the Natural Heritage Trust through the Swan Catchment Council, the project will partner with five local governments – the cities of Armadale, Canning, Swan, Wanneroo and the Town of Cambridge.

The Local Nature Spot Project will raise awareness and collect information to identify and assess local community attitudes and motivating factors influencing their behaviours. The five local governments have each selected three sites where key issues and threats will be addressed with active management actions. Local Nature Spot Officers will implement and lead the local initiative.

The methodology and strategies developed by the project can be used by all local governments to raise the profile of local natural area management. For more information, call Renata Zelinova on 9213 2050 (Monday–Wednesday).



Success in the search for rare bees

DEC's Swan Region is carrying out a Natural Heritage Trust-funded project for the Swan Catchment Council that focusses on three species of rare insects found in the region.

The project had recent success when a rare species of native bee, *Leioproctus douglasiellus*, which had not been seen since late 1980, was relocated. *L. douglasiellus* was found in two new areas at Brixton Street Wetlands and Carousel, and included the first male of this species ever to be collected. The bee was also relocated to Forrestdale Lake, one of the original collection sites.

L. douglasiellus has been collected in areas of heath on flowering *Goodenia pulchella* and *G. filiformis* (perennial herbs, yellow flowers), *Lobelia tenuior* (annual herb, blue flowers) and *Anthotium junciforme* (perennial herb, blue-violet flowers). The heath areas are typically on sandy soils in winter-wet depressions. These areas often have patches of bare ground (including tracks), with *Verticordia* spp. and *Juncus* spp. occurring nearby.












Terry Houston from the WA Museum surveying for rare bees at Forrestdale Lake. Inset: Flower of *Goodenia pulchella* which occur on the tracks. Photos – Vanessa Clarke and Kate Brown (inset)

Project officers are keen to locate other similar sites. If you think you know of other sites, want to get involved, or would like more information call Nicole Willers on 9423 2900.

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

April

-  **1 Sunday 7am–10am**
Bird Survey of Canning River Regional Park. We welcome help from experienced bird watchers. Contact **CRRPV**.
-  **1 Sunday 7.30am**
Bird-watching at Lake Monger with Sue from Birds Australia. Meet at westerly car park, Lake Monger Drive. Call 9383 7749.
-  **5 Thursday 7.30pm**
Lichens by Eric McCrum with Wildflower Society of WA (Murdoch Branch). Cockburn Wetlands Education Centre, Bibra Lake. Call Mark 0414 151 026.
-  **9 Monday–13 Friday**
Yaberoo Budjara Trail construction and maintenance within the City of Wanneroo with DEC and CVA. Contact **CVA**.
-  **10 Tuesday 7.30pm**
The Dryandras by Margaret Pieroni with Wildflower Society of WA (Perth Branch). Subiaco Community Centre. Call Karen 9342 8482.
-  **14 Saturday 9am–2pm**
Stop Dieback – the biological bulldozer. Impacts, biology, distribution and management of this disease. Hillside Farm, Lot 51 Hayward Rd, Martin. Contact **SFNC**.
-  **14 Saturday**
Controlling weeds on your property. Mandurah. Half-day field walk and practical demonstrations. Contact **GS**.
-  **15 Sunday 10.30am–12.30pm**
'Busy bee' at Piesse Brook, Kalamunda. Contact **FPB**.
-  **15 Sunday 8.30am–10.30am**
Removal of non-local Calothamnus from Thomas Rd, Kings Park. Contact **FKP**.
-  **15 Sunday**
Property design and planning workshop. Keysbrook. Contact **GS**.

-  **16 Monday–20 Friday**
River foreshore restoration along the Swan and Canning rivers with the City of South Perth. Contact **CVA**.
-  **20 Friday 8pm**
Climate Change presentation. Contact **KRMB Nats**.
-  **21 Saturday 8am**
Guided walk at Lake Gwelup. Contact **FLG**.
-  **21 Saturday 8.30am–12 noon**
Work day at Canning River Regional Park. Contact **CRRPV**.
-  **24 Tuesday 9am**
Woody weed removal at Paganoni Swamp Bushland. Call Leonie 0439 921 298.
-  **27 Friday 7.30pm**
The malleefowl: habitat and preservation by Suzanne Dennings with Wildflower Society of WA (Eastern Hills Branch). Octagonal Hall, Glen Forest. Call Anne 9295 4249.

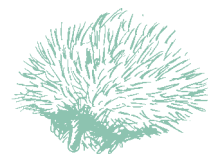


-  **28 Saturday 9am–12.30pm**
Monitoring and evaluation – how to measure your project's success to fulfill funding obligations. Cockburn Wetlands Education Centre, Hope Rd, Bibra Lake. Contact **SFNC**.
-  **28 Saturday 8am**
Guided walk at Star Swamp Bushland. Contact **FSSB**.
-  **28 Saturday**
Property design and planning workshop. Mandurah. Contact **GS**.
-  **29 Sunday 1pm–4pm**
Introduction to birds of the eastern region presented by BSFH and Birds Australia. Mundaring Shire Civic Centre. Contact **BSFH**.
-  **29 Sunday 8.30am–10.30am**
Fox survey at Kings Park. Contact **FKP**.

May

-  **5 Saturday 9am–4pm**
Injured wildlife first-aid. How to handle sick or injured animals. Kanyana Wildlife Rehabilitation Centre. Contact **SFNC**.
-  **5 Saturday**
Property design and planning workshop. Cuballing. Contact **GS**.
-  **6 Sunday 8.30am–10.30am**
Woody weed removal from Thomas Rd, Kings Park. Contact **FKP**.
-  **14 Monday–18 Friday**
Flora monitoring, weed management, planting and trail maintenance at Cockburn Cement. Contact **CVA**.
-  **18 Friday 8pm**
Tuart trees presentation. Contact **KRMB Nats**.
-  **18 Friday 7.30pm**
Night walk at Lake Gwelup. Please bring torch. Contact **FLG**.
-  **18 Friday**
Revegetating your property. Half-day field walk and practical demonstrations. Serpentine-Jarrahdale. Contact **GS**.
-  **19 Saturday 9am–11am**
Guided walk at Adenia area of Canning River Regional Park. Contact **CRRPV**.
-  **19 Saturday 8am**
Guided walk at Lake Gwelup. Contact **FLG**.
-  **19 Saturday 9am–12 noon**
Bush and water birds. Meet at Chidlow Sports Pavilion, field walk at Lake Leschenaultia. Contact **BSFH**.
-  **20 Sunday 8.30am–12 noon**
Native plant sale on lawn, Kings Park glasshouse. Prices \$3–\$6, profits to Kings Park research and projects. Plant species listed week prior at www.bgpa.wa.gov.au. Contact **FKP**.

-  **20 Sunday 10.30am–12.30pm**
'Busy bee' at Piesse Brook, Kalamunda. Contact **FPB**.
-  **21 Monday–25 Friday**
Rehabilitation of Swan River foreshore with CVA and Friends of Attadale Foreshore. Contact **CVA**.



-  **22 Tuesday 8am**
Bird walk at Paganoni Swamp Bushland. Call Leonie 0439 921 298.
-  **22 Tuesday 7.30pm**
The Avoncare River Project by Martin Revell with Wildflower Society of WA (Darling Range Branch). Exhibition room, Kalamunda library. Call Joan 9359 3670.
-  **25 Friday 7.30pm**
Nocturnal walk at Star Swamp Bushland. Please bring torch. Contact **FSSB**.
-  **26 Saturday 8.30am–12 noon**
Work day at Canning River Regional Park. Contact **CRRPV**.
-  **26 Saturday 9am–1pm**
Down to Earth – understanding Perth soils. Soil type identification and influence on bushland management. Herdsman Lake Wildlife Centre. Contact **SFNC**.
-  **26 Saturday 8am**
Guided walk at Star Swamp Bushland. Contact **FSSB**.
-  **27 Sunday 8.30am–10.30am**
Weeding rehabilitation area near Synergy Parkland, Kings Park. Contact **FKP**.
-  **27 Sunday 9am**
Bushcare morning with Friends of Coolbinia Bushland. Contact **FCB**.

REGISTRATION/CONTACT DETAILS – Organisations providing a series of activities:

BSFH Bush Skills for the Hills offers free hills-focused workshops. Contact Robbie 9424 2216 or roberta.circosta@emrc.org.au .	FCB Friends of Coolbinia Bushland. Meet Coolbinia Primary School carpark. Call Niall Kilcullen 9242 1470.	FLG Friends of Lake Gwelup. Meet at Scout Hall carpark Huntriss Rd, Gwelup. Call Betty 9444 5640.	GS Green Skills Inc. Call 9360 6667.
CRRPV Canning River Regional Park Volunteers. Contact Jo Stone 9458 3669 or email Pam crrpv@bigpond.net.au .	FKP Friends of Kings Park Weekend Bushland Carers Program. Meet Kings Park Administration. Morning tea provided. Contact Jo 9480 3643 or jwalker@bgpa.wa.gov.au .	FPB Friends of Piesse Brook. Meet at gate to Kalamunda National Park, bring gloves. Email Linda at linda@johnstanley.cc . Visit www.friendsofpiessebrook.org.au .	KRMB Nats Kwinana Rockingham Mandurah Branch (KRMB) of the WA Naturalists' Club. Naragebup Regional Environment Centre, Safety Bay Rd, Peron. Contact 9591 3077 or www.wanats@inet.net.au .
CVA Conservation Volunteers Australia. 20 Stack St, Fremantle. Contact Steve 9336 6911 or perth@conservationvolunteers.com.au .	FSSB Friends of Star Swamp Bushland. Meet at Henderson Environment Centre, Groat St, North Beach. Call 9447 2983.	SNC Skills for Nature Conservation free training courses by DEC's Urban Nature and Greening Australia. Bookings 9423 2924 or joanne.gomersall@dec.wa.gov.au .	

June

-  **4 Monday**
Celebrate Foundation Day with Canning River Regional Park Volunteers. Kent Street Weir, Cannington. Contact **CRRPV**.
-  **4 Monday–8 Friday**
Western swamp tortoise habitat restoration at Ellen Brook. Contact **CVA**.
-  **9 Saturday 9am–3pm**
Adaptive Management – a must for land managers. Piney Lakes Environmental Education Centre, Winthrop. Contact **SFNC**.
-  **10 Sunday 8.30am–10.30am**
Planting of nature trail entry, Kings Park. Contact **FKP**.
-  **10 Sunday**
Urban wetlands restoration in the City of Cockburn. BBQ sausage sizzle lunch provided. Contact **CVA**.
-  **12 Tuesday 7.30pm**
Mangrove systems in Exmouth Gulf by Eric Paling with Wildflower Society of WA (Perth Branch). Subiaco Community Centre. Call Karen 9342 8482.
-  **15 Friday 8pm**
'Whalebones to Nimo' presentation. Contact **KRMB Nats**.
-  **16 Saturday 8am**
Guided walk at Lake Gwelup. Contact **FLG**.
-  **16 Saturday**
Revegetating your property. Half-day field walk and practical demonstrations. Mandurah. Contact **GS**.
-  **17 Sunday 9am–12 noon**
Animal antics workshop. Basic identification and protection of native fauna. Ledger Rd Hall, Gooseberry Hill. Contact **BSFH**.

-  **17 Sunday 10.30am–12.30pm**
'Busy bee' at Piesse Brook, Kalamunda. Contact **FPB**.
-  **17 Sunday 9am**
Bushcare morning with Friends of Coolbinia Bushland. Contact **FCB**.
-  **21 Thursday 9am–4pm**
Weedy Biothreats – Geraldton Carnation weed. Biology, ecology, distribution and management. Naragebup Environment Centre, Safety Bay Rd, Peron. Contact **SFNC**.
-  **23 Saturday 9am–1pm**
Basic resuscitation first aid. DEC, Swan Region. Contact **SFNC**.
-  **23 Saturday**
Planting at Perth's southern beaches with Coastcare. Sausage sizzle lunch provided. Contact **CVA**.
-  **23 Saturday 8am**
Guided walk at Star Swamp Bushland. Contact **FSSB**.
-  **24 Sunday 8.30am–10.30am**
Planting of Synergy Parkland's lakeside and north sites, Kings Park. Contact **FKP**.
-  **26 Tuesday 7.30pm**
Patterning of plants of the Swan Coastal Plain by Bronwen Keighery with Wildflower Society of WA (Northern Suburbs Branch). Henderson Centre, Groat St, North Beach. Call Dave 9447 1632.
-  **26 Tuesday 7.30pm**
Declared Rare Flora initiatives with DEC by Hugh Pringle with Wildflower Society of WA (Darling Range). Exhibition Room, Kalamunda library. Call Joan 9359 3670.
-  **30 Saturday**
Property design and planning workshop. Waroona. Contact **GS**.

Highlights

1 April–27 May

Great Gardens free community workshops at metropolitan nurseries on creating beautiful, sustainable, river-friendly gardens to 'keep our rivers healthy'. Register at www.greatgardens.info or call 1300 369 833.

6–9 August

National Wildlife Rehabilitation Conference. Esplanade Hotel, Fremantle. Email nwrcperth@westnet.com.au, visit www.nwrc.com.au or call (08) 9316 8526.

2–5 September

11th International Mediterranean Ecosystems Conference – MEDECOS XI. Perth, Western Australia. Visit www.medecosxi2007.com.au or email medecosxi2007@bgpa.wa.gov.au.

9–13 September

Seed Ecology II: Second International Society for Seed Science Meeting. Visit www.seedecology2007.com.au.

10–13 September

Invasive Plants of Mediterranean Type Ecosystems. Visit www.congresswest.com.au/emapi9/index.html.

14–15 September

Weed Risk Assessment workshop. Visit www.congresswest.com.au/emapi9/index.html.

16 September 9.30am–4pm

Earth Solutions Expo, Toodyay Racecourse. Renewable energy and how to live a little 'greener'. Call Caroline 9622 8043.

17–21 September

Ecology and Management of Alien Plant Invasions (9th International Conference, 2007). Visit www.congresswest.com.au/emapi9/index.html.

23–25 September

Parks and Protected Areas – A Sense of Place, For All People, For All Time. Fremantle. Visit www.promaco.com.au/2007/parks/.

26–30 November

Ecological Society of Australia – 2007 Conference, Perth. Visit www.ecolsoc.org.au/Conferencelisting.html.

Activities key



Hands on – bushland and wetland management activities.



Walks and tours – look, listen and enjoy guided walks and excursions.



Skills development activities – talks, presentations, training courses and workshops.



Meetings and events – group meetings, expos, festivals and conferences.

Please send us your July, August and September events by 1 June 2007.

regional reports

Vegetation transect to assist rehabilitation

By Jennifer Hawkes

Friends of Yellagonga Regional Park are in a year of transition as they finalise their Natural Heritage Trust grant and take the opportunity to be more scientific in their approach to planting. Lake Goollelal in the City of Wanneroo has only 15 per cent of its original vegetation, so the Friends are

studying sites at Lake Joondalup to use as a guide for revegetating Lake Goollelal.

In March, members surveyed a transect from woodlands opposite the City of Wanneroo Depot to the littoral zone of Lake Joondalup. GPS coordinates and gradient maps were used to ascertain the gradient ranges of individual plant species. The

transect will be surveyed again in future seasons to provide a comprehensive species list and species distribution data.

For more information, call Jennifer on 9448 0053. To assist with potting seedlings at the Friends nursery most Saturdays 9am–12 noon call Frank Parrotte on 9402 4757.



Claise Brook Catchment Group assists with local biodiversity strategy

By Sally Lake

Members of the Claise Brook Catchment Group (CBCG) are currently doing field surveys of parks and reserves within the City of Perth to assist in the preparation of a biodiversity strategy. CBCG is a community-based environmental group working to restore wetlands and improve the quality of water flowing into the Swan River from the Perth inner city.

Staff at the WA Local Government Association's Perth Biodiversity Project are assisting with the project, which is being funded by the City of Perth.

The group is also collecting anecdotes about fauna that people have seen in the city. Members have reported seeing native and feral animals – including a fox near the cathedral on a Sunday morning.



Community planting day at Point Fraser with Claise Brook Catchment Group. Photo – Sally Lake

The group is also collecting photos of native flora and fauna used in art and architecture within the city.

To find out more visit www.cbcg.org.au.



GPS used to survey tree deaths in Paganoni

By Leonie Stubbs

Friends of Paganoni Swamp have been concerned about tree deaths occurring around the swamp so decided to undertake a survey to monitor the situation. We used the community geo-referencing kits provided by Biodiversity Protection WA and housed at the WA Herbarium. In our case, we sourced the kit from the Mandurah Herbarium.

One member of our group undertook training in the use of the camera, GPS receiver and the process of downloading the GPS data into OziExplorer and creating a geo-referenced photographic record in OziPhotoTool. John Weaver, local lover of the bush and computers, provided training as well as extensive telephone and email support. His assistance was invaluable and very much appreciated.

Three members carried out the survey. Data was compiled into a report and consisted of a map showing each tree death site, an individual site photo, geographical location and number of dead trees. The report will be the basis for future monitoring of tree deaths in one to two years' time.

For more information call Leonie on 0439 921 298.

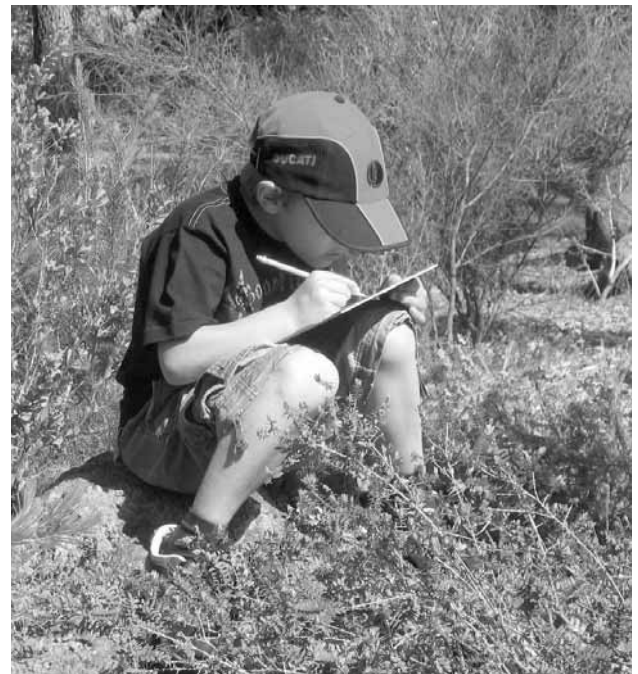
Darlington Station Reserve

By Joan Crawford

Darlington Station Reserve forms a small section of the Railway Reserve Heritage Trail from Bellevue to Mt Helena. The concrete platform edge and building footprint is still evident. Walkers, cyclists, runners and horse-riders use the trail on a regular basis. Visitors to the reserve include school students studying native plants and groups of people with disabilities.

Following a community cleanup of the area in 1999 an interested group formed to continue weed removal and planting local native plants. Plants were sourced from local growers and through the Shire of Mundaring's 'Tree Canopy and Understorey Program'. In recent years, direct seeding has resulted in better diversity and plant vigour.

Core volunteers have included families and school students, with heavy physical



Engendering an early interest in wildflowers (revegetated site, Darlington Station Reserve). Photo – Kaylene Fitzgerald

tasks being undertaken by Green Corps, Work for the Dole participants and teams from the former Department of Justice.

For more information call the Shire of Mundaring's Bushcare Coordinator, Toni Burbidge on 9290 6685.

Friends of Rockingham Lakes get active in Lake Cooloongup

By Emma Reksmiss

The Friends of Rockingham Lakes have been busy implementing works around Lake Cooloongup over the last two-and-a-half years. There have been many developments adjacent to the park including the southern suburbs railway and upgrade of Dixon Road. The Friends group is working with DEC and the City of Rockingham to minimise impacts from these developments and to protect the biodiversity values of the park. The park includes tuart woodland, with winter wet depressions, heathland and dunes surrounding a lacustrine vegetation of sedgeland.

A flora survey of Lake Cooloongup has recently been published and many of the most damaging weeds listed have been tackled. Work is underway to rehabilitate the area in order to return it to its original condition. However, it may be some time before this is achieved.

Grants have been allocated from DEC's Regional Parks Community Grants scheme 2005–2006 (\$2700) and 2006–2007 (\$3500), the Tuart Response Group (\$10,000) and the 2005 Community Conservation Grant (\$5000), which have, and are, making a tremendous impact on issues the park faces. We appreciate the financial, physical and administrative assistance of DEC and other State Government agencies. Work towards our goal continues with enthusiasm!

For further information email Emma on emma.reksmiss@dec.wa.gov.au.

'Bringing back the bush'

By Christine Curry

Friends of Star Swamp Bushland began its 2007 monthly weeding program in March that will continue on the fourth Sunday of each month until October. It is pleasing to see that the dedicated group of volunteers is starting to make a noticeable difference. The target area is adjacent to the Henderson Environment Centre and it is hoped that this bushland will become a showpiece, giving visitors an idea of what the area was like before the arrival of weeds and rabbits.

Over the past two years, volunteers have been clearing veldt grass, Geraldton carnation weed and other invaders from around seedlings and established plants. Woody weeds such as Japanese pepper trees and Geraldton wax have also been cut out and carted away by the City of Stirling for mulching.

The Friends group is mindful of the story told in 'Bringing Back the Bush', where two determined women were able to clear weeds from a significant area of bushland, returning it to near pristine condition.

We are hoping for a similar result!

To assist with the monthly weeding sessions on a Sunday morning call Christine on 9447 2983.

Ed: Since going to production for this issue Star Swamp Bushland experienced a dreadful wildfire. In the next edition of Bushland News we hope to have an update from the Friends of Star Swamp Bushland on the fire and their plans for the future.

Please send us your regional report (150–200 words) and a photo by 1 June 2007. Text may be edited in response to volume of submitted reports.

Pearl cichlids in Bennett Brook – the latest

By Ben de Haan

In *Ecoplan News* issue 58 the North Metro Catchment Group (NMCG) reported on the introduced freshwater fish, the pearl cichlid in Bennett Brook, Caversham. Here is the latest information on what's being done to minimise its impact on biodiversity in Bennett Brook.

During the latter-half of 2006 a comprehensive indigenous consultation process was carried out. Bennett Brook is a registered site under the Aboriginal Heritage Act and in order to carry out control activities it was necessary to gain approval under Section 18 of the Act. This was granted on 13 December 2006 and will allow the Department of Fisheries to use chemical control (Rotenone®) in Bennett Brook on the pearl cichlid population. Rotenone® inactivates a fish's gills and does not affect amphibians, crustaceans, turtles or other fauna. Cichlid control measures are due to begin early 2007.

Following approval, the Department of Fisheries used an electro-fishing survey which determined that the cichlid range has remained the same over winter, indicating that the species dispersal may not be as rapid as first feared. However, there is a large population in the lakes at Altone golf course, Beechboro. NMCG help with control activities by collecting data and relocating native fish species whenever possible. NMCG is keen to ensure that freshwater cobbler, which has only been found in one location, is captured and held while Rotenone® is used before being released safely back.

NMCG currently conducts weekly monitoring of fish fauna in Bennett Brook. Members identify and count all fish species,



Fisheries officer Craig Astbury electrofishing in Wonga Way, a tributary of Bennett Brook where the cichlids were first discovered. Photo – Ben de Haan

amphibians, reptiles, crustaceans and other invertebrates. Comprehensive data monitoring is vital in order to ascertain whether the control program has been successful. It is envisaged that a long-term monitoring program may be necessary.

The Department of Fisheries believes a long-term management plan may be required if control measures prove unsuccessful. This will include a more detailed study into cichlid biology and tolerance to salinity and temperature variations, it will also design adequate permanent barriers to limit distribution of the species. The Department of Fisheries has constructed a temporary vertical waterfall in Bennett Brook approximately one kilometre upstream of their known distribution to stop cichlids entering Whiteman Park.

NMCG had a poster display at the 2007 WA Wetlands Management Conference held at the Cockburn Wetland Education Centre. Live specimens of the pearl cichlid were displayed and numerous participants enquired about the species, control measures and project success.

Tackling big projects: finding partners and building confidence

By Bob Huston (Nature Conservation Officer, DEC, Perth Hills District)

THE big issues are not hard to find. As a community the overwhelming scale of environmental threats confronts us, but positive changes and actions are possible, they just need some greater effort and time to implement. And, the extra time and effort taken to tackle big projects will be worth it.

The first thing to do when tackling big projects is to have a very good knowledge about the current state of the bushland and know what the biodiversity values are. Then you need to understand the threatening processes, and have a good analysis of the investment needed.

What are you conserving?

Surveys and records of a number of small reserves in DEC's Perth Hills District identified the very important biodiversity they contain. It was also recognised that these reserves faced major threats at a very large scale. Chandala Nature Reserve and Chittering Lakes Nature Reserve are high conservation wetlands because of their importance as major feeding and breeding sites for a range of water birds including the great crested grebe (*Podiceps cristatus*) and yellow-billed spoonbill (*Platalea flavipes*). Another two reserves, Wambyn Nature Reserve and St Ronans Nature Reserve, contain a diverse mosaic of native plant communities that support an array of fauna including more than 50 bird species, more than 18 species of reptiles, four frog species and at least six species of native mammals including pigmy possums (*Cercartetus concinnus*). The major problem facing all these reserves is the large-scale infestations of weeds including watsonia (*Watsonia bulbifera*), arum lily (*Zantedeschia aethiopica*) and two species of cape tulip (*Moraea flaccida/miniata* and *Moraea fugax*).

Building a team

The investment needed to tackle these large issues was substantial – almost \$180,000 was needed. Additional funding through DEC's *Saving Our Species* Biodiversity Conservation Initiative 2006–2007 provided an opportunity to tackle the big weed issues on these reserves. By forming a collaborative

management group that included the Urban Nature team and Perth Hills District Nature Conservation staff, the size of the overall project could be broken down to manageable sections. Urban Nature staff provided expert guidance on monitoring and control measures, enabling the district staff to focus on the logistics of the programs. This type of collaboration is the key to successful outcomes for larger-scaled projects.

The target to eradicate watsonia from Chittering Lakes Nature Reserve and arum lily from Chandala Nature Reserve began last spring with the first phase of the herbicide spray program being completed across both of the nature reserves. Monitoring sites have been established to indicate the degree of success of the spraying program and in 2007 follow up action will be undertaken to eradicate any re-emergence.

The goal to eradicate two cape tulip species from St Ronans Nature Reserve and Wambyn Nature Reserve also began

last spring. Of the two cape tulip species *M. fugax* is of greater interest because it is more uncommon with a relatively restricted range but with a significant risk of becoming more widely spread. Also, less is known about how to manage *M. fugax*, so trials have been established to investigate different herbicide application and explore the combined use of fire and herbicide treatment. The project began last spring with the establishment of trial plots and the first phase of the herbicide spray program being completed across both of the nature reserves.

Adapting future management

All of the *Saving Our Species* weed control projects in DEC's Perth Hills District involve producing weed maps showing the spread and severity of the target weeds species across their respective nature reserves. The weed mapping information will be used to update the weed management plans for each of the nature reserves.



After eradication (above) of large-scale infestations of arum lily (below), Chandala Nature Reserve.



GROUPPROFILE:

Canning River Regional Park Volunteers

By Pam Agar

ORIGINALLY called the Canning River Regional Park Volunteer Guides when it formed in 1990, the Canning River Regional Park Volunteers is now a dedicated group of 24 conservationists working at a number of sites, mainly along the southern sections of the regional park, within the City of Canning.

The park extends for approximately six kilometres along the Canning River between the Shelley and Nicholson Road bridges. It includes wetlands, banksia woodland and some remaining areas of mature *Eucalyptus rudis*. Most of the area was used as farmland, so weed infestation is a major problem. Early conservation efforts by volunteers involved removing extensive tracts of blackberry and arum lily, followed by replanting. In more recent years, watsonia, morning glory, taro and wild aster have been targeted.

In 2001 a major project with Western Power involved translocating mature sedges from a Western Power site in Cannington. The sedges did well for the first year, however a series of dry years together with a fire have hampered growth. Last winter the discovery of numerous tiny sedges was encouraging. In 2002 a seed orchard was established at Banksia Hill to provide stock for future replanting work.

We partnered with several authorities to translocate plant species from the Roe Highway Stage 7 development. Small plants collected by the group were replanted at the seed orchard and grass trees were translocated into the park by contractors with the help of volunteers. Dry conditions have made it necessary for watering to be extended to a second summer. Several cubic metres of soil were also translocated and spread in the hope that seeds in the soil would germinate.

In April and November of 2003 we began bird surveys in five sections of the park. The current species total is 89. A macroinvertebrate survey is also planned for later this year.

Recently we recorded the location of 234 feral bee colonies. Funding from Swan Alcoa Landcare Project has enabled the group to engage a contractor to treat the bees.



Friends of Canning River Regional Park planting at Litoria sedge site. Photo – Pam Agar



The end of a day weeding at Litoria fenced site, Canning River Regional Park. Photo – Pam Agar

The City of Canning also provided funding to treat colonies in recreational areas of the park. The hope is that hollow-nesting bird species such as parrots, kingfishers and pardalotes will no longer have to compete with bees for nest sites.

Challenges and advice

The major problems the group faces are the constant threat of summer fires (despite annual removal of flammable material), weed control and the turnover of members. Many members are students who move on to jobs in other areas, making it difficult to develop in-depth skills within our group.

Our advice to other groups: maintain the watering of plants until they are well established; persevere and try to provide a range of activities; intersperse necessary seasonal jobs such as weeding, planting, removing of flammable material, with less physically demanding jobs which extend the knowledge of the area.

Become involved

We continue to do two to four guided walks each year, which are open to the public, and visit different areas of the park each time to provide opportunities to learn more about the flora, fauna and history of the park and work of the group. Involvement with local community events such as Clean Up Australia Day and Foundation Day provide other opportunities for public involvement.

Work days have their social aspect as well, with the chance to chat over a well-earned cuppa, delicious food or, on longer days, a barbecue. The annual planning meeting always follows breakfast at one of the park's picnic areas.

Saturdays seem to work well for group work days and public walks, but there are also opportunities for people to be involved during the week.

For more information, contact Jo on 9458 3669 or by email (crrpv@bigpond.net.au).

Resources

New publications

The Dryandras (2006) by Tony Cavanagh and Margaret Pieroni. Australian Plants Society (SGAP Victoria) Inc and Wildflower Society of Western Australia Inc. RRP: \$79.95. Detailed descriptions, illustrations, distribution map, cultivation notes and colour photographs of each of the 135 *Dryandra* of south-west Western Australia.



Australian Seeds (2006) Edited by Luke Sweedman and David Merritt. CSIRO Publishing. RRP: \$59.95. Complete guide to the collection, processing and storage of wild collected seed, focusing mainly on the WA region. Provides a basic understanding to seed biology, evolution, morphology, harvesting, processing, seed storage and viability. Assistance to those working in rehabilitation, restoration, horticultural and agricultural industries.



Threat abatement plan for infection of amphibians with chytrid fungus resulting in chytridiomycosis.

This disease has been recorded in south-west WA, Adelaide, the east coast and more recently Tasmania, and is capable of causing sporadic deaths in some frog populations, and 100 per cent mortality in others. To order a hard copy of the plan, call 1800 803 772 or email ciu@deh.gov.au.

Website watch

Carnaby's Cockatoo Swan Coastal Plain project 2006 summary of results can be downloaded at www.hotgecko.com/carnabys/Carnabys.htm.

Claise Brook Catchment Group is active within the inner city of Perth and their new website provides details of the group's activities – field surveys, cycle tour, restoration projects, training and site catchment issues. Visit www.cbcg.org.au.

Friends of the Western Swamp Tortoise is developing its new website to include information on this critically endangered reptile, information for students, lesson plans for teachers, games and wordsleuths. Visit www.westernswamptortoise.com.

Roleystone Bush Care website is a forum for residents and environmental groups from the Roleystone and Karragullen communities. The site provides articles on fauna, flora, dieback, activities and bushland observations. Visit www.rolleybushcare.com.

A guide to native bees in your area can be found at www.aussiebee.com.au.

Dieback – the biological bulldozer. Information on the disease, its management, and what you can do to help can be found at the Dieback Working Group's website at www.dwg.org.au.

Waterwise plants for Perth gardens. Visit www.watercorporation.com.au/W/waterwise_plants_perth_index.cfm.

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