

Kadjiny Nyoongar (Learning Nyoongar way) *By Jo Tregonning*

NYOONGAR is the collective name given to 14 Aboriginal groups inhabiting the south-west of Western Australia for at least the last 50,000 years, in the country west of a line between Geraldton and Esperance. Today, Nyoongar knowledge and culture is recognised as an important part of managing our south-west environment.

Historically, Nyoongar groups travelled around their territory to find food according to weather patterns and food distribution within the six Nyoongar seasons. Fire was used for hunting and driving game and to manage plant growth. The land not only provided them with their needs and wants but connected them spiritually to their inheritance and obligations to the land.



Delvene Cornwall from DEC's Aboriginal Heritage Unit teaches Nyoongar culture to Baldivis Primary School students at the Baldivis Children's Forest. Photo – Judith Hill

Aboriginal Heritage Unit

The Aboriginal Heritage Unit (AHU) at the Department of Environment and Conservation (DEC) provides an Aboriginal perspective on environmental management and the protection of Aboriginal culture. The AHU provides talks and workshops to schools, Tertiary and Further Education (TAFE) colleges, universities, prisons, government agencies, Aboriginal people and the wider community. The AHU links with other groups, Aboriginal communities and agencies to manage lands and provide advice. The AHU also liaises with elders and the Aboriginal community on cultural issues. Learning programs on men's and women's issues keep culture 'alive' and increase knowledge. Cross-cultural workshops and training sessions also provide other DEC staff with an insight into, and understanding of, Aboriginal culture.

Four Aboriginal staff currently work at the AHU; Terry 'Koodah' Cornwall from Wilmen country (Wagin), Delvene Cornwall from Bibbulmun country (Manjimup), Thomas Dimer from Minang country (Albany) and Eddie Wilkes from Balardong country (Wheatbelt).

Respect – building the foundations

"We need to share knowledge and understanding so lands can be managed with respect...managed for our children, otherwise it [the environment] won't survive," AHU coordinator Koodah Cornwall said.

"If waterways are polluted and plants and animals die, we die too. Before we do any work we need to *dat-nyin wankinying* (sit down and talk). We need to look at who we are, what we are doing and why. We can then work out our responsibilities to the land and water.

"There is no point in teaching stories of the land and Aboriginal culture to people if we don't first look at our responsibilities to the environment and respect the environment. Once we understand respect we can then learn ochre work, dance and stories, take a walk in the bush, talk to elders and manage the land."

Community programs

Community groups can book a two-hour program with the AHU. The content of the workshop is

dependent on needs – walk and talk, bush tucker, six seasons, men's issues (ochre work, tool-making, bush string making), women's issues (stories, food and children) and the plants, animals and stories particular to your bushland area. There is a charge for the service.

More information and resources

For bookings and more information contact AHU project officer Denise Griffith on phone (9334 0564) or email (denise.griffith@dec.wa.gov.au).

Bush tucker plants of the south-west. (2001) Daw, B., Walley, T. and Keighery, G. (Eds). Department of Conservation and Land Management. 'Bush Books' series.

Exploring Woodlands with Nyoongars. (1998) Wallace, K. and Huston, J. (Eds). Department of Conservation and Land Management.

Visit www.naturebase.net and follow the links to 'Community' then 'Aboriginal Heritage Unit'.

Issue 63

Spring 2007

Time of Kambarang and Birak in the Nyoongar calendar.

Urban Nature update

Page 2

Bushland Weedwatch: Brooms

Page 3

Econote: Native bees

Page 4

WA boneseed blitz and BCI update

Page 5

What's on

Page 6

Funding and learning opportunities

Page 7

Regional reports

Page 8

Local Nature Spot project

Page 10

Group profile: Friends of Blue Wren Reserve

Page 11

Resources

Page 12



Our environment, our future

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

Urban Nature UPDATE

On 2 September, Urban Nature took part in the Kings Park Festival's *Wildflower September* through a coordinated DEC display at the Synergy Father's Day event. Our display of 'Where do you live?' versus 'We live here, here and here' (for native animals, plants and fungi in urban areas) generated lots of interest. Eye-catching photos combined with a map of Perth's bushland areas and community groups allowed us to show people how close they are to biodiversity in the suburbs and generate support for community groups.

In July we farewelled Jo Gomersall who did a fantastic job keeping the Skills for Nature Conservation (SFNC) program running over the



Urban Nature display at the Kings Park Festival in September. Photo – Karen Clarke

last year. We wish Jo well in her pursuit of a career in environmental pollution and waste control. Other staff are taking on Jo's role until we can recruit a new project officer.

In August, Kate Brown and Karen Clarke helped Dr Pieter Poot from The University of Western Australia (UWA) teach his Global Biodiversity Hotspots course as part of UWA's Conservation Biology program. Kate organised a half-day field trip to Brixton Street wetlands showing students the values, threats and best-practice management for this biodiversity hotspot on the Swan Coastal Plain.

Geraldton carnation weed SFNC workshop and field day



Field visit to a site in Rockingham to look at the management of Geraldton carnation weed. Photo – Kate Brown

Gaining an understanding and sharing knowledge of the biology, ecology, distribution and management of Geraldton carnation weed (*Euphorbia terracina*) was the aim of a recent SFNC workshop organised by Urban Nature. There is increasing recognition that this species poses a major threat to biodiversity, particularly on the Swan Coastal Plain, and consequently the day was well attended by land managers, researchers and concerned community members.

The program covered case studies, current research into chemical and biological control and community and government experiences in managing invasions. It featured a series of field visits to sites in the Rockingham area, including Point Becher in Port Kennedy Scientific Park. Staff from Urban Nature have been working with

Regional Parks staff to set up field trials and develop a strategy for the management of *Euphorbia* where it is invading threatened ecological communities occurring in the holocene dune swales at Point Becher. The results of this work have been promising and part of the aim of the workshop was to share that information with DEC, State and local government and community-based land managers.

Other topics covered included biocontrol of *Euphorbia* (John Scott, CSIRO), biology and weed risk (Greg Keighery, DEC), strategic planning (Karen Bettink, Swan Region DEC) and case studies in management (Renee Miles, Regional Parks Unit DEC). If you would like a copy of the proceedings from the workshop email urban.nature@dec.wa.gov.au.

Summer Bushland News

Spring *Bushland News* contributions should be sent to Urban Nature by Friday **30 November 2007**.

Compiled and edited by Jo Tregonning.

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Previous newsletter issues available at www.naturebase.net/urbannature



Donkey orchid (*Diuris corymbosa*). Photo – Barry Goldspink

The clean sweep on brooms

By Karen Bettink

THE TERM 'broom' refers to a group of shrubs in the pea or Fabaceae family which gained its common name because the long, tough, slender branches made them useful for broom-making. They were introduced to Australia because of their value as ornamentals but several have become serious environmental weeds.

Originating mostly from the Mediterranean, brooms are closely related and share similar characteristics such as adaptations to dry growing conditions. They are all shrubs growing to a height of four metres with slender green sparsely-leafed or leafless stems and reduced small leaves. Prolific pea-shaped flowers produced in late winter to early summer are typically yellow but several brooms flower in other colours such as white, pink or purple.

Brooms are categorised into eight genera but most fall within *Cytisus*, *Genista* or *Chamaecytisus*. The relationship between the genera is complex, often weakly differentiated and confusing. Different brooms may have multiple common names, different names between countries or if two genera are similar in appearance, may be given the same scientific and common names. For example, species within *Cytisus* and *Genista* are frequently given the same common name.

Brooms now make up five of the 54 shrub species recognised as significant weeds known to occur, or with the potential to occur, in Australia.

Why brooms are a problem

Brooms can have a significant impact on biodiversity. Thriving in nutrient-poor to fertile well-drained soils, they can form dense stands that out-compete and displace native vegetation and wildlife as well as increase fire intensity and frequency. Cut plants re-sprout vigorously and deep extensive root systems make many drought and fire-tolerant. Some infest grazing land and may be poisonous and unpalatable. Prolific hard-coated, long-lived seed requires long-term management effort to eradicate.



(b)



(a)

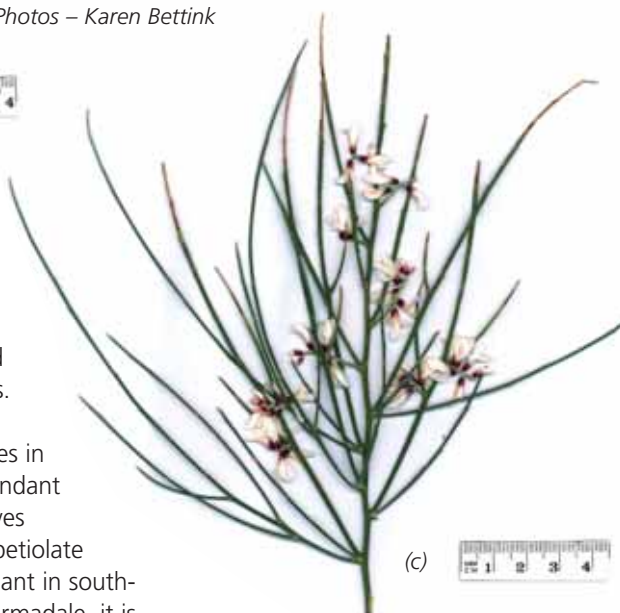
Genista linifolia (a),
G. monspessulana (b)
and *Retama raetam* (c) are
currently the three species of
brooms recorded in WA.
Photos – Karen Bettink

Brooms invading WA

French broom (*G. monspessulana*), also known as cape broom, Montpellier broom or shrubby teline, is perhaps the most widespread and aggressive of the brooms. It is a yellow-flowering evergreen, one to three metres in height, with stipules and abundant trifoliate obovate-shaped leaves which are generally flat and petiolate (attached with stalks). Abundant in south-west WA from Denmark to Armadale, it is able to survive on a range of soil types and invade a range of habitats.

Flaxleaf broom or teline (*G. linifolia*) is also yellow-flowering and grows to a height of two-and-a-half metres, but has more linear-oblong shaped leaves which are directly attached to the stem. It has no stipules and its leaves are revolute (rolled margins) and uniformly covered in silky hairs. It prefers disturbed lateritic soils throughout the jarrah forest, on the Darling Scarp and Plateau and extends into the Avon Wheatbelt region.

The deciduous white-flowering or white Spanish broom (*Retama raetam*) is a member of the smaller genus *Retama*, which is often included in the genus *Genista*. It is a desert and coastal shrub with reduced small leaves, capable of carrying out photosynthesis by its green stems. Appearing on the national weed



(c)

alert list, a strategic program has begun to determine the best control methods and eradicate this species from the Swan NRM region.

Three other species of broom occur in Australia, including common Scotch broom (*Cytisus scoparius*), Spanish broom (*Spartium junceum*) and *Genista tinctoria*. All have the potential to establish in southern coastal and inland WA.

References and more information

Control and management of brooms will be featured in future editions. For more information contact Karen Bettink on 9423 2904 or visit the following webpages:
www.florabase.calm.wa.gov.au
[www.en.wikipedia.org/wiki/Broom_\(shrub\)](http://www.en.wikipedia.org/wiki/Broom_(shrub))
www.weeds.org.au
www.flora.sa.gov.au

ECONOTES:

Nest-sites for native bees

By naturalist Robert Powell

MOST of us have had experience with the introduced honeybee but are unaware that there are 2000 to 3000 species of Australian native bee. Many native bees are specialists at collecting pollen and nectar from particular plant families. They play an important role as pollinators within bushland ecosystems and in bushland conservation. Creating natural or artificial nest-sites will encourage them into your garden or bushland.

Bees are related to sawflies, wasps and ants which belong to the order *Hymenoptera*, from the Greek *hymen*, 'membrane', and *opterus*, 'wing'. All members of this order (including ants in their winged stage) have two pairs of membranous wings.

We can become aware of native bees and enjoy observing them in our home gardens. They vary greatly in size and colouring, with many being dark and quite tiny. Most appear in summer and visit native flowers. Growing plants such as snakebush (*Hemiandra pungens*), *Jacksonia calcicola* or



At dusk these blue-banded bees are settling down to roost for the night on a slender, horizontal stem of native pellitory. These are males and although they fight one another over females during the day they roost peacefully together at night. Note that they are attaching themselves not by their legs but by their jaws. Female blue-banded bees nest in the ground and roost in their burrows.

J. sericea will encourage native bees to visit your garden or bushland. To observe them, stand one to two metres from the plants and look for small insects that dart in and out of the flowers. Many of these will be native bees but some may be hoverflies. Hoverflies have only two wings and belong to the order *Diptera*, from the Greek *di*, 'two', and *ptera*, 'wing'.

Unlike honeybees, which nest in a large colony, nearly all native bees nest singly. Some nest in the ground. Others nest in wood. Some make their own holes while others use holes already made by the larvae of wood-boring moths or beetles.

We can easily provide places where native bees can nest. Grow local shrub species that used to occur naturally in your area and let them develop old wood, in which some of their associated insects will make holes. A particularly good plant used by many wood-boring insects is coojong (*Acacia saligna*), which will begin to develop holes after just a few years. Although coojong dies after 10 to 15 years, if you leave it in place it will continue to be a good provider of holes for native bees and other invertebrate animals.

Making artificial nesting sites

We can also provide artificial places for native bees to nest. For species that nest in wood, make a 'bee-pole' from a piece of untreated wood about one metre long

and five centimetres or more thick. Drill holes two to three centimetres deep with varying diameters of four to seven millimetres, to allow for bee species of different sizes. Bolt the wood to a star picket and drive this into the ground. This prevents the wood coming into contact with the ground and thus being eaten by termites.

For bee species that nest in the ground, such as the common blue-banded bee, make holes in clay moulds. Follow the instructions in article eight of the Australian Native Bee Research Centre website at www.zeta.org.au/~anbrc/abol.html.

The warm months of late spring and summer are the time to expect to see bees coming and going from the holes. This is also the time when hole entrances are sealed over and the completed brood-cells constructed within.

Further information

To identify native bees visit www.zeta.org.au/~anbrc/ beesinyourarea.html (Australian Native Bee Research Centre) or www.groups.yahoo.com/group/ANBees (Australian native bee e-mail study group).

You may also wish to join the group ANBees or the Western Australian Insect Study Society. The website is www.insectocietywa.org.au.



Some of the holes drilled in this bee-pole in the author's garden have been used and their entrances sealed; others are presently in use by native bees. Towards the bottom of this picture, a male bee resting on the pole is seeking to mate with a female emerging from a hole. Towards the top, a bird-dropping spider (which resembles a bird-dropping for its protection) sits just above a hole, probably to ambush a bee entering or leaving it. Photo – Robert Powell

Need help with environmental projects?

Green Corps is an Australian Government program for young people and the environment. Community organisations with an interest in youth development or natural resource management and heritage are encouraged to become a partner organisation with Green Corps. Projects are community-based with 75 per cent located in regional and remote areas of Australia.

Project activities include land, water and wildlife survey and data collection; landcare and coastcare activities; access control; bush regeneration; habitat protection and restoration; weed control; walking track construction; restoration activities for environmental and cultural heritage; community education; help with school programs and community events; and preservation of traditional indigenous culture, skills and stories.

You need to provide a structured program to keep 10 young people from the local area working full time for 26 weeks; opportunities for team members to build a range of skills and a sense of achievement once the project is complete; project materials and resources; technical support; and mentors and support from the community. We provide a team supervisor; transport for participants, materials and insurance.

For more details contact Jacqui D'Vine by phone (9335 7322 or 0448 909 128) or by email (d'vinej@missionaustralia.com.au).

BCI update: continued partnerships to control two major weed species



One biodiversity conservation initiative project aims to eradicate the highly invasive bulbous yellow soldier (Lachenalia reflexa) from local bushland areas. Photo – Karen Bettink

The DEC's *Saving our Species* biodiversity conservation initiative has been funded into its second year, with major projects to control two invasive weed species receiving \$30,000 and \$40,000.

Both originating in South Africa, the bulbous weed yellow soldiers (*Lachenalia reflexa*) and 'haas' or 'hare' grass (*Tribolium uniola*) are highly invasive weeds and serious threats to high conservation value bushland areas in and around Perth. These projects aim to eradicate or severely reduce populations

at key sites on the Swan Coastal Plain and Darling Scarp, as well as prevent both species spreading to the south-west of the State. A control and monitoring program by land manager partners such as local government and community groups will help reduce the weeds' impacts. A management plan for each species is being prepared through DEC's NHT-funded *Invasive Species* project, due for completion in June 2008. For more information contact Karen Bettink at Urban Nature on 9423 2904.

WA boneseed blitz

Community groups and land managers came together to seek out and eradicate new infestations of boneseed during the 'WA Boneseed Blitz' between 3 and 14

September. Boneseed is a weed of national significance that invades vast areas of native bushland in South Australia, Tasmania and Victoria. It is a fast-growing, aggressive plant that threatens the survival of native plants, degrades native bushland and displaces food plants of native animals. The south-west of WA is susceptible to



boneseed invasion. Fortunately it is still in the early stages of invasion and the weed is only known from around 30 sites in WA. All known infestations are under eradication.

Everyone is advised to be on the lookout for the bright yellow 'daisy' flowers of boneseed that appear on plants between August and October. Please report potential sightings on 1800 084 881. Photos and descriptions of boneseed are available at www.weeds.org.au/WoNS/bitoubush and in the flyer enclosed in this issue of *Bushland News*.

Feeling blue? Act green!

Eminent biologists, psychologists and health professionals are showing that contact with nature – whether through parks, natural bush, pets or farm animals – helps us recover from stress and mental fatigue, helps us relax and puts us in a good frame of mind. So become a 'civic environmentalist' – plant trees with a group, volunteer to keep your local parks and gardens clean or learn more about your natural environment. Being active, having a sense of belonging and having a purpose in life all contribute to happiness and good mental health. Visit www.mentallyhealthywa.org.au or www.naturebase.net and click on Healthy Parks, Healthy People.

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

Sundays 8am–10am
Bushland regeneration with Friends of Shenton Park Bushland. Held every Sunday. Contact Dani 9381 3470 or bojel@it.net.au.

1 September–16 October
National marsupial census with Tiwest night stalk. Various locations or organise your own. Contact Lyndsay 9474 0497 or www.perthzoo.wa.gov.au/nightstalk.

October

1 Monday–5 Friday
Fauna survey and fencing at Paruna Wildlife Sanctuary, Avon Valley. \$30 per night (includes transport, accommodation and food). Contact **CVA**.

7 Sunday 8.30am–12 noon
Walk the Kalamunda Zig Zag. Entertainment, children's activities, wildflower talks. Free park and ride from Stirk Park, Kalamunda or Maida Vale Reserve. First bus departs 8.30am. Call Karen 9257 9999.

7 Sunday 11am–12 noon
Guided wildflower walk with park ranger at Mundaring National Park. Call Michael 9295 9107.

7 Sunday 11am–2.30pm
Guided bush walk for seniors along 8km of trails in Mundaring National Park. \$5 per person. Contact **N2N**.

7 Sunday 1pm–3pm
Bush botanicals – a brief walk in the Perth Hills after which you create a wildflower watercolour or pencil artwork. \$25 per person. Contact **N2N**.

9 Tuesday 8pm
A new family tree for waxes, featherflowers, bells and their relatives. Guest speaker Dr Matt Barrett. Contact **WSWA**.

13 Saturday 9am–4pm
Dune building – how to rehabilitate coastal vegetation. Practical workshop on project planning, plant selection, fencing, weed control and monitoring. Afternoon field trip. Darius building, Kwinana. Contact **SFNC**.

14 Sunday 11am–12 noon
Nyoongar history walk with park ranger at Avon Valley National Park. Call Michael 9295 9107.

14 Sunday 8.30am–9.30am
Wildflower walk in Cottonwood Crescent Bushland Reserve, Dianella. Contact **FDB**.

14 Sunday 10am–2pm
Guided bush walk along 8km of Patens Brook Trail. \$15 per person. Contact **N2N**.

19 Friday 7.30pm–8.30pm
Night walk in Cottonwood Crescent Bushland Reserve, Dianella. Contact **FDB**.



19 Friday 9am–12 noon
Native tree recovery workshop on pests, disease, drought, equipment, seedlings and phosphite. Green Skills, Serpentine-Jarrahdale. Call Michelle 9360 6667.

20 Saturday 9am–12 noon
Activity morning with Friends of Brixton Street Wetlands. Morning tea provided. Call Regina 9459 2964.

20 Saturday 1pm–5pm
Bushland regeneration workshop on revegetation, weed management, basic plant identification and project planning. Ledger Road Scout Hall, Gooseberry Hill. Contact **BSFH**.

20 Saturday 8am
Guided nature walk at Lake Gwelup. Contact **FLG**.

20 Saturday 7.30am
Guided bird walk with Birds Australia and Friends of Lightning Swamp Bushland. Advice and tips on bird identification. Limited numbers. Call John 9275 7338.

20 Saturday 5.30pm–7.30pm
Guided walk with John Dell at Piesse Brook. BYO torch. Bookings essential. Call Karen 9257 9999.

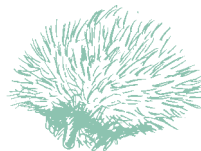
21 Sunday 10.30am–12.30pm
'Busy bee' at Piesse Brook, Kalamunda National Park. Meet at entry gate on Schipp Rd. Call Linda 9293 3102.

21 Sunday 9am–12 noon
Bush regeneration with Friends of Warwick Bushland. Meet at bowling/tennis club car park, Lloyd Dr, Warwick. Call Janina 9447 9494.

22 Monday–26 Friday
Track construction and maintenance, Yaberoo Budjara Trail, City of Wanneroo. BYO lunch. Contact **CVA**.

26 Friday 7.30pm
Nocturnal walk at Star Swamp Bushland. Bring a torch. Contact **FSS**.

27 Saturday 2pm–8pm
Frogs of Perth workshop on species identification, frog life-cycle, monitoring and creating habitats. Cockburn Wetlands Education Centre. Contact **SFNC**.



27 Saturday 9am–12 noon
How to conduct a flora survey workshop on why and how to carry out a quadrat survey. Lesmurdie Hall. Contact **BSFH**.

28 Sunday 9am–12 noon
Lupin pull at Star Swamp Bushland. Volunteers needed. Contact **FSS**.

November

4 Sunday 7.30am–8.30am
Bush Breakfast of cereals, fruit and cooked goodies followed by optional bushwalk in Bungendore Park. \$8 per person. Bookings essential for catering. Call Caralyn 9498 1555 or Don 9399 1893.

5 Monday 7.30pm
Marsupial tales: from wallabies to honey possums. The Western Australian Naturalist Club 2007 Serventy Memorial Lecture by Professor Marilyn Renfree. Adults \$10, students \$5. University of Western Australia. Call 9228 2495.

10 Saturday 9am–12 noon
Creepline habitat creation. Theory and practical workshop. Parkerville. Contact **BSFH**.

10 Saturday 9.30am–11.30am
Native grass walk with Una Bell at Lesmurdie Falls Reserve. Bookings essential. Call Karen 9257 9999.

11 Sunday 8.30am–9.30am
Photography walk in Cottonwood Crescent Bushland Reserve, Dianella. Contact **FDB**.

13 Tuesday 8pm
Rescuing rare plants. Guest speaker Dr Eric Bunn. Contact **WSWA**.

17 Saturday 9am–12 noon
Activity morning with Friends of Brixton Street Wetlands. Morning tea provided. Call Regina 9459 2964.

17 Saturday 8.45am–1pm
Reptilian wonders of the Swan Coastal Plain. Workshop on Perth's reptile diversity, monitoring, habitat and handling. Walk in Bold Park. Wollaston College, Mount Claremont. Contact **SFNC**.

17 Saturday 8am
Guided nature walk at Lake Gwelup. Contact **FLG**.

Please send us your January, February and March events by 30 November 2007.

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.

CVA **Conservation Volunteers Australia.** Contact Sandra 9354 8711 or 0428 533 010.

FDB **Friends of Dianella Bushland.** Meet at Cottonwood Crescent Bushland Reserve carpark, Channel 7 Private Road. Contact Jan on 9344 2872.

FLG **Friends of Lake Gwelup.** Meet at scout hall carpark Huntriss Rd, Gwelup. Call Betty 9444 5640.

FSS **Friends of Star Swamp Bushland.** Meet at Henderson Environment Centre, Groat St, North Beach. Call David 9448 9192.

N2N **Nearer to Nature.** DEC. Affordable prices for all activities. Bookings: Perth Hills National Parks Centre on 9295 2244 or visit www.naturebase.net/nearer-tonature.

SNC **Skills for Nature Conservation.** Free training courses by DEC's Urban Nature and Greening Australia WA. Bookings 9423 2924 or urban.nature@dec.wa.gov.au.

WSWA **Wildflower Society of WA,** Perth Branch. Subiaco Community Centre, 203 Bagot Rd. Contact Nina 9448 5419 or echidnawrx@westnet.com.au.

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.



18 Sunday 10.30am–1.30pm
Bush walk and Christmas party with the Friends of Warwick Bushland. Meet at bowling/tennis club car park, Lloyd Dr, Warwick. Call Janina 9447 9494.

26 Monday–30 Friday
Riverbank rehabilitation on the Swan River, City of Melville. BYO lunch. Contact **CVA**.

December

20 Monday–14 Friday
Planting and nursery activities, Capel Wetlands Centre. \$30 per night (includes transport, accommodation and food). Contact **CVA**.

15 Saturday 8am
Guided nature walk at Lake Gwelup. Contact **FLG**.

15 Saturday 9am–12 noon
Activity morning with Friends of Brixton Street Wetlands. Morning tea provided. Call Regina 9459 2964.

Highlights

25–30 November
Ecological Society of Australia conference, Perth. Visit www.ecolsoc.org.au/ESA2007Conference.htm.

3–7 December
Fourth Biennial Australasian Ornithological Conference, University of Western Australia. Avian research, conservation, post-conference field excursions. Visit www.birdswa.com.au or contact Suzanne Mather on 9389 6416 or aoc2007@birdswa.com.au.

4–7 December
The 2007 Australian Society of Herpetologists Conference, Camp Quaranup in Albany. Visit www.museum.wa.gov.au/collections/natscience/vertebrates/ash2007.asp.

Learning opportunities

2008 State NRM Conference 31 March – 3 April 2008



The Blackwood Basin Group will be hosting the 'Regional NRM – Bridging the Barriers to Better NRM' conference in 2008. The conference will review the progress in natural resource management (NRM) and investigate how to better integrate different facets of the industry to ensure the best environmental outcome. It will also explore how local communities work with regional and sub-regional groups and government to find solutions to landcare problems and put them into action. The conference will include the State Landcare Awards and gala dinner, field trips, interactive workshops and several social events to maximise networking opportunities. For more information visit www.nrmconferencewa2008.com.au.

Seed collecting course

Learn best-practice harvesting methods, carry out collecting in a seed orchard and in local bush, find out about the latest regulations and learn how to clean, package and store your seeds ready for your revegetation project next year. Course at Swan TAFE, Midland in November/December 2007. Some weekend work is required. For registrations of interest contact Anne Taylor or Ted Johnson 93746314 or email anne.taylor@swantafe.edu.au.

Sustainable living workshops

These workshops will help you make compost; DIY fertilisers, herbicides and insecticides; recycle paper; attract birds, butterflies and frogs to your garden; have happy hens; and create a stunning native garden.

Thanks to the Zero Waste initiative the first 15 participants registered get free entry into each workshop, held on Saturdays or Sundays from 1pm. Contact Naragebup Rockingham Regional Environment Centre on 9591 3077, email rrec@naragebup.org.au or visit www.naragebup.org.au.



Funding opportunities

NRM Education Small Grants Scheme

Educational institutions providing NRM education in the South West Catchment Council (SWCC) region can now apply for grants up to \$10,000 to support existing NRM education projects or programs. Funding could be used for monitoring of natural resources to fund additional training or field trips or to purchase materials to assist with on-ground activities. The funding is part of the Commonwealth and State Government's regional component of the Natural Heritage Trust (NHT), administered by the SWCC. Applications close 31 March 2008. Contact Rachael Reed on 9780 6268 or email reed@agric.wa.gov.au or visit www.swcatchmentscouncil.com.

Funding for lantana eradication in WA

The 'Defeating the Weeds Menace' program funded by the Australian Government, is calling for applications to manage lantana in WA. Eligible applicants include local government, State agencies, natural resource management (NRM) bodies, landcare groups, community groups and Aboriginal communities. Applicants must use best-practice on-ground control of lantana. All projects should consider a site-based approach to the management of weeds to ensure invasion by other weed species does not result as a consequence of undertaking this project. The lantana control manual, support and advice are freely available for each project. Contact Michele Rogers on (07) 3896 3386 or michele.rogers@dpi.qld.gov.au or Kym Johnson kym.johnson@dpi.qld.gov.au for further information.

Kambarang (October–November)

Decreasing rain and rising temperatures hail the time for inland communities to trek back towards the coast. Shallow coastal wetland areas provide a wealth of food including fresh water crayfish. It is also the last opportunity to dig for the native potato (*Platysace cirrosa*) and red beak orchid (*Pyrorchis nigricans*).

Birak (December–January)

Dry and hot, Birak is characterised by arid easterly or north-easterly winds in the morning and coastal sea breezes in the afternoon. This is the time when the country dries, water becomes scarce and controlled local fires were lit in the

scrublands. Traditional Nyoongar 'men's business' at this time included fishing and hunting in estuaries and along the coast. Nectar and gum are being produced by many plants which were collected by the women.

Please send us your regional report (150–200 words) and a photo by 30 November 2007. Text may be edited in response to volume of submitted reports.

Planting at Brixton Street Wetlands *By DEC Urban Nature program*

In 2004, the Friends of Brixton Street Wetlands and DEC received an Envirofund grant to restore native vegetation along the edges of the bushland adjoining Alton Street. The first part of the project involved weed control and removal of dumped soil mounds. In 2006, the area was planted with a range of local species grown from seed collected in the wetlands.

This year we aimed to increase the density and diversity of the original plantings. The planting day on 16 June was organised by the Friends of Brixton Street Wetlands, DEC Urban Nature program and Swan Coastal District staff. More than 30 community members supported by eight DEC staff planted 2000 seedlings including wattles, swishbush and *Kunzea micrantha*.



Planting seedlings at Brixton Street Wetlands in June. Photo – Kate Brown

Workers were rewarded with a delicious barbecue lunch provided by DEC Swan Coastal District and greatly enjoyed by all.

For more information on activities with the Friends of Brixton Street Wetlands call Regina 9459 2964.

Kalamunda's Bush Revegetation Team help Friends groups



By Nicole O'Neill, Shire of Kalamunda

The Shire of Kalamunda's Community Group Revegetation Program for 2007 has been a huge success with 8000 local native seedlings planted in 34 Shire reserves.

This year, 25 Friends groups registered in the Shire of Kalamunda received plants, with the Bush Regeneration Team (BRT) planting more than 3000 plants on another nine reserves. This program uses local provenance seed collected by Tranen Revegetation Systems from a number of high quality Shire reserves, which are then grown to order by the Men of the Trees at their nursery in Hazelmere.

Chief executive officer David Vaughan said the Shire of Kalamunda would like to thank all groups who took part in the annual revegetation program.

"The community's efforts are invaluable in ensuring that we continue to improve the condition of our bushland reserves within the Shire of Kalamunda," he said.

Friends groups involved included a number of established groups such as Friends of Ledger Road Reserve, who have been carrying out weed control in

the old tip site since 2001; Friends of Poison Gully, who work to improve the condition of the creekline vegetation of Poison Gully; and the Friends of Ray Owen Reserve, who took part in their first planting season since the groups' establishment. The program also involves school children from Gooseberry Hill Primary School, who work at Huntley Street Reserve, and from Dawson Park Primary School, who work at Yongar Reserve in Forrestfield.

This year the BRT provided assistance to a number of groups by digging holes, planting with group members, spreading mulch and spraying weeds to prepare areas for planting. They were assisted by the Eastern Hills Green Corps team, who planted in five Kalamunda reserves, including Toornaart Creek, Nestle Brae Reserve and the Woodlupine Living Stream Project.

The BRT is available to all Friends groups in the Shire of Kalamunda to assist in their bushcare efforts. If you would like to book a day to work alongside this hard-working team please contact Karen Britza on 9257 9806.



New edition of Flora of Bungendore Park

By Kim Sarti

After our 'Fungi Foray' held in the park on 1 July, a revised edition of *Flora of Bungendore Park* (2007) was released. This edition, which updates the 1999 version, includes changes to scientific names, additional information and new records. Copies of the report are available for \$10.00 plus \$2.50 postage by phoning our treasurer Irene (9399 3386) or posting a cheque to the Bungendore Park Management Committee at PO Box 538, Armadale, WA 6992.

The management committee, community members and students of Armadale Christian College planted 1200 seedlings during July in degraded areas and disused gravel pits at Bungendore Park. The dieback treatment program is continuing along mapped dieback fronts using foliar spraying and stem injection by our contractor, Dieback Treatment Services. Funding by the Swan Alcoa Landcare Program and Community Conservation grants have assisted in both rehabilitation activities.

A spring bushwalk organised by the City of Armadale was held on 23 September and our ever-popular 'Bungendore Bush Breakfast' will be held on 4 November (details in What's On section).

For more information contact Kim on 9470 2297 or kimsarti@bigpond.net.au.

Learning to propagate By Jasmine Watts, Glen Forrest Primary School

Glen Forrest Primary School students planted 300 native shrubs and trees on National Tree Day on 27 July in an effort to revegetate the Super Block in Glen Forrest. The Shire of Mundaring ripped the soil and donated tree guards, bamboo sticks and mulch.

The Super Block is an old orchard, very degraded and much of the ground is completely bare. This block is significant environmentally because Nyaania Creek runs through it. This creek is a tributary to the Helena River which joins the Swan River downstream.

We researched plant species that occur naturally. Seed was collected from private property, donated by Seeds West or purchased. It took countless phone calls and letters to find out how to propagate native seedlings. Eventually I found that I needed smoke water. The internet had a smoke contraption to make but eventually I was able to get the chemical (which everyone seemed to be out of) from the Wildflower Society.

Students spread the seeds in makeshift seed trays, drenched them with smoke water then planted them when the smoke water dried off. We made sure we labelled everything carefully for later identification. Native seedlings can take anywhere from a week to more than 100 days to germinate. Our germination was good, resulting in 1000 plants of different species. The

success of wandoo was particularly high with more than 600 germinating.

We pricked out the seedlings. Most of them I had to do in my own time with tweezers because the seedlings were so tiny with a long tap root and thin stem. Also one tray had many seedlings. We even propagated some *Pimelea spectabilis*, which I had heard the Wildflower Society has had no luck with!



Neve Holroyd-Jones (left) and Sophie White from Glen Forrest Primary School plant seedlings at the Super Block which they propagated from seed. Photo – Jasmine Watts

Tenure of Talbot Road Bushland changed

By DEC Urban Nature program

A planting day was held on 30 June at Talbot Road Bushland. A barbecue lunch was provided by DEC Hills District staff and was followed by an informal meeting of community volunteers interested in joining the Friends of Talbot Road Bushland. As a result of the planting day, Urban Nature organised a guided wildflower walk in early September and facilitated a meeting to regenerate interest in the Friends group.

The bushland is one of the most significant areas remaining on the Swan Coastal Plain. Until recently it was vested in the City of Swan. The City managed the bushland jointly with DEC and the Friends group. Last month, in recognition of its conservation significance and as part of implementing the management plan, the

bushland became vested in DEC as an A-Class nature reserve.

The reserve is one of few places on the Swan Coastal Plain where the woodlands and heathlands that once occurred along the base of the Darling Scarp remain undisturbed and largely intact. These ecosystems are now classified as threatened ecological communities and are home to a diversity of wildflowers. At Talbot Road Bushland this includes 15 species of significant flora. The site also supports an abundance of native fauna including seven different types of frog, bandicoots, honey possums and western grey kangaroos.

The management group is looking for new members to join the Friends of Talbot Road Bushland. Contact Urban Nature on 9423 2914.

Eddy raises money for Paganoni Swamp

By Leonie Stubbs

The Perth-Bunbury Highway will be constructed on Paganoni Swamp's eastern boundary. In light of this, the Friends of Paganoni Swamp were the fortunate recipients of Eddy Wajon's endeavours to paint himself as a 'greenie'.

As part of World Environment Day, Eddy dyed his hair and beard green with a black strip down the centre representing the highway!

Eddy is the Sustainability Liaison Officer with the Conservation Council, a member of the Southern Gateway Alliance (SGA) consortium which is constructing the highway. He was sponsored \$351 by staff members and their contribution was matched by the SGA. In total Eddy raised \$702 for the Friends group and the donation included a GPS unit.

Using the GPS unit in the manner designed by the Perth Urban Bushland Fungi project, the Friends of Paganoni have mapped infestations of cape tulip (*Moraea miniata*) within the reserve. The money raised by Eddy will partly fund an eradication program. What a fantastic outcome for our environment, thanks to Eddy, the SGA and its staff.

For more information on activities at Paganoni Swamp call Leonie on 0439 921 298.



*Eddy Wajon.
Photo – SGA*

Restoration opportunities in the hills

A number of Friends and Catchment groups in the Perth Hills work on bush and river restoration. Members of these groups contribute to improving their local environment while working in a fun social atmosphere. They always welcome new members. *Contact Stephen Lloyd (Eastern Hills) on 9424 222; Toni Burbidge (Mundaring) on 9290 6685, Linda Kirchner (Kalamunda) on 9257 9936 or Karen Britza (Kalamunda) on 9257 9806.*

Local bushland is highly valued by local communities

By Renata Zelinova

The Local Nature Spot project is looking at how people relate to their local natural environment in the metropolitan area. The project is run by the Western Australian Local Government Association's Perth Biodiversity Project with funding from the Natural Heritage Trust through the Swan Catchment Council in partnership with the Town of Cambridge, Cities of Armadale, Canning, Swan and Wanneroo and the North Metro Conservation Group.

Ninety-one per cent of respondents in a community survey conducted earlier this year agreed that it is important to have an area of natural bushland in their suburb. This is a major endorsement for land managers to protect and manage natural areas.

The community survey was conducted as part of the 'Local Nature Spot' or 'Behaviour Change for Natural Diversity' project. The aim of the survey was to gain an understanding of community attitudes towards their local bushland and perceptions of threats to conservation values.

About 4500 self-completion questionnaires were distributed to randomly selected residents living within a 500-metre radius of 15 selected natural areas. These natural areas included regionally significant sites (e.g. Bush Forever sites) as well as locally significant natural areas. The response exceeded expectations, with more than 1250 residents returning the questionnaire. The views expressed in the responses can be considered representative of the local communities, as all age, gender and household groups were well represented.

The report on the community survey provides a wealth of information and an interesting comparison between localities. Forty-five per cent of respondents stated that they use their local nature reserve daily or at least once a week, mostly for walking (84 per cent), nature watching (67 per cent), exercising pets (42 per cent) and relaxing (29 per cent). The most visited reserve was Moulton Wetland Reserve in the new housing estate in Ellenbrook (68 per cent use daily or weekly).

Areas of local natural bushland were generally regarded as a good place for wildlife (87 per cent of respondents agreed), and many consider these areas



Spiny tailed gecko at Roscommon Reserve in Floreat. Photo – Renata Zelinova

relaxing (73 per cent) and attractive (67 per cent). There are also a considerable number of respondents who think natural bushland increases the value of local property (65 per cent), but there were differences among localities ranging from 33 per cent in Westfield to 82 per cent in City Beach.

Generally, this survey supports the findings of similar studies elsewhere, as it seems that the more frequently people use their local bushland, the more positive are their associations with the area.

Residents had an opportunity to describe what they value about their local natural area but also to list any reasons for dissatisfaction. The things that people valued most were the opportunity to walk through natural bushland where plants and animals can be observed and the proximity of the bushland to their home. Satisfaction was highest among those living close to Lloyd Hughes Reserve in Kelmscott, Marangaroo Reserve in Marangaroo and Roscommon Reserve in Floreat.

The main concern residents had is that the bushland looked untidy and neglected. Residents are dissatisfied with the amount of rubbish being dumped in these areas. Other issues specific to reserves included motorbike riding, antisocial behaviour and vandalism. The main perceived threats to conservation were dumping of building material,

rubbish and garden waste; loss of native plants and animals; vandalism; and unauthorised vehicle access.

Seventy-one per cent of respondents agreed that cats, dieback (61 per cent), trampling (54 per cent) and frequent fires (53 per cent) were threatening the conservation values of their local reserve.



When asked how to encourage people to look after local bushland, the most popular responses were enforcing stricter penalties for anti-social behaviour, preventing access to unauthorised vehicles, promoting a phone number to report problems and providing more information about how to care for natural areas. Overall, 70 per cent of respondents agreed it is important for local communities to look after local bushland with local government seen as having the most responsibility for management (96 per cent).

The results of the survey provide useful information for developing strategies to address selected management issues that are the result of human behaviour at each site. Local Nature Spot officers were employed to help the five participating local governments to implement recommendations.

For more information contact Renata Zelinova, Monday – Wednesday on 9213 2050 or visit http://www.councils.wa.gov.au/directory/walg/a/index.html/pbp/local_nature_spot_project/.

GROUPPROFILE:

Friends of Blue Wren Reserve

By Sandy Stone



MUNDARING Shire Council recognised a growing need for community involvement to maintain green corridors and reserves within the Shire. In response, volunteers formed the Friends of Blue Wren Reserve in late 2000.

Susannah Brook runs through the 13 hectare Blue Wren Reserve which has been logged and grazed by livestock for many years. The reserve forms an important part of local ecological linkage in the Shire of Mundaring. Initial work by the Friends group focused on clearing rubbish, planting local native seedlings and weed control. The group has continued with revegetation and weed control and, during the last three years, has also focused on community education and the ongoing threat of *Phytophthora* dieback.

Support

The Friends have been supported extensively by the Shire with funding and guidance from bushcare officers and the Eastern Metropolitan Regional Council environmental staff. In recent years the Swan Alcoa Landcare Project has provided funding for seedlings, weed control and dieback control. The project has been generously supported by Wooroloo Prison which has provided materials, a picnic table and labour to plant native seedlings.

The Susannah Brook Catchment Group has provided information, equipment and administrative support because the Friends are not an incorporated group. Swan TAFE has provided planting volunteers and expertise. Free mulch and 200 extra seedlings to rehabilitate a difficult weedy site have been supplied by Men of the Trees. The Eastern Hills Branch of the Wildflower Society has supplied local native seed. The Friends have achieved revegetation success by broadcasting this seed in the reserve. The project attracts

\$12,000 of support annually and this figure increases each year.

Initiatives this year

In March the Shire provided funds for a 'Giving it back to the volunteers' barbecue to thank all the volunteers who have worked on this project and to showcase the work carried out by the group. Many supporters enjoyed a pleasant evening in Blue Wren Reserve.

In May the Friends group used equipment from the Dieback Working Group to spray and inject susceptible shrubs and trees with a solution of phosphite to help stop the spread of *Phytophthora* dieback. The day was quite successful and we thanked the volunteers with a barbecue. There are still more areas to be treated and we're hoping to have these dieback areas mapped by the Swan Catchment Council.

In June, Year three and Year seven students from Gidgegannup Primary School, two teachers and parent volunteers planted seedlings and mulched last year's planting. The Friends strongly support this kind of partnership as it instills a respect for nature and fosters a sense of pride and stewardship from a young age.

Also at the end of June a group of city volunteers came up to the hills to help plant seedlings in the reserve. The City of Bayswater generously made this possible through advertising the event and recruiting local schools from the city. This support for the Friends of Blue Wren Reserve, a very small group of local volunteers, was greatly

appreciated. This city-country link is yet another way to reach motivated volunteers to assist in revegetation of the reserve.

The Friends were invited to participate in the 'Community Dieback Resistant Jarrah Project' launched at Alcoa Marrinup Nursery in July. Fifty dieback-resistant jarrah seedlings were planted by the Friends in areas of suspected *Phytophthora* dieback activity. Dr Ian Colquhoun and his team from Murdoch University will monitor the progress of these seedlings.

A small group with a big vision

This is a community project with a very small group of local volunteers. Their goals are to restore biodiversity, to maintain and continue weed control and slow down the impacts of *Phytophthora* dieback. By implementing these initiatives they hope to educate, encourage and motivate the wider community to restore degraded bushland and enjoy the results.

This piece of bush has become a welcome habitat for many different birds and animals and an enjoyable recreation area. Bulbous weeds are slowly disappearing and a prolific fragrant bushland and healthy brook with frogs and macro-invertebrates is returning.

Contacts

Contact Sandy Stone (Friends Group Coordinator) on 9295 1468 or 0412 608 968 or email the_stones@optusnet.com.au. Contact Gemma French (Shire of Mundaring Bushcare Coordinator) Monday – Wednesday on 9290 6685.



Sandy (left), Sylvia, Suzie, Kathy and Tony share a cuppa before planting seedlings at Blue Wren Reserve in early August. Photo – Roger Stone.



Bushland in Blue Wren Reserve. Photo – Toni Burbidge

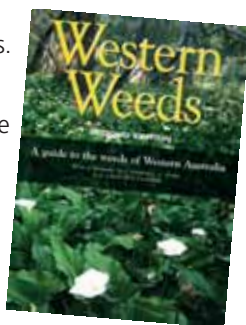
Resources

Publications

Western Weeds - A guide to the weeds of Western Australia.

B.M.J. Hussey, G.J. Keighery, J. Dodd, S.G. Lloyd and R.D. Cousens. (2007) Second Edition.

This guide features more than 1000 weeds affecting natural and agricultural areas of WA. This new 312-page second edition includes an additional 200 weeds and updated information. More than 600 illustrations and diagrams help you identify weed species. An excellent and essential reference and field guide. RRP: \$35. To order phone Jo Brown on 9368 3710.



Hakeas of Western Australia - A Field and Identification Guide.

J.A. Young (2007).

An identification guide to all WA hakeas that combines and updates previous publications by Jennifer Young. Each plant is described with drawings, colour photographs, locality map, flowering times and uses. RRP: \$20 plus \$8 postage within WA. To order email jayoung50@westnet.com.au.



State of the Environment Report: Western Australia 2007.

Environmental Protection Authority.

This is the first comprehensive report on the state of WA's environment since 1998. It summarises the condition of WA's environment, assesses the major environmental issues and makes recommendations for addressing these. Its findings indicate that although some of our environmental problems have improved since 1998, many have become worse. While initiatives are in place to address most of the issues identified in the report, more action needs to be taken to make significant progress in many of these problems. The report can be viewed at www.soe.wa.gov.au and copies are available from DEC by calling 6364 6510.

Are your details correct?

Please check your mailing details and let us know if we need to change anything by phoning us on 9423 2914. If you'd prefer to receive this newsletter electronically, send an email titled 'email me' to urban.nature@dec.wa.gov.au.

Website watch

Scribbly gum: animals, plants, weather and 'weird stuff'. A fascinating website full of interesting articles, national and State issues and with a 'what is happening now' section. Visit www.abc.net.au/science/scribblygum/july2007/.

Aussie bee online is a website on everything you want to know about native bees. Visit www.zeta.org.au/~anbr/abol-current.html.

Rivers of Western Australia is an interactive website for children (and adults) who like some fun. Discusses catchments, water cycle, biodiversity and the Murray and Hutt Rivers. Visit www.rowa.org.au/.

Florabank website was launched on 28 August 2007 to provide resources for those interested in Australian native seeds. Guidelines for seed collection, storage, germination and professional training. Visit www.florabank.org.au/.

Lantana Lowdown newsletter now available. The first edition introduces the national lantana coordinator, outlines the 2006 landholder survey on lantana, developments in bio-control agents, use of herbicides and contact details. If you would like to be added to the mailing list for future editions of Lantana Lowdown email clare.raven@dpi.qld.gov.au.

The Bridal Creeper newsletter (Vol. 3 No. 2) of the National Asparagus Weeds Management Committee is available to download at www.weeds.org.au/WoNS/bridalcreeper/.


bushland news

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