

Field trip for managers of clay-based wetlands

Compiled by Jo Tregonning

In August the Urban Nature program hosted a field trip to clay-based wetlands on the Swan Coastal Plain. These seasonal clay-based wetlands are some of the most threatened ecological communities in south-western Australia and, over the years, many people have been involved in their conservation and management.

The field trip looked at the outcomes of this work and enabled on-ground managers to network and exchange ideas about the management of these wetlands. Participants visited examples of these wetlands from Ellen Brook Nature Reserve in the north, south to Brixton Street Wetlands and to Meelon and Duckpond Road nature reserves.

The field trip attracted participants from a variety of backgrounds and included representatives from Friends groups (Friends of Brixton Street Wetlands, Lowlands Conservation Association, Baldivis Children's Forest), local and State governments (cities of Gosnells, Swan and Canning, and Serpentine-Jarrahdale and Murray shires, Department for Planning and Infrastructure, Botanic Gardens and Parks Authority, Department of Environment and Conservation (DEC), Landcare centres (Serpentine-Jarrahdale and Waroona) and interested community members.

The managers and the sites

DEC manages Ellen Brook Nature Reserve and Melissa Hoskins, Sean Walsh and Rod Martyn, from DEC's Swan Coastal District, discussed the challenge of managing weeds and fire, major threats to the wetlands, while working to protect the critically endangered western swamp tortoise (*Pseudemydura umbrina*). Ellen Brook is one of two remaining natural locations of the tortoise. A vermin-proof fence around habitat in Ellen Brook aims to protect an estimated 40 to 50 breeding pairs from predation.



Regina Drummond from the Friends of Brixton Street Wetlands discusses the challenges of managing this clay-based wetland with field day participants. Photo – Jill Pryde

The City of Swan, Perth Zoo and the Friends group work with DEC to conserve and manage the flora and fauna in the reserve.

Next stop was Brixton Street Wetlands in Kenwick – a particularly significant clay-based wetland where the plant communities are largely intact and in excellent condition. DEC manages the reserve in partnership with the Friends of Brixton Street Wetlands with support from the City of Gosnells. Much of their work has focused on developing techniques for managing weeds in species-rich plant communities and in an area that is inundated with water through winter and spring. In recent years the Friends group and DEC have been working on the restoration of the degraded edges of the herb-rich shrublands. This project has been funded by the Commonwealth Government's EnviroFund and WWF's Threatened Species Network Community Grants. One major threat to the plant communities of these wetlands includes changing hydrology due to changing land uses around the reserve.

Located 200 kilometres south of Perth, east of Pinjarra, Meelon Nature Reserve protects a tiny remnant clay-based wetland with a wandoo overstorey. Potential development of a large private block within Meelon was a major threat to the integrity of the wetland, but fortunately DEC recently purchased the block for inclusion into the nature reserve. With weed invasion also a serious threat, Meelon has been the focus of a three-year study investigating possible management techniques for watsonia, including restoration of invaded plant communities. On-ground results provided a visually impressive display to participants of the field trip and the outcomes are promising for management of watsonia invasions and restoration of these threatened plant communities across the region.

Last stop was Duckpond Nature Reserve, a 3.5-hectare area that forms part of the Mundijong Road Reserve.

Continued page 2

Issue 67

Spring 2008

Time of Djilba and Kambarang in the Nyongar calendar.

Urban Nature update

Page 2

Bushland Weedwatch: Watsonia

Page 3

Econote: Threatened flora and ecological communities

Page 4

Perth's living dead?

Page 5

What's on

Page 6

Regional reports

Page 8

Watsonia in clay-based wetlands

Page 10

Group profile: Claise Brook Catchment Group

Page 11

Resources

Page 12



Department of Environment and Conservation

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 By David Mitchell

The Urban Nature team had a restructure recently, which has changed reporting relationships to increase integration with DEC Swan Region's Nature Conservation group and share overall program responsibility between staff. In addition, the Community Education Coordinator position has been advertised and we look forward to having a new team member and new opportunities for community bushland management activities.

This edition of *Bushland News* contains a number of articles on clay-based wetlands that showcase some exciting activities carried out by Urban Nature and other land managers. Let us know what you think of the idea of theme-based editions of *Bushland News*.

In July, DEC launched an updated website to replace NatureBase (the former Department of Conservation and Land Management's website) and the former Department of Environment's website. The new website, www.dec.wa.gov.au, contains the content of the two former sites. Information about Urban Nature can be found at www.dec.wa.gov.au/programs/urban-nature/index.html. Many of our publications are on the website including some workshop proceedings. Eventually we hope to have a series of case studies from our demonstration sites.

Release of *Tribolium uniolae* brochure

Enclosed is a brochure on South African haas grass (*Tribolium uniolae*). South African haas grass has been the subject of a DEC Biodiversity Conservation Initiative and Swan Catchment Council strategic control program on the eastern coastal plain and Perth Hills. This is the first of a new series of bushland weeds brochures that feature information about why the weed is a problem, where it occurs, how it was introduced, as well as its habitat, distribution, biology and control information.

DEC's Midwest Region has produced the second brochure of the series on *Verbesina encelioides*, a problematic coastal weed. Urban Nature aims to produce additional brochures on important weeds. Brochures will be available at www.dec.wa.gov.au/programs/urban-nature/index.html.

Field trip for managers of clay-based wetlands

Continued from page 1...

The low-lying areas of the reserve support dense shrublands on claypans that are inundated for long periods. Duckpond has benefited from the long-term involvement in its management by community member Ted Love. The reserve was fenced in 2007 to prevent rubbish dumping and access by off-road vehicles. Future recovery actions will include weed control, seed collection and restoration of the degraded edges through supplementary planting. It is hoped that the local community, Serpentine-Jarrahdale Landcare Group, shire and DEC can continue to work together to achieve positive outcomes for the conservation of this site.

Future field trips and workshops?

The field trip provided insight into the challenges faced by managers of these communities and was an excellent forum for land managers to share knowledge and exchange ideas. Feedback received on the day indicated a desire for similar field days. 'The field trip process is much better than a formal workshop indoors, as one can gain a much better understanding' wrote one participant.

For more information contact Urban Nature on 9423 2900 and refer to the 'Econote' (page 4) and the article on page 10 in this issue.



Staff from DEC's Swan Coastal District discuss weed, fire and fauna management at Ellen Brook Nature Reserve with field trip participants. Photo – Grazyna Paczkowska

Summer *Bushland News*

Summer *Bushland News* contributions should be sent to Urban Nature by **Monday 24 November 2008**.

Compiled and edited by Jo Tregonning.

Contacts

Urban Nature office

David Mitchell	9423 2913
Kate Brown	9423 2905
Karen Bettink	9423 2904
Grazyna Paczkowska	9423 2914
Rebecca Hayes	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

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

BUSHLAND WEEDWATCH:

Watsonia

By Kate Brown, DEC

Watsonia were introduced to Western Australia in the 1800s for the cut flower trade and were popular garden plants. Over time they lost popularity, but not before a number of species escaped to become particularly serious weeds of remnant bushland.

In 1997 a regional survey of remnant vegetation along the Darling Scarp identified invasion by watsonia as one of the most serious threats to remaining intact native plant communities. Its capacity to invade undisturbed bushland, particularly on heavier soils, and to displace herbs, shrubs and seedling trees makes watsonia a serious environmental weed.

Belonging to the family Iridaceae, there are 51 species of watsonia occurring naturally in southern Africa and one in Madagascar. Seven species and subspecies have become naturalised in WA including *W. meriana* var. *bulbillifera*, *W. meriana* var. *meriana*, *W. borbonica*, *W. versfeldii*, *W. marginata*, *W. knysnana* and *W. aletroides*. The most widespread of these are *W. meriana* var. *meriana* and *W. meriana* var. *bulbillifera*.

Life cycle

W. meriana var. *meriana* spreads mainly by seed and occasionally produces cormels, so plants are often found that produce both cormels and apparently viable seed. *W. meriana* var. *bulbillifera* does not produce seed but spreads by cormels that develop along the flowering stem (Figure 1).



Watsonia invasion in marri woodland at Burnside Nature Reserve near Dwellingup.
Photo – Kate Brown

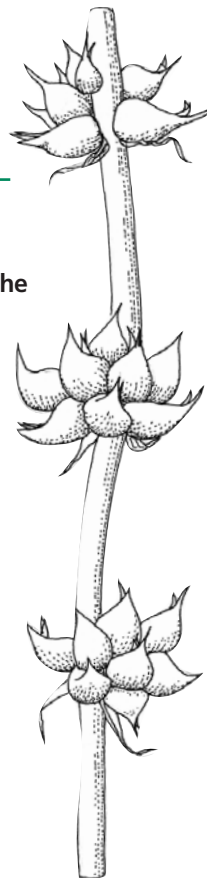
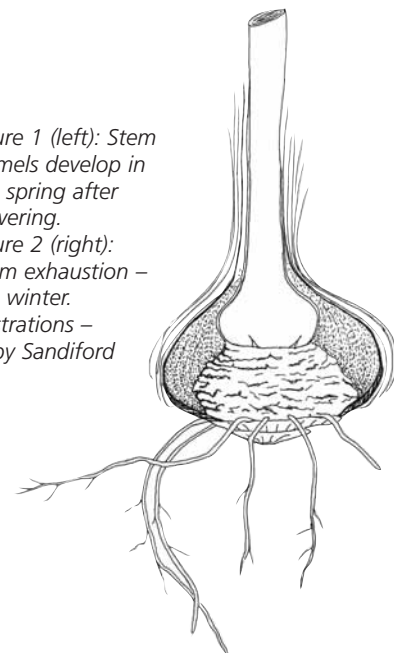


Figure 1 (left): Stem cormels develop in late spring after flowering.

Figure 2 (right): Corm exhaustion – late winter.

Illustrations – Libby Sandiford



Autumn: With the first autumn rains the parent corm that has remained dormant during summer begins actively growing.

Winter: As the plant grows, a new corm begins to develop at the base of the new stem and above the old corm (Figure 2).

Spring: Plants flower as the new corm completes development.

Summer: Flowers produce seed or flowering stems develop cormels. Parent corm enters dormancy.

Management

The recommended time for herbicide control for most of the cormous invasive weeds in the south-west is at the beginning of flowering, as this coincides with exhaustion of the parent corm. For most watsonia species this occurs late winter to early spring. The herbicide 2-2 DPA (Dalapon®, Propon®) at 5g/L with the penetrant Pulse® at 2mL/L, when applied at the correct time, provides effective control of watsonia with minimum impact to co-occurring native species (refer to the article on page 10).

Fire and watsonia

- Fire-stimulated flowering (mass flowering following fire) is commonly observed in natural populations of watsonia in southern Africa and to some degree among populations where watsonia is invading native plant communities of south-west Australia.
- With increased flowering following fire there will be increased seed set or cormel production (depending on the species).
- The growing season following the fire increased seed set or cormel production is probably when watsonia expands into otherwise undisturbed plant communities.

- Control of watsonia following fire can be difficult with the regenerating native plant community particularly vulnerable to off-target damage from herbicide.
- Often after watsonia has been killed by herbicide a very dense layer of dead leaves remain. This appears to inhibit regeneration of native plants. Fire at this stage removes the layer and can facilitate native plant regeneration.

In summary, fire appears to facilitate the spread of watsonia into otherwise undisturbed plant communities and control in the post fire environment is difficult. However, fire can be a useful tool to facilitate regeneration of native plants once all watsonia across a site has been killed.

Further reading

Brown, K. (2006). Control of Bulbil Watsonia (*Watsonia meriana* var. *meriana*) invading a Banksia Woodland: Effectiveness of 2,2-DPA and its impacts on native flora. *Ecological Management and Restoration*, 7 (1): 68-70.

Hussey, B.M.J., Keighery, G.J., Cousens, R.D., Dodd, J. and Lloyd, S.G. (2007) *Western weeds. A guide to the weeds of Western Australia*. Second Edition. The Plant Protection Society of Western Australia, Victoria Park.

Le Maitre, D.C. and Brown, P.J. (1992). Life-cycles and fire stimulated flowering in geophytes. In: B.W. van Wilgen, D.M. Richardson, F.J. Kruger, and H.J. van Hensbergen (Ed.). *Fire in South African mountain fynbos*. Ecological Studies 93: 145-160. Springer Verlag, Berlin.

Markey, A. (1997). *Floristic survey of the northern Darling Scarp*. Department of Conservation and Land Management.

ECONOTES:

Threatened flora and ecological communities of clay-based wetlands

By Melissa Hoskins, DEC

The seasonal clay-based wetlands situated on the eastern side of the Swan Coastal Plain support some of the most threatened flora and ecological communities in Western Australia.

Extensive clearing for agriculture and urban development has reduced the number of seasonal clay-based wetlands on the plain and the ongoing threat of weed invasion and climate change leading to hydrological changes has resulted in their status as threatened ecological communities.

Clay-based wetlands support a species rich and highly diverse assemblage of flora, fauna and ecological communities. Seasonal inundation of the wetland during winter and spring supports an annual flora that is able to germinate, grow and flower successively as the wetlands dry out during the warmer months. Not only are the plant communities in these wetlands considered threatened, but a number of the flora species growing in these areas are also threatened or declared rare.

Two species of declared rare flora that occur in clay-based wetlands are *Eleocharis keigheryi* and *Trithuria occidentalis*. *E. keigheryi* is a perennial,

grass-like sedge that has underground roots (rhizomes) which die back over summer. It is currently known from 15 populations where it typically occurs in winter wet clay pans and flats. This plant flowers during August to November although its flowers are inconspicuous.

Commonly known as Swan hydatella, *Trithuria occidentalis* has recently undergone taxonomic revision. Formerly known as *Hydatella dioica*, this species is considered extremely rare with only one population currently known to exist. Research has shown that *Trithuria* are the earliest flowering plants on Earth and may have evolved more 135 million years ago in the age of the dinosaurs. Swan hydatella is an aquatic annual which can be found in pools of standing water in clay pans. This species has both male and female plants.

Other threatened taxa which are generally restricted to seasonally inundated freshwater clay pans include *Aponogeton hexatepalus* and *Craspedia argillicola*. *A. hexatepalus*, a Priority 4 species, is an aquatic perennial that flowers from July to October. It is commonly known as 'stalked water ribbons' due to the leaves of the plant which can be seen floating on the surface of the water. *C. argillicola* belongs to the Asteraceae (or daisy) family and is a perennial herb that reaches a height of approximately 40 centimetres. This yellow-flowered daisy is a Priority 2 species and can be seen flowering from August to October.

The threatened flora and ecological communities which occur within clay-based wetlands highlight the importance of



Eleocharis keigheryi and *Villarsia capitata* growing in the seasonally inundated clay pan at Brixton Street Wetlands. Photo – Kate Brown



Yellow-flowered *Craspedia argillicola* at Meelon Nature Reserve. Photo – Kate Brown

conserving these wetlands. DEC, in cooperation with landholders, managers and local Friends groups undertake recovery actions at these wetlands such as weed control, rehabilitation and on-going monitoring. To assist in the protection of these extremely important clay-based wetlands and the diverse flora and ecological communities that they support, contact your local shire to find out if there is a Friends group near you.

For more information, visit DEC's website at www.dec.wa.gov.au or contact Melissa Hoskins on 9405 0700 or by email melissa.hoskins@dec.wa.gov.au.

Perth Urban Bushland Fungi 2008

By Neale Bougher, Roz Hart, Sarah de Bueger and Brett Glossop

In 2008, the Perth Urban Bushland Fungi team conducted five weekend events and a number of other surveys. Workshops provided opportunities to learn about photography and painting, microscope work, identifying fresh fungi specimens as well as data collecting, tracking and using GPS equipment and resources. Surveys recorded hundreds of fungi of many different forms including bracket, coral, cup, earthstar, jelly, mushroom, puffball, shell, slime mould, truffle and tubular fungi. About 230 fungi were processed, described and vouchered at the WA Herbarium by the team this season.

Visit www.fungiperth.org.au for field book updates. Bushland survey reports will be uploaded before the end of 2008.



A diminutive new species of *Mycena* collected from Bold Park. Photo – Neale Bougher

Why dryandras have changed their name

The WA Herbarium has recently changed the names of all species of *Dryandra* to an equivalent name in *Banksia* to reflect a taxonomic change. Dryandras are now considered to be a modified and specialised subgroup of *Banksia* rather than a genus in their own right. Visit <http://florabase.dec.wa.gov.au/articles/> for two fascinating articles that explain why dryandra has a changed name, based on research by Kevin Thiele from the WA Herbarium and Austin Mast from the University of Florida.

In future, *Bushland News* will use the *Banksia* scientific name for dryandras, but when appropriate will still use 'dryandra' in a vernacular sense for common names of this subgroup of *Banksia*.

WA boneseed blitz By Hillary Cherry



The bright yellow flowers and berry fruits of boneseed during spring make identification of this weed easy. Please report sightings. Photo – Hillary Cherry

Community groups and land managers will target boneseed (*Chrysanthemoides monilifera*) from September to November. The bright yellow 'daisy' flowers during these months allow easy identification of this nationally significant weed. Invading vast areas of native bushland in South Australia, Tasmania and Victoria, it has been stopped in the early stages of invasion in WA, with 35 known infestations under eradication. Boneseed fruits are easily spread into bushland from residential gardens. You can help by reporting suspected boneseed plants to the Department of Agriculture and Food (DAFWA) Pest Info line on 1800 084 881. Visit www.weeds.org.au/WoNS/bitoubush.

Perth's living dead?

By Robert A. Davis, Lesley Brooker and Dale Roberts (The University of Western Australia)

For the past two years, we have been undertaking a project to investigate bird species most at risk on the Swan Coastal Plain. This project was funded by the Natural Heritage Trust through the Swan Catchment Council. We examined 121 sites that were surveyed as part of the Perth Biodiversity Project and Birds Australia bird survey project. We looked at both site-based and landscape-level factors that were important for birds.

Unfortunately the news was not good. Perth seemed to be facing a tide of potential bird extinctions. At least 83 per cent of 65 bush birds examined were found to be dependent on the presence of native vegetation in close proximity to where they occur. This is a problem given the very high rate of land clearing that has happened and is happening in Perth. Bushland birds declined as the landscape changed from well vegetated to fragmented to urban, with just 11 species adapted to urban areas (their occurrences were unrelated to the amount of vegetation cover).

The most sensitive species in our analysis was the scarlet robin (*Petroica multicolor*), which was not found in landscapes containing less than 61 per cent native vegetation cover (in a two-kilometre radius). The most sensitive group contained 14 species including the splendid fairy wren (*Malurus splendens*) and the western thornbill (*Acanthiza inornata*), inland thornbill (*A. apicalis*) and yellow-rumped thornbill (*A. chrysorrhoa*).

Common urban species such as the brown honeyeater (*Lichmera indistincta*), red wattlebird (*Anthochaera carunculata*), singing honeyeater (*Meliphaga virescens*) and Australian raven (*Corvus coronoides*) will be favoured by ongoing land clearing in the metropolitan region and may be the only native species that persist in our future urban landscapes.

For project information contact Robert Davis on 6488 1361 or by email rob@graduate.uwa.edu.au.

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

 **Conservation Volunteers Australia** 2008 conservation activity schedule. Overnight country trips to one-day activities. 2/343 Newcastle St, Northbridge. Call Sandra or Steve 9227 5711 or visit perth@conservationvolunteers.com.au.


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

 **Sundays 8.30am Bushcare activities** with the Friends of Wireless Hill. Held second and fourth Sunday of each month. Meet at main car park. Contact Margaret 9315 9075 or s3mmatthews@hotmail.com.

 **Tuesdays 8am–9am Bushcare activities** every Tuesday with Byford Enviro-Link. Call Kristy 9526 0199.


October

 **3 Friday 6pm–7.30pm 'Frog Watch' night stalk** at Beelihar. Free, sponsored by the WA Museum and Alcoa. Contact the 'Frog Doctor' 9795 7780 or frogdoctor@westnet.com.au. Visit <http://frogwatch.museum.wa.gov.au/>.


 **4 Saturday–5 Sunday Beach litter survey** with the Friends of Marmion Marine Park, Trigg Island to Burns Beach. Cape to Cape coastal clean up. Call Lynda 9342 8684.

 **5 October Sunday 10am–4pm Friends of Piesse Brook Open Day**, Kalamunda National Park. Educational talks. Wildflower walk at 1pm. Displays by the Swan Catchment Council, Swan Alcoa Landcare Program, Eastern Metropolitan Regional Council and DEC. 'Open Garden' at Katandra, 142 Hummerston Rd, Piesse Brook. Contact **FPB**.

 **12 Sunday 8am–11am Nature ramble** with naturalist Marc Lane in Ellis Brook Valley, Darling Range. Gold coin donation. Bookings 9452 9901.

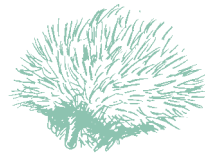
 **14 Tuesday 8pm Flora surveys** at Charles Darwin Reserve (formerly White Wells Station). Guest speaker Brian Moyle. Call **PWSWA**.


 **17 Friday 7.30pm Nocturnal walk** at Lake Gwelup Reserve. Bring a torch. Call Christine 9447 2983 or contact **FLG**.

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


 **18 Saturday 9am Activity morning** with Friends of Brixton Street Wetlands. Call Regina 9459 2964.

 **19 Sunday 9am Wildflower walk** at Beth Walker's Yallingup property (am) and eight-kilometre Cape Naturaliste to Meelup walk (pm). Bus from Busselton \$10 per adult. Bring picnic lunch. Contact **BNC**.




 **19 Sunday 9.45am 'Busy Bee'** with the Friends of Piesse Brook, Kalamunda National Park. Contact **FPB**.

 **19 Sunday 9.30am–1.30pm Annual 'Bush to Beach' guided walk** with the Friends of Shenton Park Bushland. 11.5 kilometres from Grant Marine Park, Cottesloe, along the Swan River to Buckland Hill. Morning tea 11.45am at Chidley Point. Registrations at 9am. Call Lesley 9384 7983 or Peter 0416 631 421.

 **19 Sunday 9am–12 noon Nature walk and bush regeneration** with the Friends of Warwick Bushland. Contact **FWB**.

 **24 Friday and 25 Saturday 6pm Jarrahdale ghosts** – a bushwalk under the full moon with the Jarrahdale Heritage Society. Bring a torch and picnic. Bookings essential. Contact Tony 9526 5161 or Sheila stwine@sjshire.wa.gov.au.


 **25 Saturday 9am–11am Wetland ramble** with the Friends of Brixton Street Wetlands. Binoculars supplied. Gold coin donation. Bookings 9452 9901.

 **28 Tuesday 9am Centranthus (valerian weed) control** at Paganoni Swamp. Call **FPS**.





November

 **1 Saturday 6.30pm–8.30pm Guided walk** with John Dell (DEC) and the Friends of Piesse Brook in Kalamunda National Park. Bring a torch. Contact **BSFH**.


 **8 Saturday 9am–11am Flora walk** with the Friends of Brixton Street Wetlands. Binoculars supplied. Gold coin donation. Bookings 9452 9901.


 **8 Saturday 9.30am–11.30am Native grass walk** in the Darling Scarp with Una Bell. Starts lower Lesmurdie Falls Reserve. Contact **BSFH**.

 **9 Sunday 8am–11am Nature ramble** with naturalist Marc Lane in Ellis Brook Valley, Darling Range. Gold coin donation. Bookings 9452 9901.

 **9 Sunday 9am–12 noon Creekline habitat and restoration workshop**. High Wycombe Community Centre followed by practical at Booralie Way Reserve, Maida Vale. Contact **BSFH**.





 **9 Sunday 7.30am–8.30am Bush breakfast** of cereal, fruit, cooked followed by optional bushwalk in Bungendore Park, Bedforddale near Admiral Rd entrance. \$9 per person. Bookings essential. Call Miriam 9498 1570 or Don 9399 1893.

 **11 Tuesday 8pm Desert sands to mountain streams** – a focus on the systematics of the Australian Haloragaceae plant family. Guest speaker Dr Michael Moody. Call **PWSWA**.


 **12 Wednesday 7.30pm Western Shield Program** – saving our endangered wildlife. Guest speaker Peter Orell (DEC). Contact **BNC**.

 **15 Saturday 9am Activity morning** with Friends of Brixton Street Wetlands. Call Regina 9459 2964.

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

 **16 Sunday 9.45am 'Busy Bee'** with the Friends of Piesse Brook, Kalamunda National Park. Contact **FPB**.

 **16 Sunday 10.30am–1.30pm End of year party and nature walk** with the Friends of Warwick Bushland. Contact **FWB**.

 **18 Tuesday 9am Euphorbia weed control** at Paganoni Swamp. Call **FPS**.

REGISTRATION/CONTACT DETAILS

BSFH **Bush Skills for the Hills** offers free hills-focused workshops. Contact Sophie Hogermeier 9424 2216 or Sophie.Hogermeier@emrc.org.au.

BNC **Busselton Naturalists' Club**. Meet RSL Hall, Causeway Rd, Busselton. Contact Bernie Masters 9727 2474 or bmasters@iinet.net.au.

FLG **Friends of Lake Gwelup**. Meet at Scout Hall, Huntriss Rd, Karrinyup. Contact Wayne 0407 383 425 or Betty 9444 5640 or email folg@mail@iinet.net.au.


FPB **Friends of Piesse Brook** Meet at the gate into Kalamunda National Park, end of Schipp Rd, Piesse Brook. Wear boots, gloves and hat. Bring drink, secateurs and a smile. Email linda@johnstanley.cc to confirm. Check website www.friendsofpiessebrook.org.au.


FPS **Friends of Paganoni Swamp** Call Leonie 0439 921 298.

FWB **Friends of Warwick Bushland**. Meet at bowling/tennis club car park, Lloyd Drv, Warwick. Contact Janina Pezzarini 9447 9494 or neen@ext.uwa.edu.au.

PWSWA Wildflower Society of WA (Perth Branch) Subiaco Community Centre. Call Nina on 0427936566.

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.

21 Friday 7pm–9.30pm
Frog night stalk with naturalist Marc Lane and the Friends of Mary Carroll Park, Gosnells. Gold coin donation. Bookings 9452 9901.

23 Sunday 9am
Bush walk Eighth leg of the Cape to Cape Track, Boranup Lookout to Cosy Corner. 15 kilometres includes five kilometres on beach. Moderate to hard walk. Meet bus for lunch, \$12 per adult. Contact **BNC**.

30 Sunday 8am–11am
Nature ramble with naturalist Marc Lane in Ellis Brook Valley, Darling Range. Gold coin donation. Bookings 9452 9901.

December

2 Tuesday 9am
Insect ramble at Paganoni Swamp. Call **FPS**.

3 Wednesday 6pm
Christmas party with the Busselton Naturalists' Club. Bring food and drinks. Entertainment, raffle, slides, 'Squashed Possum' award. Contact **BNC**.

16 Tuesday 9am
Dieback monitoring at Paganoni Swamp. Call **FPS**.

Please send us your January, February, March and early April events by Monday 24 November 2008.

Highlights

19–25 October
Biodiversity Information Standards (TDWG) Conference (TDWG Taxonomic Database Working Group). Western Australian Maritime Museum, Perth. Focussing on the development of standards, exchange of biological/biodiversity data, the 'Atlas of Living Australia' project. Visit www.ala.org.au/tdwg2008.htm.

29 October–19 November
7.30–9.30pm
Astronomy for Beginners at Gingin Observatory. Wednesday evenings. Cost \$148 for four lessons. Contact Peter Birch 9575 7740 or stars@ginginobservatory.com.

24–27 November
2008 Australasian Wildlife Management Society Conference, Fremantle. A theme of 'Human Impacts on Wildlife' encompassing invasive and threatened species, climate change, habitat disturbance and sustainable use of wildlife. Visit www.awms.org.nz/index.html.

March 2009 (not 2 November as originally planned)
Earth Solutions Expo, Northam. Suggestions for speakers, workshops and exhibitors welcome – especially sustainable farming. Email simoned@depmpstersteel.com.au.

Consider conducting a Tiwest Night Stalk

By Lyndsay Fairclough

Do you know which nocturnal animals live in your local area? This year Perth Zoo is coordinating its tenth Tiwest Night Stalk and is seeking assistance from conservation volunteers to conduct a spotlight survey of their local area on any nights from 1 September to 16 October 2008.



Last year, community conservation groups were the most significant contributors to this program – a national citizen-based spotlight survey to determine the number and distribution of native species and feral pests in rural and metropolitan Australia. It is easy and anyone can do it! All you need is a torch and a sense of adventure. Information, instructions and spotters log is available at www.perthzoo.wa.gov.au/nightstalk. Results are published on the Night Stalk website and made available to State conservation agencies.



Between showers in July, the Friends of Brine Moran Reserve planted seedlings adjacent to Snowball Road. For more information or to assist with conservation work at the reserve call Pam Hughes on 9293 0993.

Phytophthora dieback – standardised signs

A new system of standardised dieback signage is now available for installation in bushland in the south-west of Western Australia to protect native flora and fauna against the deadly effects of the plant disease. The signs carry the messages 'Dieback Free', 'Dieback Infested' or 'Dieback Unknown' areas and can be displayed on any lands. The signage encourages people to take precautions to prevent further spread of the disease by alerting them to the need to protect disease-free areas. The new signs are an initiative of Project Dieback, a cross-regional Natural Resource Management project that worked closely with Great Southern TAFE and DEC. To order signs in the Swan Region call the Swan Catchment Council on 9374 3333.

Please send us your regional report (150–200 words) and a photo by Monday 24 November 2008. Text may be edited in response to volume of submitted reports.

Bird habitat benefits from volunteers

By Margaret Matassa

Alfred Cove foreshore was the centre of activity for 50 international Catholic pilgrims and their hosts from Santa Maria School, who volunteered their time for local community service while en route to Sydney for World Youth Day.

Organised by the Friends of Attadale Foreshore and assisted by Birds Australia WA, volunteers from Switzerland and South Africa restored bird habitat at the reserve at Alfred Cove. More than 200 seedlings were planted along 300 metres of the foreshore and 30 bags of weeds were collected. Participants were rewarded with a lively presentation by Birds Australia on local bird species, and viewed many of these birds on-site through binoculars and telescope.

Since 2003, the Friends group has received funding from the Swan Alcoa Landcare Program and has planted more than 20,000 seedlings and sedges, planted a native verge along Burke Drive, installed an interpretive shelter and gates, and spent thousands of hours weeding and watering seedlings. The Friends group works with DEC in the Alfred Cove Nature Reserve and the Swan Estuary Marine Park and the adjacent foreshore reserve along Burke Drive, and with the City of Melville in the Attadale Conservation Reserve (a Bush Forever site). The Swan Estuary Marine Park is internationally significant for its migratory birds, several of which are protected by international treaties JAMBA (Japan-Australia Migratory Bird Agreement) and CAMBA (China-Australia Migratory Bird Agreement).

Contact Margaret Matassa on matassa@bigpond.com or 0419 156 404.



Volunteers planting sedges at Alfred Cove with the Friends of Attadale Foreshore. Photo – Alison Dugand

Dieback-resistant jarrah in Alps Street Reserve *By Valerie Jenner*

In August 2007, the Friends of Alps Street Reserve planted 80 dieback-resistant jarrah seedlings provided by Alcoa in two very different areas in the Alps Street Reserve, Mount Helena. While 66 per cent of the seedlings planted in an older and partly regenerated dieback area are thriving, there was only 10 per cent survival in the worst dieback-affected areas.

We were very pleased to be accepted by Alcoa for an allocation of 36 seedlings for 2008, which six volunteers planted in the worst dieback-affected area. This year our instructions are to remove the plastic tree

guards in November and, if the seedlings appear to be suffering in the heat of summer, we may water them – making sure we keep a record of the amount and times. We all have our fingers crossed for a higher survival rate this year.

Weed control in the reserve continued with the removal of some introduced acacias (eastern states species) in winter. *Watsonia* is being kept out by manual removal and smashing of the bulbs and there are very few other weeds in the reserve.

Email Valerie at val2@westnet.com.au.

Waterbird Conservation Group targets Folly Pool

By Ruth Clark

The Waterbird Conservation Group formed in 1984 in response to a severe outbreak of botulism in waterbirds at Thomsons Lake in Munster. Hundreds of sick and dying birds including pelicans, swans, ducks and wading birds were rescued during the outbreak.

The group's initial focus was on the rescue and rehabilitation of sick, injured and orphaned waterbirds. During the past 10 years the group has moved its attention to addressing the causes of waterbird deaths, such as the loss of wetlands, their degradation, pollution and poor management, rather than the symptoms.

The group has had vesting of two wetlands in Baldvis, east of Rockingham since 1993. These wetlands, Folly and Maramanup pools, are situated along the Peel main drain. To assist in managing the wetlands and improving habitat, the group successfully applied for an Australian Government Envirofund grant in 2006 to control weeds and re-establish sedges at Folly Pool.

For the first 18 months we concentrated on weed control. Water couch was prolific throughout the fringes of the wetland. It took many months of slashing, mowing and continual spraying with Roundup®



Members at Folly Pool collecting rubbish and planting seedlings. Photo – Waterbird Conservation Group

Biactive before we could see results. Along with members of the group, volunteers from Larkhill Landcare group gave invaluable time to weed control and the City of Rockingham provided equipment. The group will continue to keep the couch under control until September 2009 when planting of sedges and rushes will begin. Sedge and rush species will include *Baumea juncea*, *Juncus kraussii*, *Carex fascicularis*, *Juncus pallidus*, *Ficinia nodosa* and *Gahnia trifida*.

In November 2007 the group received funding from Lotterywest to purchase planting and weed control equipment. This equipment will support volunteers working at Folly and Maramanup pools.

For more information or to get involved call Ruth on 9339 5501.

Canning River EcoEducation Centre and book launch

By Pam Agar

In early June, the then Premier Alan Carpenter opened the Canning River EcoEducation Centre in Canning River Regional Park. The centre was developed collaboratively by DEC, the City of Canning, Swan River Trust, Department of Education and Training and the community, with assistance from the Department of Housing and Works. Funded by the State Government, it will be managed by the City of Canning and will provide opportunities for environmental education for schools and the public, as well as a meeting place for local volunteer groups.

The centre includes interpretive displays, an office, storage, classroom, small laboratory, meeting room, toilets and a future cafe area. Considerable effort has gone into revegetating around the centre, with staff



Canning River EcoEducation Centre. Photo – Jacinta Overman/DEC

from DEC, City of Canning, South East Regional Centre for Urban Landcare and local volunteer groups all being involved.

The book *End to End – a year in the Canning River Regional Park* by Pam Agar was launched at the opening (see Resources section).

Call Jo on 9458 3669 or Pam on 9457 2292.

Radio – practice makes perfect! By Leonie Stubbs

A while ago, on a Tuesday evening, I had five minutes of fame on radio. Michael Coote, the presenter for RTR-FM's 'Understorey' segment, interviewed me in my role as coordinator for Friends of Paganoni Swamp. 'Understorey' is a regular weekly segment that highlights environmental issues. Obviously practice makes perfect and it was pretty obvious I didn't have a lot of practice. No political career on the horizon for me! Within the first sentence I mentioned a non-existent lake and had extended Paganoni Reserve's eastern boundary to the Serpentine River. While I had 24 hours to prepare, I didn't make many of the points I wanted to. These included the:

- wonderful work carried out by under-resourced regional park staff;
- implications of climate change for wildlife confined to fragmented reserves; and
- the problems caused by vandals cutting fences, starting fires, dumping rubbish,

illegally riding motor bikes, quads or 4WD vehicles that contribute to weed and disease infestations.

I hope I conveyed Paganoni Swamp's special qualities to listeners and the importance of a collective approach to achieving the best environmental outcomes. For example, funding for weed control programs has been provided by Cemex Australia Pty Ltd (previously Readymix) and Community Conservation Grants funded by the State Government. I really appreciated the opportunity provided by Michael and the team at 'Understorey' and RTR-FM. But next time...

For information about Friends of Paganoni Swamp contact Leonie on 0439 921 298 or email Friends_Paganoni_Swamp@westnet.com.au. For information on volunteering opportunities with Rockingham Lakes Regional Park call 9431 6500.

Weed control along Piesse Brook

By Linda Stanley

The Friends of Piesse Brook group is in the eighth year of its project to remove invasive weeds from Piesse Brook in the Kalamunda National Park. The group is carrying out maintenance work along four kilometres of Piesse Brook where weeds are already controlled, representing 90 per cent of the area along the brook in the park.

Since 2007, the group has worked with private landholders upstream to eradicate declared weeds from their properties. The aim is to prevent weed seed washing back down into the park. Last year all of the landholders targeted in zone one joined the group in weed control. This year another six land owners upstream in zone two have joined the project.

Email Linda on linda@johnstanley.cc

Conservation efforts at Bungendore Park

By Kim Sarti

Bungendore Park Management Committee has been continuing its rehabilitation program in the park. Another 1,000 seedlings were planted during July in a dieback-affected area and two disused gravel pits by community members and students of nearby Armadale Christian College. Seedlings are grown from seed collected in the park to maintain genetic integrity. A dieback treatment program continues along mapped dieback fronts, with foliar spraying and stem injection by our contractor, Dieback Treatment Services. Funding by Swan Alcoa Landcare Program and Community Conservation grants have assisted in both rehabilitation activities.

Our ever-popular 'Bungendore Bush Breakfast' on 9 November is being held in conjunction with the Armadale Wildflower Society to help celebrate the fiftieth anniversary of the Wildflower Society of WA (see What's On on page 6 for details).

Call Kim on 9470 2297.



Managing watsonia invasion in the threatened plant communities of south-west Australia's clay-based wetlands

The plant communities of clay-based wetlands comprise a flora of more than 600 species. At least 50 per cent are annual or perennial herbs, 16 occur only on the clay-pans and many are rare or restricted. Invasion by *Watsonia meriana* is one of the major threats to our few remaining intact clay-based wetlands.

By Kate Brown, DEC

While the majority of seasonal wetlands in south-west Australia are connected to the regional groundwater, some are found on clay substrates that rely solely on rainwater to fill. These wetlands are characterised by temporally overlapping suites of annual herbs that flower and set seed as the wetlands dry through spring. During summer, the clay substrates dry to impervious pans.

Trials to manage watsonia

Meelon Nature Reserve, a remnant clay-based wetland 200 kilometres south of Perth on the eastern side of the Swan Coastal Plain, has been the focus of a three-year study investigating possible management techniques for watsonia where it is invading these communities.

The herbicide 2-DPA (10g/L) with the penetrant Pulse® (2.5mL/L) was applied from a backpack unit in September 2005. Herbicide application on invasive geophytes such as watsonia should take place just as the underground storage organ is exhausted and this often coincides with flowering. For watsonia in south-west Australia, this corm exhaustion generally occurs in September.

One year after the initial treatment, a 97 per cent reduction in the cover of watsonia was recorded and importantly there was little evidence of off-target herbicide damage to native plant species.

The influence of fire

During the following summer in February 2007, a wildfire burnt across the reserve and through the study area. In September 2007 a significant increase in the cover and diversity of native species was recorded across the study area. Some species such as *Dichopogon preissii* had not been recorded at all before the fire. Others, such as the native sedges *Cyathochaeta avenacea* and *Chorizandra*



Left: *Watsonia* invading the clay-based wetlands of Meelon Nature Reserve.



Right: Results of the watsonia control trials look promising as the bands of treated and untreated areas in this photo clearly show. Photos – Kate Brown

enodis, and a number of native geophytes including *Chamaescilla gibsonii*, *Tribonanthes australis* and *Burchardia multiflora* increased greatly in cover following the fire.

These initial results are promising for management of watsonia invasions in these clay-based wetlands. Indications are that once watsonia has been killed the communities have the capacity to regenerate, with fire potentially playing a significant role in the process. In the parts of Meelon Nature Reserve outside our study area where watsonia had not been controlled, we observed prolific flowering of watsonia following the fire. It will be interesting to see if this leads to watsonia recruitment into our study area in 2008.

The study has been a collective effort involving staff from DEC and members of the local Dwellingup community.

In September 2007 a workshop and field day was run in conjunction with the Waroona Land Care Centre for land managers in the region. The day provided the opportunity to share the results of our work and to provide advice to local landholders, many closely involved in the management of plant communities associated with clay-based wetlands.

Note: Further trials have indicated that 2-DPA at 5g/L (half the rate trialled in the above study) provides effective control of watsonia and so this is our current recommendation.

Further reading

Brown, K., Paczkowska, G., Huston, B. and Withnell, N. (2008) Managing *Watsonia* invasion in the threatened plant communities of south-west Australia's clay-based wetlands. *Australasian Plant Conservation* 17(1): 8-10.

GROUPPROFILE:

Claise Brook Catchment Group



By Cecily Gilbert

The Claise Brook Catchment Group is a community group working in Perth to increase community awareness and involvement in land care, restoring natural habitat (particularly wetlands), and improving water quality flowing into the Swan River.

The group formed in 1997 following public concern about algal blooms in Perth wetlands and the lack of wetland habitat in the inner city. For many years, there was a paid part-time coordinator, but we currently work on a fully voluntary basis.

Our 'patch' is mostly modified environment within the catchments of the Claise Brook Main Drain, the Perth CBD catchment and Mounts Bay Drain catchment, which includes Perth City and Lake Monger, and the smaller Walters Brook Catchment in Highgate/East Perth. Groundwater and stormwater in these catchments eventually discharges to the Swan River. We hope to show how simple improvement initiatives, water awareness and changing behaviour can dramatically reduce the quantity of pollutants in the waterways and improve habitat for native fauna in the inner city.

Projects

Since forming, the group has been involved in many projects in partnership with the Swan River Trust, City of Perth, Water Corporation, Town of Vincent and other agencies such as the East Perth Redevelopment Authority. A feature of the group's work has been to use and promote local plant species suited to the soils and rainfall of the Perth area, and the enhancement of public open space to improve their capability and value for stormwater treatment and fauna habitat.

Early group activities included planting sedges and wetland species around Smith's Lake (north of Beatty Park). We also constructed a seasonal wetland at Robertson Park on Stuart Street, in partnership with the Town of Vincent, on the site of a former wetland and disused rubbish dump. We hold working bees at Robertson Park on the first Saturday of each month, to weed, plant, monitor water quality, take fauna observations and collect native plant seed.



(From left) Warren, Rada, Dudley, Gary, Chris, Greg and Garry complete the dryland planting at Robertson Park, June 2007. Photo – Sally Lake

Our members replanted garden beds at Piazza Nanni in Northbridge with WA plants to create a low maintenance, attractive landscape with low water and fertiliser requirements. The group also initiated a catchment friendly garden prize in the Town of Vincent's annual gardening awards. Prizes for this award are sponsored by the Water Corporation.

Water quality in Mounts Bay is a current concern, particularly with increasing urbanisation. Since 2006, the group has hosted discussions on measures to improve water quality in the catchment, and is currently preparing a water quality improvement plan. In early 2008 we made a detailed submission to LandCorp on the proposed Perth waterfront development. The condition of Mounts Bay foreshore and development of the Perth CBD Swan River foreshore is also of key interest to the group.

In 2006–07, the group surveyed open spaces in the city to prepare a Local Biodiversity Study for the City of Perth. This was an exciting project involving visits to more than 20 sites to record native and exotic flora and fauna. The study recommends linking isolated green patches, connecting Kings Park to the river foreshore and to other regional habitat areas.

Contact

We meet on the first Monday of each month at 6pm, alternating between City Farm and the Loftus Community Centre. Our website www.cbcb.org.au has more information on our aims and projects. Warren McGrath is the chair of the group and can be contacted by email on chair@cbcb.org.au.



(From left) Caroline, Sally, Jenny and Dudley at the local spring plant sale in the Town of Vincent, August 2007. Photo – CBCG

Resources

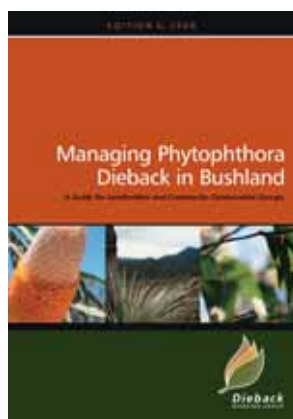
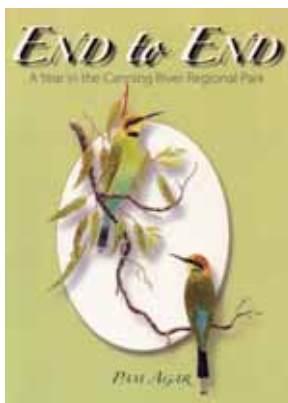
Publications

End to End – a year in the Canning River Regional Park (2008) Pam Agar. Canning River Regional Park Volunteers Inc. RRP \$10 (Includes GST). Beautifully written and illustrated, this 12-month journal of observations in Canning River Regional Park aims to raise awareness of the value and vulnerability of this important area. Contact Richard Stone on 9458 3669 or email admin@canningriver.org.au.

Managing Phytophthora Dieback in Bushland – A guide for Landholders and Community Conservation Groups (2008) Edition 4. Dieback Working Group. This booklet contains information on dieback, how to minimise its spread and how to treat it. Download a copy from www.dwg.org.au/files/DWG%20Handbook.pdf or call the Swan Catchment Council on 9374 3300.

Australasian Plant Conservation Bulletin of the Australian Network for Plant Conservation Inc – working to save Australia's native plants. Published quarterly, each issue contains articles on plant conservation, lists of the latest relevant publications, websites, conferences, field work and workshops. Visit www.anbg.gov.au/anpc/australasian_plant_conservation.html to subscribe.

The Aboriginal Cultural Heritage Management Plan Template was released by the Swan Catchment Council in August. It provides step-by-step guidelines for the protection and enhancement of Aboriginal culture and heritage in the Swan Region. Contact Cheryl-Anne McCann on 9374 3310 or email cheryl-anne.mccann@water.wa.gov.au.



Website watch

The **new DEC website** combines the former Department of Environment and NatureBase internet sites. Visit www.dec.wa.gov.au.

Quarterly **Dieback Working Group** newsletter is available from www.dwg.org.au.

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.




bushland news

Printed on 100% recycled, totally chlorine free (TCF) paper using vegetable-based inks.

If not claimed within 7 days, please return to
PO Box 1167, Bentley Delivery Centre, Kensington, WA 6983



Department of
Environment and Conservation

Our environment, our future 

POSTAGE
PAID
PERTH
WEST.
AUST. 6000