Satellite tracking Carnaby’s cockatoo

By Christine Groom

Understanding how the endangered Carnaby’s cockatoo (Calyptorhynchus latirostris) survives in Perth’s urban landscape is the purpose of a PhD project being undertaken through The University of Western Australia. The study will investigate where Carnaby’s cockatoos find food, water and shelter (night roosts), and also how they move in between these resources. This knowledge is important to conserving the species in the Perth area.

As part of the study, satellite tracking devices have been fitted to 20 rehabilitated Carnaby’s cockatoos. Another four will be attached before the end of the year. This is the first time such devices have been attached to a black cockatoo species in Australia. They are providing insights into the daily lives of Carnaby’s cockatoo that hasn’t previously been possible.

The data is revealing new roost site locations, daily movement patterns and long distance movements. Study birds have travelled as far north as Arrowsmith, south to Lake Preston and inland to Clackline, but most have stayed in the metropolitan area while being monitored. Older established suburbs such as Nedlands, Mt Lawley and Bayswater with mature exotic food trees including liquid amber, pecan and macadamias have been popular, as well as suburbs with large blocks and remnant banksia woodland such as Wandi and Banjup.

The satellite tracking devices are tiny, weighing just 17 g, and are attached to the underside of the two central tail feathers. When the feathers moult the tracking device will detach from the bird with the feathers. They are programmed to switch on and off to extend battery life. The data received by the satellites can be downloaded by researchers via the internet and provides approximate location fixes (at best within 250 m) about once an hour.

The signal being sent from the tracking devices can also be picked up by a suitable radio receiver and this is used to follow the flocks containing study birds while foraging. This provides valuable information on size of flocks containing study birds and feeding observations. These observations will help develop a food calendar (what the cockatoos feed on and when), and to calculate the size of the area around each night roost used for foraging.

The satellite tracked cockatoos have had part of the white panels of their tail feathers coloured pink, blue or green so they can be spotted more easily in the field and are marked with an individual identifying letter. You can help by looking out for them.

Please report any sightings of black cockatoos with colourful tails to Christine Groom on 0409 087 631 or email christine.groom@dec.wa.gov.au.

The project is being undertaken in collaboration with the Department of Environment and Conservation (DEC), Murdoch University, Perth Zoo, Kaarakin Black Cockatoo Conservation Centre and Native Animal Rescue.

If you’d like to follow the progress of the project please visit http://carnabyscockatoo.blogspot.com.au.
Urban Nature Update  By Julia Cullity

It’s with sadness that I pass on the news that DEC’s Director General Keiran McNamara passed away in March from cancer after a short illness. Our condolences are sent to Keiran’s family, friends and colleagues. We would like to remember the huge contribution Keiran made to nature conservation across the state and his support of the Urban Nature program.

As of 1 July 2013, DEC work will be carried out by the newly created Department of Parks and Wildlife (DPaW) responsible for biodiversity conservation and the management of national parks and nature reserves. Urban Nature will be working within DPaW and, although the name and logo will change, we will continue to provide technical advice and on-ground support for land managers working to protect, manage and restore our bushlands and wetlands.

By Julia Cullity

Protection for Bandicoot Brook  By Kate Brown

A recent addition to DEC-managed lands, Bandicoot Brook Reserve lies on the eastern side of the Swan Coastal Plain just north of Waroona. A management committee with members from the Shire of Waroona, the Shire of Murray, the Waroona Landcare Centre and DEC has been formed to implement a management plan for the reserve. Bandicoot Brook Reserve protects threatened woodlands and seasonal wetlands and is a significant addition to the conservation estate.

The Urban Nature Program will be involved in on-ground management of the reserve and monitoring changes over time in claypan communities. We also plan to run our annual workshop for managers of clay-based seasonal wetlands at Bandicoot Brook next spring. The reserve is located north of Waroona on the South-West Highway and is a beautiful place to visit as the wetlands dry and the annual herbs and geophytes flower in late October and early November.

By Kate Brown

Spring Bushland News

Spring Bushland News contributions should be sent to Urban Nature at urban.nature@dec.wa.gov.au by Thursday 22 August 2013. Bushland News seeks original contributions. If your submission has been or may be published elsewhere please let us know. Compiled and edited by Jo Tregonning.

This publication is available in alternative formats on request.

© All material copyright DEC on behalf of the State of Western Australia 2013. No part of the contents of the publication may be reproduced without the consent of the publishers. The views and opinions expressed in the articles in Bushland News are those of the authors and do not necessarily reflect those of the Department of Environment and Conservation.
controls involve spot spraying, which should be conducted at corm exhaustion when the plant is flowering but before it starts to yellow. The optimal time for herbicide control is usually in the months of July and August. Use metsulfuron methyl at a concentration of 0.2/15 L plus Pulse® penetrant. Metsulfuron methyl is a semi-selective herbicide that at this low rate will incur minimal damage to non-target species; however, avoid using on windy days or when rainfall is expected. Untreated corms will recolonise the area of disposal if not destroyed. Hand removed corms should be removed to deep burial in landfill.

**Biology**
Freesia is a cormous perennial herb that remains dormant over summer and starts protruding in autumn following rain. Seeding is the most common form of reproduction and seed dispersal may occur via water, soil and birds. Seedbank persistence is generally short (days to one year) with low mortality after fire.

**Control**
Controlling freesia should be assessed on a case-by-case basis. The extent of the infestations may require different control strategies. Generally, starting on the outskirts of larger infestations and working inward will help limit its spread into undisturbed areas. Hand-weeding should be conducted early on in its growth stages (August–September) before contractile roots are formed; however, weeding can commence as early as May when shoots start to appear. Herbicide spraying methods are extremely effective in the control of freesia. Current herbicide

---

**More information**


Hibbertia – guinea flowers  By Julia Cullity

Spring is without doubt the wildflower season in south-west WA, but bushwalks in winter will often be brightened by the yellow flowers of the common and long-flowering Hibbertia.

Belonging to the family Dilleniaceae, Hibbertia are small to medium shrubs with five petals and five sepals. There are more than 150 species – most are endemic to Australia with the remainder found in the Gondwanan countries of Madagascar, New Caledonia, New Guinea and Fiji. There are 40 taxa (species and subspecies) that occur on the Swan Coastal Plain – with many of them endemic to the South West.

Most Hibbertia have yellow or gold flowers but Hibbertia stellaris and H. miniata are orange. The best features to tell the species apart are leaf shape, whether flowers are stalked or stalk-less, and if the stamens are arranged in a circle or are all on one side of the ovary.

H. hypericoides (yellow buttercups) is a ubiquitous species in Perth bushland and is often the dominant shrub in the understorey of banksia and tuart woodlands, jarrah forest and heath. It flowers profusely from August through to October. The flowers produce no nectar, close at dusk and reopen in the morning.

Green jewel beetles (Diphucephala affinis) are often seen resting on yellow flowers. Originally thought to be pollinated by beetles, Hibbertia are pollinated by pollen-collecting native bees and pollen-eating flies by buzz pollination. The stamens are arranged in such a way that the bee must hold onto the flower and vibrate to get the pollen out.

Propagation

The seeds have arils – fleshy appendages to the seed – and may be attractive to ants, or seed-eating rodents or insects. Fruits are prone to insect damage and poor seed set. Once the seed is ripe the fruits dry out and open and release the seed. This usually occurs in mid to late summer and bagging unripe fruits with cotton or pantyhose may ensure some seed is collected.

Growing Hibbertia from seed is very difficult and most plants are grown from cuttings. Dormancy is thought to be driven by a poorly developed embryo which requires time to grow inside the seed before germination. The cues to begin embryo growth are a complex combination of seasonal fluctuations in temperature and moisture with varying exposure to light and smoke. These environmental triggers in turn vary between species. It is also possible to germinate seed after removing the seedcoat. Most species are rare to find for sale but they can be found grown by enthusiasts such as the Wildflower Society or some of the specialist local native nurseries.

More information

Cochrane A 2002 Seed Notes for Western Australia No. 17 Hibbertia Wildflower Society of Western Australia, Perth.
Do you know what the resin from balga is used for?

Noongar people collected resin as a key ingredient to make bush glue. The glue was used to make a tool for cutting food.

 Perth Region NRM have developed a Traditional Ecological Knowledge (TEK) website link capturing Noongar knowledge of flora and fauna to assist environmental groups and other interested people working in environmental fields. Many consultations with local Aboriginal community members were conducted to allow them to share their own cultural knowledge. The TEK database will enable the wider community to better understand the traditional uses of flora and fauna. The contribution of traditional ecological knowledge will assist managers with on-ground works to help protect these species. This knowledge will help to better protect those endangered species and help restore them for future uses such as bush medicines and bush tucker. Though the database is hosted by Perth Region NRM, it is important to note that the Noongar people are the true owners of this knowledge.

TEK can be accessed through Perth Region NRM’s website www.perthregionnrm.com/pr-nrm-programs/cultural-heritage.aspx. Information on flora is available, with fauna, bush medicine and tool making to follow. For more information please ring Marissa Verma on 9374 3319 or Sharon Munro on 9374 3313.

2013 Great Cocky Count update  By Tamara Kabat

Another huge effort by volunteers saw the completion of BirdLife Australia’s fifth Great Cocky Count (GCC) survey on 7 April 2013. More than 270 volunteers surveyed 243 sites from north of Geraldton, around Perth, and across the south-west as far as Esperance. The largest roost this year was in the Pinjar pine forest north of Perth, where 800 cockatoos were recorded. Once again, the survey was greatly assisted by local people identifying new roost sites and coordinating volunteers in their areas, particularly around Bunbury, Yanchep, Margaret River, Dunsborough, Geraldton, Esperance and Narrogin.

The GCC aims to count as many Carnaby’s cockatoos at their night-time roost sites as possible on a single night each April. With increased numbers of people taking part, and more survey sites identified across the south-west region, we’re building a stronger picture of important roosting habitat for both Carnaby’s and their cousins, Baudin’s cockatoo. As the fourth survey in a row, this year’s GCC will also increase our understanding of how Carnaby’s are using the Swan Region around Perth, which provides key over-wintering habitat for northern and western Carnaby’s populations.

The final report will be ready in a few months, so keep an eye on www.birdlife.org.au/carnabys/great-cocky-count. The 2012 and 2013 GCCs were funded by Perth Region NRM through the federal government’s Caring for our Country program.

Sourcing seed for restoration on the Coastal Plain and Perth hills  By Julia Cullity

In March this year, the Urban Nature Program organised a workshop for DEC staff to address issues around sourcing seed for restoration projects in the Region. Conservation officers and managers from Swan Coastal District, Perth Hills District and Regional Parks Unit attended. Science Division staff from the Flora Conservation Program presented a series of talks on variation in the flora of the region and the implications for sourcing seed for revegetation and restoration projects.

Opening with a presentation on the patterning of variation within species, examples were given of species that have local variants, have distinct dryland and wetland types, are known to hybridise with horticultural species or interbreed with other variants of their species and lose vigour or form sterile progeny. Species commonly used in revegetation in the region that vary considerably across their range including Acacia saligna, A. pulchella and Calothamnus quadrifidus were discussed in detail. Physical appearance, regeneration strategies or genetic differentiation can account for the variation amongst their numerous sub-species. The final presentation looked at sourcing seed based on known genetic or physical variation, health of source populations, pollination strategies or genetic differentiation can account for the variation amongst their numerous sub-species. The final presentation looked at sourcing seed based on known genetic or physical variation, health of source populations, pollination strategies or genetic differentiation can account for the variation amongst their numerous sub-species. The final presentation looked at sourcing seed based on known genetic or physical variation, health of source populations, pollination strategies or genetic differentiation can account for the variation amongst their numerous sub-species.

The day concluded with a group discussion of how to define local provenance for our region and a recognition that appropriate provenance collection zones vary depending on species and revegetation or restoration aims. At the moment we are considering broadly defining seed collection zones as major landform units on the Coastal Plain and for the forest, the Landscape Conservation Units defined as part of the Forest Management Plan.

More information

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

Recurrent activities

Saturdays
15 minutes before sunrise
Research into bird populations with the Herdsman Lake Bird Banding Group. Contact Bill Rutherford (ABBBS Coordinator) on 0438 910 252 or calidis1@iinet.net.au.

Saturdays 8am–9am
Guided walks with Friends of Koondooloona. Second Saturday of the month. Meet at Gate 2, corner of Koondooloona and Buinbridge Ave.

Saturdays 8am–9am
Guided walks and meeting with Friends of Landsdale. First Saturday of the month. Meet at third gate Landsdale Rd, east of Landsdale Farm School, Darch.

Saturdays 9am
Bushcare activities with the Friends of Booragoon and Blue Gum Lakes. First Saturday of the month. Contact Heather 9364 1739 or heja13@bigpond.com.

Saturdays 9am
Bushcare activities with the Friends of Bicton Environmental Action Group. Contact BEAG.

Saturdays 9am–30pm
Bushcare activities with the Mt Henry Peninsula Conservation Group are on the fourth Saturday of each month. Contact Jan 0409 299 861 or Jan.King@acquinas.wa.edu.au.

Saturdays, Sundays 9am–12 noon
Koala maintenance at Yanchep National Park. Call Ciara 9303 7771.

Sundays 9am–11am
Work morning with the Wilson Wetlands Action Group. First and third Sunday of the month. Contact WWAG 9258 7301 or wilsonwetland@gmail.com.

Sundays 8am–9am
Guided walks with Friends of Marangaroo. Fourth Sunday of the month. Meet at Gate 3, Docourcy Way.

Sundays 8am–10am
Bushcare activities every Sunday with the Friends of Shenton Park Bushland. Contact Dani 9381 3470 or bojel@t1.net.au.

Sundays 8.30am
Bushcare activities with the Friends of Wireless Hill are on the second and fourth Sunday of each month. Meet at main carpark. Contact Margaret 0402 105 649 or s3mmathew@hotmail.com.

Sundays 8.30am–9.30am
Guided walks followed by meeting with Friends of Mirrabooka. First Sunday of the month. Call Jan 9344 2872.

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

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

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

Sundays 8.30am–10am
Bushcare activities with the Friends of Mary Carroll Lake (Goorrolly). Volunteers also work the fourth weekend of each month. Contact Unice 9398 71269 or unicerobinson@gmail.com.

Sundays, Wednesdays, Fridays 9am–12 noon
Bushcare activities and wetlands walk trail maintenance with Yanchep National Park Volunteers. Call Ciara 9303 7771.

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

Thursdays 9am–2pm
Bushcare activities in Margaret River with the Cape Volunter Team. Call 9757 2202.

Thursdays 9am–11am
Bushcare activities on the fourth Thursday of the month at Baldivis Children’s Forest. Email mary.rayer@education.wa.gov.au.

Conservation Volunteers activity schedule. Free one-day local activities or overnignt country trips. Call Jodi 9335 2777 or visit www.conservationvolunteers.com.au.


July

2 Tuesday 6pm
Biodiversity of banksia woodlands on the SCP with guest speaker Stephen Hopper. Urban Bushland Council, West Perth. Call WBC 9420 7207 or email John Baas jdbaas@bigpond.com.

5 Friday 7.30pm
Western swamp tortoise with guest speaker Nick Mitchell. Contact WA Nats(P).

6 Saturday 6 July
Planting with Friends of Allen Park. Meet at the cottage 118 Wood St, Swanbourne. Bring gloves, water and sun protection.

6 Saturday noon–4pm

7 Saturday, 11 Thursday, 21 Sunday 9am

8 Thursday 7.30pm
Wildlife in the suburbs with guest speaker Giles Pickard. Contact WA Nats(P).

8 Saturday 14 July

14 Sunday 9am–12 noon
Planting at Lake Claremont. Contact FoLC.

16 Tuesday 9.45am–6pm
Koala workshop with Barbara Etheridge and the Friends of Margaret River. Call Jo Taylor 0408 913 255 or Jo.Taylor@stirling.wa.gov.au.

17 Wednesday 9.45am–6pm
Koala workshop. Call Barbara Etheridge and the Friends of Margaret River. Jo Taylor 0408 913 255 or Jo.Taylor@stirling.wa.gov.au.

28 Sunday 9am–12 noon
Planting with the Friends of Piesse Brook. Contact Bridgett hogarth@ozemail.com.au.

August

2 Friday 7.30pm
Winter wildlife in the suburbs with guest speaker Giles Pickard. Contact WA Nats(P).

3 Saturday 10am–12 noon
Botanical drawing workshop, Parkerville. Contact BSFH.

4 Sunday 9am–11am
Guiding a bat nest box demonstration and information on local bat species, Kalamunda. Morning tea provided. Contact BSFH.

9 Tuesday 7.45am–6pm
Kwongan workshop on the ecology of WA’s arid zone, University of Western Australia. Call Barbara Jamieson 6488 1782.

13 Saturday 8.30am–10.30am
Planting with Bicton Environmental Action Group. Contact BEAG.

14 Sunday 10am–12 noon
Guiding a bat nest box demonstration and information on local bat species, Kalamunda. Morning tea provided. Contact BSFH.

14 Saturday 9am–12 noon
Planting at Lake Claremont. Contact FoLC.

14 Sunday 9am–12 noon
Planting at Bertram Sanctuary Reserve, Waterford West, Bertram. Contact CoK.

21 Sunday 8.30am–11am
Planting at Star Swamp. Meet at Henderson Environment Centre, Great St, North Beach. Sausage sizzle and show bag for participants. Contact Jo Taylor 0408 913 255 or Jo.Taylor@stirling.wa.gov.au.

27 Saturday 8am–10.30am
Planting with Bicton Environmental Action Group. Contact BEAG.

28 Sunday 9am–12 noon
Planting at Lake Claremont. Contact FoLC.

28 Sunday 2pm
Planting at Key West parking station, Mullaloo. Email Sharon Mcartthur smcartthur63@gmail.com.

28 Sunday 9am–12 noon
Planting at Wilson Wetlands. Call Barbara 9293 2517, Bridgett hogarth@ozemail.com.au.

28 Sunday 9am–12 noon

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.

Registration/contact details

BEAG Bicton Environmental Action Group work in the Point Walter Bush Forever site and along Blackwall Reach. Contact Peter Neesham 0439 467 855 or pneesham1@bigpond.com.

BSFH Bush Skills for the Hills Bookings 9424 2216 or environment@emcr.org.au.

FoLC Friends of Lake Claremont Meet south end of Strickland Street, Swanbourne. Visit www.friendsofclakemclaren.org or call 0416 614 696.

Please send us your October, November, December 2013 events by Thursday 22 August 2013.
Track assistance welcome

By Ruth Clark

The Waterbird Conservation Group has recently completed a project to put in limestone tracks around key parts of their wetland reserves. The new tracks were completed in April and will ensure members and conservation volunteers can carry out more revegetation and weed control all year round. The establishment of these permanent firebreak tracks and more effective management of the reserves by the Group will also reduce the fuel load. The tracks were well used by volunteers during eight weekend planting days in June.

Thank you to Lotterywest, the Western Australian Planning Commission and Water Corporation for their generous financial support. Thanks also to the many helpers with in-kind support during the 12 months. Particular thanks goes to our hard working contractor Jeff who managed to overcome many hurdles to get the job to completion. Jeff went above and beyond his paid contract and said he is looking forward to seeing the now accessible areas planted and conserved.

For details on helping at planting days email Ruth at waterbirdgroup@gmail.com. Sedge planting on the banks are scheduled for November. Everyone welcome!

Funding opportunities

State NRM Community Grants of between $10,000 and $50,000 are available to eligible groups for any on-ground activity that will assist in the conservation, restoration, rehabilitation or enhancement of a local natural area, including land, water or marine areas, or the conservation of biodiversity. Total grant pool is $3 million. Closes Friday 5 July 2013. Visit www.nrm.wa.gov.au/grants/state-nrm-program.aspx.

Lotterywest Conservation of Natural Heritage Grants are available to not-for-profit organisations and local government authorities to conserve natural habitats and maintain the diversity of animal and plant species, e.g. planting, fencing, weed and feral animal control, equipment and newsletters/pamphlets. Applications can be made at any time. Visit www.lotterywest.wa.gov.au/grants/grant-types/heritage-and-conservation/natural-heritage.

Foundation for National Parks & Wildlife Conservation Grants are available for both field projects and education programs that have a direct outcome for nature conservation in Australia. Grant amounts vary greatly, however most range from AUD $5,000 to $20,000. The next funding round is scheduled for August 2013. Visit www.fnw.org.au/foundation-grants/conservation-grants.

City of Gosnells Community Sponsorship supports community organisations to deliver high quality services to the local community. Conservation groups would be eligible under the ‘Innovative Program or Project’ and ‘Strategic Initiatives’ categories for $1,000–$5,000. Closes: August 2013. Visit www.gosnells.wa.gov.au/Lifestyle/Get_involved/Community_sponsorship_program.

DEC Corella wing tagging study

The little corella (Cacatua sanguinea) and the eastern long-billed corella (Cacatua tenuirostris) are not native to southern Western Australia but have become established as a result of avairy escapes. DEC is undertaking a wing tagging study to determine the movements and population size of corellas in the Perth metropolitan area. If you sight a bird with a wing tag please record tag colour (black, pink, blue, green, gold or orange), tag code (e.g. KO, 4B, OP or unsure), date, location sighted, suburb, street, species and flock size. Forms are available at http://museum.wa.gov.au/explore/online-exhibitions/cockatoo-care/western-long-billed-corella. Contact Mark Blythman at mark.blythman@dec.wa.gov.au or 0419 904 997 or 9219 8723.
Shorebird 2020 Count  By Thelma Crook

More than 70 volunteers braved the 40 degree heat on Sunday 10 February to take part in the Peel-Harvey Catchment Council’s ninth annual national Shorebird 2020 Count – the largest Shorebird 2020 count in Australia.

Volunteers from Birdlife WA Peel Branch, Birdlife WA, Murdoch University, Myalup Bird Observers, DEC and the Canoe Trail Friends of Mandurah and Pinjarra, along with a large number of individual volunteers, joined the Mandurah Bird Observers Group and the Peel-Harvey Catchment Council to count migratory and resident shorebirds that feed, roost and nest across the 26,000 hectares of the Ramsar-listed Peel-Yalgorup System wetlands.

A high number of birds were counted but there were fewer of the significant migratory shorebirds this season. Disturbances such as the large number of crabbers, boats, four-wheel-drive vehicles and dogs impacting on the shorelines was of great concern to counters and may have resulted in the lower than normal numbers of migratory shorebirds recorded on the day.

Thanks to recent Alcoa funding, the Peel-Harvey Catchment Council has been able to continue to assist volunteer groups such as the Mandurah Bird Observers Group in protecting, monitoring and raising awareness of locally vulnerable species such as the EPBC-listed fairy tern (Sternula nereis) as well as the internationally important migratory shorebirds that visit the Peel Yalgorup System wetlands.

More information on Shorebird 2020 counts can be found at www.peel-harvey.org.au.

Quenda recovery project  By Jo Taylor

The City of Stirling, in collaboration with DEC, recently released 16 quendas (Priority 5 species) into Dianella Bushland Reserve. This project forms part of the City's implementation of its Local Biodiversity Strategy which aims to restore habitat for threatened, endangered and priority species.

Quenda (Isoodon obesulus) activity was first documented by the City's natural areas conservation staff in 2010. Following confirmation by DEC’s Dr Geoff Barrett and Alice Reaveley, arrangements were made for the introduction of other quendas to sustain the local population. Under a DEC project, quendas displaced from habitat loss through land clearing in various parts of the metropolitan region are relocated to surrogate habitats.

Since the first discoveries, a lot of preparation, planning and hard work have been undertaken by the City’s natural areas conservation team with the assistance of DEC, the Friends of Star Swamp and the Friends of Dianella Bushland.

The recent release marks the first of many that will occur over the next few years in other reserves including Star Swamp and Trigg Bushland, where similar sightings have been made.

The City looks forward to continuing to work with DEC and community groups in the conservation of this unique species through field surveys, on-ground GPS mapping, high definition remote camera monitoring, weed management, control of predatory animals such as foxes and feral cats, dieback disease prevention, revegetation using local native plants, installation of bushland protection fencing, regulatory signage and community awareness programs.

For more information contact Jo on Jo.Taylor@stirling.wa.gov.au or 9205 7160.
Weed invasion from private property  By Leonie Stubbs

The Friends of Paganoni Swamp Reserve have been busy hand weeding unwanted species and their efforts have been magnificent. Since the prescribed burn of 90 ha in 2010, there has been an increase in pigface (Carpobrotus sp.), inkweed (Phytolacca octandra) and dune onion weed (Trachyandra divaricata) in that patch. In one three-hour session a volunteer bagged four large rubbish bags full of pigface. Apple of Sodom (Solanum linnaeanum) is found around the western and southern boundaries of the reserve and each week we are now finding cottonbush (Gomphocarpus fruticosus) which has rarely been seen in the reserve to date. This weed, along with dune onion weed and apple of Sodom, are present in high densities on surrounding privately owned land. The problem is that local councils do not have the power to enforce owners to control weeds on their properties and there is no incentive for the owners to do so.

With ongoing threats from climate change and patch fragmentation due to urban development, it is vital that we try to push out the boundaries of our bush reserves. However, if surrounding land is degraded or weedy it cannot provide a refuge and so the resilience of species is reduced. We need to raise awareness about the value of quality bush and what services it provides. Some obvious services are air quality, climate regulation, biological controls, pollination, recreation and cultural values. Owners of bushland close to public reserves need to be encouraged, educated and recompensed for maintaining their land to be weed-free and habitat-friendly, thus reducing threats to our public reserves and providing more resources for our flora and fauna.

For details of our activities please contact Leonie at FoP@westnet.com.au or 9536 8195.

Help restore Lake Claremont  By Heidi Hardisty

Be part of the biggest planting project ever at Lake Claremont! This year, volunteers from the Friends of Lake Claremont (FOLC) will continue their work restoring the conservation category wetland and woodland area around Lake Claremont and we need your help. Planting has already commenced and will continue through July. Please come to one of our remaining public planting days: 9am–12 noon Sunday 14 July and National Tree Day Sunday 28 July. Meet at 9am at the south end of Strickland Street, Swanbourne. Our goal will be to plant 3,000 plants at each session. FOLC volunteers will instruct participants on how and where to plant. We hope that participants can discover the beauty and importance of Lake Claremont, contribute to the community, and have fun!

This year a total of 83,000 native seedlings will be planted by volunteers from the local community, schools and corporations. The park, which is a Bush Forever site, is proving increasingly popular with local wildlife and families.

For more information visit www.friendsoflakeclaremont.org or phone 0416 614 696.
Compiling a bushland restoration kit

**Groups undertaking bushland restoration work require an array of equipment, depending on the type of work being undertaken. The following list is an essential kit for any person or group undertaking such work.**

A bushland restoration kit should include a variety of general work equipment such as hand tools, protective equipment and clothing, spray equipment, and measuring devices such as tapes, pegs and stakes which are useful for carrying out surveys and monitoring. Suncream and a first aid kit (from basic hikers to four-wheel-drive off-road) should always be part of this general kit. Surplus clean water in 20-litre containers is always handy – whether for drinking, cleaning up, washing spilled chemical off the skin or flooding the eyes in case of an emergency.

Depending on the location you’re working in, a dieback (Phytophthora cinnamomi) kit may be needed to ensure you do not spread infected material between sites. This kit only needs to consist of a few basic items, such as small brush, spray bottle, screwdriver or similar (for reaching clumps of soil trapped in tools and shoes) and methylated spirits. Even if dieback is not known from the area, it is good practice to disinfect your tools and equipment post work.

There are a number of additional items such as insect repellent and wellington boots which, although not listed, can at times make life a lot easier!

**Kits for loan**

If you don’t want to invest in your own kit there are some available for loan.

**DEC Regional Parks** – for loan to groups working in Regional Parks. The trailer contains numerous planting and weeding tools and a barbecue and first aid kit. Phone Regional Parks on 9219 9290.

**RoleyBushCare** – containing dieback treatment gear. Phone Ian Colquhoun on 0427 800 732 at least a week prior.

**Eastern Metropolitan Regional Council** – for loan to groups working in the shires of Mundaring and Kalamunda and the City of Swan. The trailer contains numerous planting, weeding and spraying tools, protective equipment and wet weather gear, sharps container and tongs, signage and witches hats and a first aid kit. Phone Karen Warner on 9424 2242 at least a week day booking. Weekend bookings must be prearranged with Bushcare officers who will also attend.

**City of Melville** – for loan to groups conducting restoration in a City of Melville reserve. A watering trailer is available as are a collection of planting tools. Contact Kellie Motteram on 9364 0283 or kellie.motteram@melville.wa.gov.au. Bookings are on a first-in first-served basis. Two to three days’ notice is required but two weeks’ notice is preferred.

**South East Regional Centre of Urban Landcare** (SERCUL) WA – for loan to community landcare groups undertaking volunteer activities. Contains planting and dieback treatment tools, and marquees. Phone the SERCUL office on 9458 5664 a week prior to determine availability.

**Perth Region NRM Community Coastcare Trailer** – for loan to groups undertaking coastal dune rehabilitation activities. The trailer contains planting tools and first aid kit and is located in Kwinana. Phone Craig Wilson on 9439 0433.

**Spray equipment**

- safety glasses, PVC elbow length gloves, protective overalls and respirator masks and replacement filters (depends on chemicals used).
- small spray bottles and application bottles.
- 15 L backpack sprayer.
  - Glyphosate 1 L, surfactant or wetting agent 1 L, dye 1 L, Metsulphuron methyl 40 g. Straps or ropes (for securing equipment on vehicle trays)
  - soap and bleach.

**General hand tools and planting gear**

- garden gloves.
- spade/shovel, handheld pick, mattock, small and large peter levers.
- loppers, secateurs and pruning saw.
- trowels.
- pottiputki and kidney buckets.
- bamboo stakes, tree guards and mallet.
- pitch fork.

**Tools for surveying, monitoring and mapping**

- clipboard, pen and pencil.
- GPS (optional) and camera.
- paint markers and permanent pens.
- steel survey stakes including fence droppers and short star picks (wooden stakes will perish in a fire).
- measuring tape 50 m and/or 100 m flagging tape 25 mm (variety of colours).
Herdsman Lake bird banding study

By Bill Rutherford

Bird banding has been conducted at Herdsman Lake since the 1970s, providing a wealth of information on bird species, migratory movements and population changes over time.

Otto Müller carried out bird banding at Herdsman Lake during the 1980s and 1990s under the authority of the Australian Bird and Bat Banding Scheme (ABBBS) with approval from DEC (formerly Department of Conservation and Land Management). In December 2001, Bill Rutherford became the project leader of what subsequently became known as The Herdsman Lake Bird Banding Group. The Group studies bird communities at Herdsman, including a band ovalisation trial on grebes (Podiceps sp.). Since 2001, banding has been conducted most weekends at Herdsman with more than 70 volunteers handling and banding birds, as well as many others in other roles.

In 2007, targets were introduced to stimulate volunteer interest and as an incentive to commit to longer hours and additional sessions. The 1,500 bird target was finally achieved during 2011 and a new benchmark of 1,615 birds were caught and processed. The target was easily surpassed again the following year with 1,931 birds from 47 species processed during 2012 (Table 1).

Banding results of 2012

In 2012 there were 26 volunteers who put in just over 2,100 field work hours (excluding administration). Five put in more than 200 hours each and another two volunteers put in more than 150 field work hours. Three volunteers were from overseas.

2012 bird banding results included several wader species not usually seen at Herdsman. Additionally, two new species were added to those banded at Herdsman – whistling kite (Haliastur sphenurus) and nankeen kestrel (Falco cenchroides).

The federal government, under the auspices of the ABBBS, manages the collation of information on threatened and migratory bird and bat species. Data collected by the Group at Herdsman is reported to the ABBBS.

A silvereye (Zosterops lateralis) banded at Herdsman was subsequently caught by other banders at Rottnest Island during 2012. This is the first recorded sea crossing of the western subspecies of silvereye.

A tree martin (Petrochelidon nigricans) banded at Herdsman was re-trapped at the same site after an elapsed time of 6 ½ years – the oldest bird of its species recorded in Australia.

Ninety-four western gerygones (Gerygone fusca) were banded in 2012 confirming that the species is in ascendancy at Herdsman. It was the second most banded species after silvereye during the 2012 year, and for the first time replaced the singing honeyeater (Lichenostomus virescens) as the third most banded species for the project in the early months of 2013. Re-trap rates of western gerygone in 2012 were once again very high (23.5 per cent of all captures) and well over the national average for the species of 17.1 per cent.

As at 30 June 2012, there were 12,986 banding records from Herdsman for the period December 2001 to 30 June 2012 with 10,877 new birds banded from 13 orders and 76 species. There have been 2091 re-traps including banded birds observed in the field during this period.

Publication to mark ten-year milestone

Last year marked a 10-year milestone under the current project leader, which will be celebrated by the preparation of a 10-year study of the birds of Herdsman Lake. Compilation and analysis of the data is well advanced and we look forward to publication in the next year or so.

Volunteers interested in assisting the Herdsman Lake Bird Banding Group on Saturday mornings can contact Bill on 0438 910 252 or calidris@iinet.net.au.

<table>
<thead>
<tr>
<th>Total</th>
<th>2012</th>
<th>2011</th>
<th>2010</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>New birds</td>
<td>1,422</td>
<td>1,376</td>
<td>820</td>
<td>1,095</td>
</tr>
<tr>
<td>Re-traps</td>
<td>509</td>
<td>239</td>
<td>199</td>
<td>234</td>
</tr>
<tr>
<td>All birds</td>
<td>1,931</td>
<td>1,615</td>
<td>1,019</td>
<td>1,329</td>
</tr>
<tr>
<td>Re-trap rate</td>
<td>26.35%</td>
<td>14.79%</td>
<td>19.52%</td>
<td>17.60%</td>
</tr>
<tr>
<td>Species</td>
<td>47</td>
<td>50</td>
<td>44</td>
<td>48</td>
</tr>
</tbody>
</table>

Table 1: Summary of bird banding results collected by Herdsman Lake Bird Banding Group at Herdsman Lake for the period 2009–2012.
New publications

Perth’s Bush Forever Report Card
Proceedings from a one-day conference in December 2012 are available from the Urban Bushland Council at www.bushlandperth.org.au/resources/publications for $10 using PayPal. Hard copies for $28 (including postage) are available by emailing ubc@bushlandperth.org.au.

van Dyck, Gynther and Baker (2013) Field companion to mammals of Australia intended to be taken outdoors, includes 389 species, photographs, line drawings and maps and new, comprehensive identification keys. To be used in conjunction with the more comprehensive Mammals of Australia. Published by Octavo. RRP $45. 512pp.

Apps

Weeds Ute Guide app has been modified by the Grains Research and Development Corporation to assist in the identification of the most common, annual, biennial and perennial agricultural weeds in Southern Australia. The application allows users to search, identify, compare and email photographs of weeds. Visit www.grdc.com.au/Resources/App-Store.

Website watch


Identifying marri canker disease
The fungal pathogen Quambalaria coyrecup has been identified as the causal agent of the severe canker disease contributing to the decline in marri (Corymbia calophylla). Correct diagnosis can be difficult but there are some key symptoms to look for. Download Bulletin 3 at www.foresthealth.com.au/html/resources_bulletins.php.

Research and conservation: Western Australia’s microbialites symposium held by DEC Species and Communities Branch in October 2012 now has the presentations and discussion summaries available at www.dec.wa.gov.au/management-and-protection/threatened-species/wa-s-microbialites-research-and-conservation-symposium.html.


Research


Harris I M, Mills H and Bencini R 2010. Multiple individual southern brown bandicoots (Isoodon obesulus fusciventer) and foxes (Vulpes vulpes) use underpasses installed at a new highway in Perth, Western Australia. Wildlife Research 37(2): 127.


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 entitled ‘email me’ to urban.nature@dec.wa.gov.au.