

# Owners to report contaminated sites

**THE Contaminated Sites Act 2003 and the associated Contaminated Sites Regulations 2006 come into effect on 1 December 2006.**

Land and Water Quality Branch Manager Sharon Clark said she was pleased her team had produced the most progressive contaminated sites legislation in Australia.

"This was a real team effort, with 76 branch staff past and present contributing over the years to make this Act a reality," Sharon said.

"The Act and regulations will allow us to get a handle on how many contaminated sites there are in Western Australia, to classify the sites based on risks to health and the environment, and to enforce investigation and clean up."

Sharon said that before the Act there was no legal requirement to report known or suspected contaminated sites to the Department, so there was a heavy reliance on goodwill.

"Information was submitted to us on a confidential voluntary basis, so we sometimes found ourselves in the awkward position of being unable to release information to the public about these contaminated sites," she said.

"The Act requires mandatory reporting of all known and suspected contaminated sites to the Department.

"It will allow us to be completely open, and will include a free publicly available database about confirmed contaminated sites in WA so anyone can check whether a site is contaminated before buying or leasing.

"The WA legislation is also unique in its provision to place memorials on land titles.

"Owners of confirmed contaminated sites will be required to disclose contamination classification to potential owners, mortgagees or lessees before the transaction is finalised.

"Another major improvement is that in cases where contamination was suspected, we now have the authority to enforce investigation and clean up, where our powers were inadequate to do that before."

Sharon said high demand for properties in Perth meant that much of the remaining land was either contaminated or water-logged, creating a huge workload for the Land and Water Quality Branch.

continued page 2



Members of the Land and Water Quality Branch mark their success. Photo - DEC



Working in the Midwest Region were Swan Region staff Dave Pickett (Dwellingup), Dave Turnbull, Craig Popplewell and Phil Griffiths (Jarrahdale) and Tamara Murdock (National Indigenous Cadetship Program). Photo - DEC

## Swan Region staff head north

**MANY remote regional conservation projects in the Midwest Region were completed in the past six months thanks to the skills of conservation employees from the south.**

Cen Zamudio and Jordan Cantelo from the Swan Coastal District visited the region in summer to carry out the rabbit baiting program on reserves and unallocated Crown land.

The rabbit baiting was to protect reserves such as the Burma Road Nature Reserve, which is regenerating after a fire, allowing the Department to meet the principles of its Good Neighbour Policy.

Paul Dunstan and Wayne Needham from the Perth Hills District and Karl Morgan and Barry Curnuck from the Swan Coastal District implemented an intensive weed control and clean-up program at the proposed Moresby Range Conservation Park.

It is hoped that the weeds - *Citrillus lanatus* and *Pennisetum setaceum* - can, with systematic

control, be eradicated from the park. Other works undertaken by the group included burning weeds (for more effective chemical spraying) and removing fences and rubbish.

In spite of the lack of rainfall in the Midwest region, the Crown Reserves Program continued with its revegetation, which is undertaken on denuded patches of reserve to protect and maintain its conservation value.

To maintain local biodiversity seed is collected and propagated by local nurseries. Conservation employees from the Perth Hills District hand-planted 50,000 seedlings on reserves throughout the Moora and Geraldton districts.

Planting occurred on difficult terrain but finished in good time with a lucky fall of rain after each planting session. The early finish of the program allowed the region to use the many skills of the conservation employees who also constructed shelving for seedling trays and completed other jobs.

## A host of events

By Rhianna King

**AS well as showcasing the skill of its competitors, the Avon Descent puts the areas it passes through on a world stage.**

Each year thousands of people turn up to compete, support and watch the two-day event. Starting in Northam, the event leads its competitors along 134 km of the Avon and Swan rivers through farming areas, the forested Avon Valley and Walyunga national parks, steep gorges and the Swan Valley vineyard region on their way to the finish line at Bayswater.

The Avon Descent is one of the hundreds of organised, non-commercial educational or leisure activities that take place on lands and waters managed by the DEC.

Rod Annear, Perth Hills District's Parks and Visitor Services Coordinator, said his district received the most applications of any district in the State, averaging 250 each year.

"Being close to Perth we tend to be the closest bush area for many groups to base their activities and events," he said.

"The Perth Hills District hosts a range of activities - everything from orienteering to dog sledding, mountain bike riding to bouldering and horse riding to rally events."

Rod said applications to hold events on DEC's estate were lodged by their organisers with the districts and regions.

"This means we can advise them on what they need to do to ensure a successful and safe event," he said.

"We also make sure the event is not affected by DEC's prescribed burning program or other organised events and that their activities do not cause damage to environmentally sensitive areas, water catchment areas, areas of Aboriginal cultural significance or those involved in fauna release programs."

Application forms for organised, non-commercial educational or leisure activities are on DEC's



DEC's Kym Pearce (left), Alice Reaveley and Alex Bowlay at a rogaining event in the Perth Hills. Photo - DEC

website ([www.naturebase.net/tourism/non-commercial\\_activities.html](http://www.naturebase.net/tourism/non-commercial_activities.html)).

## Environment Awards attract record entries

**THIS year's DEC Environment Awards have once again proved popular.**

By the closing date this month more than 70 nominations had arrived from big and small businesses, volunteer community groups, individuals, mining companies, and State Government utilities.

"We had an amazing response this year," DEC's Marketing Manager, Jarrod Greenwood, said.

"Many nominees from last year have re-entered, while others have entered their services and products for the first time."

There are 10 categories, the most popular being Corporate Business Leading by Example, Government Leading by Example and Community Achievement by Volunteers.

"I think organisations recognise the importance and prestige of receiving an environmental award," Jarrod said.

"Entries include some outstanding environmental initiatives which are now being judged by DEC technical experts and sponsorship representatives.

"One of the judges is a former Environment Award winner who received subsequent national and international recognition for his winning entry, which was to recycle plastic garden pots. This is just one of the many success stories from previous Environment Awards."

Finalists will be announced in September with the awards being announced at the Hyatt Regency Hotel in Perth in November.

# Working Together

Early in August I returned from a brief visit to northern Europe with the Minister for the Environment. A whirlwind trip through four countries has given us lots of information and ideas across a wide range of issues, including sustainability, greenhouse, waste and recycling, community education and involvement, and marine conservation. Visits to Dovrefjell-Sunnalsfjella National Park in Norway and to the Kew Royal Botanic Gardens Millennium Seed Bank, in which both DEC and the Botanic Gardens and Parks Authority are partners, gave some respite from an otherwise non-stop round of meetings and travel. The information gathered will help inform DEC's policies and programs in many areas.

Since returning from overseas I have moved into the Atrium building in the city, with a small team of support staff, and have visited staff at Ellam Street in Victoria Park, and at Kwinana and Mandurah.

August saw us farewell our four inaugural exchangees under our new international exchange program with the US Bureau of Land Management and its affiliated agencies. Feedback from both our US visitors and DEC staff has been positive, and we look forward to the initial placement of DEC staff in the USA early next year.

Work on a range of integration initiatives is also progressing. Among matters discussed by the Corporate Executives during August have been broadening of the former CALM's graduate recruit program to meet DEC's needs; Aboriginal training and employment; and staff training and scholarship programs. Together with initiatives such as the US exchange, strong programs in these areas have a critical role to play in staff attraction and retention, through providing varied and challenging career opportunities, and will be a focus of the Corporate Executives in the coming months.

Keiran McNamara, Director General



## Letter to the editor

I would like to thank DEC for its assistance with airfares, wages and support during the recent emergency response to Cyclone Monica.

As a seasonal ranger based in Kununurra and working at the Mitchell River National Park and with a home in Darwin, I was called upon by the SES, with which I have been a member for 18 years, to assist in the response to category 5 Cyclone Monica.

It was the most intense storm in recorded history, tearing through the coastal community of Maningrida and then inland through Arnhem Land and Oenpelli.

Without hesitation I was given permission to return to the NT as Monica focused its beady eye on Darwin. It passed by Darwin,

dumping huge amounts of rain. I was sent out by plane with a team to Oenpelli. With chainsaws buzzing relentlessly we cut our way through a swathe of mainly mahogany trees that blocked roads, downed power lines, flattened cars and damaged homes. Our main response was to clear trees from power lines and homes so as to facilitate the re-instatement of essential services and accommodation for the community.

It is employer assistance such as that given by DEC that makes it possible for volunteers to give their time and skills to help the community in such emergencies.

John Hayward  
Seasonal Ranger  
Mitchell River National Park

# Workshops prompt new educational approach

**COMMUNITY Education staff ran two public workshops recently focusing on the future of sustainability education in the Rockingham-Kwinana-Mandurah region.**

Community Education officer Justin Mowatt said the workshops were designed to encourage agencies to work together on environmental education programs.

"There are many agencies putting a lot of effort into promoting sustainability and involving our youth in environmental programs - which is great," he said.

"But many of them felt there needed to be a more coordinated approach, better sharing of resources, identifying gaps and avoiding duplication for sustainability to be effective."

The workshops were jointly organised by the Department of Environment and Conservation, the Department of Education and Training, the Water Corporation and Millennium Kids.

Justin said about 80 local representatives from government, industry, community groups, schools and educational institutions attended the first event on 15 June, which provided some good feedback.

"The workshop showed us that people in many sectors of the community are passionate about sustainability and are willing to work together to get environmental programs up and running," he said.

"It also highlighted the need for better coordination between agencies and for local people to take a leadership role."

Staff from Public Affairs' Community Involvement section, Bev Sinclair and Amanda van Loon, facilitated a second workshop on 27 July.

Bev said the participants created an action plan and set a clear direction for sustainability education in the region.

"After building a broad vision at the first workshop, Community Education chose to take a more action-focused approach at this workshop to outline and prioritise challenges," she said.

Bev said feedback indicated many participants were keen to take part in more meetings and work on the identified actions.

## Environment and Conservation News August 2006

Published by the Department of Environment and Conservation's Strategic Development and Corporate Affairs Division, Cygnet Hall, (cnr) Mounts Bay Road and Hackett Drive, CRAWLEY, Western Australia 6009

**Managing Editor:** Sue McKenna

**Contributing Editors:** Rhianna King, Alison Blake

**Design and Production:** Tiffany Taylor

**Telephone:** (08) 9389 8644

**Facsimile:** (08) 9389 8296

Printed on 100% recycled paper

# Five-year mallee research program

By Adam Peck

**DEC's Revegetation Systems Unit has begun a five-year research project focusing on mallees.**

The project, in partnership with the Department of Agriculture and Food, will determine the productivity of mallee belts and the impact on adjacent crop and pasture yields.

It will also test the effects of harvesting several mallee species at three and four year intervals in autumn and spring and the effects of root pruning.

The trial started recently with the manual harvest of 143 tonnes of biomass from 19 properties over six weeks.

The work involved cutting down trees, weighing selected trees and calculating the percentage of leaf, twig, bark and wood. The results will be used to assess the commercial viability of mallee as a farm crop.

Large scale revegetation with mallee could provide significant protection to biodiversity assets at risk from salinity and plantings are widely used in natural diversity recovery catchments such as Toolibin.

There is also growing evidence that mallees are a useful habitat for native animals and the Department has used them to buffer

nature reserves from fertiliser drift and weed invasion.

The spring harvest begins in September 2006. The coppice regrowth will be harvested in autumn and spring 2009 and 2010.

The project has funding from the Avon Catchment Council and the Joint Venture Agroforestry Program.

## Contaminated Sites Act in force in December

from page 1

"Despite only voluntary reporting we still have 1600 sites on file which are in various stages of the investigation and clean up process," she said.

"We're working hard to finalise the contaminated sites database and to classify the sites already on file by the 1 December deadline."

A brochure, fact sheets and a frequently asked questions document have been developed to provide staff and members of the public with additional information. Go to [www.dec.wa.gov.au/contaminatedsites](http://www.dec.wa.gov.au/contaminatedsites). For more information email [contaminatedsites@dec.wa.gov.au](mailto:contaminatedsites@dec.wa.gov.au) or contact Kerry Laszig on 6467 5350.



Colm Casey (3) of Kenwick helps his mum, Bronwyn, at the Brixton St Wetlands planting day. Photo - DEC

# Brixton Street gets facelift

**KENWICK'S Brixton Street Wetlands got a facelift when more than 30 local people turned out to participate in a community planting day recently.**

The volunteers were supported by eight Department of Environment and Conservation (DEC) staff from the Urban Nature team and Swan Coastal District who coordinated the work.

DEC's Urban Nature Conservation Officer Grazyna Paczkowska said more than 900 seedlings such as wattles, swish-bush, hairy yellow pea and scarlet runner (commonly known as running postman) were planted.

"It was excellent to have so much local support and lovely to see that people had the future of our environment at heart," she said.

"We extend our thanks to Friends of the Brixton Street Wetlands for their help and the City of Gosnells for the supply of the portable toilet which was greatly appreciated by everyone!"

Grazyna said the wetlands were an outstanding place of high botanical and educational significance.

"The wetlands are identified as a Bush Forever site and are listed in the Australian Register of Significant Wetlands," she said.

"The 19 ha bushland remnant on the winter-wet flats has an exceedingly diverse flora of 307 native species.

"The area has outstanding conservation value as it contains threatened plant communities and is one of the few remaining habitats of its kind on the Swan Coastal Plain."

The restoration project was initiated with a grant from the Australian Government's Envirofund awarded to the Friends of Brixton Street Wetlands and the Department.

The grant provided funding for the control of weeds such as African lovegrass, perennial veldt grass, soursob and black flag.

Last summer, the Department's Urban Nature team collected seeds from a range of species in the wetlands and raised them during autumn for planting this winter.

In preparation for the planting, the Department's Swan Coastal District removed rubbish, building rubble and soil mounds dumped at the site and restored original soil levels.

"The rain and the water is what makes this place alive and special, so now we wait for the rains!" Grazyna said.

The volunteers finished the hard work with a barbecue hosted by DEC Swan Coastal District.

# Science Division navigates its future

## Earth's condition "alarming" says DEC's Science Director

**A BURGEONING human population and associated resource use is causing the Earth's sixth mass extinction – and Western Australians need to take action to reverse the environmental decline.**

Director of DEC's Science Division, Neil Burrows, told delegates at the Science Division's biennial meeting at Muresk that in the past 100 years the rate of extinction was 100 to 1000 times faster than the background rate of species extinction.

"The first mass extinction era was 440 million years ago and the sixth and most recent era began about 10,000 years ago. Scientists have estimated that the Earth is now losing something in the order of 30,000 species a year. What's happening to the planet is quite alarming," he said.

"Unlike the previous mass extinctions, the current event is primarily human-caused.

### Problems

"In summary, the human population is 30 times the sustainable population and more than 70 per cent of the Earth's habitable terrestrial surface is fully or partially disturbed by agriculture, natural resource use or infrastructure.

"Some 80 per cent of the forests that covered the planet at the end of the last ice age have been cleared, fragmented, modified or degraded. Humans use around 40 per cent of the Earth's primary production. Add to that the severe degradation of 10 per cent of the world's coral reefs and degradation, much of which is poorly known, of other marine and aquatic ecosystems and you can see that the environmental problems are immediately apparent," he said.

"WA's biodiversity loss since European settlement has been huge. We really need to act now," Neil said, adding that the role of science, and of the Science Division in DEC, was to provide the best available information to inform policy, planning and decision-making processes.

"Ultimately, the future of biodiversity in WA will be determined by society, not scientists.

"In addition to a strategic approach to conducting research, we



Director of DEC's Science Division, Neil Burrows.

need to have flexibility to respond to unexpected events such as the decline of woylies in south-west forests, and be well-placed to use short-term funding opportunities for maximum benefit," he said.

### Programs

Neil outlined the future directions of each of the terrestrial conservation science programs within the division.

The Biogeography Program will complete the five-year Pilbara Biological Survey, commence a survey of Kimberley islands, continue with floristic surveys of the banded ironstone ranges in the Goldfields and Midwest, commence a biological survey of forests and conduct a number of subregional and local area surveys.

Fauna conservation research projects will focus on *Western Shield*-related activities. These include an investigation of why some native mammal species had recovered following fox baiting but others had not, an expansion of *Western Shield*-related research such as feral cat control and mammal translocations into the semi-arid and arid zones, ongoing research

and assessment of the conservation status of threatened species with an emphasis on critically endangered species such as Gilbert's potaroo, understanding the impacts of introduced animals such as feral pigs, goats, camels and cane toads on biodiversity and developing control technologies.

He said flora conservation would continue to assist with the assessment and identification of threatened taxa, investigate the ecology of threatened taxa in relation to threatening processes such as weeds, disease, inappropriate fire regimes, salinity and altered hydrology. Funding provided under the direction of the Director General through the Biodiversity Conservation Initiative would enable an investigation into the interactions between fire and weeds in fragmented landscapes, a project conducted in collaboration with CSIRO Sustainable Ecosystem.

### Herbarium

"The new herbarium, construction of which will start next year, will relieve the chronic space shortage at the existing facility and should enable proper storage of plant collections for at least the next 20 years when the number of vascular plant specimens housed in the herbarium is likely to be approaching 1.2 million," he said.

New funding would enable the appointment of additional taxonomists to clear the backlog of more than 1000 undescribed plant species.

The Landscape Conservation Program would continue its fire ecology research in the North Kimberley. Other ecosystems requiring further fire ecology research effort included coastal heathlands, hummock grasslands and eucalypt woodlands.

FORESTCHECK, a comprehensive forest biodiversity monitoring system, would continue into the foreseeable future.

"Should resources become available, it would also be highly desirable to establish a network of biodiversity monitoring sites across other bioregions and implement baseline monitoring in ecosystems," Neil said.

## Biennial meeting

By Stacey Smithers

ABOUT 140 members of DEC's Science Division converged from around the State for their biennial meeting at Muresk at the end of last month.

Intended as an opportunity for staff to network with each other, the biennial also incorporated a diverse range of power point presentations that were a 'snapshot' of the Division's current scientific research. Topics ranged from a biological survey in the Pilbara to the decline of woylie numbers in the south-west and the discovery of the smallest known extra solar plan-

et by the Perth Observatory.

Additional highlights of this year's meeting were guest speakers – futurist Anni Macbeth and career coaches Lyn Sherwood and Angela Wilson.

The meeting culminated with the presentation of this year's Science Division awards. The awards are presented to members who have made significant contributions to the Division in the previous year.

## Community links

**DEC's challenge in conserving the State's natural resources was to forge partnerships with the community.**

So said Director of Natural Resource Management, Fred Tromp, as he outlined the actions and priorities of Environment Services to DEC's Science Division's biennial meeting late last month.

"We work in an area where human activities threaten the environment and where a degraded environment in turn adversely affects humans," he said.

Environment Services carries out scientific research in the areas of marine and territorial ecosystems, land and water quality, pollution response and air quality.

Marine work includes investigations of metal and organic contaminants in marine waters and sediments, dealing with heavy metals in fish species and monitoring seagrasses to establish marine health.

Terrestrial studies include monitoring land in areas of urban development, including the Swan Coastal Plain, while other branches monitor water quality and manage contaminated sites.

Fred said studies into acid sulfate soils and the threat sulfates posed for waterways was continuing, as were investigations into disasters such as the chemical explosions at Bellevue and

contaminants from the Pemberton Timber Mill.

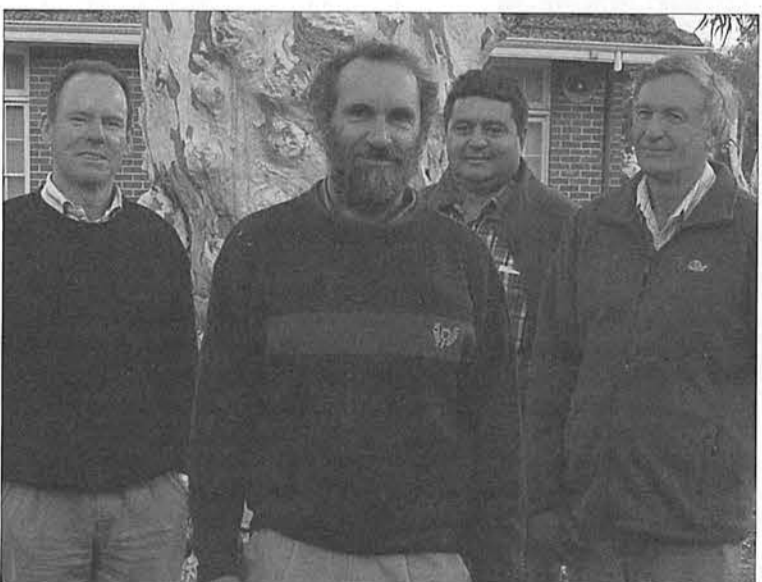
"We also monitor noise levels at outdoor entertainment events or from speed boats on the Swan River, as well as air quality, which is carried out at 10 metropolitan and two country sites for pollutants such as ozone, nitrogen dioxide, winter haze, carbon monoxide and others," he said.

"We carry out scientific investigations at industries to track down contaminants which may cause human health problems.

"In all of this work, the challenge is to have meaningful and constructive engagement with the community."



Director of DEC's Natural Resource Management Division, Fred Tromp.



Senior Scientists (from left) Stuart Halse, Allan Burbidge, Stephen van Leeuwen and Norm McKenzie from the Pilbara Biological Survey teams. All photos on page 3 – Sue McKenna

## New species discovered in Pilbara

**EIGHTEEN mammal, 100 bird, 100 reptile including one new gecko and several other new reptiles, plus 500 spider, 500 beetle, 1000 aquatic invertebrate and 300 stygofauna species have been uncovered in the Pilbara Biodiversity Survey's five-year study.**

Many of the stygofauna species, spiders, beetles and aquatic invertebrates are new to science, as are one unusual new gecko and several other reptiles, and numerous plants.

The mammoth project is in its final stages with 70 researchers and external specialists putting the finishing touches to half a decade of field research covering 300 terrestrial trapping sites, 423 vegetation sites and around 1000 aquatic sampling sites.

The study, which will end next year, has been led by DEC senior scientists Allan Burbidge (terrestrial zoology), Stephen van Leeuwen (terrestrial plants), Mike Lyons (wetland flora), Adrian Pinder (wetland fauna) and Stuart Halse (stygofauna).

The overall leader of the project is Senior Principal Research Scientist Norm McKenzie.

"The field work is mostly complete. Data will be written up during 2007," Norm said.

Sites were set up to cover all major soil and climate types across 190,000 square kilometres of land, including rocky areas, stony slopes, cracking claypans, riparian areas and scree slopes.

"We sampled across conservation reserves, Crown land, pastoral land and land under mining leases," Allan said. Some of the work was done in unseasonably hot conditions, in tents or swags in remote and isolated areas.

The terrestrial fauna team collected and recorded snakes, goannas, lizards, frogs, small mammals (including bats) and birds, as well as a range of invertebrates including spiders, wasps, bees, beetles and bugs.

About 1100 flora taxa – half the Pilbara's known plants – were collected, and a number of new species recorded. More will be collected in the final plant survey this spring.

# Science Division navigates its future

## Department's science awards

**THE Department has recognised the outstanding achievements of Science Division staff at the annual DEC Science Awards 2006.**

DEC Science Division Director, Neil Burrows, said the award winners were identified by the Science Management Team as having made an outstanding contribution to the Division over the past two years.

"Because of the wealth of dedicated talent in the division, deciding on winners of these awards is always a difficult job," he said.

The winners, followed by comments from Neil, were:

• **Outstanding team performance:** *The survey team of Neil Gibson, Adrienne Markey, Rebecca Meissner, Steve Dillon and Yvonne Caruso.*

The survey assessed the conservation significance of the flora and vegetation of the Goldfields ranges, which are poorly known but under increasing pressure from the rapidly expanding iron ore mining interests south of the Pilbara. (See story on right.)

• **Outstanding technical support:** *Arie Verveer*

Arie's achievements and activities cover

a wide range, are always conducted in a timely manner, and are of the highest standard required of astronomical research. His most recent work has involved the RAE internet telescope. It was his thorough and creative effort that has led to the realisation of the world's only operational 'truly' internet telescope, for which he has received international acclaim. His software is of such quality that it forms the basis of a refereed paper and will be used in other internet telescopes worldwide.

• **Outstanding administration support:** *Michelle Vellios*

Michelle started as an Administrative Assistant at the Manjimup Work Centre before transferring to an Administrative Assistant position at Kensington. Michelle is efficient, effective and professional and always keen to provide excellent administrative services to staff. She was appointed to the Administrative Officer position at Woodvale last October and has demonstrated effective management skills in coordinating the administration of the large Woodvale Research Centre.

• **Outstanding Scientist:** *Colin Yates*  
Colin was appointed Principal Research

Scientist in 2005 based on his excellent publication record and contribution to applied flora conservation research. In 2001 he was nominated for the Eureka Prize with Professor Richard Hobbs for their book on Temperate Eucalypt Woodlands in Australia. He has 28 refereed papers and books. Colin has made an outstanding contribution to research on threatened flora and in a range of other areas covering plant population ecology, fire ecology and landscape ecology. Key recent publications include an invited Turner Review with Professor Hobbs, and recent papers in Conservation Biology and Biological Conservation.

### Most prolific writers

Neil also acknowledged the top 12 most prolific writers over the past two years, where the scientist was the senior author of articles. The data source is Lisa Wright's bibliography.

Neale Bougher - 31	Greg Keighery - 23
Tony Friend - 19	Allan Burbidge - 15
Stuart Halse - 15	Anne Cochrane - 13
Margaret Byrne - 10	Paul de Tores - 10
Ian Abbott - 9	David Coates - 9
Norm McKenzie - 7	Neil Gibson - 6



Neil Gibson and Rebecca Meissner after the award presentation at Muresk.  
Photo - Sue McKenna

## Flora survey finds 12 new plant species

**A FLORISTIC survey of banded ironstone ranges in the State's Mid-West region has identified 12 new native plant species.**

The results of the first year of the three-year DEC survey identified unique vegetation communities occurring on the ranges surveyed and 19 new populations of Priority Flora were discovered.

Priority Flora are those species that are under consideration for State listing as Declared Rare Flora and are of conservation concern.

The survey, led by DEC Senior Research Scientist, Neil Gibson, is being undertaken to improve knowledge of the biodiversity contained in the ironstone ranges and how to best manage these areas in terms of conservation and mining.

"We did not have regional information to compare data and were concerned because of the advancement of the mining industry in these areas," Neil said.

Floristic surveys of the first six banded ironstone ranges were undertaken last year by DEC scientists in consultation with regional staff and the Department of Industry and Resources (DoIR).

The areas targeted for the first year of the survey included Jack Hills, Weld Range, Blue Hills, Southern Gnows Nest Range area, Koolanooka Hills and the Mt Gibson area. A total 174 days were spent in the field by staff between August and October 2005.

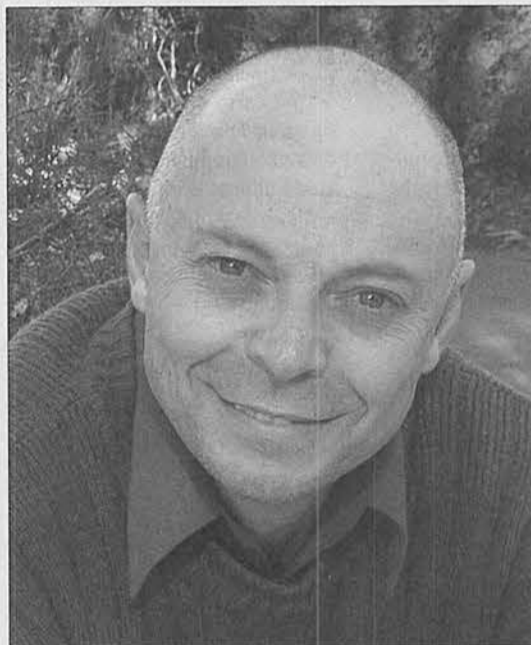
The survey so far has found that each of the ranges appeared floristically distinct from each other and often supported a suite of locally endemic species as well as species well outside their known distribution.

The richest range for local endemics was the Koolanooka Hills where five new plant species were discovered.

A new sedge was collected at Extension Hill. Further survey work found 15,000 plants over a very restricted area in the immediate vicinity of Extension Hill. Because of its restricted distribution, this species is currently being considered for listing as Declared Rare Flora.

Many of the ranges in the Mid-West contain localised species and vegetation communities that require further assessment to determine conservation strategies and their regional significance.

Data collection by DEC and industry will help facilitate timely assessment of conservation management and resource developments.



Principal Research Scientist, Paul Gioia.  
Photo - Sue McKenna

## What is where? And where is what?

**LIKE to know where an animal or plant is located? Or choose a location and discover what natural species live there?**

Try the DEC science databases, which are getting a new lease of life.

Principal Research Scientist Paul Gioia, from DEC's Kensington Science Division, said more and more environmental data were being captured, categorised and summarised than ever before.

He is coordinating the creation of NatureMap, a DEC online application that will tell you where a particular plant or animal is located - or the opposite, if you have a location and want to know what's there.

"Data are very expensive to collect - but in the past would often languish on personal diskettes or CDs or on a PC, which in time could become unreadable," Paul said.

"Every bit of data that we collect is a record and needs to be treated accordingly.

"DEC is a data-rich organisation with good quality information that decision makers regularly use to make environmental calls."

He said by late September information collected by DEC scientists - some of the best scientific staff in Australia - would be available through NatureMap to create new user-friendly information bases for stakeholders such as NRM and community groups, researchers, industry and others.

## More funds for marine work

**MORE funding for marine research has put DEC in a strong position to help create an Australian marine network.**

"At one stage there were few marine parks and little money to manage them. Things have changed and much more money is being allocated to implement the marine parks program," Chris Simpson, Leader of the Science Division's Marine Parks Program, said.

He added research came under two themes - ecological and social. One of the most important parts of his work was to manage people's interaction with the marine world.

"A total of \$2.818 million has been set aside for research and monitoring until 2008-09, while \$1.74 million has been set aside for marine education and communication," he said.

Research projects included onshore and offshore research in the Kimberley, Pilbara, Upper Gascoyne and Shark Bay.

## Marine plant collection tops 20,000

**A NEW internet-based record of WA's marine plants provides on-line access to around 1000 species of marine macroalgae and seagrass as well as 20,000 specimen details.**

The project, which was developed by the Herbarium in conjunction with Marine Science Program together with a number of Perth institutions, was funded by the Commonwealth Government's Natural Heritage Trust and Coastwest-Coastcare.

The marine plants database will be a valuable tool that offers extensive support to agencies, researchers and community groups working to conserve the State's marine biodiversity.

The database - which is incorporated with DEC's FloraBase website - provides access to current names and other information such as geographic localities, habitat information and in some cases, images.

In future, with further funding, the project will include descriptions and tools for the identification of marine plants, in



Sea cactus. Photo - John Huisman

the same way as those being made available for terrestrial flora.

FloraBase can be accessed at <http://florabase.calm.wa.gov.au>.

For more information contact Cheryl Parker ([cherylparker@dec.wa.gov.au](mailto:cherylparker@dec.wa.gov.au)) or John Huisman ([johnhuisman@dec.wa.gov.au](mailto:johnhuisman@dec.wa.gov.au)).

# Agencies announce pollution guideline

**IF your neighbours are burning waste in their backyard and the smoke is causing a nuisance, who do you call to report the problem?**

There is some confusion over whether it should be reported to the Department of Environment and Conservation, the local council or even FESA.

To sort out the confusion, the Metropolitan Environmental Health

Managers Group (MEHMG) recently endorsed a guideline in relation to pollution and noise issues.

The document was developed by a working group made up of members from the Western Australian Local Government Association, the City of Joondalup and DEC.

The group was created to establish the boundaries between which agency (DEC or local government)

was responsible for resolving various issues – these ranged from smoky chimneys to pollution spills.

DEC Pollution Response Unit manager Ken Raine said the document was a collaborative effort that identified a number of priority issues.

“As well as input from local government environmental health officers, the guideline was devel-

oped with help from DEC regional officers from the Kwinana/Peel and Swan Goldfields regions,” he said.

“The guideline was adopted by the MEHMG, which represents the 26 local governments in the greater metropolitan area, for a trial period of 12 months – after that period it will be reviewed for its efficiency.”

Ken said the guideline had been in place since March and

had been working well.

“There has been some interest from environmental health officers in the South West and the guideline may be extended to other areas of the State,” Ken said.

The guideline will soon be available on the DEC intranet – for more information contact Ken on 6364 7004 or ken.raine@dec.wa.gov.au or go to [www.environment.wa.gov.au](http://www.environment.wa.gov.au)

## Fire managers fly to US

**TEN DEC fire managers have flown to the US to help fire suppression efforts against large wildfires burning in several states.**

Rod Simmonds (Warren), Peter Bidwell (Frankland), Ed Hatherley (Broome), Peter Gibson (Wellington) and Rob Round-Turner (Kirup) left on the 32-day trip on 10 August. They were supported by Allan Daw from the Fire and Emergency Services Authority and Mike Wright from the Forest Products Commission's Nannup office. They were followed by a further seven officers from WA on 24 August 2006. These included DEC officers Roger Armstrong (Bunbury), Vince Hilder (Jurien), Bob Hagan (Bunbury), Gavin Wornes (Esperance), Tom Kenneally (Collie), FESA Officer Grant Olsen and FPC Officer Mark Read.

At the time they left, there were 38 active fires throughout the states of California, Idaho, Montana, Washington, and Oregon.

Under an international agreement between the US and various Australian and New Zealand agencies, WA provided the highly trained and experienced fire-line supervisors and aircraft managers to support the US in its wildfire suppression efforts.

WA is known internationally for its fire management expertise and skills and has previously helped the US battle large fires.

The WA team was part of a team of 40 fire operations managers from fire and land management agencies throughout Australia and New Zealand to assist in the US fires.

This is the fourth season WA has been asked to send staff to the US to help with fire control.

## Celebration of a long-term relationship

By Scott Goodson and Susie Williams

**THE Department's Kununurra office was recently honoured when it was presented with a stunning three-panel mural painted by 30 local Indigenous artists from the Waringarri Art Centre.**

The artwork was unveiled and officially handed over to the Department by the artists and traditional owners to celebrate our long-term relationship and significant partnership with the Miriuwung Gajerrong people.

The artwork depicts river systems in Miriuwung country that extend across the East Kimberley and into the Northern Territory – these include the Ord, Keep, Bullo and Victoria rivers.

The traditional owners unveiled the murals and spoke for their country to explain the works – culturally, only certain people may paint and talk about particular depictions of country.

There was a good crowd to celebrate the achievement including representatives from other departments, the Mirima Language Centre, Carol Martin (Kimberley MLA), the Country Labor Caucus, the local shire president and CEO, and the Kimberley Development Commission.

Waringarri Arts Coordinator Cathy Cummings said it was a privilege for the traditional owners and artists to work on this large-scale collaborative project, as such a work had never been undertaken before.

The murals recognise the Department's



Artists with two of the murals: Keep River mural and Vic and Bullo Rivers mural. Photo – DEC

commitment to its working relationship with the Miriuwung Gajerrong people.

Regional staff have worked hard over the years to ensure that views and aspirations of local Indigenous people are better reflected throughout our business and this event helped to acknowledge these efforts.

The Department has been recognised locally as setting a high standard when it comes to local community involvement and we continuously work hard to maintain the

integrity of the relationships we have built.

Building and maintaining these relationships has required dedicated effort of local staff and strong management support from throughout the Department.

This support has been demonstrated centrally by Paul Rosair and exemplified locally by Susan Worley and Leith Bowyer all of whom have advocated for strong relationships with Indigenous people and supported us in achieving this.



Kanyana Wildlife Sanctuary's Director, June Butcher (front), shows a captive-bred bilby at EcoEducation's tenth anniversary celebration for teachers at Perth Zoo. Pictured with her were (from left) Anita Verne from St Mary's Anglican Girls' School; DEC's Director of Nature Conservation, Gordon Wyre; DEC's EcoEducation Coordinator, Liz Moore; and Tiwest General Manager of Corporate Relations, David Charles. Photo – Rhianna King

## Off-road motorcyclists harm wildlife areas

**OFF-ROAD motorcyclists are riding in Perth's conservation lands, including 11 regional parks, as urban sprawl takes up more and more undeveloped land.**

The city's open space system includes regionally-significant land protected in regional parks from Joondalup in the north to Rockingham in the south and east to the Darling Range.

The parks have a wide range of geological features, vegetation and landscapes. They are managed by the Department of Environment and Conservation in conjunction with relevant local governments.

“Regional parks are used daily for sport, leisure activities, social gatherings and nature study, with natural environments that have important biodiversity conservation values,” DEC's Regional Parks Manager, Tim Bowra, said.

“Unfortunately, off-road motorcycle riders often find there is no local land suitable for them, so they go to what they believe is a vacant piece of bush – sadly, often in a regional park – to ride their bikes.

“This causes damage to areas of important conservation significance, scares native animals, and causes erosion to paths. Often, boundary fences are cut to gain access, which can cause further management problems by allowing other vehicles and stock into the park.

“Additionally, there is a real risk that other park visitors may get hurt by unauthorised off-road vehicles using the parks.”

He suggested off-road motorcycle riders joined clubs which offered facilities for them, or took their bikes to off-road vehicle areas listed on the internet.

“As the urban spread heads south, in particular, areas of bushland or farmland are now covered in houses, with remaining farmland difficult to enter. This is why the motorcycle riders are heading to regional parks, but they are creating damage in the process,” he said.

He added people should call local shire or council rangers, police or DEC's Regional Parks Office on 9431 6500 if they saw an off-road motorcycle rider in a regional park.

# Honour for DEC scientist and program



Kevin Kenneally and wife Irene (left) were pictured at the award ceremony with guest speaker Dr Jane Goodall, who has dedicated much of her life to the research and conservation of wild chimpanzees. Photo courtesy of Banksia Environmental Foundation

**BEING named a finalist for the Prime Minister's Environmentalist of the Year Award was as much a surprise to DEC's Kevin Kenneally as it was an honour.**

Kevin, DEC's *LANDSCOPE* Expeditions Coordinator, was nominated for his role in engaging the community in conservation work through *LANDSCOPE* Expeditions – the program he's worked on since their inception in 1992.

Named as one of four finalists, Kevin said that despite his high opinion of the program he was "blown away" when he was named a finalist and told he would be travelling to Melbourne for the ceremony.

The ceremony was held in July and attended by Greg Hunt, Parliamentary Secretary for the Federal Minister for the Environment. WA's Australian Wildlife Conservancy was named the category winner.

Kevin said the awards boosted the profile of the program at a national level.

"*LANDSCOPE* Expeditions provide unique experiences to paying volunteers who can expect to return home with a broader understanding of the natural world, the role of scientific methods, the value of nature conservation and the rewards of knowing they have contributed to

pioneering studies, often in remote areas," he said.

"The projects they undertake are hands-on and accompanied by scientists who are specialists in their field.

"These awards put the program on a national stage. I'm already receiving interest as a result."

The judges' report said Kevin had orchestrated 70 research expeditions involving more than 900 volunteers, raising \$1.7 million of community funding for scientific research in remote areas.

"Kevin Kenneally has achieved an outstanding career in scien-

tific research, personal leadership, inspiring groups of volunteers and championing significant projects of conservation in WA," it said.

Kevin said even though he was named a finalist, the programs were a success because of a team effort.

"We receive support from people in communities and scientists from State, national and international organisations, and then there are the 900 wonderful volunteers who dedicate time and resources to the long-term research and monitoring of wildlife," he said.

## LANDSCOPE Expeditions

**PROJECT Eden** – a DEC fauna recovery program set in the Shark Bay World Heritage Area – will get a helping hand from paying volunteers taking part in next month's *LANDSCOPE* Expedition.

Participants will survey small native animals, handle and identify captured animals and record data.

This trip is the first of three 2006 *LANDSCOPE* Expeditions.

The second trip will let volunteers study plants and animals in the pristine, isolated and spectacular Cape Arid National Park from 22–28 October. The third trip will focus on trapping, identification and recording animal species at Lake Magenta and Dunn Rock Nature Reserves from 20–30 November.

For more information about any of this year's expeditions contact *LANDSCOPE* Expeditions' Scientific Coordinator Kevin Kenneally on (08) 9334 0561.

## Air Quality Management Plan for Collie

Collie air quality will fall under the spotlight this month when DEC staff survey local residents and workplaces to get a better understanding of home wood heater usage and commuting habits.

Air Quality Branch strategic project coordinator Dr Farah Adeeb said DEC had mostly focused on Collie's industrial emissions in the past, but wanted to get a better understanding of the current contributions from other emission sources such as smoke from domestic heating, bushfires and vehicle use.

"We are surveying 200 Collie families to find out what type of home heating they are using, what type of wood they burn if any, barriers to switching from wood heating to another source of heating, and their perceptions of air quality in Collie," Farah said.

"The survey will also give us an idea of the public perceptions of the air quality in Collie and potential impacts of wood heating.

"Fifty Collie businesses are also participating in a survey of worker's travel

arrangements, including the distance they are travelling by car, their number of daily trips, the types of vehicles they use, and their attitudes to different types of transport.

"We plan to use this information to develop an integrated action plan to better manage air emissions in Collie."

Farah said Collie's air quality was within acceptable regulatory limits most of the time but emission sources needed to be strategically managed to ensure the area could continue to develop sustainably.

"We have set up a working group of government, local industry and community representatives to provide input into the development of a Collie air quality management plan," she said.

"We want to make sure that stakeholder concerns are fully incorporated into the plan.

"The plan will take into account long-term air quality issues, regional policies, social and economic development and community concerns.

"A discussion paper outlining current

monitoring practices, scientific knowledge relevant to air quality in Collie, and statutory and policy frameworks for air quality management at various levels of government is under preparation."

The draft discussion paper is expected to be available for public comment in late November. The findings and recommendations of the final discussion paper will be reported to the Minister for the Environment.

Farah said DEC staff were also monitoring for air toxics using passive (radiello) sampling methods at four sites in Collie. The monitoring began in April 2006 and is expected to continue until April 2007.

"DEC is also organising a half-day workshop on 31 July with the Department of Health to scope out health and environmental risk assessment studies for Collie," she said.

"We want to explore ways of assessing what is known and unknown about health effects of air pollutants in Collie, and to find ways of developing quantitative estimates of such effects."

## New steps in cat baiting

**WHAT do feral cats and foxes eat if they're living in areas that do not poison them with baits?**

The question is part of the research being undertaken by DEC's cat expert and Senior Scientist, Dave Algar, on his trips across the Midwest and Goldfields regions.

Feral cat baiting and its success is high on Dave's research agenda, with the latest round of baiting trials happening at the DEC's Lorna Glen Station in the Goldfields in the past two months.

Dave is overseeing the fourth year of baiting – including pre-baiting trials, the actual baiting and post baiting trials – across the 1400-square kilometre station.

"What we're doing is ascertaining cat abundance before and after baiting, where our monitoring is beginning to show that there is now long-term sustained cat control," Dave said.

Dave and his research team have just visited Karara Station in DEC's Midwest region, 60 km from Mt Gibson, to get a snapshot of what feral cats and foxes eat in an area that doesn't use cat and fox baits.

"Our research has given us an excellent indication of the small mammals that live in the area, and which of them the predators – foxes and feral cats – are eating," he said.

His research will be completed later in the year.

### Briefly...

#### Big Brook Relay

TEAMS are being sought for the final annual Pemberton Big Brook Relay on 11 November. Swimmers, runners, cyclists, cross cut sawcutters and canoeists can form teams for the event.

There will be volleyball games, barbecues, a tug of war, socialising and catching up with old friends.

To register, call Dave Meehan at Pemberton on 9776 1207.

#### Upgrade to Harvey bait factory

THE Department's fox and cat baiting factory in Harvey will receive another \$250,000 to produce new poisonous baits to control the European fox – a devastating predator on native wildlife.

The funding will enable the Harvey facility to be structurally upgraded to increase production capacity for the new sausage bait, ensuring that the baits needed for *Western Shield* are produced long-term.

The sausage bait replaces the dried meat bait and will reduce the cost from about 95 cents to 65 cents per bait.

It is envisaged it will take about eight months to complete the structural changes and obtain the necessary equipment to increase production.

## Close shave for Woodvale techs

**SOME hairdressing handiwork with clippers and colour were recently displayed at the Woodvale Wildlife Research Centre.**

It was all part of DEC's participation in the national fundraising event, World's Greatest Shave.

DEC Technical Officer Harley Barron, who organised the event at Woodvale, said their hairdressing efforts raised \$629.80 for the Leukaemia Foundation.

"The event was good fun, a lot of people pitched in to help out by providing food for the morning tea and volunteering to have their hair shaved off and their hair coloured," he said.

"Four people shaved their heads – Craig Douglas, Ben Smith, Dave Mickle and myself. Judy Dunlop, Natalia Huang, Leah Stratford, Monica Batista and Gillian Stack were also involved by colouring their hair.

"The final consensus was that Craig Douglas suited the bald head the most as it was the 'prettiest!'"



Bold and beautiful after the headshave were (from left) Craig Douglas, Ben Smith, Dave Mickle and Harley Barron. Photo – DEC