

Vale Daniel Kean

DEC staff and members of the Gascoyne community were shocked and saddened at the tragic news that a mid-air collision in February had claimed the life of DEC's Dan Kean and Exmouth pilot Bradleigh Roulston.

The pair died when a fixed wing plane and a helicopter collided in Kennedy Range National Park near Gascoyne Junction while working in tandem to carry out a feral goat control operation.

The pilot of the helicopter and his passenger, a Department of Agriculture and Food employee, sustained minor injuries.

DEC Director General Keiran McNamara said Dan, 44, joined DEC early in 2007 as an Operations Officer and was actively involved in a broad range of nature conservation and parks and visitor services projects throughout the Gascoyne rangelands.

"He was heavily involved in organising and implementing two native fauna surveys on Waldburg station, as well as weed control programs in the Kennedy Range and on Quobba and Warroora stations," Keiran said.

"He also managed DEC's campground host program in Kennedy Range and Mount Augustus national parks during last year's tourist season."

Senior Operations Officer Scott Godley, who worked with Dan in the Carnarvon Work Centre, said he brought an incredibly rich background of employment, skills and life experiences to his work.



Dan at the Kennedy Range National Park in 2007 during a date palm control project.

"It is very rare to find such a complete package in a new employee. It became very evident to many in the department that while Dan had much to learn, a task that he threw himself into with a passion, there was also much that Dan could teach people in the department," he said.

"He had worked all over the world in many challenging jobs, and had spent many years in

the Gascoyne area working with people from all walks of life."

Scott said there was no doubt Dan loved his job and the opportunities it gave him to connect with the land and the people on it.

"He loved being out there and took real pleasure in visiting and exploring new places," he said.

"He had an uncanny knack of finding places and things, and his field trips were always filled with lots of new photographs and stories of where he had been and what he had seen."

In particular, Dan made a significant contribution to the department's liaison with Aboriginal people in the area.

"Dan had strong links to the local Aboriginal community and was heavily involved in many community projects including as a board member of the local Aboriginal Medical Service, as a community coordinator at Burringurrah in the upper Gascoyne and as a coordinator at the Mungullah community in Carnarvon," Scott said.

"He also had a great knowledge of the area and loved working for the department where he felt he was out there achieving good things for the environment and Aboriginal people."

Scott said Dan was humble about his many achievements.

"He achieved things in an understated way," he said.

"He could do anything, solve any problem, talk to anyone. The country and its people

were his passion. He will be missed by all who came to know him. But his achievements and his spirit will continue to reach out to touch many people."

Keiran said he had offered every assistance for Dan's family's wellbeing and DEC staff during this difficult time.

"We are committed to ensuring that DEC staff who were associated with the accident receive the support they need," he said.

"Our thoughts also go out to Dan's family and, in particular, his partner Faye and son Aidan.

"We also express our deepest sympathies to the family of the pilot killed in this accident."

Environment Minister David Templeman publicly echoed these sentiments and recognised the commitment of staff carrying out duties around the State.

In Parliament, Mining and Pastoral MLC Vince Catania described Dan as an exceptional man who focused his energy on the things he loved and who always did what he felt was right.

"Dan's easygoing nature and warm character endeared him to many people," he said.

"He applied his knowledge with passion and creativity, and his special skills in planning and financial management helped to advance and encourage the Aboriginal communities in the Gascoyne.

"He was small in stature but larger than life in character and spirit."

Mystery decline in woylie numbers

DEC has joined forces with Murdoch University, the Perth Zoo and the Australian Wildlife Conservancy to determine the cause of a mysterious decline in woylie numbers.

The woylie was regarded as a major success story in 1996, when recovery efforts resulted in it being removed from threatened species lists.

However, since 2001 some woylie populations have plummeted by 93 to 97 per cent, resulting in about a 75 per cent species decline and it being listed as endangered in January.

The decline has surprised everyone and puzzled scientists who have joined forces to determine the cause and develop a plan for preventative action.

Key players met at a major symposium and workshop at Murdoch University in February to discuss the problem.

Environment Minister David Templeman, WA's Chief Scientist Lyn Beazley and DEC Director General Keiran McNamara attended, as well as experts from around Australia, New Zealand and Canada.

DEC Research Scientist Adrian Wayne said introduced predators were certainly involved in the decline but disease could be the real culprit.

He said although the exact disease had so far remained unproven, researchers had identified some key suspects, including the parasite 'Toxoplasma' and a new species of parasite called *Trypanosoma sp. nov.* "While we suspect a disease is to blame, we're not sure if the disease itself is killing the animals or if it is weakening them and leaving them vulnerable to predation," Adrian said.

"And it's likely that whatever is causing the decline is a complex web of multiple interacting factors."

Adrian is leading the Woylie Conservation Research Project, which involves a host of collaborators from different organisations.

The project will further investigate the causes of decline and plan action to help the population to recover.



DEC Research Scientist Adrian Wayne (left) with Andrew Thompson (Murdoch University), Lyn Beazley (WA Chief Scientist), Ian Wilson (DEC's Donnelly District), Jacqui Richards (Australian Wildlife Conservancy) and Paul Eden (Perth Zoo) at the woylie symposium. Photo - David Obendorf

New school resource from Ribbons of Blue

ENVIRONMENT Minister David Templeman released DEC's latest curriculum manual for teachers to help students learn about local waterways and wetlands.

The manual, *Ribbons of Blue: In and Out of the Classroom*, complements the field experiences offered as part of the Ribbons of Blue/Waterwatch WA program.

DEC Ribbons of Blue Coordinator Richard Olive said many teachers were interested in environmental activities but increasing demands on their time meant that unless a program fitted into a school's procedures, it wouldn't be used.

"The new teacher resource kit has been written by experienced teachers Bev Stevens and Michael Burke who are on secondment from the Department of Education and Training," he said.

"It contains information on a range of topics; curriculum planning tools; lesson plans;

student worksheets; and assessment tasks and marking guidelines.

"It aims to provide quality educational experiences that meet curriculum outcomes while providing opportunities for students to take part in community projects and to help develop sustainable lifestyles."

With more than 400 pages in the manual, even the most experienced teacher will find something new. A recommended sequence of lessons provides a proven pathway for the less experienced.

The South West Catchments Council helped with printing costs through its education grants.

Richard said the resource would be distributed free to teachers through the Ribbons of Blue regional coordinators and at workshops.

"We hope that for the next five to 10 years this manual will form the basis of tens of thousands of WA students' work on their local waterways and wetlands," he said.

DEC on display at WA on Show

DEC staff and their wide-ranging roles and achievements were on display at the Perth Convention and Exhibition Centre in early March as part of WA on Show.

The event exhibited the range of community and social services provided by government agencies to the WA public.

DEC's whole-of-department display showcased what the department is accomplishing under the theme of 'Our environment, our future'.

Information provided to the public included topics such as changing the course of climate change, creating a world-class parks system, preventing pollution and remediating contamination, conserving biodiversity and implementing sustainable forest management.

The display also highlighted the options for employment with DEC and the contribution DEC employees make towards the sustainability of our environment and future.

A multimedia display told the department's story through the words and images of staff, ranging from senior wildlife and pollution response officers to an intelligence analyst and a landscape architect.

TV advertisements from the Act Now for the Future and the marine parks campaigns also featured at the display.

A changing mix of DEC staff represented the department at the display over the long weekend and answered the public's questions.

Working Together

Recently I relinquished my role as Director Regional Services to take up a part-time role working on Divisional and Departmental projects.

Whilst there have been many changes during my eight years as Director of Regional Services in CALM and then with DEC, one thing has remained constant – the commitment, dedication and professionalism of our staff. People are the lifeblood of any organisation and DEC's leaders, managers and supervisors must strive to ensure that our people are valued and empowered. Attraction and retention of staff remains one of the key challenges for DEC in the next decade as fierce competition in the labour market will continue to make recruitment and stability in DEC's workforce more and more difficult.

We cannot sit back and expect to remain an 'employer of choice' when other enterprises in Western Australia are offering more attractive inducements. Loyalty should not be taken for granted – managers and supervisors must

actively work at creating and maintaining vibrant, dynamic workplaces where challenges are offered and recognition is given to staff who help to achieve the desired outcomes for DEC. Valuing the contributions of our staff and listening to their suggestions and their concerns is an important skill for managers and supervisors.

One of the easiest ways to show recognition for good work is a simple expression of thanks. This can be a formal memo, a card, a handwritten note or a handshake and a pat on the back. Not hard to do – but do we do it enough?

That said, I would like to sincerely thank all of the wonderful people in Regional Services Division and more widely in DEC, who have assisted and supported me and who have made the last eight years such an enjoyable "ride".

Alan Walker,
Director Policy and Projects



Communities get involved in air quality trial

By Joanna Moore

AN information session held in late February by DEC's Air Quality Management Branch was a starting point of the community involvement process for a new community-based participatory research (CBPR) trial.

The community information session aimed to encourage people to get involved in the trial which relates to air quality management around the Graham Farmer Freeway Tunnel.

The CBPR trial aims to develop an approach that can be applied to air quality research projects in Australia and conduct a pilot case study using the new approach.

The community information session tested a new CBPR guide which has been developed by Air Quality Management staff with help from DEC's Strategic Development and Corporate Affairs Division.

The guide contains fact sheets about aspects of the CBPR approach, an information book about air quality issues and a series of air quality monitoring operating procedures.

It aims to increase community understanding of, and involvement in, air quality management as well as help government, researchers and the community to work together more effectively.

The draft CBPR guide is available for program participants, with a finalised guide expected to be available later this year.

Air Quality Management Branch Manager John Sutton said staff were keen to work with the community as there had been previous interest in emissions from the tunnel.

"The CBPR approach involves the community from the initial development of

the research questions to the interpretation and dissemination of project results," he said.

Meetings have been held with key stakeholders to discuss the CBPR approach, the suitability of the Graham Farmer Freeway Tunnel as the trial location, tunnel monitoring and known community concerns.

Community meetings will be held during the coming months.

For more information or to register your interest contact Senior Environmental Officer Peter Musk at DEC's Air Quality Management Branch by phone (9219 8724 or 0417 182 974) or email (airquality@dec.wa.gov.au).

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Finding Charles Lane Poole

"EUREKA! I have found him!"
I was in DEC's Forest Science Library looking at an old photograph.

The man could be no-one else – there was his hook in place of his left hand. It was the end of my long search.

Charles Lane Poole was Western Australia's dynamic Conservator of Forests for only six years – 1916 to 1921 – but he put science into forestry, putting up the Forests Act legislation and starting systematic management. Long after Charles Lane Poole had died, Premier Sir Charles Court hailed him as the 'founder of modern forestry'.

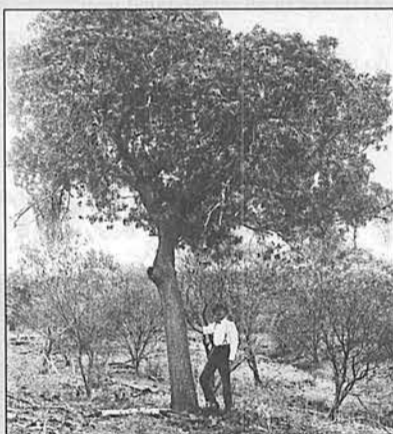
Now every visitor to Lane Poole Reserve in the jarrah forest south of Perth knows his name, but few know what he looked like.

I needed to find a good picture for the cover of his biography, *The Zealous Conservator: a life of Charles Lane Poole*, being published by The University of Western Australia Press. I had spent four years writing it and had tracked his adventurous life across the world – England, Ireland, France, South Africa, Sierra Leone, Papua New Guinea and Australia.

I had trawled through endless archives, books and publications and had talked to his daughters and grandchildren, but where was a decent picture?

My last chance was the library that he had started for the Forests Department, now DEC's Forest Science Library.

By John Dargavel,
Visiting Fellow, Australian
National University



Charles Lane Poole at Kunanalling in September 1917. Photo – DEC Forest Science Library

DEC Librarian Deborah Harding searched the catalogue but nothing came up and a search of a card index of an old collection was also fruitless – all trees and tractors.

It seemed hopeless, but perhaps something might be hidden away? I started to look through all the photos and suddenly there he was!

But where was he when the photo was taken? Clearly he was not in the

commercially important jarrah and karri forests.

I knew he had started a herbarium collection soon after he arrived in WA. Perhaps a specimen had been collected of the tree in the photo which might still exist?

WA Herbarium Curator Kevin Thiele searched the flora database and came up with their one collection of *Brachychiton gregorii*.

The record – showing collector Schock on 14 September 1917 in Kunanalling – exactly matches the photo because we know that in 1917 Charles Lane Poole hired the botanical seed collector Frederick Michael Christian Schock to set up the department's herbarium and that he took a tour through the Goldfields region's forests that year.

Finding this photo of Charles Lane Poole and being able to identify it has been important because it tells us about him. He is quite smartly dressed with his bow tie and hat, although it must have been a hot day for him to have removed his jacket and rolled up the sleeve on his good arm.

More importantly, it tells us that his concern for understanding and conserving WA's forests extended far beyond the needs for timber production. It shows him as a great forester, one properly named a Conservator of Forests.

Sustainable cities

By Samille Mitchell

DEC is calling for submissions to the State's first WA Sustainable Cities Awards.

The Keep Australia Beautiful initiative encourages and recognises communities working towards sustainability.

It is open to local councils, community groups, businesses, schools and registered clubs across the State.

Keep Australia Beautiful State Program Manager Josie Huxtable urged DEC staff to encourage groups and communities to make a submission.

"The awards recognise groups that are active in their communities and are making valuable contributions towards environmental sustainability," Josie said.

"These projects not only enhance the environment but also improve the standard of living and quality of life for urban communities."

Projects submitted in the awards may include those that minimise or control waste, encourage ecologically sustainable development, celebrate diverse community cultures, develop partnerships between local communities and local government, better manage and preserve heritage buildings, encourage water and energy savings, increase environmental awareness or conserve bushland to protect biodiversity.

Award submissions are welcomed in seven categories – sustainable communities partnership, water and energy conservation, waste management, biodiversity conservation, youth environment, heritage and culture and environmental education.

An overall WA Sustainable Cities winner will also be awarded. The winner will go on to compete in the National Sustainable Cities Awards.

Submissions close on 25 April. For more information, submission tips and entry forms, visit the website www.kabc.wa.gov.au.

Western Australian history in Kew Gardens' herbarium

WALK into the herbarium at the Royal Botanic Gardens at Kew in England and you'll find a slice of Australian history in its vaults.

WA plant specimens collected by Scottish botanist James Drummond in the 1830s and 40s have lain in manila folders in the red brick building for nearly two centuries.

The herbarium is in Hunter House, a former royal residence in a corner of what is now known as Kew Gardens. After the royal family moved in the early 1800s it was re-established as a herbarium under

By Sue McKenna

curator James Banks, Captain James Cook's botanist.

The herbarium now has seven million plant specimens including many from WA, which provide baseline generic information on which to name new specimens.

Drummond's association with Kew Gardens began after he emigrated to the Swan River Colony in Perth to become Superintendent of Government Gardens. Before that he was a gardener

in Scotland and curator of the botanic gardens in Cork, Ireland.

Drummond began collecting after moving to Helena Valley to establish a nursery and vineyard. Collections of native plants, including orchids, were sent to Kew Gardens' herbarium. Each time, he sent several samples of each species with instructions that the extra specimens be sold in England. The first two caseloads of orchids died but he had some success later.

In 1840 he made his first collection of plants at King George Sound in

Albany, and in 1841 he explored the land around Toodyay. The following year he headed to Moora and Wongan Hills, and in 1843 and 1844 he made a number of journeys to Bolgart and a return trip to King George Sound and Cape Riche. In 1846 he travelled to the Porongurup and Stirling ranges, and later to other inland areas of WA.

Now, almost two centuries later, his plant specimens lie in folders in the cupboards that line the building's three floors.

Drummond's *Eucalyptus cornuta myrtaceae* is there, in a folder with

its hand-written explanation that it had been collected 'before 1843'.

Today specimens and seeds arrive from DEC or the Botanic Gardens and Parks Authority labelled and ready to add to the collection.

Australian Biological Liaison Officer Jenny Tonkin said the collections were important because they ensured specimens could be allocated to a known plant family.

"If there are any problems identifying a plant, we can go to the cupboards and identify them," she said.

New technology to pinpoint acid sulfate soils

TECHNOLOGY commonly employed by the mining industry to find ore bodies is being used to pinpoint disturbed acid sulfate soil (ASS) areas.

DEC has contracted CSIRO to conduct aerial hyperspectral remote sensing to identify vulnerable ASS landscapes on the Swan Coastal Plain.

DEC Acid Sulfate Soils Section Manager Stephen Wong said ASS had formed naturally in WA's coastal areas over thousands of years.

"These soils are harmless while in an undisturbed, waterlogged state but produce sulphuric acid when exposed to air," he said.

"Once disturbed acid sulfate soils have the potential to affect surface and groundwater quality and scald the land.

"It is important to recognise acid sulfate soil areas to avoid inadvertently disturbing them during excavation or drainage activities."

Stephen said hyperspectral imaging was an effective and efficient way of identifying potential ASS hotspots over the vast WA landscape, especially in areas that were difficult to access using traditional field site surveys.

"Hyperspectral technology uses special cameras mounted on an aeroplane to gather data about the spectra of light reflected from the land below," he said.

"It allows us to describe conditions on the ground, indicate areas of high acidity and pinpoint the locations of disturbed ASS."

DEC has compiled broad-scale risk maps for several coastal regions of WA that provide an indication of areas where ASS are most likely to exist.

"The information generated by this hyperspectral imaging project will be used to improve these maps," Stephen said.

"Further measurements and collection of soil samples for laboratory testing will continue while the ground is dry and the minerals are precipitating on the surface."

The hyperspectral imaging project is being funded through the Natural Heritage Trust.



Kensington staff at the Aboriginal Heritage Unit on 'Sorry Day'. Photo - Val Cave

What 'Sorry Day' meant to Koodah

STAFF gathered at DEC's Aboriginal Heritage Unit (AHU) on Wednesday 13 February to mark the Federal Government's apology to the Stolen Generations.

AHU Leader and Cultural and Community Coordinator Koodah Cornwall spoke to staff about his feelings and experiences of what 'Sorry Day' meant to him personally.

"I now feel I am a true Australian Aboriginal," he said. "I feel relieved of the weight that has been around my neck for the last 40 years."

"I also believe that a lot of other people, from all cultural

backgrounds including non-Aboriginal people, feel relieved."

AHU heritage officers Delvene Cornwall, Tom Dimer and Eddie Wilkes also spoke on how they saw 'Sorry Day' and what it meant to them as young people affected by the experiences of their mothers and fathers being taken away from their families.

Koodah said the apology was a chance to move on. "I hope everyone in the department, and outside it, can work together better in the future," he said.

"This means building trust and respect - respect which is earned. All this takes time and effort."

A coral reef manager's response to climate change

THE incidence and severity of mass coral bleaching events have increased over the past two decades, prompting leading coral reef researchers and managers to declare that coral reefs are in 'crisis'.

Western Australian coral reefs were affected by two significant worldwide coral bleaching events - in 1998 and 2002 - but were able to recover. Many reefs elsewhere in the world died, including some in the Great Barrier Reef and elsewhere in the Indian Ocean.

In August last year, two DEC marine park management staff attended a workshop on Lady Elliot Island in the Great Barrier Reef Marine Park addressing management of coral reefs in response to climate change.

Ningaloo Marine Park Coordinator Roland Mau and Marine and Coastal Reserves

By Fiona Galloway and Roland Mau

Officer for Rowley Shoals Marine Park Fiona Galloway attended the workshop along with 21 other government and non-government representatives from Indonesia, Malaysia, the Philippines, Thailand, Hawaii and Australia's Great Barrier Reef Marine Park Authority and other Commonwealth marine reserves.

The workshop was hosted by the US National Oceanic and Atmospheric Administration (NOAA), the Great Barrier Reef Marine Park Authority and The Nature Conservancy.

Led by Dr Paul Marshall and Dr Heidi Schuttenberg, trainers from Australia and the USA presented an intensive five days of lectures and field exercises to increase capacity for

planning, monitoring and responding to climate change and bleaching events in coral reefs.

Topics covered management issues such as developing response frameworks, coral reef resilience, social-economic impacts, interpreting remote sensing data, management interventions and the development of bleaching response plans.

Roland and Fiona nominated additional locations off the Pilbara and Kimberley coast (such as the Rowley Shoals Marine Park) that will become part of the NOAA worldwide coral bleaching early warning system (<http://coralreefwatch.noaa.gov/satellite/>). Ningaloo Marine Park and Scott Reef off the Kimberley coast are already 'virtual' stations for which Satellite Bleaching Alerts are issued to WA coral reef managers.

Establishing a comprehensive, adequate and representative network of marine parks is extremely important because, where marine environments are well-managed, this contributes to the resilience of marine ecosystems and helps them more easily weather severe environmental stresses such as coral bleaching and other effects of climate change.

Since their return, a discussion forum has been held through the DEC Marine Science Program to raise the issue of coral bleaching and its implications for Western Australian coral reefs.

More opportunities to learn about relevant management actions are planned for 2008. Please contact either Roland (roland.mau@dec.wa.gov.au) or Fiona (fiona.galloway@dec.wa.gov.au) for information.

Fighting dieback in Fitzgerald River National Park

DEC is fighting dieback in a multi-faceted offensive in Fitzgerald River National Park.

The latest weapon in slowing the spread of *Phytophthora cinnamomi* (the cause of the *Phytophthora* dieback disease) involves a three-kilometre plastic membrane designed to prevent plants spreading the disease through their roots.

DEC Bell Track Project Officer Maria Lee said the 90 centimetre-deep plastic membrane had been placed into a one metre-deep trench at areas where there was a high risk of the disease escaping from its current micro-catchment boundary.

She said a chemical dispersion system at the bottom of the trench would deliver a root-inhibiting chemical to discourage deeper roots growing under the membrane.

By Samille Mitchell

"The plastic membrane acts as a physical barrier to prevent roots spreading dieback while the chemical stops root growth, to prevent infected roots from infecting disease-free areas," she said.

While similar membranes are used in horticulture, use of the membrane to target dieback is believed to be a world-first.

Maria said the membrane was laid after staff from DEC's Perth Hills District and Ravensthorpe offices collected 600 soil samples to determine the most suitable location for its placement.

The membrane is part of the \$1.3 million *Saving our Species* dieback control project in Fitzgerald River National Park, near Ravensthorpe. South Coast

Natural Resource Management has also provided funding to fight dieback in the area.

The park suffers from a 185-hectare infestation, known as the Bell Track infestation, which threatens to destroy tens of thousands of hectares of conservation estate.

Other works include the recent construction of a 12-kilometre fence around the infestation to prevent animals from spreading the disease, as well as ongoing aerial and high-intensity phosphite applications.

Maria said the area was also subject to a hydrological study which would provide options for managing surface water within the micro-catchment. Water flow from infected to non-infected areas also has potential to spread the disease and threaten this flora-rich habitat.



DEC Perth Hills District employees Ken Whelligan and Wayne Needham install the new plastic membrane aimed at reducing the spread of *Phytophthora cinnamomi*, which causes dieback disease. Photo - Maria Lee

Kids go batty during holidays



Andrew (left) and Luke use a glue gun to make their bat box. Photo – Joe Tonga

IT was conservation in action for children who visited John Forrest National Park during the summer holidays to take part in a new *Nearer to Nature* activity – Budding Bat Box Builders.

The children made roosting boxes with the aim of encouraging bats back into the park by providing suitable habitat.

Nearer to Nature guide Joe Tonga showed the children how to build bat-friendly homes from environmentally sound materials. The enthusiastic eight to 14-year-olds learnt about design features for temperature control and how the boxes should be installed to encourage bats to hang around.

By Jill Francis

The roosting boxes provide a temporary shelter for bats to rest and are big enough for about 50 micro bats. The boxes feature a metal skinned roof and a big landing area.

Micro bats fly extremely fast and therefore need a big surface area to grip onto as they pull up quickly to land. Making the 'landing pad' rough also helps the bats and so shade cloth was used.

A three-centimetre hole is drilled into the lower walls of the box which the bats find through echo-location and then pop through to explore the roosting box.

Thirteen habitats were installed at John Forrest National Park, including three roosting tubes and two bat nursery homes. The roosting boxes are grouped together to reduce the flying time needed to evade predators.

It is hoped three local species of micro bats will visit the boxes – Gould's wattle, lesser long-eared and southern forest bats.

DEC staff and other partners in the project will monitor the boxes and the children who took part in the activity can use an online link to access data about the new inhabitants of their handiwork.

For information about future workshops contact *Nearer to Nature* on (08) 9295 2244.

New way to highlight Aboriginal culture

By Samille Mitchell

A joint initiative between DEC, Australia's North West Tourism and Tourism Western Australia to promote Aboriginal culture and eco-tourism in the north-west has hit national TV screens.

Channel Nine and Win TV screened a documentary on the Warlu Way experience self-drive trail as part of the Australian Geographic's *Best of Australia* series in December and January.

In addition, a DVD of the documentary was sent to Australian Geographic's 160,000 subscribers in January.

It was accompanied by a new, full-size illustrated map of the region.

An accompanying photo essay was published in the same issue of the journal and an extensive travel dossier, with links to tourism agencies, was posted on the Australian Geographic website www.australiangeographic.com.au.

The Warlu Way documentary was the initiative of Ian Walker who was Regional Manager of DEC's Pilbara Region last year.

Ian said the documentary and magazine coverage was a brilliant way to showcase the new experience trail, which encourages travellers to learn about Aboriginal culture while driving a route that takes in Coral Bay and Ningaloo Marine Park, Karijini and Millstream-Chichester national parks, the Burrup Peninsula and Broome.

"Warlu Way is a self-drive set of experiences on existing roads in the region and is named after the Dreamtime serpent, the Warlu," Ian said.

"It links the icons of the region, our parks, and provides opportunities for Aboriginal communities to develop a range of sustainable businesses showcasing their connection to country."

"Our vision is for a set of world-class experiences to rival attractions such as the Great Ocean Road."

The trail will include interpretive signage along the way which encourages drivers to stop and learn more about the fascinating Aboriginal culture in the area.

Interpretive signs and other information will also reveal information about the region's unique geological and natural wonders, as well as some of its European history.

"By providing such information, we hope to open travellers' eyes to the wonders of the landscape and enrich their experience of travelling through this amazing region," Ian said.

Significant site fenced at Wedge Island

DEC has helped with a community project to protect a site of Aboriginal cultural significance.

Staff from DEC's Aboriginal Heritage Unit and the Mentored Aboriginal Training and Employment Scheme (MATES) took part in the fencing project at Wedge Island under the guidance of the South West Aboriginal Land and Sea Council (SWALSC) and elders from the local Yued people.

The main aspect of the significant site is a shell midden on a limestone hill which was used by the Yued people to prepare and eat food. Shells and bones, including seal bones, and artefacts such as axe heads are scattered throughout the site.

Wedge Island, near Lancelin, is a popular area for recreational activities including fishing, boating and motorcycle and four-wheel drive use.

Due to the area's popularity, the midden site has been disturbed. Yued elder Charlie Shaw requested that the site be protected with a fence to stop further damage.

Brendan Moore from SWALSC was entrusted by the Shaw Yued clan to draw up a plan of

By Joanna Moore

the area requiring fencing. Charlie oversaw the fencing work carried out by the team to make sure protocols were followed and that no cultural materials were disturbed.

The MATES trainees and Aboriginal heritage officers said they were pleased to have the opportunity to work with the community and share in local cultural knowledge.

"I felt honoured to be involved in supporting traditional custodians with the care and protection of this significant area," MATES trainee Naomi Dann said.

As well as the groups that took part in the work digging holes for pickets and strainers and wiring the fence, the project was supported by many agencies including the Department of Indigenous Affairs, Northern Agricultural Catchment Council, Natural Heritage Trust, Kulbardie Productions from Murdoch University and Aboriginal Cultural Materials Committee.

Volunteers relocate plant after 162 years



Jean and Fred Hort. Photo – DEC

A MYSTERY plant brought into the WA Herbarium by long-time volunteers Fred and Jean Hort has been found to match a specimen in a collection made by colonial botanist James Drummond in 1843.

Fred and Jean, of Swan View, have been volunteers for DEC's Perth Hills District for 12 years.

One of their roles has been to try to locate additional populations of priority and declared rare flora in their 'patch' – an area of remarkable botanical diversity extending from Gingin to Dwellingup along the Darling Range foothills and eastward to the farmlands. They also help DEC conservation staff with plant counts and population monitoring.

The couple has developed close links with many DEC staff, especially botanists at the WA Herbarium, and have brought them many 'interesting specimens' that have turned out to be undescribed species.

In 2005 Fred and Jean brought one such specimen from the Julimar State Forest to botanist Mike Hislop. While readily able to place it in the genus *Tetratea* (Black-eyed Susan), Mike could not assign the specimen to any of the accepted named species in the genus.

DEC research scientist Ryonen Butcher, who is examining the taxonomy of WA *Tetratea* species, has now found a perfect match for Fred and Jean's specimen – a plant last collected in 1843. She found the match in a box of specimens on loan from the National Herbarium of Victoria.

A good look under the microscope confirmed that Fred and Jean's specimen was directly comparable to Drummond's collection number 101 from 1843 – a collection that the English botanist George Bentham had used to name *Tetratea nuda* var. *spartea* in 1863.

Tetratea nuda var. *spartea* has recently been given a priority two conservation listing due to its infrequent collection and restricted distribution.

Close study has found var. *spartea* to be significantly different from typical *Tetratea nuda*. This taxon will be fully described and named as a distinct species in *Nuytsia*, WA's Journal of Systematic Botany, in 2008.

In recognition of the valuable contribution they make towards knowledge and conservation of our native plants, Fred and Jean Hort have recently been included as inaugural Research Associates of the WA Herbarium.



The team included (back row, from left) South-West Aboriginal Trainee Coordinator Karim Khan, Aboriginal Heritage Officer Tom Dimer, MATES trainee (Perth Hills District) Colin Narrier, Aboriginal Heritage Unit Leader Koodah Cornwall, (front row, from left) Aboriginal Heritage Officer Eddie Wilkes, MATES trainee (Walpole District) Carol Rodd, MATES trainee (Karratha District) Naomi Dann, SWALSC Project Officer Brendan Moore, Ranger (Blackwood District) Phoebe Houghton and (sitting in front) local Yued custodian Charlie Shaw. Photo – DEC