Saving our Species

SAVING OUR SPECIES

ACT NOW FOR THE FUTURE

Department of Environment and Conservation

Our environment, our future

Achievements 2006–07

Foreword

Western Australians live in a State that is internationally recognised for the diversity of its flora and fauna – a State that is home to the world's most endangered marsupial, the Gilbert's potoroo, and more species of flowering plants in just one south-west national park than in the whole of the United Kingdom.

With this gift comes a responsibility to protect what we have and to ensure that the environment we see today will be around for future generations to enjoy.

That is why the Carpenter Government is acting now for the future of our environment and for generations to come. In July 2006 we introduced **Saving our Species** – a two-year, $15 million biodiversity conservation initiative aimed at boosting efforts to conserve our unique plants, animals and ecosystems.

There are many serious threats to our biodiversity that won't be solved in the short term, and for these the Department of Environment and Conservation (DEC) has ongoing management strategies. **Saving our Species** is supporting these strategies by addressing critical biodiversity conservation priorities where significant long-term results can be achieved from a short-term, strategic focus.

Priorities include eradicating or reducing weeds and pest animal species to a level where recurrent programs can maintain effective control, protecting and recovering threatened high-value biodiversity assets, filling important gaps in scientific knowledge and research, and meeting 'good neighbour' commitments that aim to strengthen partnerships between DEC and landowners whose properties join DEC-managed lands.

In administering **Saving our Species** projects, DEC has worked alongside and enjoyed the support of many different organisations and individuals, including regional natural resource management groups, pastoralists, traditional owners, local shires, other government agencies, environmental groups and interested community members.

The initial success of **Saving our Species** is not only testament to the efforts of DEC staff, but to these individuals and organisations who have supported the initiative and worked towards the common goal of protecting WA's biodiversity.

The following pages provide a snapshot of their shared success during the first year of the program.

David Templeman

Minister for the Environment; Climate Change

Front cover: Juvenile woylie.

This page from top left: Burrowing crayfish; blue tinsel lily; and a Gilbert's potoroo, the world's most endangered marsupial.

Photos – DEC

Threatened species and ecological communities

Saving our Species aims to advance the recovery and protection of WA's threatened species and ecological communities by supplementing DEC's ongoing biodiversity conservation management strategies. The initiative is supporting activities that are carried out under recovery plans for individual threatened species and ecological communities, and management plans covering the entire threatened flora in a DEC region or district.

First year theme highlights include:

- planting more than 600 plants of six species of critically endangered WA flora. These plants were used in the creation of new populations of the species;
- the completion of 15 monitoring surveys and five research studies to determine the cause of recent decline in woylies in the State's south-west;
- writing seven interim recovery plans for critically endangered WA flora species;
- the removal of nearly 120 tonnes of rubbish from Bush Forever sites around the Perth metropolitan area;
- the completion of a desktop study on the biological assets of the world's most extensive limestone cave system, the Nullarbor karst. Results will inform the development of interim management guidelines; and
- the completion of 39 flora and two fauna monitoring surveys at a private biodiversity hotspot in the State's Midwest. So far 38 priority flora species and 26 fauna species have been recorded.

Potoroos thrive at new island home

On the south coast of WA a small island near Albany is proving a safe haven for the world's most endangered marsupial, the Gilbert's potoroo.

In 2005, with less than 40 Gilbert's potoroos existing at their only known location in the world – Two People's Bay Nature Reserve on the WA mainland – Bald Island was selected as a translocation site to establish a second population as a way of further protecting the species. DEC has been working to recover this species since its rediscovery in 1994.

Saving our Species has supported the establishment of a new population of the species on Bald Island, which is now home to at least 13 Gilbert's potoroos.

DEC Senior Research Scientist Tony Friend said the animals had settled in better than expected and had resoundingly endorsed the choice of Bald Island as a translocation site. The condition of the animals was better then those on the mainland and females on the island were breeding more frequently than their mainland counterparts.

As at November 2007, **Saving our Species** had supported six monitoring trips to Bald Island with assistance from several key stakeholder groups and volunteers. The initiative is continuing to fund the translocation project in 2007–08 as well as the construction of a new field breeding enclosure on the mainland to supplement natural wild breeding and captive breeding.

Right from top: A western barred bandicoot on Dorre Island; robust cone-flower; woylie; William's spider orchid; and Webbs Cave on the Nullarbor.

Above: Monitoring Gilbert's potoroos on Bald Island.

Photos – DEC

Pest animal control

In WA pest animals including feral pigs, camels, wild dogs, donkeys, feral goats, cats, foxes and birds such as starlings and rainbow lorikeets, impact on native species by eating them as well as competing for food and shelter, destroying their habitats and by spreading diseases and pathogens.

Saving our Species is targeting pest animal species in key areas where there are known impacts and where it is feasible to eradicate or significantly reduce populations in a short period to protect key biodiversity values.

First year theme highlights include:

- more than 8,000 pest animals being removed from national parks, nature reserves, forests and conservation parks throughout the State;
- the construction of 221 kilometres of conservation reserve fences;
- aerial surveys of 14.5 million hectares of the Little Sandy, Great Victoria and Gibson deserts to determine the distribution and density of feral camels; and
- the closure of 19 artificial waters on former pastoral leasehold land bought for biodiversity conservation and which have helped to support feral animals.

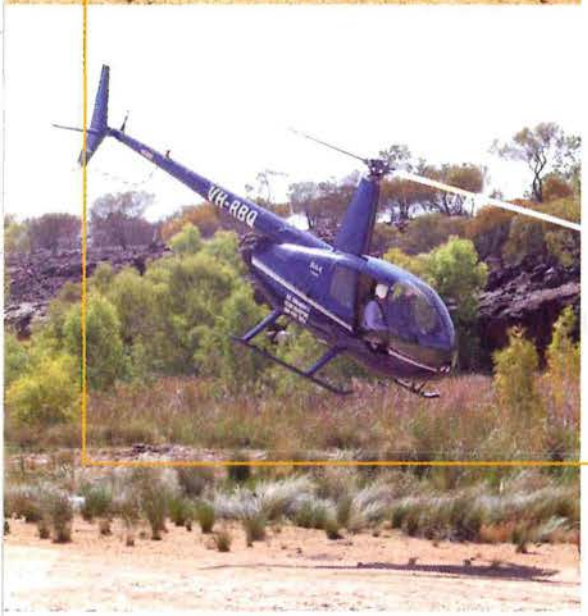
Huge reduction in feral goats observed

Feral goats cause major environmental damage in the rangelands of WA and without control have the potential to turn the rangelands into a wasteland like much of the Middle East and North Africa. Not only do they compete for food and shelter with native species, their grazing activities result in soil erosion, weed dispersal and changes in vegetation.

In 2007 **Saving our Species** supported several goat control programs in the Midwest and Pilbara. These projects involved ground and aerial shooting and resulted in more than 4,500 goats being removed from four national parks.

In the Exmouth area **Saving our Species** supported a program to remove feral goats from Cape Range National Park and neighbouring unallocated Crown land. Goats are a significant threat to the biodiversity of the park and are widespread throughout the Cape Range peninsula. A total of 947 goats were removed from Cape Range National Park – 629 through aerial control operations and 318 through on-ground operations. The shooting program was supported by a trapping program at nearby Yardie Homestead that resulted in more than 230 goats being removed.

Aerial surveys were also undertaken to determine the abundance and distribution of goats before and after the control operations, as well as the effectiveness of control. Results from the survey show an 86 per cent reduction in the number of goats observed after the control operation. The success of this program means that feral goat numbers should now be at a level where recurrent programs can maintain effective control.



Left from top: Trapping feral pigs; feral camels; feral goats; and aerial goat control. *Photos – DEC*

Weed eradication and control

In WA there are about 1,350 species of environmental weeds, 34 of which are listed as being the highest priority for eradication under the 1999 Environmental Weed Strategy for WA.

Saving our Species funds have been targeted at the populations and species of weeds that can be eradicated over a relatively short period as well as locations where a local 'knock down' of weed populations can bring the weed situation back to a controllable level with regular maintenance operations.

First year theme highlights include:

- the treatment of more than 8,000 hectares of unallocated Crown land, conservation reserves and leasehold land throughout the State for priority weed control;
- a 90 per cent reduction of a 10-hectare dolichos pea infestation in the Leeuwin-Naturaliste National Park;
- more than 300 tonnes of succulent weeds being removed from bushland at Ravensthorpe; and
- more than 1,000 hectares being treated to control prickly acacia in the Durack River area in the Kimberley.

Collaboration key to successful weed control

Community involvement and collaboration have proved to be the keys to the success of a Kununurra weed control project supported by Saving our Species.

Community-based landcare group Ord Land and Water has engaged locals in its fight against the invasive neem tree, a fast growing exotic that suffocates slower growing native species, depriving animals of food sources and habitat.

Around Kununurra, an area of about 7,000 hectares is known to be infested by neem. With financial support from **Saving our Species**, Ord Land and Water has now undertaken control work on more than 5,000 hectares, or more than 70 per cent of the total known infested area. Control work has occurred on unallocated Crown land, national parks, community land in partnership with traditional owners and private land. More than 100 landholders received assistance to remove neem from their properties. Many of these trees were the seed origin of trees now in the bush so their removal was a critical step forward.

According to Ord Land and Water's Dick Pasfield, reaching this significant milestone would not have been possible without the level of funding made available through **Saving our Species**.

As well as reducing the threat that neem poses to biodiversity in the Kununurra area, the project has experienced exceptional success in engaging the community. Being able to see the significant results of their work has heightened local peoples' appreciation of biodiversity issues on their doorstep.

Top: A dolichos pea infestation in Leeuwin-Naturaliste National Park before and after treatment.

Above: Controlling neem in Kununurra.

Right from top: A prickly pear plant; a treated prickly acacia plant; athel pine control at Lake Boonderoo; weeds removed from Breaksea Island; and Minister Templeman visits a *Saving our Species* weed fire trial near York.

Photos – DEC

Management and control of *Phytophthora cinnamomi*

Phytophthora (pronounced fy-toff-thora) *cinnamomi* is an introduced water mould that attacks plants and causes root rot, killing the plant by limiting or stopping the uptake of water and nutrients. The disease in the plant is known as *Phytophthora* dieback, commonly called the 'biological bulldozer' because of the devastating effect it has on native plants and some native animals as their natural habitats are drastically altered.

Saving our Species is supporting several key projects addressing the issue of *Phytophthora cinnamomi* management and control.

Within DEC's Albany, Esperance, Busselton and Frankland districts, phosphite spraying has been undertaken across 490 hectares and on more than 25 threatened flora populations. Phosphite is a chemical that makes plants more resistant to *Phytophthora cinnamomi*, but is not harmful to plants or animals.

Across the *Phytophthora cinnamomi* risk zone of the south-west of the State, a strategic project involving dieback interpretation and risk assessment modelling saw 470,000 hectares of conservation reserves, State forests, local government authority reserves and unallocated Crown lands mapped for dieback infestations.

Halting the Bell Track infestation

Fitzgerald River National Park, a world-renowned protected area and World Biosphere Reserve of more than 300,000 hectares, holds nearly 20 per cent of the plant species found in WA and is home to at least 19 native mammals. However, much of this plant and animal life is under threat from a 185-hectare infestation of *Phytophthora cinnamomi* along the Bell Track introduced when the illegal track was constructed with infected equipment.

Although the infestation is currently contained within a small catchment, the disease front is perilously close to entering a nearby drainage line. Unless stopped, *Phytophthora cinnamomi* will spread into the adjoining catchments with the potential to infect tens of thousands of hectares of the park. This would have a devastating effect on the park's native plants, animals and ecosystems.

Past efforts have focussed on the use of phosphite to contain the impact of the infestation. With no known cure for *Phytophthora cinnamomi*, **Saving our Species** has funded a large-scale, multifaceted project aimed at halting the spread of the Bell Track infestation through fencing and engineering works.

In May 2007 a 12-kilometre fence was built around the entire infestation to prevent animals, such as kangaroos, carrying *Phytophthora cinnamomi* out of the catchment area and creating spot infections elsewhere. High intensity phosphite has been applied at high-risk areas to prevent root-to-root transmission of the disease between plants, and ongoing aerial phosphite application has occurred over the entire infestation. Strict hygiene practices have been enforced including inspection and wash down of all vehicles and machinery leaving the infested area.

Several benchmark strategies will begin in 2007–08. These include the installation of three kilometres of soil membrane along high-risk areas to prevent root-to-root spread and the design and construction of engineering works to manage surface water run-off. High water intake native plant species that are tolerant to *Phytophthora cinnamomi* will be planted in areas where the pathogen has reduced the quantity of original vegetation. These plants will help to use up the rainfall and surface water on site and so reduce the risk of water spreading the disease to other areas.

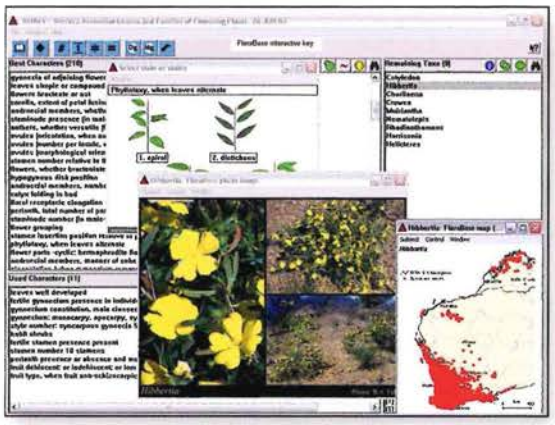
Importantly, techniques used in the **Saving our Species** Bell Track project have the potential to be applied worldwide to help protect high value assets and fight the devastating effects of *Phytophthora cinnamomi*.

Left from top: DEC's Mal Grant inspecting dieback devastation; dieback devastation at Fitzgerald River National Park; a dieback-infected banksia; and the 12-kilometre Bell Track dieback control fence.

Photos – DEC

Biological survey and research

Saving our Species is investing in important biological surveys and research that are essential to future conservation efforts by providing the knowledge on what species and communities occur where, and their conservation status and threats.



Projects undertaken include a fire and biodiversity study into fire regimes in the Kimberley, a biological survey of the highly minerally prospective banded ironstone formations in the Midwest and Yilgarn and an enhancement to *FloraBase*, the State's authoritative online reference on WA's plants, that makes it easier to identify plants online.

Through the projects 12 banded ironstone ranges have been surveyed, 15 potentially new plant species have been collected, 20 new populations of priority flora have been identified, 1,750 new voucher plant specimens have been lodged, five scientific papers have been written and online tools have been upgraded.

Plant knowledge to benefit biodiversity and mining industry

WA's booming mining industry highlights the importance of gathering more detailed information on plant species growing in areas being investigated for possible mining. Botanical surveys in these areas have resulted in the discovery of many plant species considered new to the State. However, the lack of detailed information to distinguish these plants can cause a delay in the accurate identification and assessment of their conservation status.

In 2006–07 a **Saving our Species** project aimed to resolve the plant naming process and advance the scientific description of unnamed leafy plants, with a focus on the banded ironstone formation (BIF) ranges of the Yilgarn Craton and the Ravensthorpe Range and Bandalup Hill.

With the assistance of more than 70 Australian and international botanists, a team of three scientists from DEC's WA Herbarium has produced a special edition of *Nuytsia* which taxonomically describes 95 plants, representing 21 families and 33 genera. Thirty-six of these plant species grow on banded ironstone formation ranges or other ironstone habitats while six are largely confined to the Ravensthorpe area. Seventy-six plants are listed as being of conservation concern, 39 of which are new additions to the Declared Rare and Priority Flora lists for Western Australia.

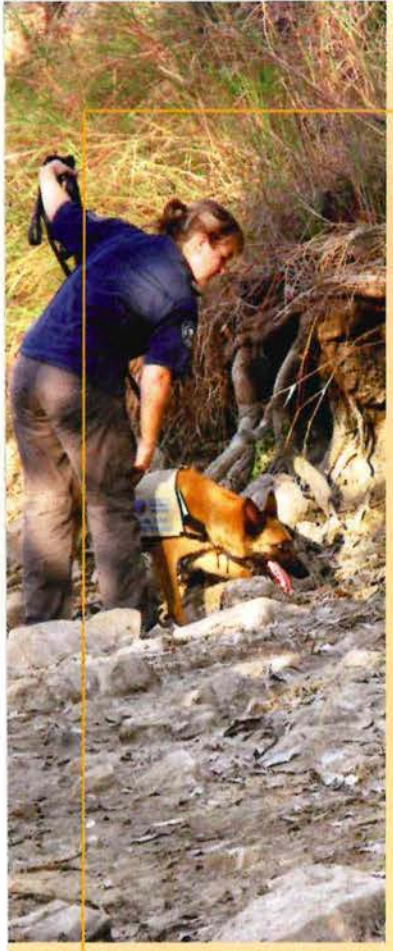
The significant outputs of this project highlight what can be achieved with a targeted effort in a short period and demonstrate the taxonomic productivity possible when appropriate resources are dedicated to the task.

Final species descriptions from the **Saving our Species** taxonomy project are available at http://science.dec.wa.gov.au/nuytsia

Above: FloraBase interactive key.

Right from top: Minister Templeman launches FloraBase's new interactive keys module; the native snottygobble; banded ironstone formations; and the native foxglove.

Photos – DEC



Cane toad initiative

Saving our Species is supporting ongoing efforts of the WA Cane Toad Initiative, launched by the State Government in 2004 to fight the advancement of cane toads across the Northern Territory into WA. All field work so far has been conducted in the Northern Territory, where the Cane Toad Initiative team has covered more than 300,000 hectares in the course of their work removing more than 3,500 cane toads from the cane toad frontline through strategic trapping and also by hand.

Through **Saving our Species**, the WA Cane Toad Initiative acquired a sniffer dog, Nifty, who was trained to detect cane toads. Nifty is being used in the field to assist in identifying cane toad habitat and at the WA/NT border checkpoint to inspect vehicles and deliveries of produce for the presence of cane toads.

The State Government is also investing funds and resources from other sources into the fight against the cane toad, with a total budgeted investment of around $12 million since 2004. These include a biological survey of Kimberley islands to identify priority habitats for protection from cane toads and provide information about possible sanctuaries for native species threatened by toads. Investments have also been made in the cane toad genome project which will provide a genetic map of cane toads to help focus biological control efforts, and community awareness campaigns.

Efforts by the State Government, together with enthusiastic and committed community groups such as the Kimberley Toadbusters and Stop The Toad Foundation, represent the first time an Australian State or Territory has taken pre-emptive action against toads before they reach its border.

Left from top: Nifty the dog detects cane toads; DEC's Emma Clingan planting a critically endangered prostrate flame pea plant near Moora; and removing cotton bush at Lowlands.

Photos – DEC

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