

LIBRARY

Department of Biodiversity,
Conservation and Attractions

This PDF has been created for digital preservation. It may be used for research but is not suitable for other purposes. It may be superseded by a more current version or just be out-of-date and have no relevance to current situations.

Saving Our Species



Department of
Environment and Conservation

Biodiversity
Conservation
Initiative 2006-07



Foreword



It gives me great pleasure to be able to announce the \$15 million biodiversity conservation program, Saving Our Species. As Minister for the Environment in this huge State, with its incredible biodiversity, I have learnt first hand of many of our natural wonders. In doing so, I have also come to learn more about the challenges

we face to ensure that future generations of Western Australians can also appreciate our flora and fauna and their diverse habitats.

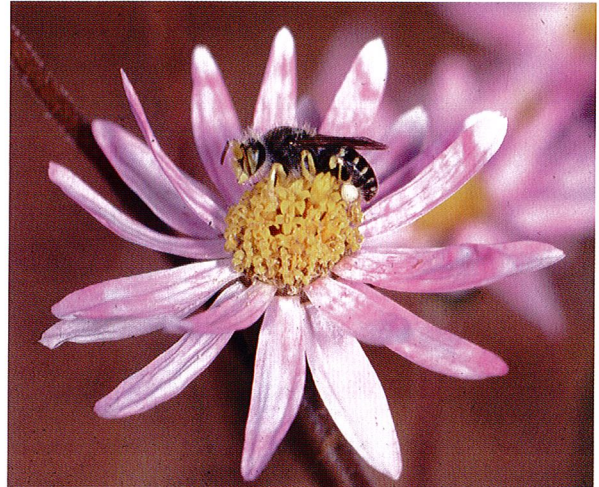
There are many serious threats to WA's biodiversity that won't be solved in the short term, and these are being tackled by ongoing management strategies. But we can try to eliminate a range of weed species and significantly reduce the impacts from others; we can significantly diminish the impacts of feral goats; we can fight dieback and protect populations of threatened flora; and we can significantly improve the status of a number of other threatened species. To do this we must have adequate resources and we must target these to where they can achieve the best outcomes.

The Carpenter Government has recognised the need for additional funding and has provided the resources for a two-year initial biodiversity 'rescue' program, Saving Our Species. I am delighted to see that the first year of the program is progressing well, with more than 70 projects under way.

WA's publicly owned and statutorily protected conservation reserves are the vital building blocks for a secure future for our biodiversity. We are therefore focusing our investments under this program on projects within these conservation jewels.

I hope that in reading this overview of the 2006-07 projects you will gain an appreciation of the vital work that is being done and the innovative way we are targeting lasting outcomes.

Mark McGowan MLA
Minister for the Environment



Front cover: Juvenile woylie.

Opposite: Gouldian finch.

This page, top to bottom: Western swamp tortoise; native bee on everlasting; leafy seadragon.

Saving Our Species 2006-07

Western Australia is recognised internationally for the diversity of its flora and fauna. The south-west of the State is one of only 34 terrestrial biodiversity hotspots in the world – the only one in Australia. WA also has one of five Mediterranean-type ecosystems to be listed as globally significant and one of the world's 18 tropical marine hotspots

WA has an area of 2.5 million square kilometres, with a coastline that stretches 13,500 kilometres. It contains 26 of Australia's 85 terrestrial bioregions¹ from sub-alpine to tropical rainforest and desert. The State's biodiversity includes:

- 11,500 named species of vascular plants;
- an estimated 226 species of mammals;
- an estimated 613 species of birds;
- an estimated 560 species of reptiles;
- 73 named species of freshwater fish;
- more than 6000 named species of cryptogams (algae, fungi, lichens and bryophytes), and an unknown number still to be documented; and
- an estimated 80,000 species of insects.

However, there are grave risks to this biodiversity:

- 204 native animals and 378 native plants are formally listed as threatened with extinction;
- a further 400 native animals and 450 native plants are at high risk of becoming threatened with extinction because of increasing salinity levels;
- more than 3000 native plants are susceptible to *Phytophthora* dieback; and
- other impacts not yet quantified from introduced plants and animals, altered fire regimes, habitat modification and removal, and climate change.



¹ Interim Biogeographic Regionalisation of Australia, or IBRA, regions

Action to conserve WA's biodiversity is taking place at many levels, from the development of new biodiversity conservation legislation and a State biodiversity conservation strategy, to on-the-ground programs by agencies such as the Department of Environment and Conservation (DEC) in close collaboration and cooperation with community-based groups such as natural resource management organisations, WWF and others.

Many of these actions are long term – the 2004 discussion paper *Towards a biodiversity conservation strategy for WA* proposed 100 years as the time scale of planning and action needed to bring about all the changes needed so there are no longer species under threat.

A conservation dividend from the 2006-07 State budget has made it possible to increase immediate efforts to protect WA's unique biodiversity.

Saving Our Species is a two-year program targeting key biodiversity conservation issues where significant long-term results can be achieved from a short-term, strategic focus. Examples include a project to prevent the infestation of dieback at Bell Track in Fitzgerald River National Park from spreading into the park's waterways and other projects to control weeds and pest animals where they occur in small, localised populations that can be eradicated. The program will also help deliver on the commitments given in the development of DEC's Good Neighbour Policy at the same time as achieving biodiversity conservation outcomes.

The program has been allocated \$12.75 million over two years in new funding and this has been supplemented with some internal funding within DEC to bring the budget to \$15 million. **Saving Our Species** is funding around 70 strategic projects in its first year targeting pest animals, weeds, biological survey and research, *Phytophthora* dieback and actions to recover threatened native plants and animals. Taking action now will prevent further problems and the need for a far greater level of expenditure if the problems are left unchecked.

It is difficult to estimate the economic impact on the environment of threatening processes such as weeds and pest animals as there is no accepted method to quantify the losses. As a guide, however, the estimated cost of weeds to the nation's agricultural industry is \$3.9 billion a year, and the 11 major vertebrate pests cost \$374 million a year.

Opposite, top to bottom: Coastline in Shoalwater Islands Marine Park; chittick; ghost fungus; western pygmy-possum on swamp banksia.

Left: Humpback whale.

This page, top to bottom: Green tree frog; spraying introduced cactus on Quobba pastoral station.



An independent working group report prepared for the Prime Minister's Science, Engineering and Innovation Council in May 2002 stated:

Actions that maintain natural systems and biodiversity are preferred over remediation as they return far more benefits per dollar invested. Our analyses suggest that it costs between 10 and 100 times more to repair a damaged natural system than it does to maintain it.²



² Sustaining our Natural Systems and Biodiversity, a paper prepared by an independent working group for PMSEIC, 31 May 2002, p 13.



Saving Our Species projects are being implemented under the following themes:

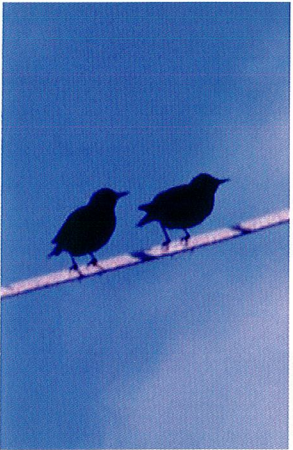
PEST ANIMAL CONTROL

2006-07 funding: \$2.3 million

Saving Our Species adds to DEC's Western Shield initiative, which focuses on wildlife recovery through control of European foxes and feral cats, and other pest animal control programs run by DEC and the Department of Agriculture and Food.

The new projects aim to target invasive animals in key areas where there are known impacts and where it is feasible to eradicate or significantly reduce populations of pest species to protect biodiversity values. Key projects include:

- wild dog control in the rangelands and parts of the eastern wheatbelt;
- pig control on the Darling Scarp and Swan Coastal Plain between Mogumber and Waroona and in the forests around Manjimup and Lake Muir;
- goat control in Kennedy Range, Cape Range and Kalbarri national parks;
- fencing at Cane River-Mt Minnie Conservation Park south of Exmouth, Millstream-Chichester National Park and Mandora Marsh, a significant wetland in the Kimberley;
- fencing former pastoral lands purchased for conservation in the Goldfields and Midwest regions;
- camel, donkey wild horse and wild cattle control in the western Little Sandy Desert and at Dragon Tree Soak Nature Reserve in the Kimberley;
- a camel survey in Rudall River National Park;
- donkey control in the Mangaroona Nature Reserve and former Mentheena pastoral lease in the Pilbara;
- support for the starling control program on the south coast; and
- control of introduced bird species in the metropolitan area and around Albany and Denmark.



CANE TOAD INITIATIVE

2006-07 funding: \$900,000

The introduced cane toad – listed as among the world's worst 100 invasive species – is advancing through the Northern Territory towards the WA border. The WA Cane Toad Initiative, launched by the State Government in 2004, and community groups are fighting to keep the cane toad out of WA or at least slow its progress while research to find a biological control for the noxious pest continues.

Saving Our Species is one key part of a broad program the State Government is implementing to mitigate the threat that cane toads pose to WA's unique biodiversity and lifestyle. It builds on and extends to 2010 work already undertaken as part of the Cane Toad Initiative by implementing on-ground action to fight the westward movement of toads and raise public awareness of the cane toad threat.

Other significant investments the State is making to combat cane toads include a major biodiversity survey of 20 Kimberley islands between 2006 and 2009. The \$7 million, four-year survey is being funded jointly with the Australian Government. This project will provide accurate information about which plants and animals are present on the islands and which islands might be able to be protectively managed to accommodate species at greatest risk should cane toads cross WA's border.

The State is also investing in a Cane Toad Genome Program, which it is hoped will help lead to genetic methods for controlling cane toads in the future.

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



Opposite, top to bottom: Feral pig; starlings.

Left: Feral goats.

This page, top to bottom: Cane toad; emptying cane toad trap; highway sign near the WA border.

WEED ERADICATION AND CONTROL

2006-07 funding: \$1.3 million

There are an estimated 1350 species of environmental weeds in WA, of which 34 are a high priority for eradication under the 1999 Environmental Weed Strategy for WA.

Saving Our Species is targeting 40 weed species in an initial 18 projects over spring and summer in 2006–07 to eradicate entire weed populations at a local scale where possible. Projects are also targeting South African grass species in high conservation value areas, including the Brixton Street wetlands in Kenwick and in the Darling Range Regional Park in the Perth hills.

Other key targets are:

- cactus on pastoral land at Quobba, north of Carnarvon;
- asparagus fern in Denmark, Albany and Margaret River;
- cape tulip and watsonia in parts of the Perth metropolitan area;
- athel pine (tamarisk) at Lake Boonderoo on the former Kanandah station;
- various weed species on the south coast;
- neem in Kununurra;
- prickly acacia in the Durack River, in the Kimberley;
- date palms in Pilbara wetlands; and
- various weeds in the Shark Bay World Heritage Property.



MANAGEMENT AND CONTROL OF *PHYTOPHTHORA* DIEBACK

2006-07 funding: \$1.265 million

The introduced water mould, *Phytophthora cinnamomi*, infects and attacks plants, killing many that do not have natural defences. In the south-west, Australia's only internationally recognised biodiversity hotspot, about 2300 of the region's 5700 flowering plant species are susceptible to *Phytophthora* infection.

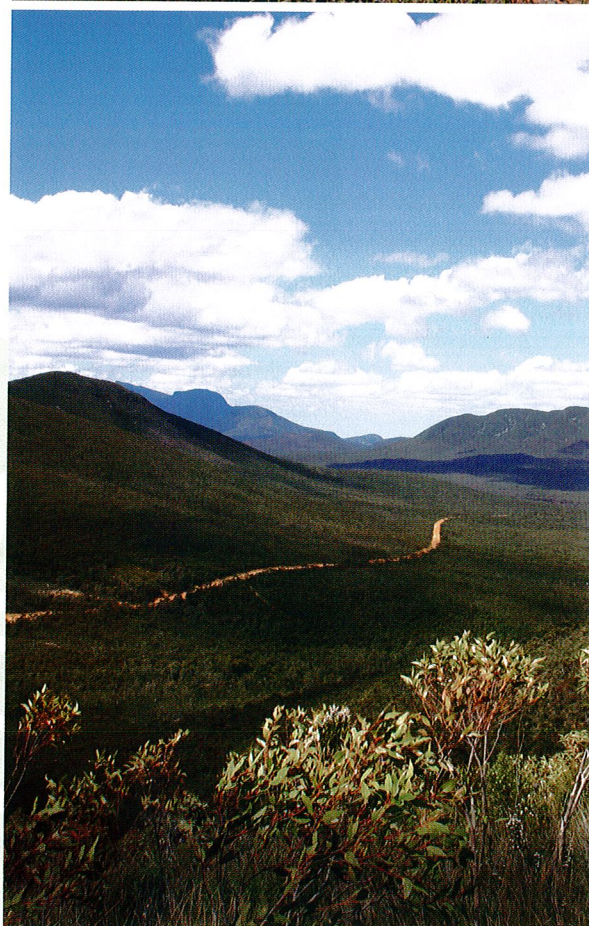
Around 2000 species and subspecies of native flowering plants are found in Fitzgerald River National Park – more than in the whole of Great Britain. This botanically rich area also has an infestation of *Phytophthora* dieback along Bell Track, introduced in the 1970s by earth-moving equipment constructing an illegal road through the park.

The infestation covers 265 hectares today and if it isn't confined, could cause the mass collapse of ecosystems and associated ecological processes across tens of thousands of hectares of the national park.

Under Saving Our Species, the affected area will be fenced to prevent the spread of the disease by humans and native and feral animals, and a range of possible experimental approaches and innovations will be tested to try to contain the pathogen, such as by controlling surface and subsurface waterflows.

Saving Our Species will enable strategic and operational mapping of *Phytophthora* dieback and risk assessment modelling in DEC's Midwest, South West, Swan, Warren and Wheatbelt regions in partnership with regional natural resource management groups. The mapping will be used to identify where on-ground measures can be taken to protect and manage areas of high conservation value by preventing the introduction and spread of the disease.

Other projects will allow increased application of the chemical phosphite to protect threatened plants in Stirling Range National Park and in areas around Albany, Esperance, Busselton and the Walpole Wilderness Area.



Opposite, top to bottom: Athel pine, westonia.

Left: DEC officer monitoring the effectiveness of grass-selective herbicide on *Tribolium*, a weedy grass targeted in the Swan Region.

This page, top to bottom: Banksia killed by *Phytophthora* dieback; dead hakea and other dieback-affected plants; Fitzgerald River National Park.



THREATENED SPECIES AND ECOLOGICAL COMMUNITIES RECOVERY

2006-07 funding: \$2.387 million

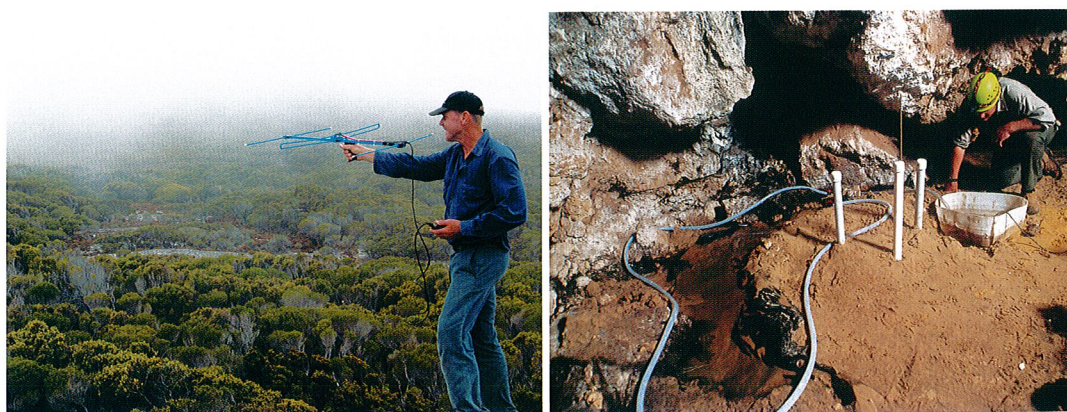
Saving Our Species is supplementing ongoing management activities to protect WA's threatened species and ecological communities. These activities are carried out under recovery plans for individual threatened species and ecological communities and management plans covering all of the threatened flora in a DEC region or district. At the end of June 2006, there were 227 interim recovery plans and 10 regional or district threatened flora management plans.

Two Saving Our Species projects highlighting the strategic nature of the program focus on the potoroo and the woylie.

The potoroo is the world's most endangered marsupial species, with less than 40 animals known in one natural population near Albany and a small translocated group on nearby Bald Island.

The woylie was removed from State and national threatened species lists in the 1990s after numbers increased as a result of programs to control European foxes, but woylie numbers in some south-west forest areas are declining again, possibly due to predation by feral cats.

Saving Our Species is funding a DEC taskforce to coordinate research aimed at identifying the cause of the recent woylie declines and to develop enhanced programs for woylie survival.



WA has been at the forefront of species recovery for many years. DEC has undertaken more than 100 translocations of species bred in captivity or from secure populations back into newly secured habitats in the wild over the past decade. Saving Our Species is building on past successes and developments with a range of new projects for species recovery, including:

- translocation of six critically endangered plant species, establishing new populations to improve the conservation status of these species;
- support for the protection of five threatened mammal species populations on Bernier and Dorre Islands in the Shark Bay World Heritage area;
- implementation of recovery actions for the Yanchep Caves and Lake Richmond Threatened Ecological Communities, and the western swamp tortoise and critically endangered flora in the Warren Region;
- preparation of recovery plans/interim recovery plans for seven critically endangered flora species and three threatened fauna species;
- assessment and protection of biodiversity assets of the Nullarbor karst system in partnership with the Ranglands Natural Resource Management Coordinating Group; and
- implementation of priority action on Bush Forever sites in the Perth metropolitan area.

BIOLOGICAL SURVEY AND RESEARCH

2006-07 funding: \$2.19 million

Biological survey and research provide the knowledge necessary to underpin decision making for conservation planning and actions. The distribution and status of the State's biodiversity are still being documented through a program of comprehensive regional surveys, many native species are still to be identified and scientifically described, and ecological processes are still to be understood. This information is required to determine what species occur in WA and what they need to survive

Saving Our Species is funding biological surveys in the Ravensthorpe Ranges and in the banded ironstone formations across the Yilgarn in the mid-west. These projects have been selected because of the current resources boom and the need for a broader understanding of the biodiversity in these highly prospective areas.

The knowledge gained through the surveys will also help identify appropriate areas to be protected and will provide information to ensure that mined land can be comprehensively restored.

The final stages of the four-year Pilbara biological survey have been included in the Saving Our Species program with DEC funding.

Saving Our Species is also funding partnership projects between DEC and CSIRO to study interactions between fire and biodiversity in the Kimberley and Wheatbelt regions.

FloraBase, DEC's online plant identification website and NatureMap, DEC's interactive biodiversity information website, will be upgraded and improved as Saving Our Species projects.

There is also additional investment in taxonomic expertise at DEC's WA Herbarium to accelerate the formal scientific description and naming of new plant species.



Opposite, top: Gilbert's potoroo.

Far left: DEC officer radio tracking potoroos released on Bald Island.

Left: Remedial water pumping in one of the Yanchep caves where natural water pools have dried, threatening aquatic root mat communities.

This page: DEC officers adjusting a drift fence on a pit trap line, set as part of the Pilbara biological survey.

Back cover: Parrot bush; freshwater snails.



**For further information about the
Department of Environment and
Conservation please contact:**

Strategic Development and Corporate Affairs
Department of Environment and Conservation
Locked Bag 104
Bentley Delivery Centre
Western Australia 6983

Telephone: (08) 9334 0333
Fax: (08) 9334 0498
TTY: (08) 9334 0546
Email: info@dec.wa.gov.au

Visit us on the Internet at

www.dec.wa.gov.au