



WA THREATENED SPECIES FORUM

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PRESENTER INFORMATION

Gregory Andrews

Australian Government, Department of Environment

Protecting Threatened Species: setting hard and measurable targets

Justine Bellanger

South Coast NRM

Where the wild things are – How an integrated approach to protecting threatened species can achieve outcomes where the whole is greater than the sum of the parts.

The South Coast community uses an integrated approach to protect a significant number WA's threatened species. With 59 threatened animal species, the south coast region has a challenging 28% of the state's species at risk of extinction. There are also 72 critically endangered or endangered plant species in the region.

Our multi-faceted approach involves identifying priority areas for protection using multiple sources of data, aligning this with community-level capacity and expectations, and implementing protection and enhancement activities that complement rigorous science-based research and management delivered by the Department of Parks and Wildlife and Universities.

The protection and enhancement activities delivered by the community and government include:

- Targeted revegetation including providing food-sources for EPBC listed species,
- Community-based feral vertebrate pest control that complements government programs,
- Mitigating the spread of diseases and weeds,
- Educating the community about the risks to threatened species including engaging Aboriginal people about the potential impact of customary culture access on threatened species, and,
- Supporting the implementation of a broad range of recover actions on public tenured lands in conjunction with the Department of Parks and Wildlife.

This presentation will demonstrate how a broad community-led approach which empowers each key stakeholder group to deliver the actions they are best suited to can achieve an outcome where the whole is much greater than the sum of the parts.

Margaret Byrne

Department of Parks and Wildlife

Threatened species conservation – principles and practice

Threatened plant and animal conservation requires management of threats and securing viable populations. Parks and Wildlife undertakes conservation based on principles that maximise persistence of species. These principles include maintaining populations in the wild through managing threats, and creating secure populations through translocations, preferably in the wild but also in enclosures or on islands as required. We focus on conservation estate to maximise security of tenure for populations. Captive breeding for animals will be undertaken when required. Seed banking is an underlying approach to securing germplasm for threatened plants. IUCN status is generally used as basis for priority setting, with consideration also given to iconic species, stakeholder interest and regional context in determining priority for conservation action.

Major threats to animals are fox and feral cat predation, and managing these threats through baiting programs is the cornerstone of the Western Shield fauna conservation program. Translocations to wild sites and enclosures have been highly successful, with the Restoration Rangelands program at Matuwa establishing viable populations of a suite of rangeland species. Eradication of feral cats from Dirk Hartog Island will enable the restoration of 13 threatened animals on the island, as it was in 1616. Disease, habitat fragmentation, grazing and weeds are major threats to rare plants, and management on a broad scale is particularly

challenging. Parks and Wildlife's Threatened Flora Seed Centre seeks to maintain collections of seeds for all threatened plants, and is a basis for translocations with new populations of over 65 species established. In managing threatened species Parks and Wildlife seeks to work in partnership recognising that the scale of the task requires multiple approaches by many partners.

David Coates

Department of Parks and Wildlife

Western Australia's threatened flora: prioritisation, reintroduction and reversing decline.

Western Australia has a very large threatened, rare and poorly known flora. This is due to the large size of the State (which encompasses three Botanical Provinces), the diversity of ecosystems and landscapes, the extremely bio-diverse South-West Botanical Province and the coincidence of the now highly fragmented wheatbelt with areas of high plant species richness. Some 28% of the flora is of conservation concern with 2,665 native taxa not well enough surveyed for their conservation status to be adequately assessed, but many are likely to warrant listing as threatened. Currently 422 plant species are listed as threatened with 163 Critically Endangered. The majority of the populations of these species are in poor condition, in decline, small and isolated, and are facing extinction from a range of threats such as: *Phytophthora* dieback disease, environmental weeds, habitat fragmentation, altered fire regimes and introduced herbivores. Many threatened plant species have had significant range decline over the last 15 years. This presentation highlights activities over the last five years, implemented through the Department of Parks and Wildlife and supported by State NRM, that have commenced processes it is hoped will reverse significant recent decline and the threat of extinction for a number of threatened plant species in Western Australia. These activities, especially targeting Critically Endangered species include: reintroductions and establishing new wild secure populations, seed collections and seed banking, implementing fire management procedures, weed control, fencing and grazing protection, feral animal control, habitat restoration, and control of *Phytophthora* dieback. We also anticipate, that combined with appropriate prioritisation, these activities will not only prevent further decline but will, in a number of cases, improve the conservation status of the target species.

Sarah Comer

Department of Parks and Wildlife

Recovering the critically endangered western ground parrot and other threatened species on the south coast of Western Australia

In 2004 monitoring of the Western Ground Parrot populations on the south coast caused alarm bells to ring with the south coast threatened birds recovery team. Of three known populations one had disappeared, one declined dramatically and the third appeared to be stable. Over the past ten years numerous partners and supporters have joined Parks and Wildlife to attempt to halt this decline, with the design and implementation of the first landscape scale feral cat control project in the south-west of the state. This project is focused on improving integrated predator management across some 5000 km² of high priority fauna conservation reserves of the south coast, complementing fire management in these areas. Multiple threatened and conservation dependent species have benefited from this landscape approach including the critically endangered Western ground parrot and Gilbert's potoroo, and endangered dibbler and noisy scrub-bird. Many collaborators, including community, tertiary institutions and the Friends of the Western Ground Parrot have contributed towards this exciting project. In this presentation we summarise ten years of work focussed on the recovery of the western ground parrot, including captive management and the development and benefits of integrated introduced predator control in south coast ecosystems.

Ian Cotton

Rangelands NRM

Pilbara Corridors Project: landscape scale approaches to address threats to threatened species in the Pilbara

Rob Davis

Edith Cowan University

How to avoid a cat-astrophe: management insights from semi-arid WA and beyond

Feral cats are recognised as the single most important drive of Australian mammal declines and extinctions. The impacts of feral cats and the management approaches required to control them vary widely between

different regions and habitats across their continent-wide distribution. First, we present an integrated talk drawn from four years of field studies at Bush Heritage Australia's Charles Darwin Reserve in the semi-arid shrubland ecosystems. Studies investigated cat associations with fire history, habitat structure, interactions with small vertebrate fauna and dingoes. Secondly, we discuss broader insights from a continent-wide analysis of feral cat diet and use a series of case studies to present a theoretical perspective on interactions between predators and other threatening processes. Greater recognition of the ecological complexities between major processes that threaten biodiversity is required to improve conservation actions and outcomes. We discuss how novel approaches to conservation management can be used to address interactions between threatening processes and ameliorate invasive predator impacts.

Anthony Desmond

Department of Parks and Wildlife

Bureaucrat saves species – is there a more unlikely headline?

Bureaucrats are frequently rated only slightly higher than lawyers and used car salesmen in opinion polls. However in Western Australia bureaucrats (also referred to interchangeably as public servants) are vital in the conservation of threatened species. By highlighting people who are actively working to save threatened species in the Midwest Region of the Department of Parks and Wildlife the range of ways bureaucrats are engaged in saving species will be explored.

In an environment where there is a low opinion of bureaucrats, how we can change the opinion polls and retain their enthusiasm for saving species needs to be considered.

Tegan Douglas

BirdLife Australia

Citizen Science and Black-Cockatoos in Southwestern Australia: The 2015 Great Cocky Count

The Great Cocky Count, an annual citizen science survey for two of the three threatened black-cockatoo species in southwest Australia, is one of the largest surveys of its kind in Australia. The 2015 Great Cocky Count was the sixth annual count, with over 600 registered volunteers at almost 300 sites. The methodology is simple – once a year (in early April), simultaneous roost counts of black-cockatoos are conducted throughout the metropolitan area and greater southwest. With a large proportion of known sites monitored each year, statistically rigorous trend analysis can be conducted. Analysis of roost counts for Carnaby's Black-Cockatoo in the Perth-Peel Coastal Plain have recorded a significant reduction in both the proportion of occupied roosts and roosting flock size over the last six years. The combined effect of these is an estimated current rate of decline of 15% per year in the total number of Carnaby's Black-Cockatoos on the Perth-Peel Coastal Plain. In addition, almost half of the Carnaby's Black-Cockatoos counted in the Greater Perth-Peel Region were associated with the Gnangara pine plantation north of Perth. Protection and provision of vital habitat is needed to arrest the decline of Carnaby's Black-Cockatoo and ensure their persistence in the region. While these data cannot be extrapolated outside the Greater Perth-Peel Region, they highlight the real possibility that Carnaby's Black-Cockatoo may be lost from this area if the current trajectory continues. In other parts of their range, black-cockatoos have responded positively to changes in management practices, so we know the trajectory of black-cockatoo population size in the Greater Perth-Peel Region can be altered. The Great Cocky Count will continue to keep black-cockatoos in the public arena, and will continue to be a robust, scientific tool against which our actions can be measured.

Keith Morris

Department of Parks and Wildlife

What Dirk Hartog might have seen in 1616 – the fauna reconstruction of Dirk Hartog Island.

When Dirk Hartog landed on Dirk Hartog Island in 1616, we believe that 13 native mammal species were present. After 150 years of pastoral use and introductions of feral cats and goats, only three mammal species remain today. Since 2009 when WA's largest island became a national park, the Department of Parks and Wildlife, in collaboration with the Shark Bay community, have been undertaking an ambitious ecological restoration project on the island. Sheep have been removed, feral goats and cats are now being eradicated, weeds are being controlled, and plans are underway to reintroduce 10 mostly threatened native mammal species (boodie *Bettongia lesueur*, woylie *B. penicillata*, western barred bandicoot *Perameles bougainville*, mulgara *Dasyurus blythi*, dibbler *Parantechinus apicalis*, chuditch *Dasyurus geoffroii*, heath mouse *Pseudomys shorridgei*, desert mouse *P. desertor*, Shark Bay mouse *P. fieldi*, greater stick-nest rat *Leporillus*

conditor, and introduce another two species (rufous hare-wallaby *Lagorchestes hirsutus* and banded hare-wallaby *Lagostrophus fasciatus*) for conservation reasons. These species are currently restricted to other islands, or small areas of the mainland. In addition the thick-billed grasswren will be reintroduced, this species has also disappeared from Dirk Hartog Island in the last 100 years, but is still relatively common on the adjacent mainland. This will be the largest fauna reconstruction project undertaken in Australia. The successful establishment of these species will reduce their risk of extinction and return ecological processes to Dirk Hartog Island. The first translocations are planned for 2018, after the island has been free of cats and goats for at least two years. Monitoring of founder populations, particularly those on islands will be monitored from 2016 onwards. A strategic plan to guide the translocations is currently being prepared.

Nic Dunlop

Conservation Council WA

The SW Fairy Tern Project - A community lead conservation response for a threatened seabird.

Globally all small terns (Genus-*Sternula*) are conservation dependent due to a variety of adverse interactions with human activity in the coastal zone. In 2011 the Australian Fairy Tern *Sternula nereis nereis* was listed as threatened under the EPBC Act 1999.

In the absence of any strategic action by government in Western Australia a community lead conservation program was initiated by the Conservation Council (WA) - The South West Fairy Tern Project (the Project).

The Project has two main components.

- A citizen-science based research project investigating the structure of the Western Australian meta-population, and
- A capacity-building project to enhance local stewardship and management action within coastal communities.

Steve Fisher

Peel-Harvey Catchment Council

Living on the edge of ancient history: the thrombolites of Lake Clifton

The diversity and rareness of ecosystems and species is a feature of the Peel-Harvey region, which is recognised as part of one of the world's biodiversity hotspots. A downside to this rich biodiversity is the threat that current and future development poses to rare and endangered species. According to the Australian Government's Protected Matters Search Tool, there are six threatened ecological communities, 86 threatened species, 64 migratory species and three wetlands of international significance in the region.

The story of the thrombolite community of Lake Clifton, an example of a threatened community almost unique to the Peel-Harvey region will be told here. These ancient "living rocks" form one of only two living communities of thrombolites in Western Australia – the other being in Lake Richmond (Perth NRM region) - and only a handful world-wide. The Lake Clifton thrombolites have been listed as a critically endangered Threatened Ecological Community and are one of the key species and communities directly responsible for the Peel-Yalgorup site being recognised as a wetland of international importance. The story will include the importance of, and the threats to the thrombolites, and the journey to having them assessed and listed as a threatened ecological community.

Greer Gilroy

Perth Region NRM

Resilient Landscapes, Resilient Species: Biodiversity conservation in the Swan NRM Region

Perth NRM's Living Landscapes program has been developed in response to the findings from the Planning for Climate Change Project and the Swan NRM Strategy's objective of "protecting, managing and restoring priority assets within a landscape system". A key focus of the Living Landscapes Program is to enhance ecosystem resilience through habitat enhancement and connectivity. The goal is to secure the future of threatened species and ecological communities by focussing investment on core patches of habitat within the urban/peri-urban matrix that are likely to persist in a changing climate. Perth NRM recently released grant funding of \$600,000 for community projects that will enhance the resilience of threatened species and

communities in the region through landscape-scale management actions. This presentation will provide an overview of Perth NRM's approach to threatened species management in the Swan NRM Region.

Merrill Halley and Alexander Watson

WWF – Australia

WWF in WA 35 year on – insights gained and thoughts for the future

Starting with the Dibbler, WWF-Australia has worked on more than 50 different threatened species across Western Australia over the past 35 years. Although these projects have supported scientific research, helped raise awareness, built local community capacity, and addressed key threatening processes, they have ultimately had varying success. No species has gone extinct, however, many species are still declining and face significant threatening processes that are either not fully understood or have yet to be adequately addressed. Learning from these past projects, a central pillar of WWF's conservation work is to work collaboratively with a range of stakeholders using formal and informal partnerships. Our experience has also highlighted the capacity of technology to unearth previously unattainable information and shed light on the secret life of many species. Our presentation will outline our involvement in four collaborative projects in Western Australia; Snubfin Dolphin, Lesueur Sandplain Priority flora, Gouldian Finch in the central east Kimberley and Black-flanked Rock-wallaby in central Wheatbelt.

Stephen Hopper

The University of Western Australia

Towards a general applied theory of threatened species on the world's oldest landscapes

There are too many threatened species globally for detailed individual biological studies to minimise extinction. Predictive models are essential for managers. Can we generalize above Darwinian species? If so, what are the best limits to generalization in such models?

In this presentation, I will briefly summarise evidence pertinent to using landscape age, climatic buffering and other disturbance regimes, and soil infertility as useful predictors for managing threatened species. The concepts of Ocbils (old, climatically-buffered infertile) landscapes) and Yodfels (young, often-disturbed fertile landscapes) are introduced as opposite ends of multivariate management space. Ocbils are found commonly in 12 of the world's 35 Global Biodiversity Hotspots, including the Southwest Australian Floristic Region and the Forests of East Australia. Predicted biological attributes of Ocbil and Yodfel organisms are outlined, and conservation management strategy differences highlighted. Some evidence is pertinent to this analysis is available, but further research is advocated. If Ocbil Theory is affirmed, managers will have a powerful new toolkit to help improve the conservation of many of Australia's most remarkable threatened species.

Emily Hugues dit Ciles

South West Catchments Council

Winners and losers: Success stories and challenges for threatened species conservation in the South West

The South West NRM region sits within two of Australia's 15 National Biodiversity Hotspots area with some 3500 plant species and over 500 species of terrestrial animal species recorded. At least 10% of the plant and a quarter of the animal species have been identified as being at risk and require active conservation management. Increasing population growth, development pressures and conflicting resource and land use, as well as climate change, are further pressuring our region's threatened species.

Addressing the plight of our threatened species and ecological communities, prioritising and managing them in a changing landscape with limited resources, is increasingly more challenging resulting in both winners and losers. This paper will provide a snapshot of some of those challenges and problems that threatened species are facing in our region. Examples of success stories of threatened species conservation efforts (including the White and Orange-bellied frogs (*Geocrinia* spp), the Hairy Marron, 5 critical endangered Busselton Ironstone flora species and the Balston's Pigmy Perch) will be presented. Finally some of the critical elements and various social factors contributing to the conservation and management of both winners and losers will be discussed.

Susan Hunt
Perth Zoo

Losing native fauna – we started it together, we should fix it together

The health of humans is linked to the health of the ecosystem we are a part of, including the health of animals and the health of the environment. All impact on the others. This concept is the basis of the One Plan approach to wildlife conservation, an approach that zoos in general, and Perth Zoo specifically, use in their work in saving wildlife.

Ben Miller

Botanic Gardens and Parks Authority (Kings Park)

Science for managing, conserving and restoring threatened species

Little is known about the behaviour and requirements of most of WA's biota, for many of WA's threatened plant species this lack of knowledge is a critical impediment to effective conservation. At Kings Park, we undertake applied research into almost all aspects of the ecology and biology of native plants, and have a long history of research focused on threatened plant species and their conservation. This includes studies of their: habitat requirements, taxonomic identity, population genetics, seed dispersal, pollination (including pollinator behaviour and requirements), mating systems, seed longevity, dormancy and germination, fire response, population ecology and *ex situ* conservation (including cryopreservation and seed storage), propagation (including tissue culture), translocation and restoration requirements. Here we illustrate some of these programs and demonstrate the critical role of a comprehensive and strategic science approach to plant conservation.

Blair Parsons

Greening Australia

Conservation through collaboration: conserving and restoring landscapes at scale to support threatened species

Australia is home to a wide range of plant and animal taxa, particularly endemics, and a substantial proportion of these are in decline. Key threats central to the decline of many plants and animals are habitat loss, fragmentation and degradation. There is an urgent and ongoing need for strategic yet practical action to address these threats and improve the outlook for threatened and declining species.

As a response to biodiversity decline, Greening Australia's mission is to conserve and restore landscapes at scale through collaborative, science-based and innovative conservation programmes. Greening Australia works on projects that transform landscapes in globally significant areas of the country. The types of activities undertaken are driven by key threats operating within each landscape and are centred on revegetation and habitat restoration, improved land management, and education/training. Effective partnerships are a key element of Greening Australia's projects and community engagement and support are also pivotal to their success.

This presentation will discuss project examples in Western Australia where Greening Australia is working with communities and stakeholders to benefit threatened species, including:

- Conservation Action Planning in the Pilbara bioregion;
- biodiverse, fodder systems in the WA Wheatbelt; and
- large scale habitat restoration on the South Coast as part of the 20 Million Trees programme.

Michael Smith

Australian Wildlife Conservancy

AWC: Successfully managing threatened species in predator-free areas and at a landscape scale in Western Australia.

Australian Wildlife Conservancy (AWC) makes an important contribution to the conservation of threatened species in Western Australia, with four wildlife sanctuaries in south-west WA and another four sanctuaries in the Kimberley.

In the south-west, AWC has focused on the eradication of feral cats and foxes from wildlife sanctuaries, followed by the reintroduction of threatened mammals. This approach has resulted in the successful establishment of secure populations of threatened mammals including the Woylie, Boodie, Banded Hare-wallaby, Western Barred Bandicoot and Shark Bay Mouse. AWC is in the initial phases of reintroducing nine species of threatened mammals to a large fenced feral predator-free area at Mt Gibson, a project that is projected to increase population sizes of six of these species by 15-56%. Where possible, species will also be reintroduced outside the fenced area, in conjunction with broad scale fox and cat control.

In the north-west, AWC has focused on the landscape-scale conservation of threatened mammals. AWC has led the Ecofire project which has successfully reduced the incidence of late dry season wildfire across 4 M ha in the central Kimberley. AWC has removed feral herbivores from extensive areas of its Kimberley sanctuaries. The combination of better fire management and destocking has reduced hunting pressure from feral cats and led to substantial increases in population sizes of small- to medium-sized mammals.

Across its sanctuaries, AWC's land management programs have been informed by science programs aimed at monitoring trends in key species and the magnitude of threats, and by research projects aimed at providing a better understanding of the conservation requirements of threatened species.

Tony Tucker

Department of Parks and Wildlife

Known unknowns and the puzzling Teflon turtle: new research directions for flatback turtles

Australia hosts six of the world's seven marine turtle species. Flatback turtles are endemic to Australia's tropical waters yet are the most data deficient of all marine turtle species globally. They remain poorly known for two reasons: (1) Their unusual shell surface (Teflon-like) poses a challenge to attach a tracking device. (2) The decades that elapse from a hatchling leaving the beach until females mature and return to nest are virtually unknown. New approaches and ongoing studies are beginning to detail these missing pieces.

Scott van Barneveld

Kimberley Land Council

Indigenous Rangers Protecting Kimberley Biodiversity Values

The Kimberley Ranger Network is comprised of 14 Indigenous Ranger Groups. The Commonwealth and WWF Australia supports the Kimberley Land Council Ranger Network who manage and monitor threatened species listed under the Commonwealth Environmental and Biodiversity Conservation Act (1999) across the Kimberley region. These threatened species include bilbies, northern quolls, black-footed rock wallabies, Gouldian finches, purple-crowned fairy wrens and other nationally threatened species. Kimberley Land Council employs a threatened species ecologist, who assists Indigenous Ranger groups to undertake rigorous surveys in alignment with both scientific and traditional ecological knowledge. Achievements of this project since its inception in 2014 include:

- Identification of key populations of nationally threatened fauna species across the Kimberley region;
- Pinpointing monitoring locations for threatened species;
- Acquisition and deployment of ecological survey equipment including cage traps and camera traps for targeted threatened species monitoring;
- Assessment of threats to some key threatened species populations;
- Informing fire managers to protect key populations of threatened species; and
- Promoting invasive species management around populations of threatened species.

Stephen van Leeuwen

Department of Parks and Wildlife

Science and action for threatened species conservation in the Pilbara

Vanessa Westcott
Bush Heritage Australia

Properties and partnerships: Bush Heritage Australia's approach to the protection of threatened species in Western Australia.

Bush Heritage Australia is a non-profit organisation which adopts two main strategies to protect threatened species and achieve conservation outcomes across the country: we purchase land to manage as private reserves and we work in partnership with other landholders.

We use adaptive and best-practice planning, land management and monitoring techniques to reach our conservation goals. We engage with the local community and work together with researchers to devise and implement sustainable, landscape-scale solutions.

Current threatened species projects will be discussed including bilbies at Birriliburu, orchids at Eurardy, phascogales at Kojonup and Malleefowl at Charles Darwin Reserve.

Uta Wicke
Possum Centre Busselton Inc
Community driven Western Ringtail Possum Conservation

Recently re-classified as 'endangered' in WA while scientists argue that 'critically endangered' would be the more appropriate level, our WRP still seems to fly under the radar of conservation scientists and government agencies when it comes to its recognition as a species under immediate threat.

Hardly any marsupial has all the odds stacked against it to a degree like our ringtails - a highly specialised arboreal folivore, limited to the habitats of the wetter SW corner, predator naïve and vulnerable to all kinds of anthropogenic disturbances.

High numbers occurring in the urban environment and 'competing' for prime real estate make it a highly political animal that constantly triggers the human- wildlife conflict.

Chances for any NGO to deliver true benefits to ringtail conservation are slim; however the Possum Centre Busselton Inc has been relocating groups of rehabilitated ringtails to suitable private conservation areas for 3 years now with encouraging results. Through intensive monitoring we attempt to increase our own knowledge while saving at least low numbers of animals.

This presentation will explain our objectives, problems and shortcomings and show how monitoring and adaptive management can lead to the establishment of viable breeding colonies.

Natarsha Woods
Wheatbelt NRM
Community: without them the job won't get done.

Wheatbelt NRM has an overall strategy of getting 25% of our community actively improving the environment through our projects and programs. So the strategy isn't to increase the population of the black flanked rock wallaby to 500. We take a systems approach, and we are the apex predator. People first.

We will look at a number of projects the Wheatbelt community are working on - and how each of them takes on the things that we see blocking community action.

- The size of the problem
- Robust technical advice and conservation strategy
- Resources
- Intuitional barriers
- Coordination across the community
- Normalising the behaviour
- Including plenty of dead cat photos.