Department of Parks and Wildlife

RECOVERY TEAM ANNUAL REPORT

THREATENED SPECIES AND/OR COMMUNITIES RECOVERY TEAM

PROGRAM INFORMATION	
Recovery Team	Numbat Recovery Team
Reporting Period Submission date 31 March	**DATE FROM: 1st January 2013 DATE TO: 31st March 2014** **(in transition from calendar year to April-March, as requested by SCB)**

Current membership

Member		**Representing**
Chair	Tony Friend	DPAW Animal Science Program
members	Brett Beecham	DPAW Wheatbelt Region
	Rob Brazell	DPAW Wellington District
	Matt Cameron	NSW OEH
	Peter Collins	DPAW Albany District
	Peter Copley	SA DENR
	Dani Jose	Perth Zoo
	Simon Martin	DPAW Wellington District
	Peter Mawson	Perth Zoo
	Chris Murphy	Project Numbat
	Rebecca Ong	DPAW Perth Hills District
	Manda Page	DPAW Species and Communities Branch
	Kylie Piper	Arid Recovery
	Juanita Renwick	DPAW Western Shield
	David Roshier	Australian Wildlife Conservancy

	Neil Thomas	DPAW Animal Science Program
	Ian Wilson	DPAW Donnelly District

Dates meetings were held	14th March 2013, 24th September 2013 and 18th March 2014
Highlights of achievements for the previous 12 months suitable for publication in *WATSNU* and contribution to DPAW annual report. Provide 1-2 paragraphs	Numbat populations at Tutanning and Dragon Rocks Nature Reserves, established through reintroductions in 1991 and 1995 respectively, were shown as persisting in 2013, through images captured during sensor camera surveys carried out under the Numbat Recovery Program. Sighting reports have indicated an expansion of the healthy numbat population east of Manjimup, with a sighting in DPaW's Frankland District. The reintroduced Batalling numbat population was enhanced by a release of nine female numbats from the breeding colony at Perth Zoo in December 2013. On the other hand, the very important Dryandra population, under pressure from predation by feral cats, still languishes at low level. Cat control trials using Eradicat® baits are now under way there.

List of recovery actions coordinated by Recovery Team

Action 1 Management of existing populations and habitat.

Habitat management

Fox control, fire management and visitor management, where appropriate, were carried out at the eight DPaW-managed sites that support or have recently supported numbat populations (Dryandra, Boyagin, Tutanning, Perup, Dragon Rocks, Stirling Range, Cocanarup and Batalling). The Australian Wildlife Conservancy (AWC) manages two fenced wildlife sanctuaries (Yookamurra in South Australia and Scotia in NSW) that are free of foxes and feral cats and support reintroduced numbat populations. AWC is in the process of fencing an area within the Mount Gibson sanctuary with the intention of releasing numbats, amongst other species.

Monthly fox control by 1080 baiting is carried out at Dryandra Woodland, Boyagin and Tutanning Nature Reserves, within Cocanarup Timber Reserve and adjacent Unallocated Crown Land and in part of the Batalling area. Quarterly fox control continues at Dragon Rocks Nature Reserve, Stirling Range National Park, Perup Nature Reserve/Greater Kingston National Park and surrounding areas and in State forest in the Batalling area. All of these sites support numbat populations or have been subject to recent translocations.

A review of the Western Shield baiting program in 2012 to manage increasing costs has proposed the cessation of baiting in Dragon Rocks Nature Reserve due to the failure to catch Critical Weight Range mammals during recent monitoring. Baiting was to continue, however if numbat sign was found during a survey carried out in December 2012. Although this survey yielded no numbat sign, numbats appeared in images collected by sensor cameras in the reserve in June and December 2013, showing that this reintroduced population persists.

Prescribed burning is carried out in some DPaW-managed numbat sites for hazard reduction and environmental outcomes (e.g. regeneration of kwongan and threatened flora management). Timber harvesting in numbat habitat at Hillman block near Batalling and in Warrup block east of Bridgetown has been completed and post-harvesting regeneration burns are planned.

Numbat monitoring

Monitoring of existing populations is an integral part of their management and driven surveys were carried out in Dryandra in April and November 2013, while a number of radio-collared numbats were monitored there through the year. The results of the November survey indicate that the Dryandra population remains at a low level since the 2006-09 crash (see graph below). This continuing situation is of concern as Dryandra holds the most genetically valuable numbat population. Driven surveys were also carried out

at Yookamurra and Scotia Sanctuaries in 2013.

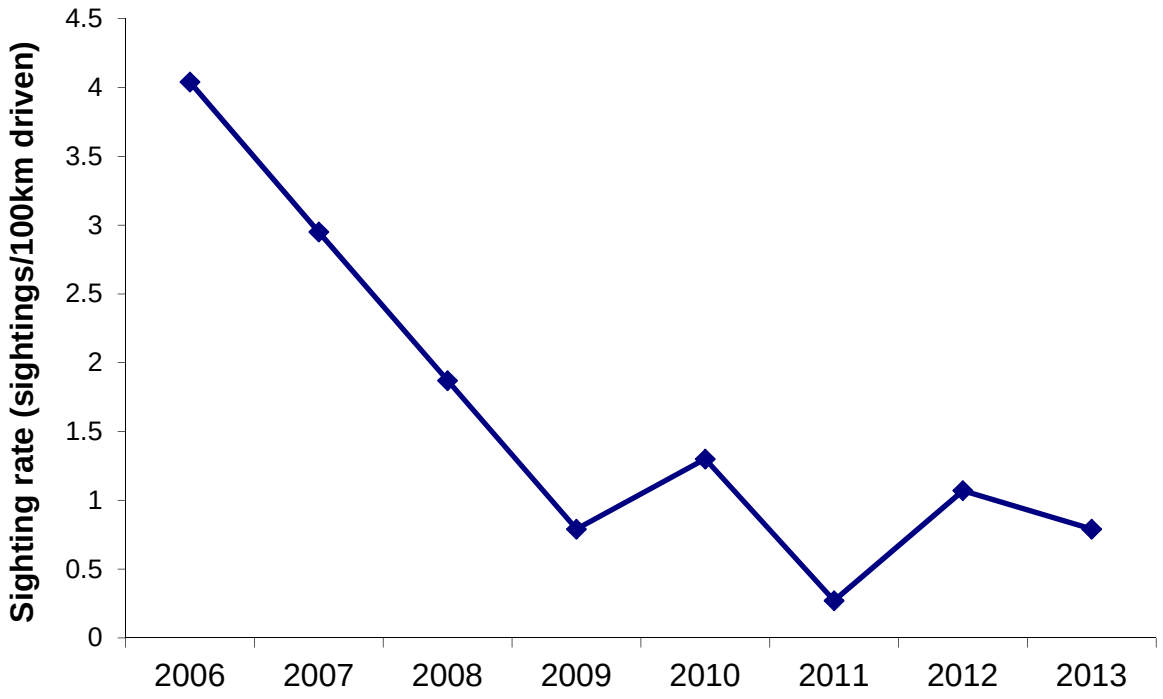

Figure 1. Sighting rate of numbats at Dryandra during the November driven survey, 2006-2013

Diggings surveys are also used to monitor numbats, particularly at sites where very low numbers or dense vegetation preclude driven surveys. A diggings survey was carried out at Boyagin Nature Reserve in November 2013, during a training exercise for Project Numbat volunteers. Diggings were widespread in the west block of Boyagin, indicating a healthy population. A diggings survey was also carried out at Batalling during the release site selection in November 2013.

Numbat sighting reports are submitted to DPaW regularly from Perup/Kingston, Batalling and Boyagin, indicating that these populations are healthy. The Perup/Kingston population, in particular, is doing well, with recent sighting reports indicating an expansion of range, significantly to the south-east, into DPaW's Frankland District. In Tutanning, images of numbats were recovered from cameras at two sites in 2013, indicating the persistence of the reintroduced population there. Numbats were recorded by sensor cameras at two sites at Dragon Rocks in 2013, and by reports of sighting by a neighbour in the 12 months to June 2013. Numbat populations at these two sites persist at low levels, however.

Predator control research

In the response to the dramatic decline in the Dryandra numbat population described in the 2009 report of the Numbat Recovery Team, a project commenced in October 2010, aiming to determine whether predation by cats is the cause and if so to devise and implement a cat control strategy in Dryandra. In a two-year intensive study of causes of mortality in numbats and woylies, strong evidence that cats are now the most important predators of both species was obtained. The next phase of research involves determining the effectiveness of baiting with Eradicat® in controlling cats in Dryandra, as well as evaluating the risk it poses to non-target species.

A detailed study of uptake of non-toxic Eradicat® cat baits by non-target (i.e. native) species commenced in April 2011, focussing primarily on red-tailed phascogales and mardos. These two carnivorous marsupials are the species occurring at Dryandra thought most likely to be at risk from Eradicat® cat baits, which are smaller, softer and carry more 1080 than Probait fox baits. This study indicated that red-tailed phascogales in Dryandra were not at risk but that mardos may be. This was followed in May 2012 by a toxic baiting campaign over the main block (13,000 ha) with radio collared chuditch (4), red-tailed phascogales (4) and mardos (2) at or near bait drop sites. Despite the fact that these animals are likely to

eat cat baits and would quickly reach dangerous consumption levels, all radio-collared animals survived, indicating that the risk to these species was low.

This work was extended to Tutanning Nature Reserve in 2013, where the low numbers of native mammal competitors for cat baits (common brushtail possums and woylies) made the assessment of bait uptake by cats easier. Uptake of non-toxic baits was assessed using cameras in two trials at Tutanning during 2013. In the first trial, it took 10 days for the baits to be consumed, while in the second, near the reserve boundary, they lasted two days. Ravens took most of the baits in the second trial. Similar trials at Dryandra showed that most baits are gone in 24 hours.

Baiting trials were carried out in 2013 at Dryandra, with toxic Eradicat® baits, and at Tutanning, where non-toxic Eradicat® baits containing the biomarker rhodamine were used. Cats were captured (five at Dryandra, six at Tutanning) and fitted with GPS collars to monitor their progress through the baiting. Only one cat at Dryandra died due to consumption of a cat bait. Three collared cats remained alive at Tutanning when rhodamine baits were distributed. Although these cats were all recovered later, the whiskers collected carried their own fluorescence so any banding due to presence of rhodamine was not visible.

This work will continue in 2014. Tutanning has now been added to DPaW's experimental Eradicat® baiting permit, allowing a toxic baiting trial there, to be carried out in May 2014.

Action 2 Genetic survey of existing populations.

Ear tissue for DNA analysis is collected routinely from all numbats handled in DPaW- and AWC-managed populations. A genetic survey of Dryandra, Perup and Boyagin was carried out in 1995 and the results were published.

Action 3 Translocations to establish at least six further self-sustaining populations

This action is listed in the 1994 recovery plan, when there were two existing (Dryandra and Perup) and one reintroduced population (Boyagin). Three other translocations were in early stages (Karroun Hill, Tutanning, Batalling and Yookamurra). Since 1994, new translocations have been carried out to Karakamia Sanctuary (AWC), Dragon Rocks Nature Reserve, Dale Conservation Park, Stirling Range National Park, Scotia Sanctuary (AWC) and Cocanarup Timber Reserve.

The numbat reintroduction to Cocanarup Timber Reserve commenced in 2006. Between 12 and 14 animals, mostly captive-bred, were released there in December each year in 2006, 2007, 2008 and 2009. The progress of the reintroduction was summarised in the report of the Recovery Team for 2009. In September 2010 the Recovery Team decided that no numbats would be released in Cocanarup in December 2010 so that the viability of the population could be assessed. Eight numbats were known to be alive there at that time. By the end of 2011, only one radio-collared numbat, a female, remained. This animal was found predated in August 2012. A numbat was sighted by a local resident at Cocanarup in January 2013. The Friends of the Fitzgerald River National Park (FoFRNP) have assisted in monitoring the Cocanarup translocation. A workshop will be held in 2014 to train FoFRNP members in diggings survey techniques. Monitoring at Cocanarup by diggings surveys and use of sensor cameras will continue.

A new numbat translocation was commenced in 2009 at Scotia Sanctuary by AWC when seven male numbats were moved from Stage 1 to the adjacent Stage 2 between November 2009 and January 2010. No numbats were moved in 2010 due to low numbers encountered in Stage 1. The translocation continued in December 2011 when 13 numbats from Perth Zoo were flown to Scotia and released.

In December 2012, a further 17 numbats were available for release from the breeding program at Perth Zoo. The recovery team decided to provide this group for release into Scotia Stage 2 as a reinforcement of the captive-bred group that was released there in December 2011. Eleven of these numbats were fitted with radio-collars before despatch from Perth to Scotia. AWC Scotia Sanctuary personnel monitored the released numbats until September 2013, when radio-collars were removed from the remaining numbats.

In 2013, nine young female numbats from the breeding program were available for release. The Team decide that these animals would be used to reinforce the reintroduced population at Batalling. The numbats were fitted with radio-collars and released at Batalling on 5th December 2013.

Action 4 Disease survey and health monitoring of all populations.

A comprehensive disease survey on numbat populations was carried out during the 1990s. Health monitoring is continuing, both on the captive population and through regular monitoring of the current

translocation. Although a female numbat at Dryandra was found to have died from an erysipelas infection in 2011, this appears to have been an isolated case. No significant disease issues have emerged in recent years.

Action 5 Captive breeding to provide animals for display and to supplement the translocation program if necessary.

Since the crash of the numbat population at Dryandra in 1993, the collaborative breeding program at Perth Zoo has been the primary source of stock for the translocation program in Western Australia. A numbat display has been maintained at Perth Zoo throughout that time and is a very important part of the Recovery Team's awareness-raising program.

The breeding program continued in 2013, providing nine numbats for release at Batalling in December. Three male young born in 2013 were retained for breeding. The captive colony was reinforced in November 2013 by the addition of three juvenile numbats from the wild population at Dryandra (two males and one female).

Action 6 Establishment and support of public awareness and sponsorship programs.

Involvement in the activities of the Recovery Team by the community action group, Project Numbat (PN), has provided greater public awareness, extra funding through fund-raising and sponsorships, and a source of volunteers. DPaW, Perth Zoo and AWC provide support for PN's initiatives. Between 1st January 2013 and 31st March 2014, PN provided the very impressive total of $26,087.06 for five projects – 1) radio-collars to be fitted to numbats for translocation to Scotia in December 2012, 2) 10 sensor cameras for research into the Dryandra numbat population and on cat control, 3) analysis of predator DNA on numbat collars at Dryandra, 4) radio-collars to be fitted to numbats for translocation to Batalling in December 2013 and 5) radio-tracking flights to locate numbats at Batalling and Dryandra in February 2014 . These donations have allowed the Numbat Recovery Program to continue, in a time of constrained budgets.

During the year, volunteers from PN, FoFRNP and the community in general provided valuable assistance in field activities as part of DPaW's numbat recovery activities including the Boyagin diggings survey.