

**A report on the selection of release sites for bilbies (*Macrotis lagotis*) and
brush-tail possums (*Trichosurus vulpecula*) at Lorna Glen**

by

Keith Morris, Neil Thomas, Brent Johnson, Peter Orell and Karl Brennan.
Department of Environment and Conservation. 2007

LIBRARY
DEPARTMENT OF ENVIRONMENT
& CONSERVATION
WESTERN AUSTRALIA

Introduction

Lorna Glen is a former pastoral property located approximately 1100km north-east of Perth in the North East Goldfields pastoral zone. It was purchased by the WA Government in 2000 for addition to the nature conservation estate and is now managed by DEC and traditional owners. A program to reconstruct the original suite of native fauna at Lorna Glen commenced soon after acquisition by the Government. This includes removal of domestic stock, implementation of a fire management strategy, control of introduced predators and herbivores, and the re-introduction of native fauna.

One of the most important threatening processes for native mammals in the arid zone is the presence of introduced predators, particularly foxes and feral cats. An annual aerial baiting program to control these over approximately 60% of Lorna Glen (40% unbaited control) was commenced in 2004 and this has reduced foxes and feral cats to levels believed to be sufficiently low enough to allow the re-establishment of viable populations of up to 12 species of native mammal. In June 2007 all of Lorna Glen was aerially baited for feral cats. The reintroduction program is planned to commence in August 2007 with the release of at least 40 bilbies and 10-15 brush-tail possums. Translocation Proposals are currently being reviewed and animal ethics approval has been obtained. Selection of the specific sites for release was required and a visit to Lorna Glen from June 11-16 was undertaken for this purpose. Staff involved were Keith Morris, Brent Johnson, Neil Thomas, Peter Orell, and Karl Brennan. Prior to this, Karl Brennan had taken some traditional owners to parts of Lorna Glen and sought their views on where the best release sites were for bilbies and brush-tail possums.

Methods

The following factors were taken into account when considering areas for potential release sites:

- Habitat requirements of species.
- Access by vehicle and / or foot.
- Central location and feral cat baiting history.
- Information from traditional owners.

Vehicle traverses were made along as many of the tracks as possible within a 30 km radius of the Lorna Glen homestead. Foot inspections were made of areas considered suitable for release of bilbies and possums.

Habitats considered suitable for bilbies were those with deep sands/loamy sands, spinifex clumps of a size that allowed movement between clumps (i.e. not too large or small), and a diversity of overstorey species (seed supply). This was based on knowledge of where bilbies are known to occur in the Gibson, Little Sandy and Great Sandy Deserts.

The habitat considered suitable for brushtail possums was Eucalypt woodlands with hollow bearing trees. This is based on previous accounts of where possums occurred in the arid zone. Possums have also been recorded in breakaways and rock piles in the arid zone, and old possum scats have been located in caves on Lorna Glen. Future translocations of possum may include releases into rocky areas. Possums were also known to inhabit boodie warrens in the arid zone.

Results and Discussion

The areas inspected are shown in Figure 1 (blue lines on tracks). A recent upgrading of the tracks has provided reasonable access to proposed release sites.

Selection of release site(s) for brushtail possums was not as difficult as for bilbies. River red gum (*Eucalyptus camaldulensis*) woodlands are limited in their distribution on Lorna Glen to the fringes of ephemeral wetland systems such as Lindsay Gordon Lagoon. Two sites were considered suitable: BTP1 near No 2 Well and BTP 2 near No 10 Well. Both are river red gum woodland sites, have boodie warrens nearby, are on the edge of the former cat baiting boundary and have good access. Traditional owners also indicated that the woodlands fringing wetlands were the preferred sites for possums. BTP 1 (Figure 2) is considered to be the better release site as it is larger in extent and has better connections to more woodlands further south. If this re-introduction is successful future possum release sites should include boodie warrens near woodlands, and rocky breakaway habitats such as those near BW3 (north of No 4 Bore) on Figure 1.

Traditional owners had identified sites where *Acacia grassbyi* (Ninu bush) grew as being suitable for bilby releases (Figure 3). They had also identified diggings / burrows in these areas as evidence of existence of bilbies. Inspection of these sites showed that the *Acacia grassbyi* was growing on sandy loams with a rocky component, not what was considered to be suitable bilby burrow digging habitat. The diggings and burrows were found to be made by *Varanus* spp. and rabbits. Our inspections resulted in three sites being considered suitable for the release of bilbies. Site #1 (Figure 4) is located in the Lorna land system just north east of North Bore in a mulga / Eucalypt shrubland with a diverse understorey vegetation, including *Triodia*, on a sandy loam. This area is within the former cat baiting envelope so has had four years of introduced predator control. Site #2 (Figure 5) is located in the Bullimore land system to the north No 9 Well. This area is immediately adjacent to a site selected by the traditional owners (*Acacia grassbyi* present) as being suitable for bilbies. Site #3 (Figure 6) is also located in the Bullimore land system, but adjacent to a sand dune (at Mark Cowan's #9 monitoring site). Both these sites have *Acacia* spp. and *Eucalyptus* sp. over *Triodia* on deep red sands. Sites # 2 and 3 are in the area that was not baited for introduced predators until June 2007. It is proposed that sites # 1 and 2 will be used for the initial releases of bilbies.

Release protocols

It is proposed that ground baiting with Probait will be undertaken at release sites just prior to the release of animals. All animals will be released at dusk.

All 10-15 brushtail possums will be released directly on to trees with hollows at site BTP #1. Bilbies from Peron will be received at Lorna Glen a week before those from RTD. Half of those from Peron will be released at Bilby site # 1 and half at Bilby site #2. Similarly, half the RTD bilbies will be released at site # 1 and half at site #2. Artificial burrows will be constructed at both sites, and bilbies will be placed directly

into these at dusk. Burrows will be drilled at an angle with an auger, and a half PVC pipe will be inserted as a roof if necessary to prevent them collapsing.

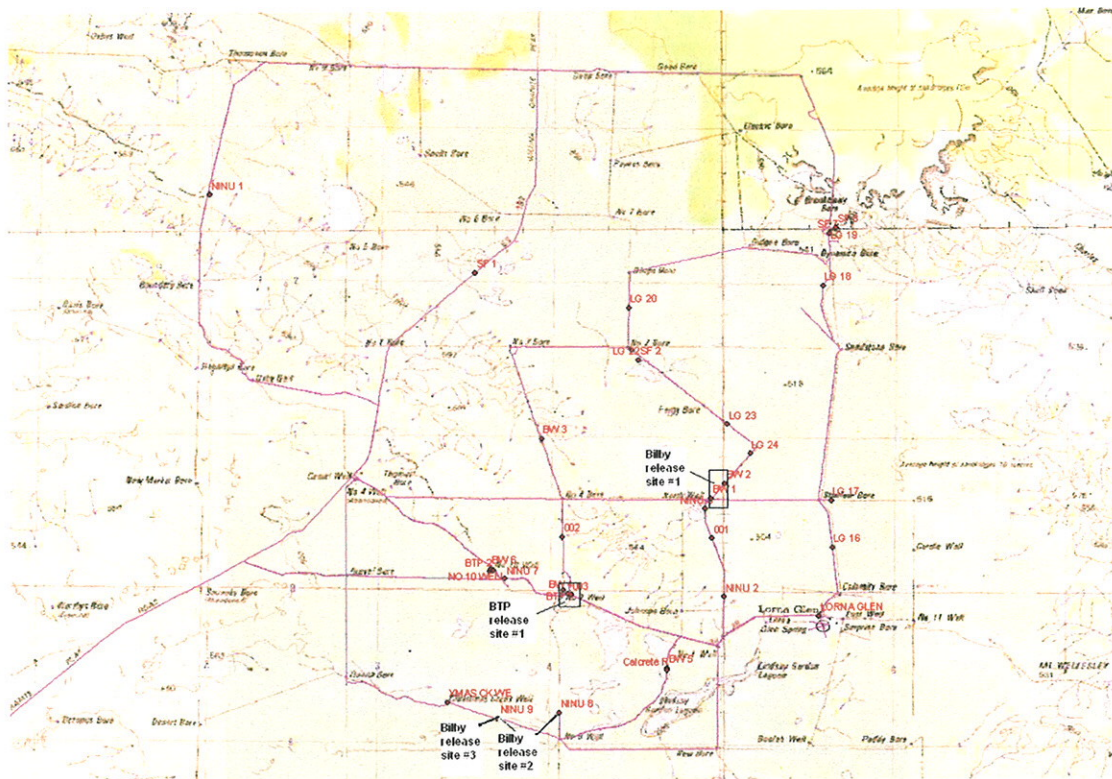


Figure 1. Map of Lorna Glen showing the tracks traversed (blue lines) and sites inspected for bilby (Ninu1-9) and brushtail possum (BTP 1-2) release sites.



Figure 2. *Eucalyptus camaldulensis*, at the proposed release site for brushtail possum at Lorna Glen.



Figure 3. Site at Ninu 1 considered suitable for bilby release by traditional owner, because of presence of *Acacia grassbyi*.



Figure 4. Bilby release site # 1



Figure 5. Bilby release site #2



Figure 6. Bilby release site #3.