AERIAL BAITING TRIALS FOR FERAL CATS– ARID RECOVERY PROJECT, ROXBY DOWNS

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PROCEEDINGS

The Arid Recovery Project (ARP) has developed a 60 km² fenced reserve from which all feral cats, foxes and rabbits have been removed and rare and threatened native species have been re-introduced.

A baited buffer zone radiating 10 km out from the ARP Reserve (total area 612 km²) was chosen for ARP's and South Australia's first ever aerial cat baiting trial. This trial is aimed at reducing cat and fox density in a buffer zone directly surrounding the ARP Reserve. Such a controlled buffer zone is required to achieve one of ARP's long term goals of opening one way gates in the Reserve fence to encourage natural dispersal of native species as their populations grow. It is unlikely that feral cats and foxes will ever be completely eradicated from this buffer zone, however ARP aims to control their numbers to a level at which they can co-exist with the re-introduced native species. Baiting trials can have many components including:

- target and non-target uptake of baits,
- bait selectivity (cafeteria trials),
- species mortality rate,
- re-invasion rates and
- re-introduced native species susceptibility to baits and different levels of predation.

Some components of these trials have not been conducted to date and / or may take many years to determine.

During June 2002, a trial aerial baiting project was conducted within the 10km buffer zone, using the recently developed Western Australian kangaroo meat sausage bait (CALM). This bait has properties which are attractive to cats and is a semidried meat bait as opposed to the dried meat bait traditionally used for fox control in other areas of Australia. Each kangaroo meat sausage bait was injected with 4.5mg of the poison Monofluoroacitate (1080) at a concentration of 0.015% and treated with Coopex® Residual Insecticide to avoid ant and insect attack.

This trial is a joint research trial with the Conservation and Land Management Department in Western Australia. They have previously trialed these baits through aerial distribution and found them to be very attractive to cats and highly effective in reducing cat numbers (Dave Algar pers. Comm. CALM October 2002). ARP wished to join these trials to investigate the suitability of these baits in effectively reducing the impact of feral cats on native wildlife populations within the arid zone of South Australia.

Bait Uptake Trials

Through aerial distribution and bait uptake trials, sausage baits were found to be taken more readily by cats 'within' dense vegetation, where they were previously thought to be

inaccessible, indicating that nearly 100% of aerially distributed baits at Roxby Downs are accessible to cats. A bait uptake trial showed that cats were more likely to take baits on dunes than swales, with an average visit to plots (per available bait night) on dunes of 35.3% to 10.3% on swales. Over three independent uptake trial sites, Cats took on average 9.5% of sausage baits per available bait night (i.e. not including baits taken by non-target species such as corvids). Corvid species were the highest non-target consumer of sausage baits, taking on average 34.7% of the baits.

Bait Selectivity

To determine if there were differences in the uptake of cat baits compared to buried and unburied fox baits, 100 independent bait sites were established each with a selection of control and bait types. Due to the low density of cats in the study area, cats only consumed 2.46% of baits, however cats were found to take dried kangaroo fox baits as well as the cat baits. Foxes preferred fox baits located on the surface followed by sausage baits on the surface, with a greatly reduced uptake of buried fox baits (the traditional baiting method).

Aerial Baiting

Approximately three weeks prior to the aerial cat baiting, fox baiting using the traditional dried meat fox bait was conducted within the 10km buffer zone to try to reduce fox numbers and prevent them from later consuming cat sausage baits. Baits were buried at a depth of less than 10cm every few hundred metres along transects spaced 500m apart. Cars and All Terrain Vehicles were used to access areas within the buffer zone. After three weeks, cat sausage baits were distributed by helicopter at a rate of 25 per square km targeting sand dune crests and large rabbit warrens (high cat density areas). A total of 15 000 baits were distributed within the baited zone over a period of 2 days, taking 10.5 hours of flying time.

9 feral cats were captured within the buffer zone and radiocollared prior to the fox baiting. A check of radiocollared cats was conducted after the fox baiting but before the cat baiting and 7 of the 9 cats were found to have died. Organs were collected from three individuals and two of these later tested positive to 1080 suggesting they consumed fox baits. The remaining two cats were found dead immediately after the cat baiting. During the month directly after the aerial baiting trial, cat and fox activity (measured through track transects) within the buffer zone declined by up to 100% compared to control areas. However, this reduction lasted for only 1 month. Over the following 3 months there was a gradual (but still reduced compared to control transects) increase of cat and fox activity probably due to re-invasion from non-baited areas. Due to the fox baiting that was conducted prior to the Aerial baiting with sausage baits, it is difficult to isolate the effects of the sausage baits alone. Unfortunately we can only conclude at this stage that the joint baiting was effective in temporarily reducing cat and fox numbers.

It is recommended that due to the lack of prolonged success of the current method of baiting, that another trial be conducted during 2003. One suggested option for a second trial is to again distribute the sausage baits aerially (possibly with a fixed wing aircraft) and place baits at the same rate over a larger area – increasing the radius of the baited buffer zone from 10km from the ARP fence to 20km. No fox baiting would be conducted if this trial is to go ahead. The increased size of the baited area will hopefully increase the time it takes feral predators from non-baited areas to migrate into the baited zone. Data will be analysed to try and

explore the re-invasion rate by cats and foxes, while also determining the success of sausage baits alone on cat and fox activity/numbers.

It is important to remember that all current work and trials using the WA sausage baits have not yet produced definitive results and that all research is conducted under strict research licences and protocols. There is still much data to be collected on the effect of this baiting method on non-target species, while the initial findings from both WA and Roxby Downs are possibly heavily dependant on the local conditions and arid environment within which the trials were conducted.

For further information on bait trials being conducted at the Arid Recovery Project, Roxby Downs please contact the ARP office on (08) 8671 8282.