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EVALUATION OF FERAL GOAT CONTROL TECHNIQUES IN THE WESTERN DIVISION OF NEW SOUTH WALES

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BACKGROUND

Management of total grazing pressure is a fundamental issue for rangeland management. Regulation of biomass removal by herbivores will be critical for the achievement of any management objectives proposed for the rangelands. In 1992 feral goats contributed approximately 30% of the grazing pressure on properties in western NSW (Brill unpublished data, Landsberg pers. comm.). A common view is that removal of mulga browse by goats precipitated drought conditions some six months earlier than would otherwise have occurred. There is a fundamental need for landholders to actively manage all components of the grazing pressure. If strategic management programs for goats are to be successful it is important to know the effectiveness of the available techniques and the conditions under which they can be used to best advantage. Techniques which can be incorporated into day to day livestock management operations are more likely to succeed. This project aims to determine the effectiveness of mustering and water trapping techniques for the control of feral goats and to refine these techniques where possible.

MUSTERING

Two evaluations of the mustering technique have been carried out to date. The area of the muster site is 14,863 ha, which is typical of the areas mustered by landholders in western NSW. The evaluation was carried out by conducting fixed-wing aerial surveys before and after each muster. The muster area plus a 3.5 km buffer zone surrounding the muster area was surveyed using a Cessna 182 flying at 185 km per hour and 76 m above ground. Observers recorded goats in a 200 m strip each side of the aircraft. The mustering team consisted of a Cessna 172 aircraft and 3-4 musterers with dogs and motorbikes. Each muster took place over two days and goats were placed in holding yards before being trucked for slaughter. In each muster approximately 26% of goats estimated to be on the site were removed, while approximately 45% appeared to be scattered, resulting in a substantial increase in the density of goats in surrounding areas. Control costs using mustering are estimated at \$4.08 and \$4.15 per goat for the first and second muster respectively. Densities at the start of these musters were 16.5 and 7.5 goats/km² respectively. Figure 1 shows the changes in goat density for the second muster.

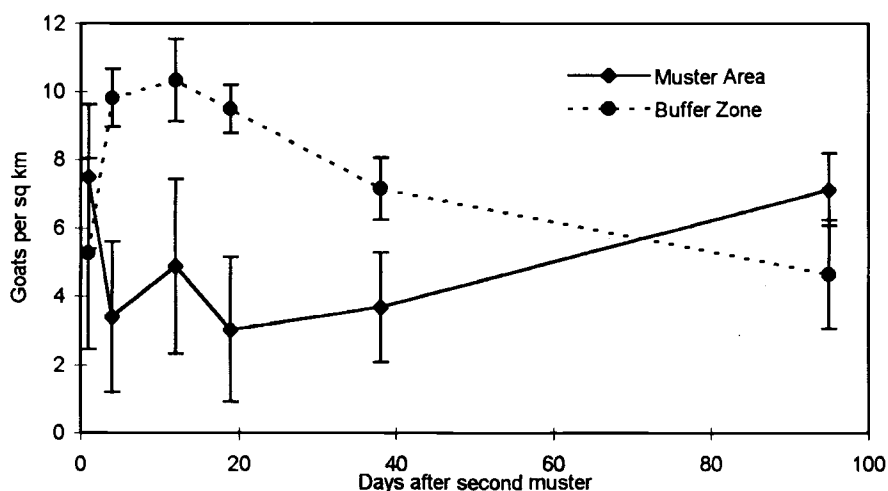


Figure 1. The density of feral goats (\pm s.e.) on muster and buffer areas following the second muster.

TRAPPING OR SELF MUSTERING

Trapping of goats at a single water point resulted in no substantial reduction in goat density in the surrounding area. Effective control of feral goats must be conducted over a large area; all waters in the area must be trapped or managed such that goats are unable to move easily to untrapped waters. Attempts to measure the effectiveness of trapping over a large area have been unsuccessful due to a major reduction in goat density on the study site.

Work on the design of trap yards and trapping devices has led to a series of design recommendations which can be summarised as follows:

- Trap gates should be two-way to facilitate the training of domestic stock and feral goats.
- Fences built with 30 cm ringlock or hingejoint are damaged badly by kangaroos, goats and feral pigs. It is preferable to use 15 cm netting, e.g. 8/90/15.
- Yards should be of a reasonable size to allow space for stock and ferals when trapping. Larger traps suffer less damage.
- Yards should be planned to facilitate the movement of domestic stock from one paddock to the next, or to otherwise assist livestock management.
- Traps should incorporate cover to provide shade and to assist the trapped animals to settle. This will reduce damage to the trap.

HOLDING PADDOCKS

In areas where it is not possible to effectively trap the majority of water points, goat-proof holding paddocks are used. Traditional designs have used Ringlock or Hingejoint fences. We have demonstrated that it is practical to construct a feral goat proof holding paddock using an electric fence with three live and three earth wires. This design is approximately half the cost of 8/90/30 ringlock fencing.

SUMMARY

Effective management of feral goats in the rangelands of NSW will require control efforts to be well planned and carried out over areas larger than individual properties. Mustering of goats using motorbikes and aircraft appears to be ineffective in achieving long-term reduction in the density of feral goats on grazing lands. Incorporating self-mustering devices at the majority of waters will be an effective technique for both the control of feral goats and management of domestic stock in much of Australia's rangelands. In some rangeland areas water point management is not feasible. In these areas the use of holding paddocks to allow small numbers of goats to be caught on a regular basis and accumulated into saleable quantities appears to be the most appropriate technique for the control of goats.