



Department of  
Primary Industries and  
Regional Development

## Journal of the Department of Agriculture, Western Australia, Series 4

---

Volume 25  
Number 1 1984

Article 12


---

1-1-1984

### Feral donkeys : an assessment of control in the Kimberley

S H. Wheeler

Follow this and additional works at: [https://library.dpird.wa.gov.au/journal\\_agriculture4](https://library.dpird.wa.gov.au/journal_agriculture4)

 Part of the [Animal Experimentation and Research Commons](#), [Environmental Health and Protection Commons](#), [Other Animal Sciences Commons](#), and the [Sustainability Commons](#)

---

#### Recommended Citation

Wheeler, S H. (1984) "Feral donkeys : an assessment of control in the Kimberley," *Journal of the Department of Agriculture, Western Australia, Series 4*: Vol. 25: No. 1, Article 12.

Available at: [https://library.dpird.wa.gov.au/journal\\_agriculture4/vol25/iss1/12](https://library.dpird.wa.gov.au/journal_agriculture4/vol25/iss1/12)

This article is brought to you for free and open access by the Agriculture at Digital Library. It has been accepted for inclusion in Journal of the Department of Agriculture, Western Australia, Series 4 by an authorized administrator of Digital Library. For more information, please contact [library@dpird.wa.gov.au](mailto:library@dpird.wa.gov.au).



# Feral donkeys



## An assessment of

**By Dr S. H. Wheeler,** Research Officer

*Feral donkeys are one of the major limitations to increased pastoral production in many parts of the Kimberley area of Western Australia, where they compete with cattle for food. In addition donkeys are aggressive animals, driving cattle from watering points and better grazing areas. They eliminate perennial plants by overgrazing and therefore reduce the carrying capacity of the range.*

*Originally introduced as draught animals, donkeys were released when cars arrived; since then they have bred up to large numbers in many areas.*

*For several years the Agriculture Protection Board has undertaken a programme of donkey shooting from helicopters. Since this is an expensive control method it is essential to assess its effectiveness. For this reason two aerial surveys of donkey numbers have been conducted in the East Kimberley. Further surveys are planned as the programme continues.*

### **Aerial surveys**

Two aerial surveys were conducted, one in late April-May 1980 and one in May 1982. These were identical in design, using systematic transect counting. Eighteen east-west transects were flown on flight lines 15 kilometres apart. A total of 3,622 km was flown, covering an area of about 54,000 sq km extending from 75 km south of Halls Creek to Lake Argyle. The transects covered 2.67 per cent of the total area (see map).

The aircraft was flown at 75 metres above ground level at a speed of 175 kilometres per hour. The left and right observers counted donkeys in a 200 m strip on each side of the aircraft. The strip was demarcated for each observer by previously calibrated marks on the wing struts. The left observer was the same in both surveys, but the right observer was changed.

Each transect was broken into two-minute sections. A timekeeper sat in the rear of the aircraft, advising the start and end of each section. The flight lines were drawn on 1:100,000 detailed topographic maps which were joined and rolled so that the navigator (alongside the pilot) could follow the flight lines by landmarks.

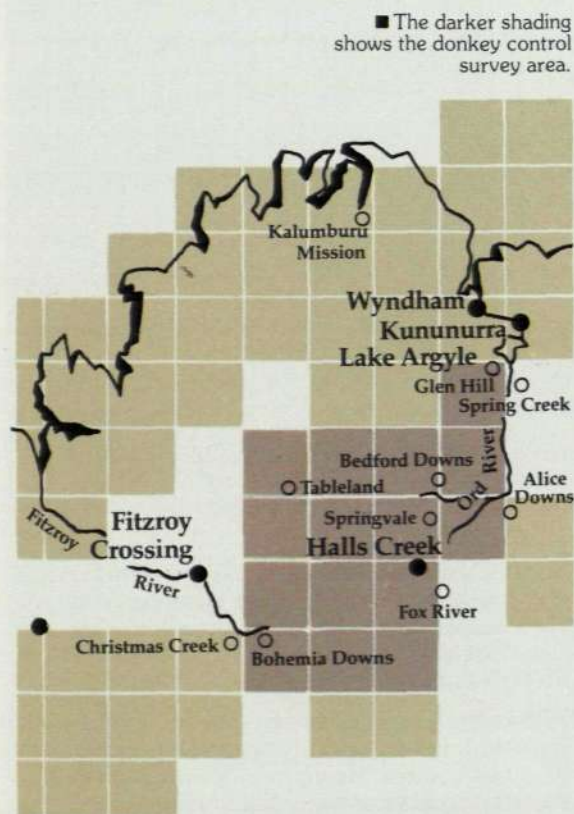
### **Donkey control**

During the two years between aerial surveys, pastoralists, their staff and the Agriculture Protection Board controlled donkeys by shooting. The Agriculture Protection Board carried out four helicopter shoots within the survey area. These were not laid out in an experimental design, but, in general, covered areas where donkey populations were highest, using as a guide the results of the 1980 survey.





# control in the Kimberley



The shoots were carried out in October 1980, April and September 1981 and April 1982 and the approximate boundaries of the areas covered were known.

Control by pastoralists was usually undertaken during normal station management; however some pastoralists organised their own donkey control programme using ground and helicopter shooting. As a consequence, it was not possible to define the areas covered.

Some pastoralist were supplied with subsidised ammunition for donkey control. If a station received ammunition, it was assumed that donkeys were shot over the whole station. This was almost certainly not the case; pastoralists would probably have concentrated on areas of highest donkey numbers, but these areas could not be defined.

In addition, pet-meat shooters were known to have operated on four stations in the survey area. On these stations, this was the only known control effort.

## Results

The survey results were plotted on 1:250,000 maps. Overlays were made which showed the areas covered by the Agriculture Protection Board helicopter shoots, stations carrying out their own donkey control, and stations on which pet-meat shooters had operated.



■ High plateau, poor donkey country in the East Kimberley.

■ Aerial shooting (facing page) helps to keep feral donkey numbers down.



### Effectiveness of donkey control methods

	1980 survey	1982 survey	% change
No control.....	131	123	- 6
Pastoral control only .....	339	369	+ 9
Plus shooting by pastoralists—			
Helicopter shoot (first year only).....	232	240	+ 3
Helicopter shoot (second year only).....	368	157	-57
Helicopter shoot (both years)...	138	92	-33
	(133)	(51)	(-62)
Pet-meat shooters (4 stations only)	225	42	-81
All areas.....	1,433	1,023	-29

Because of the limitations of the analysis, changes of less than  $\pm 20\%$  are not considered significant. However, many changes were greater than this; the overall change within the survey area was 29%.

Each two-minute transect segment in each survey was classified according to the type of donkey control carried out, and for each method of control the numbers of donkeys counted in each survey was totalled. A two-minute flight section was counted as being in the area covered by a given type of donkey control if more than half of it fell within that area. The results of the analysis are shown in the table.

The areas subject to no control and to control by pastoralists only were generally poorer country with fewer donkeys. Control was concentrated in areas of highest donkey numbers. Thus the apparent lack of effect of pastoral control only may be because there was little if any control effort in these areas; if ammunition had been supplied to a station for shooting donkeys, the whole of the station was included in the areas assumed subject to pastoral control.

The population reduction in the areas covered by helicopter shooting in the first year between the surveys was insufficient to last through until the second survey. This may be because of breeding or influx of donkeys from other areas, or (most likely) both of these effects.

The 33 per cent reduction in donkey numbers in the areas covered by helicopter shooting in both years between the surveys is unduly influenced by donkey numbers along a small segment of flight line passing along a short distance inside the control area on Springvale station. If this segment is omitted, the figures given in brackets in the table are the result.

It is impossible to separate the effects of helicopter shooting alone because virtually all of the area covered by helicopter shooting within the survey was subject to some form of pastoral control. Pastoralists carried out ground shooting and in some cases helicopter shooting and judging by ammunition sales to pastoralists, their efforts were often substantial.

It is apparent that the combination of helicopter and pastoral control can give effective results. By breeding alone, it would take a donkey population at least two years to recover from a 60 per cent drop in numbers.

Within the restricted areas in which they operated, pet-meat shooters also provided effective control. However, they are limited to easily accessible areas with high donkey numbers.

An estimated 76,000 donkeys were shot within the survey area by both the Agriculture Protection Board and pastoralists between 1980 and 1982. The level of control achieved by a combination of Agriculture Protection Board helicopter shooting and pastoral shooting is thought to be effective as long as it is maintained. Results from areas in which shooting took place only in the first year between the surveys suggest that re-infestation from surrounding areas may be a problem.



■ Shooters and pilot (far right) check the map before starting the day's programme.