

Controlling vertebrate pests after a drought

David Croft

Agricultural Protection Officer, Emergencies & Strategic Response, Wagga Wagga

Introduction

Populations of most species of vertebrate pests are severely affected by prolonged drought. Low breeding rates and high infant mortality are common responses of species such as feral pigs and kangaroos. Feral goats have the potential to 'hang on' for longer because they can browse shrubs. Rabbits living in country that has a lot of seed in the soil, particularly clover or medic seed, are also able to survive and actually continue to breed well into the drought. However, once this feed source is exhausted, the population can crash. A crash in the rabbit population will be quickly followed by a reduction in the fox population unless there is alternative food, such as lambs, native animals or carrion.

Each pest species responds to the breaking of a drought by increasing in body weight and beginning to breed. It is the potential rate of increase in a pest animal population that is of critical importance to decision making when planning a management strategy for vertebrate pests.

Pest populations after a drought breaks

Mice

Populations of small vertebrate pests such as mice have the potential for a huge increase if the breaking of drought provides them with an abundance of food and shelter. Drought can also reduce the numbers of predators that would otherwise help control mice. Mice that survive natural phenomena such as drought are the strongest and fittest of the population. They respond by rapid breeding, often resulting in populations of plague proportions. A single pair of

mice has the potential to multiply to many hundreds over a 6-month breeding period.

Rabbits

Rabbits are the next most prolific species, but, because they take longer to reach breeding weight, and because they have longer pregnancies and smaller litters, they do not have the spectacular population explosions seen with mice. Nevertheless, a single pair of rabbits may produce, through their own mating and the mating of their offspring, up to 40 rabbits over a 6-month period.

Feral pigs

Feral pigs are much less prolific breeders than rabbits; nevertheless, a pair of feral pigs has the potential to produce about six young over a 6-month period. If feral pig numbers are reduced by drought and the reduction is followed up by properly conducted control programs, pig populations can take many years to build back up.

Wild dogs

Wild dog populations may decline during extended droughts, especially if there is a drastic decline in their preferred prey such as kangaroos and wallabies. However, this does not necessarily reduce predation on sheep because hungry wild dogs will sometimes move from bushland to adjacent grazing land in search of alternative prey.

Any combination of drought, bushfire (including fire damage to dog fences), or competition from other wild dogs can cause surviving dogs to move onto grazing land and kill stock.

If wild dog populations have declined during a drought and survivors have not moved onto grazing lands, there may be less predation for a while. However, landholders should remain vigilant, particularly in autumn and winter when dogs usually disperse. Young, inexperienced dogs will



often disperse regardless of food availability in their parents' home range.

Other species

Other species such as feral goats, kangaroos and foxes increase their populations much more slowly after drought.

Control strategies

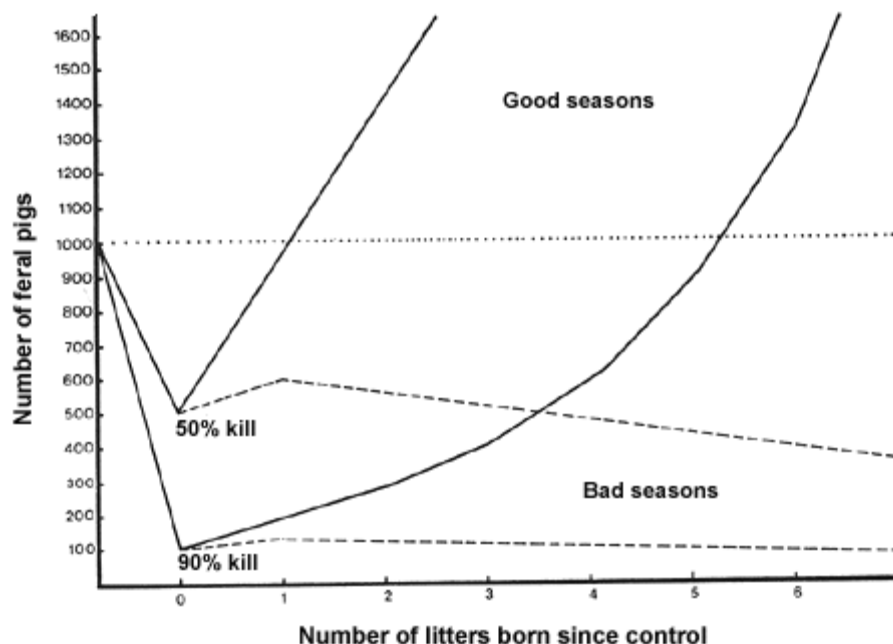
The critical point to remember in vertebrate pest control is that if the pest population is already low, and can be made lower still by tactical control, this will generally be a good investment because the recovery rate of the population is much slower. For maximum benefit, this requires a coordinated approach by all landholders and land managers, otherwise pests will simply breed up and migrate from neighbouring properties.

Drought can severely reduce the number of predators in the system and predator populations usually take longer to recover than their prey. This means that many pest species can breed with few constraints once good seasons return, so populations can increase extremely quickly.

Feral pigs

Figure 1 demonstrates the different recovery rates of feral pig populations that have been reduced by 50% and 90%. In good seasons, a population experiencing a 50% kill will recover to the original levels within 12 months, whereas a population experiencing a 90% kill will take 5 years to recover.

Figure 1. The change in numbers of feral pigs in good and bad seasons following 50% and 90% control kills



Source: Hone, O'Grady & Pederson 1980, *Decisions in the control of feral pig damage*, Ag Bulletin No. 5, NSW Agriculture (now NSW DPI).

This same principle applies to all wild animal populations.

Rabbit control and feed

See the advice below regarding the labels and permits concerning the use of chemical products.

A word of caution about rabbit control: best results with rabbit poisoning programs are obtained when feed is short. If you are still in a drought area, poisoning with 1080 bait will give a far greater reduction. However, if plenty of green feed is present, this feed will be a more attractive alternative to the bait and consequently the poisoning program will not be as effective. In these circumstances, other options such as ripping or fumigating warrens should be used.

Trapping is seldom used for broadscale rabbit control and it should be noted that only soft-jawed traps are permitted. The older steel-jawed traps are illegal in NSW.

Those areas that have had plenty of rain and have moderate to high rabbit densities may be fortunate enough to experience a good myxomatosis or calicivirus outbreak, but this should not be relied on, because it is impossible to predict the timing or effectiveness of an outbreak.

Wild dogs

It is wise to increase monitoring for wild dogs during droughts and after fires so that control measures can be implemented before predation of livestock becomes a problem. Wild dog management plans should cover this contingency, but in any

case, monitoring and control of wild dogs are best done by groups because the movements of wild dogs usually extend over several properties and adjacent bushland.

Coordinated precautionary baiting or trapping programs may also be useful along routes traditionally used by wild dogs.

There are regulations governing the poisoning of wild dogs. **Poisoned baits may only be prepared by authorised rangers of local Rural Lands Protection Boards.** Advice on control and group efforts is also available from rangers.

Trapping is best conducted by experienced trappers using soft-jawed traps that conform to legal requirements. Note that the older steel-jawed traps are illegal in NSW.

Long-term effects

As with all management decisions, long-term effects are crucial. Ensure that the decisions made enhance the long-term sustainability of your property and contribute to the protection of the native animals and plants that play an important part in making your area a pleasant place to live. Balancing these decisions is an important component of your property management plan.

Cooperation of neighbours

Most vertebrate pests range over large areas. When considering pest animal control on your property, consider a larger area than your property alone. Try to get a group of neighbouring properties to work together for a more lasting effect. Rangers with your local Rural Lands Protection Board can organise a group control program and provide information on planning, monitoring, free feeding, poisoning and other control strategies.

Further information

- Drought recovery
www.dpi.nsw.gov.au/reader/drought
- Vertebrate pests
www.dpi.nsw.gov.au/reader/pe-vp
- Mice
www.dpi.nsw.gov.au/reader/mice

Further assistance

Further assistance is available from:

- Livestock Officers through your local office of NSW Department of Primary Industries;
- Rangers through your local Rural Lands Protection Board

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Always read the label

Users of agricultural (or veterinary) chemical products must always read the label and any Permit before using the product, and strictly comply with the directions on the label and the conditions of any Permit. Users are not absolved from compliance with the directions on the label or the conditions of the Permit by reason of any statement made or not made in this publication.

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