

## Total grazing pressure

Improved management of total grazing pressure (TGP) is key to ensuring grazing does not exceed stocking capacity.

**Managing TGP is important to help maintain the proper functioning of ecosystems and maximize profitability and sustainability.**

### Why manage total grazing pressure?

TGP is the combined grazing pressure exerted by all grazing animals (domestic, native and feral) on the vegetation, soil and water resources. TGP management is about being aware of the balance between grazing mouths and feed supply and having the tools to effectively create this balance.

TGP is an issue in western NSW as:

- There is a large population of unmanaged goats which is unconstrained by traditional-style pastoral fencing. Goat populations have doubled in the past decade.
- There is a high density of kangaroos. Factors contributing to this are the absence of natural predators inside the dog fence and the development of stock watering points which has extended their range and ability to survive drought.
- There are many environments suited to rabbits. They are highly-adapted to semi-arid conditions and can rapidly increase in response to favourable seasonal conditions.

The aim of total grazing pressure management is to control all grazing pressure in order to preserve the land and improve profitability.

### Benefits of managing TGP

There are significant benefits in effectively managing TGP for the environment, livestock production and business viability:

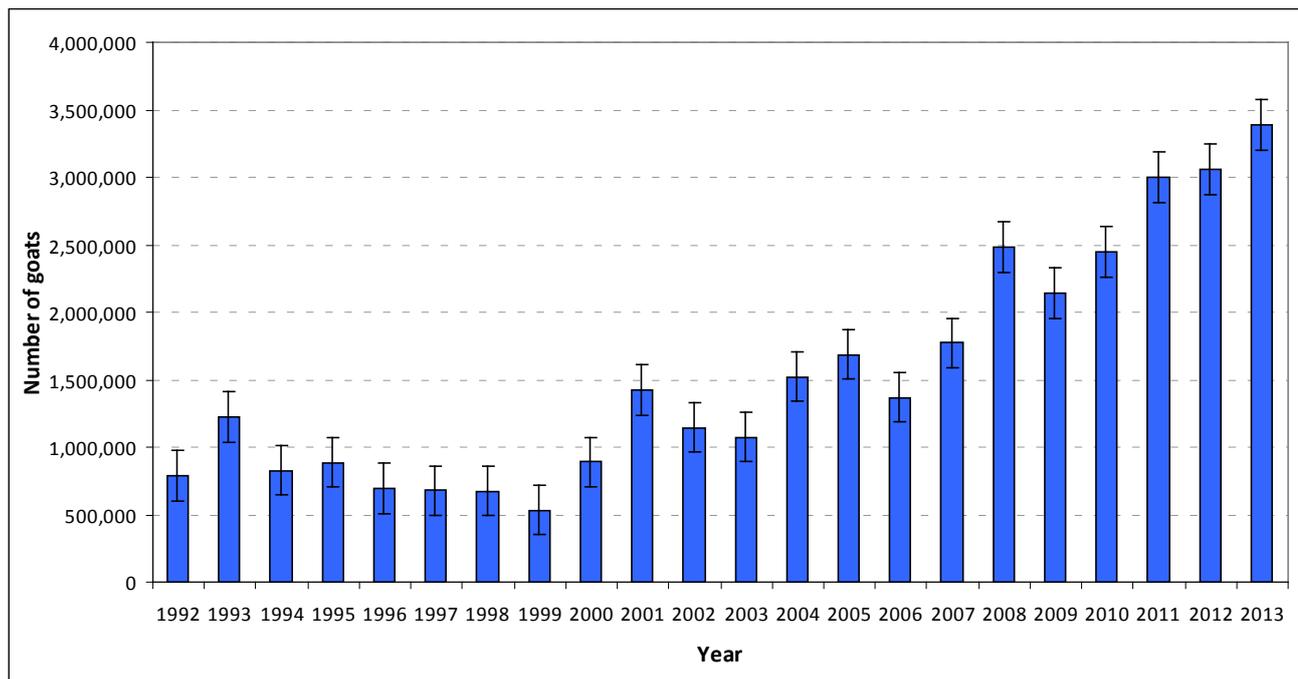
- Pastures respond quickly. Once areas are protected from uncontrolled grazing, landholders can manage stocking pressures and spell country without unwanted grazers.
- Groundcover, pasture yield and grass species diversity increase significantly. Grasses other than speargrass appear.

- Spelling gives palatable plants a chance to recover and re-establish.
- Improved groundcover slows runoff during rainfall, resulting in better infiltration. Grasses respond better to lighter falls of rain. Perennial grasses remain established, ready to grow.
- More perennial grasses, better groundcover and improved runoff retention increase resilience to drought.
- As the condition of the country improves, its productivity increases, generating more options for a sustainable and productive managed grazing enterprise.
- Options for managing invasive scrub increase. Fuel becomes available for controlled burning.
- Management of kangaroos, pigs and possibly wild dogs becomes easier.
- Managed goats can be turned off more consistently.
- Meat sheep enterprises become feasible.
- Biodiversity visibly improves as habitat for seed eating fauna increases.

**Figure 1: Increasing feral goat numbers are placing pressure on native groundcover.**



**Figure 2: Trends in goat numbers in the region 1992-2013 based on aerial surveys**



### Three key TGP practices

Effectively managing TGP means taking the following actions:

#### 1. Establish infrastructure to control domestic, native and feral animals

Improving fencing infrastructure is usually the first step towards TGP management and is also the most costly and time consuming. When making this decision, you should look for the most strategic approach.

##### Steps to consider:

Assess your existing infrastructure. Developing a property map is a worthwhile step as it not just a visual tool, but can also help you look at the costs involved and determine where the best place would be to start.

Look at where you can link in with existing TGP fencing or take advantage of structurally sound fences that can be upgraded to TGP standard without the high cost of a new fence. There are several alternative TGP fence designs including mesh fencing such as Hingejoint™, multi-strand electric or new multi-species mesh products.

Identify your priorities within the landscape and consider what will give you the best management outcome. Ask yourself these questions:

- Is there highly productive country that would benefit from TGP control?
- Are there ranges/areas that harbor high unmanaged goat, kangaroo and rabbit populations?
- What fencing best matches land type?
- Can pastures be better managed based on land type?
- Why fence to the same lines that currently exist?
- Can fencelines avoid erosion risk areas such as drainage depressions?

- Is the internal infrastructure appropriate to gain control of unmanaged grazing pressure?

Recent measurements by the Department of Primary Industries in the Cobar district show that a TGP-fenced paddock rotationally grazed by goats and sheep grew six times the biomass and had twice the groundcover of adjacent areas accessed freely by unmanaged goats.

An increasing trend in goat population data, based on aerial survey, reflects a significant increase in unmanaged goat numbers in the Western Local Region over the past few decades (see Figure 2). In 2013 there were an estimated 3.3 million unmanaged goats in western NSW. This figure is expected to double by 2021 based on population trends since 1999.

#### 2. Gain control over grazing animals

When creating large scale TGP zones, you will need to remove unmanaged grazing stock from a paddock before you can implement a grazing plan. This can mostly be done by controlling access to water, trapping on water points or actively mustering paddocks.

Also consider seasonal and market variables, particularly when gaining control of unmanaged goats, as both may have a considerable impact on how you carry out your management.

- Will you carry out intensive trapping during summer or also consider mustering during the cooler months?
- Are you committed to selling all unmanaged goats even when the markets are weak?
- Will you remove underweight goats even if they are unmarketable?

### 3. Implement a grazing management plan

Once you have gained control over the country, the key to effective TGP is in creating a balance between the needs of regenerating pastures and the management of domestic stock to maintain production and profitability.

Developing and implementing a grazing management plan can help in establishing this balance. A grazing management plan can operate at several levels:

- Short-term planning (eg 3 months) based on day to day decisions around current growth response, seasonal forecasts and market factors.
- Long-term planning based on proposed development of infrastructure and implementation of systems such as rotational grazing.

#### **Consider what you actually want to achieve through your management and set objectives.**

Both long and short-term goals can help. These should consider:

- What is the greatest priority? Determine where the greatest grazing pressure is coming from so you can balance mouths to feed.
- Assess individual paddocks to identify key pasture species, their abundance and how they are being grazed.
- Consider what species you should maintain or restore.
- If your pastures are close to their best potential for animal production, how will you maintain them in this condition?
- What can you do to restore your pastures if they are currently in a condition below their potential in terms of groundcover and forage production?

#### **Develop a strategy to achieve your objective.**

A grazing strategy needs to be flexible enough to take advantage of opportunities (such as good seasons) and minimise the negatives such as drought.

It is important to be familiar with the plants on your land and to identify which species are preferred by livestock. Identifying key palatable species allows landholders to monitor those plants that will be overgrazed first.

Points to consider:

- Use the grazing level of these plants to set trigger points for destocking (eg remove stock when 50% removed).
- Are desirable grasses present? Are they abundant? If so are they being heavily grazed?
- Are remaining species of low productive value to livestock? Less desirable species may remain in large quantities and be deceiving in terms of the percentage of groundcover and potential forage production.
- What is the type and number of livestock and what impact are they likely to have in a short time frame?
- Is there a mix of species? Having a diversity of plants will increase the pasture's ability to tolerate and recover from drought.

By using trigger points you should also be able to determine when a paddock requires rest from grazing. A TGP approach to managing rested paddocks is essential so the paddock achieves true rest. Even if a small number of unmanaged grazers remain, the most palatable species will remain grazed, not rested. The length of time needed for rest will depend on how grazed the pasture is, species composition, rainfall and temperature conditions.

#### **Case Study**

At Opal Downs, 15 km south of Lightning Ridge, Dean Schellnegger and Sandy Hill have adopted a total grazing approach to property management that makes their sheep and wheat property more resilient in dry times by introducing rotational grazing.

Dean and Sandy aim to introduce rotational grazing across their property, which covers nearly 4,000 hectares, of which about a quarter is farming country. In a bid to achieve this aim, they have made a number of changes over the past 10 years.

They fenced to create smaller paddocks. They also cull kangaroos and sometimes foxes, and trap feral goats and pigs in a bid to gain control over the grazing levels across their property.

"Overall, there is nowhere near as much work in maintaining the troughs and tanks as the bore drain and it's much easier to control stock movements and, in turn, TGP," Dean said. "Suddenly you have paddocks full of grass. We have control over TGP now and use about 30% of the water we used before. Increasing groundcover means less erosion and better water quality downstream, as well as better soil quality here. Rainfall can seep in and be more effective and longer lasting - more groundcover is almost like having more rain."

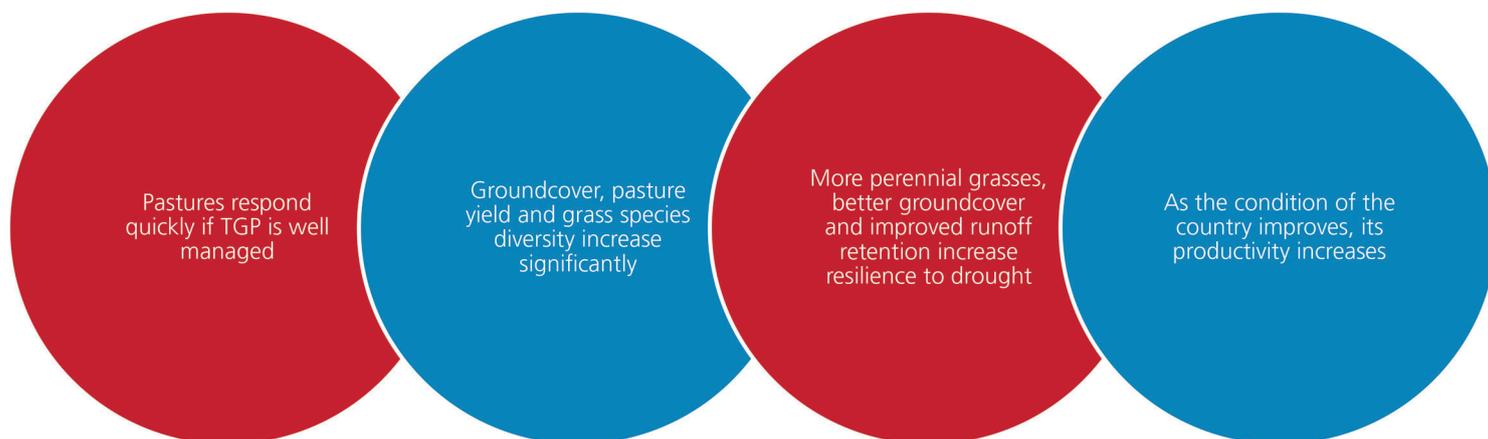
New fencing has allowed Dean to subdivide his stock grazing area into 13 paddocks. Under his rotational grazing plan, he has greater flexibility to destock and rest those paddocks for a period every year, giving the groundcover time to recover. "We want to establish more grasses and more species of grasses so the place doesn't just look better but is more practical and more usable," he said.

Dean has noticed an increase in biodiversity on Opal Downs since they improved groundcover and allowed leaf litter to provide valuable mulch for the soil. "If we can maintain good groundcover levels for longer and continue to increase biodiversity, we are more likely to be self-regulating - providing we can keep the pest animals under control," he said.

## Grazing management principles: No.7

### What are the consequences of not actively managing total grazing pressure?

- The true productivity of pastures is lost. Grass growth is like compound interest: the less you have in the bank (groundcover, roots, leaf area), the less interest (pasture production) you earn.
- The impact of even short-term droughts can be significant and reduce the ability of pastures to respond even once the season has improved.
- Significant overgrazing leads to damage to soils and pastures that is difficult to reverse.
- During a drought, costs associated with land degradation and stock feeding can be significant while the quality and the return per head of stock can decrease (reduced profitability).



### Further reading

#### Other fact sheets in this series

- No.1 Actively control feral animals
- No.2 Control access to watering points
- No.3 Maintain and improve groundcover
- No.4 Manage for drought
- No.5 Manage invasive native scrub (INS)
- No.6 Manage pasture species
- No.8 Match stock numbers to feed availability
- No.9 Rest pastures regularly

#### Case study

*Good management, less stress* – the Mosely family

#### DVD

*Looking over the Fence – grazing management in the rangelands*, Western Catchment Management Authority, 2013

#### Other fact sheets / publications

*Economic Analysis of Feral Goat Control within the Western NSW Rangelands*, Khairo S and Hacker R, Western CMA, 2011

*Feral Goat Management in Western New South Wales Rangelands*, Kerle A, Western CMA, 2011

*Feral Goat Population Trends in Western NSW Rangelands*, Ballard G, Fleming P, Melville G, West P, Pradhan U, Payne N, Russell B, Theakston P, Unpublished final report to the CMA, 2011

*Review of knowledge relating to feral goat management in the Western NSW Rangelands*, Kimball, NP, and Chuk M, Western CMA, 2011

*Review of the Implications of the Feral Goat Harvest Industry for Total Grazing Pressure Management in the Western NSW Rangelands*, Ferguson, C, Western CMA, 2011

*Total Grazing Management (series of five fact sheets)*, Department of Conservation and Land Management

#### Books

*Best Management Practices for Extensive Grazing Enterprises*, Hacker R, Beange L, Casburn G, Curran G, Gray P and Warner J, NSW Department of Primary Industries, 2005

*Living with Kangaroos: A guide to kangaroos and their management in the Murray-Darling Basin*, Hacker R and McLeod S, NSW Agriculture, 2003

*Management of Total Grazing Pressure*, Fisher A, Hunt L, James C, Landsberg J, Phelps D, Smyth A, Watson I, Commonwealth of Australia, 2005

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