

DESERT KNOWLEDGE CRC

The Central Australian Grazing Strategies project
Working Paper Series

An extended rest grazing system
in central Australia:
Narwietooma Station, NT

D. Walsh

Working Paper

51

2009



The Central Australian Grazing
Strategies project
Working Paper Series

An extended rest grazing system in
central Australia:
Narwietooma Station, NT

D. Walsh



Contributing author information

Dr Dionne Walsh is a rangeland ecologist with a background in herbivore grazing behaviour, rangeland monitoring and Environmental Management Systems. She is particularly interested in management of the interactions between livestock and natural systems to achieve sustainable production.

Desert Knowledge CRC Working Paper #51

Information contained in this publication may be copied or reproduced for study, research, information or educational purposes, subject to inclusion of an acknowledgement of the source.

ISBN: 1 74158 136 2 (Web copy)

ISSN: 1833-7309 (Web copy)

Citation

D. Walsh. 2009. *An extended rest grazing system in central Australia: Narwietooma Station, NT*. DKCRC Working Paper 51, The Central Australian Grazing Strategies project Working Paper Series. Desert Knowledge CRC, Alice Springs.

The Desert Knowledge Cooperative Research Centre is an unincorporated joint venture with 28 partners whose mission is to develop and disseminate an understanding of sustainable living in remote desert environments, deliver enduring regional economies and livelihoods based on Desert Knowledge, and create the networks to market this knowledge in other desert lands.

Acknowledgements

The Desert Knowledge CRC receives funding through the Australian Government Cooperative Research Centres Programme; the views expressed herein do not necessarily represent the views of Desert Knowledge CRC or its Participants.

For additional information please contact

Desert Knowledge CRC

Publications Officer

PO Box 3971

Alice Springs NT 0871

Australia

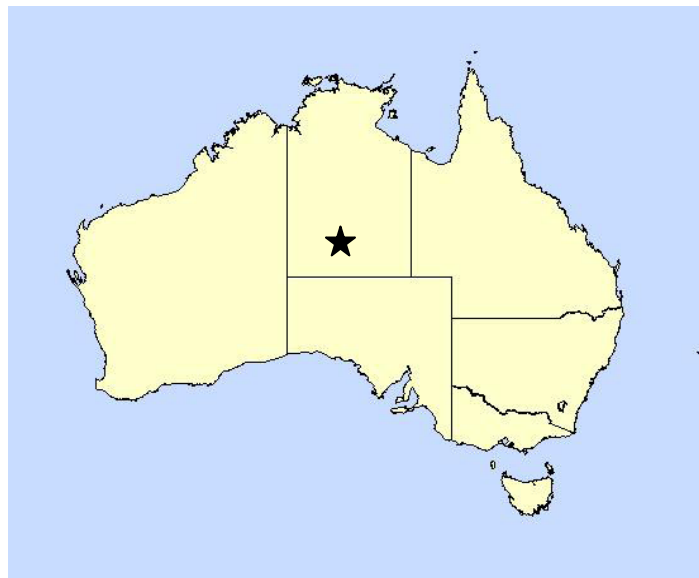
Telephone +61 8 8959 6000

Fax +61 8 8959 6048

www.desertknowledgecrc.com.au

An extended rest grazing system in central Australia

Narwietooma Station, NT



Key points 2,800 square kilometre cattle station in central Australia	The Connellan family has owned Narwietooma station, 100 km west of Alice Springs, since 1945. The station is 2,800 square kilometres and comprises mostly mulga and spinifex country on the northern edge of the West MacDonnell Ranges. The dominant tree and shrub species at Narwietooma are mulga, witchetty bush and ironwood. The predominant grasses are mulga grass and spinifex. The entire station is run as an “extended rest grazing system”. The relatively fertile alluvial plains adjacent to the ranges are broken into smaller paddocks and are used more intensively.
50,000 hectares under intensive grazing, whole station rotationally grazed and rested	The average annual rainfall is 325 mm and is summer-dominant, but varies immensely in amount and timing from year to year. Narwietooma produces Shorthorn, Droughtmaster and Brahman cross cattle targeting domestic and export markets. Stock are mustered using a combination of helicopters, trapyards, motorbikes and horses.
Reduced staff requirements from 11 people to 3	The grazing strategy Depending on the season, between 50% and 80% of the property is rested at any given time. Narwietooma has 90 paddocks ranging in size from 200 hectares to 300 square kilometres. External fencing is all barb and internal fences are electric. There are 55 bores and 38 dams on the property.
Cost of production halved	The more intensive aspect of the grazing system was first trialled in a small area and has been subsequently expanded over the past 12 years. The larger paddocks in the mulga and spinifex country are usually rested and provide a place to put stock during dry periods. The implementation of the grazing system has been aided by attending many formal training workshops including Grazing for Profit and Holistic Management.
	Decision making for stocking rates, timing and spelling Stocking rates are variable and determined by assessing the feed available based on the rainfall received. Feed availability is assessed in individual paddocks regularly throughout the year, but the end of summer and the end of winter are critical times for assessing the overall feed situation and forage demand for the coming 12 months. Having these two “critical dates” is important in this grazing system because the timing and amount of rainfall is unpredictable and feed conditions change markedly from one year to the next. Mob sizes and the number of mobs are determined by seasonal conditions. Very good seasons provide the opportunity to run multiple mobs and/or bigger mobs. When there are high feed levels and fast re-growth rates, multiple mobs can follow each other through the rotation. During drier seasons, the number of mobs is reduced to one or two and mob size is decreased. The length of the grazing period is determined by calculating the amount of feed on offer in the paddock and relating this to the forage demand of the stock on hand. The aim is to use no more than 10–20% of the feed available in any given grazing period. Bullock condition is also used as an indicator to confirm that the grazing period is appropriate. Cattle are moved out of the paddock based on an

overall assessment of biomass remaining, ground cover, condition of indicator species, level of defoliation, amount of pasture that hasn't been grazed, rainfall received and animal condition.

Grazing Charts (as promoted by Resource Consulting Services) are used to keep track of feed availability, stocking rates, stock movements, paddock spelling intervals and rainfall. A series of 500 photo-monitoring sites is used to illustrate land condition trends.

Objectives of the grazing system

The reasons for adopting this grazing system at Narwietooma include:

- to improve land condition and prevent degradation (number one reason)
- to improve production
- to lower the cost of production
- to increase the stability of production and income
- to improve drought management.

Results

Livestock

According to Doug Sims, who has been involved in the management of the extended rest grazing system at Narwietooma for 12 years, cattle learnt the new system readily and are much quieter due to the extra handling they experience. There has been a significant increase in kilograms of beef produced per hectare under the new grazing system. In theory, the grazing system could accommodate high cattle numbers during exceptionally wet seasons, however this does not tend to occur at Narwietooma. Rather than radically increasing income in the short-term, the aim is to stock lighter for longer and have a more stable and secure income over the long-term.

Financials – costs and profits

Labour costs have dropped significantly at Narwietooma – the property can be mustered using three people instead of up to eleven. Prior to implementation, there were paddocks on Narwietooma that took three weeks to muster. Paddocks can now be mustered in one day or less, using fewer people. Some of the more intensive paddocks can be mustered in less than half a day by one person. Within a couple of years of implementation, the cost of production at Narwietooma had halved.

Doug notes that there are no specific large running costs peculiar to this management system. However, like most other pastoral stations, the maintenance of infrastructure is a significant cost.

The costs of development were spread across six or seven years and showed a positive return almost immediately.

Land condition

The implementation of the new management system coincided with some good seasons at Narwietooma. The combination of the new grazing system and good rains saw significant improvements in land condition within two years. The quality and quantity of pasture has improved and there has been an increase in the density of palatable perennial species. Soil condition has improved in the intensively managed paddocks and the amount of run-off has declined.

People

Although the grazing system means that less staff are required, the skills of staff need to be higher than a traditional management system. Sourcing trained and skilled staff can sometimes be a problem.

Doug notes that it takes time for results to become apparent when a new system is implemented. It's easy to get dismayed when you can't see immediate results and there can be a sense of isolation when there isn't anyone else in the district doing a similar thing.

It also takes some time for old habits and mindsets to change. Doug feels that it can take up to five years for people to become confident and competent at managing a different grazing system.

Drought and pest animal management

The use of feed budgeting and Grazing Charts creates an "early warning system" because management always knows how much feed is present and how long it will last given the number of cattle in hand. There is thus a greater control over the feed supply and stocking rates can be adjusted well in advance. In the event of a severe drought, the ungrazed paddocks away from the intensive complex buy extra time as stock numbers are being reduced. Feral animals are not a problem on Narwietooma, in fact camels are purposely used in a co-grazing system to optimise production.

Advantages of the system

Doug nominates the following as advantages of the Narwietooma grazing system:

- improved land condition
- low cost of production
- quiet livestock.

Disadvantages of the system

- The only real disadvantage of adopting this grazing system is the difficulty in finding quality staff.

Recommendations to others who want to try it

- start up small
- research ideas
- don't give up!

Plans for the future

The grazing system is still a work in progress. The management would like to further subdivide the paddocks but further intensification would depend on finding suitable staff.

DKCRC Partners

