

Areas of research and development

The project has five areas of research and development within which there are 12 experiments or activities being carried out on the Pigeon Hole and Mt Sanford stations:

1. Optimum levels of pasture utilisation

- Plant- and plot-scale pasture utilisation research – will investigate the factors that affect the level of sustainable pasture utilisation at a plant scale. This work will be done as part of a PhD project.
- Paddock scale research and development – will continue DBIRD's work at Mt Sanford looking at the optimum levels of pasture utilisation at a research scale.
- Utilisation and grazing distribution on a commercial scale – will investigate the impact of pasture utilisation levels and grazing distribution at a commercial scale.

2. Strategies to achieve uniform grazing distribution

- Impact of paddock size, grazing radius and number of cattle per watering point on grazing distribution – will develop infrastructure development principles that achieve uniform grazing distribution.
- Impact of multiple watering points per paddock on grazing distribution – will determine if uniform grazing distribution can be achieved with multiple watering points in a paddock and a 2-3 km grazing radius.
- Strategies to reduce patch grazing within commercial paddocks – will examine options to reduce patch grazing.

3. Alternative grazing systems

This area involves the comparison of alternative grazing systems using the results from activity 1, which will include:

- Set stocking
- Consistent pasture utilisation
- Strategic spelling
- Cell grazing

4. Conservation and biodiversity

- Biodiversity – will establish management and conservation strategies that maintain biodiversity within intensively developed grazing systems.

5. Commercial evaluation

- More efficient infrastructure design – will introduce more efficient infrastructure design and innovations to maintain or reduce the cost of production of an intensively developed pastoral business.

The results from the project will be used by the researchers and Heytesbury Beef to develop a best practice manual for use within the VRD. It is expected that many of the principles will also be of use across the more extensive grazing areas of northern Australia.



Level 1, 165 Walker Street, North Sydney NSW 2060

Tel: (02) 9463 9333 Fax: (02) 9463 9393

www.mla.com.au

Published June 2004

ABN: 39 081 678 364

© Meat & Livestock Australia Limited

Care is taken to ensure the accuracy of information in the publication. However, MLA cannot accept responsibility for the accuracy and completeness of the information or opinions contained in the publication. Readers should rely on their own enquiries in making decisions concerning their interests.

Reproduction in whole or in part of this publication is prohibited without the prior written consent of MLA.

More information

Steve Petty
Heytesbury Beef
Phone: (08) 8982 9920
Email: steve.petty@heytesburybeef.com.au

Wayne Hall
MLA
Phone: 0407 727 992
Email: whall@mla.com.au

On farm

The Pigeon Hole Project 2002-2007

Grazing strategies for tomorrow



This is a joint project between Heytesbury Beef



and Meat and Livestock Australia

Supported by



About the project

Heytesbury Beef and Meat and Livestock Australia (MLA) have joined forces to evaluate grazing management systems in the Victoria River District (VRD) of the Northern Territory. The Partners in Innovation project, which is being carried out on Pigeon Hole Station, will develop grazing and infrastructure guidelines that improve economic performance whilst maintaining range condition and minimising impacts on biodiversity.

Agencies supporting the project and undertaking the research are the NT Department of Business, Industry and Resource Development (DBIRD), NT Department of Infrastructure, Planning and Environment (DIPE), CSIRO, University of Queensland, the Victoria River District Conservation Association (VRDCA) and the CRC for Tropical Savannas.

The project operates on the principle that innovative management systems that are underpinned by sound scientific research and rigorous commercial evaluation will underwrite the future sustainability of the northern pastoral industry.



Some of the research team checking forage yield estimates at Pigeon Hole



Simon Holmes à Court demonstrates remote starting of water pumps as part of more efficient infrastructure design.

Project focus

The Pigeon Hole Project specifically focuses on:

- What rates of pasture utilisation are sustainable in larger commercial paddocks (20 to 50 km²)?
- What paddock design (size and number of watering points) cost-effectively reduces uneven pasture use and provides for sustainable increased pasture utilisation and beef productivity?
- Will alternative grazing systems promote more even pasture use or higher sustainable levels of pasture utilisation?
- What impact does rate of pasture utilisation have on biodiversity?
- What is the impact of different sized "conservation" areas on the preservation of biodiversity within a commercially managed property?



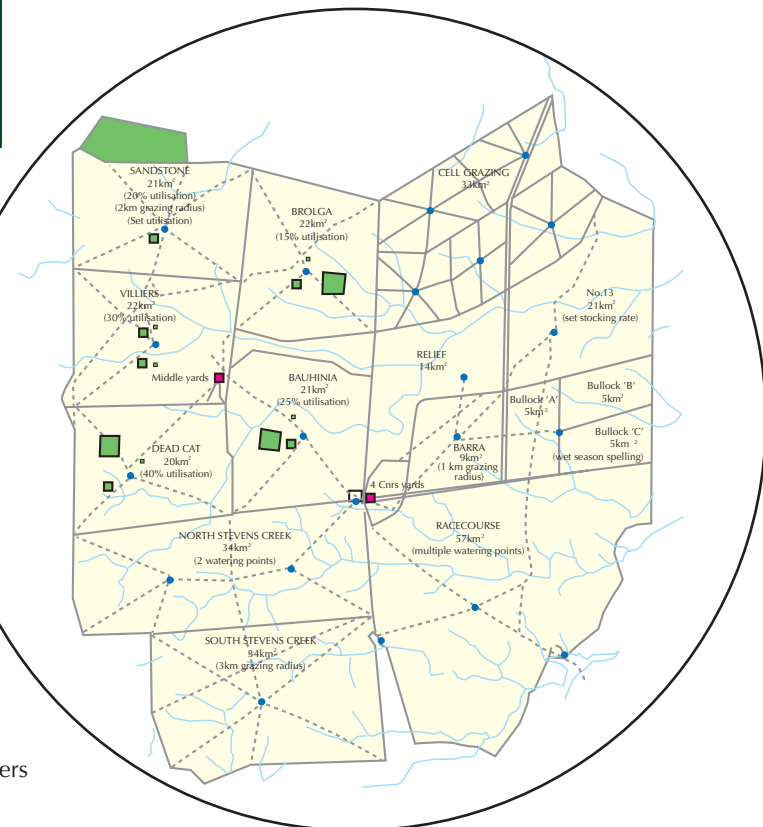
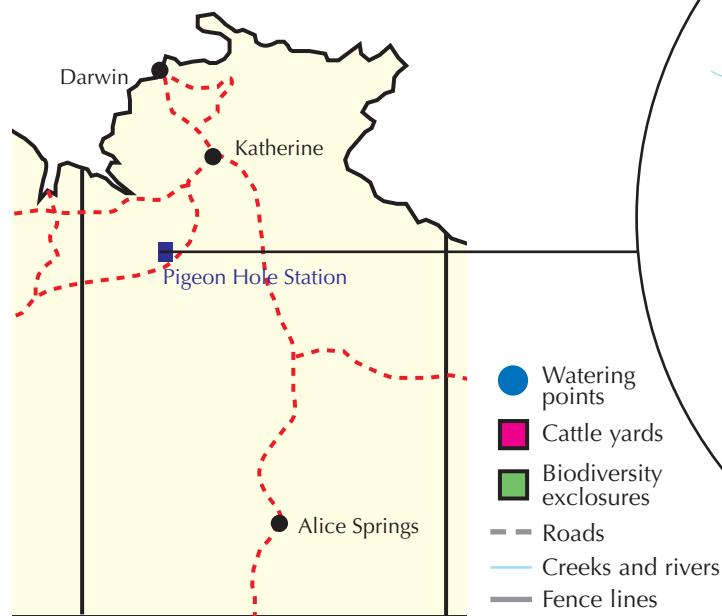
The world's smallest marsupial, the long-tailed Planigale on the Pigeon Hole site. It lives in cracks of black soil grassland areas. Photography courtesy of Alaric Fisher.



Drafting cattle on Mt. Sanford

Partners in Innovation

The Partners in Innovation Program aims to attract commercial investment from individual enterprises that is matched with Commonwealth research and development funds – producer levies are not used.



Current performance

In most extensive grazing systems, including the VRD, there is uneven use of pasture. This results from large numbers of stock grazing around watering points and their tendency to preferentially graze certain areas based on season, soil type and stage of growth. This uneven grazing pressure may result in pasture and land degradation and less-than-optimal livestock production. Poor grazing distribution and patch grazing are common within most extensively grazed paddocks.

It is estimated that only 10% of pasture growth in the VRD is consumed or utilised by cattle – a level far below more intensively managed areas of northern Australia. Results from a previous MLA-supported project undertaken by DBIRD on Heytesbury's Mt Sanford station in the VRD using small experimental paddocks suggest a higher level of pasture utilisation (20-30%) is sustainable, with a significant increase in beef productivity and profitability per unit area. This work is continuing as part of the Pigeon Hole project.

What's being done?

The Pigeon Hole project is a five-year study (2002-2007) being conducted on a commercial scale at Heytesbury's Pigeon Hole Station in the VRD.

The \$5.4 million project has been developed and jointly funded by Heytesbury Beef and MLA through the Partners in Innovation Program. In addition, DBIRD, DIPE, CSIRO, the VRDCA and the CRC for Tropical Savannas are also contributing significant resources to the project; and MLA's Northern Beef Program is supporting work that builds on the investment in the Pigeon Hole Project. The University of Queensland is also involved in the project through the provision of both post-graduate student supervision and specialist technical advice.

The project team is led by Dr Steve Petty from Heytesbury Beef and includes leading researchers in the fields of ecology, animal production, remote sensing and systems analysis.