

REHABILITATED MINE PASTURES CAN SUSTAIN ACTIVE GRAZING

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The grazing capacity of rehabilitated mine pastures is not fully known and, in many cases, the grazing benefits have not been fully documented. The Upper Hunter Mining Dialogue (UHMD) – a coalition of coal mining, agriculture, community and environmental groups, and local and state government representatives – had questions about the productivity and sustainability of mine pastures, and associated livestock production. There is also uncertainty around the potential for heavy metal residues to contaminate soil, pasture and livestock. Independent research was needed to address community concerns and provide the industry with quantitative data.

Industry target

- Return mined land to grazing
- Maximise productivity of rehabilitated mine pastures
- Achieve sustainable rehabilitated mine pastures

ACARP industry investment

- \$366,000 funding from ACARP was leveraged by funding from NSW Division of Resources and Energy and in-kind support from NSW Department of Primary Industries
- 2 projects over 4.5 years

Research results

- Project 1 confirmed that rehabilitated mined land in the Upper Hunter Valley can produce forage feed capable of sustaining healthy cattle, making the land suitable for grazing livestock
- Analysis of pasture samples found no heavy metal toxicities, near neutral soil pH and diverse pasture species
- Ground cover and weeds in rehabilitated mine pastures did not change, reflecting favourable stocking rates and seasonal conditions

- Cattle testing showed major minerals in the normal range and no heavy metal toxicity
- Furthermore, steers grazing on rehabilitated mine pastures gained more weight, had better condition (fat cover) and were worth more money than steers grazing on the analogue native pastures
- Project 1 attracted strong media interest at conferences and field days, demonstrating the high level of community and interest in the project
- Project 2, a review of rehabilitation practices and results at other Hunter Valley operations, is ongoing
- This project aims to determine whether rehabilitation at project 1 trial sites is representative of mine rehabilitation across the region, plus identify ways of improving practices when rehabilitating to pasture
- Seasonal (drought) conditions are making the project challenging

ACARP matters because

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Return on investment

- Certainty around the grazing capacity of rehabilitated mine pastures
- Documentation of the benefits of grazing on mine pastures
- Document ability to achieve productive and sustainable rehabilitated mine pastures
- Demonstrate ability to comply with community and government expectations for mine rehabilitation and the relinquishment of mine leases

Importance of ACARP

- Funds independent, quantitative research that addresses critical issues facing the coal industry, such as the ability to return mined land to grazing
- Contributes to sound science that forms that basis of reclamation methods and sustainable post-mining land uses
- Provides a mechanism for Australian coal producers to work collaboratively with community and government representatives to address post-mining land use challenges.

