Final report

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PDS Demonstrating productive, regenerative Burdekin grazing practices

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Abstract

Historical grazing management in the Bowen, Broken and Bogie River (BBB) catchment was a regime of large, set stocked paddocks, with opportunistic wet season spelling. Land condition was declining with increasing dominance of Indian couch (*Bothriochloa pertusa*) impacting on pasture quality and animal production.

Increasing numbers of graziers were seeking new grazing and business strategies to manage the challenges of remaining viable within a declining resource base. Regenerative graziers are using a wide range of increasingly sophisticated grazing management, business, and production approaches.

The project worked with a demonstration group of three regenerative graziers in the BBB catchment to support development and improvement of their regenerative grazing operations, with emphasis on application for the broader Burdekin Dry Tropics.

Remote sensing data generally indicated that, over the project period, land condition and ground cover outcomes for regenerative grazing practices are comparable to largely set stocked paddocks.

For Strathalbyn and Glenalpine Stations, stock numbers and productivity increased following changes to grazing management practices. At Dartmoor Station, larger mob sizes were operated for rotational grazing practice than with previous set stocking.

ProfitProbe data from Glenalpine showed improvements in a range of production and business metrics following changes in grazing practices.

In summary, the regenerative grazing practices were demonstrated to be as good as or better than previous set stocking practices on those properties, across a range of production and business measures, and applicable to the wider industry in the Burdekin Dry Tropics.

Executive summary

Background

Grazing management in the Bowen, Broken and Bogie River catchments (the BBB), centred on Collinsville, was historically a regime of large, set stocked paddocks, with opportunistic wet season spelling. Land condition was declining for decades with increasing dominance of Indian couch (*Bothriochloa pertusa*) impacting on pasture quality and animal production.

The BBB has the highest discharge of fine sediment loads of any of the Reef Catchments, resulting in the Queensland Government investing in a Major Integrated Project in the catchment (the Landholders Driving Change project).

Increasing numbers of graziers in the BBB were seeking new grazing and business strategies to manage the challenges of remaining viable within a declining resource base. Across the broader Burdekin Dry Tropics, many graziers have completed Grazing for Profit, Holistic Management or similar training, demonstrating their interest in regenerative grazing practices.

Regenerative graziers are now applying a wide range of increasingly sophisticated grazing management, business, and production approaches to their operations. Planning is undertaken using tools/measures such as: grazing charts (calculations of stock days per hectare per mm of rainfall), forage budgeting (knowing how many kilograms of feed is available), biological plans (timing of joining and weaning), grazing plans (knowing numbers of Large Stock Units, nutritional requirement of each category/class of animal, areas of paddocks, capacity of water infrastructure).

The project aimed to foster communication, peer to peer learning and practical interaction within the Collinsville region regenerative grazier network, influencing a wider network of about 35 like-minded graziers across the Burdekin Dry Tropics region.

This project assisted the Collinsville region regenerative grazier network to develop and progress their current regenerative grazing practices to the next level. The project worked with a demonstration group of three regenerative graziers in the BBB catchment to support the development and improvement of their regenerative grazing operation, with emphasis on demonstrating the suitability of application for the broader Burdekin Dry Tropics.

Objectives

By February 2025, in the Broken, Bowen and Bogie River Catchments of the Burdekin Dry Tropics:

1. Achieved

Four (reduced to three as one of the initial four properties withdrew from the project) grazing operations will demonstrate that planned livestock grazing programs, aimed at increasing soil biological activity and stimulating the production of high-quality pasture, are as good as or better than traditional set stocking practices across a range of performance measures (including kg red meat/hectare)

- in a range of grazing environments and at both a paddock and whole of property scale
- by varying the frequency and/or intensity of grazing events
- ensuring adequate pasture recovery & maintaining appropriate end of dry season ground cover

- undertaking simple measures of pasture production (e.g. forage budgets) and utilisation (e.g. stock days/ha/mm rainfall), improved comparative ground cover (e.g. VegMachine), land condition (Patchkey) and soil health measures on comparative sites.

2. Achieved

Evaluate herd performance and profitability (e.g. kg of production/ha and gross margins) of the demonstration practices against set stocked paddocks and through benchmarking against established regenerative grazing operations.

3. Achieved

Produce three case studies outlining the outcomes of the demonstrations at a range of scales i.e. site, paddock, and property.

4. Achieved

75% of the core businesses will adopt relevant aspects of the grazing practices and an additional 5 producers will trial the practices.

5. Achieved

Conduct a total of 5 field events, including an annual field day and other extension activities to showcase the demonstration site results.

6. Achieved

Through the field events, print and social media releases, interactions with the broader regeneration grazing network across the region (e.g. joint activities with Managed Grazing Program Grass Group members from other areas, active involvement, such as presentations, guest speakers, hosting visiting groups, with future NQ Dry Tropics and other relevant programs), promote and encourage adoption of key practices by 50 attendees participating in the project activities.

Methodology

The demonstration focus for the project was to trial, adopt and compare (to traditional set stocking practices) regenerative grazing practices at paddock and property scales, depending on the available property infrastructure and management capabilities of the demonstration enterprises.

Two enterprises, with established regenerative grazing practices, trialled some new approaches to compare with their current practices and they provided some peer-to-peer support and benchmarking for a transitioning property. ProfitProbe business/financial information was utilised for industry wide comparison on one of these enterprises.

The transitioning property progressed regenerative grazing practices and compared the outcomes with existing set stocking management practices on other parts of the property. The property committed dedicated paddocks to the project, with a dedicated breeding herd for implementing the regenerative grazing treatments. A nominated set stocking paddock on the property was initially utilised as a control (however, this paddock transitioned to a rotational grazing regime).

Results/key findings

Remote sensing data in monitored paddocks, for the three demonstration properties, generally indicated that land condition and ground cover outcomes for regenerative grazing practices are comparable to largely set stocked paddocks.

For both Strathalbyn and Glenalpine, stock numbers and productivity increased following changes to grazing management practices. At Dartmoor, larger mob sizes were operated for rotational grazing

practice than with previous set stocking across similar areas of grazed paddocks. In all cases no decline in groundcover of land condition was observed.

Grazing management observations included:

- Increased paddock numbers, from sub-division of larger paddocks, and widespread water point distribution led to greater (and more even) utilisation of pasture across the property and a reduction in preferential grazing in paddocks.
- More paddocks provided increased flexibility for herd and pasture management, including for paddock/landscape recovery especially for areas in poor land condition. This was assisted by the capacity to provide long pasture recovery periods for paddocks which increased annual pasture seed production, plant establishment and accumulation of pasture biomass during the wet season.
- Weed management/pasture improvement improved forage availability, nutrition and total pasture biomass. Long pasture recovery periods allowed the maintenance of, and longer-term production of, sown pastures.
- Forage budgeting and planned grazing practices appear to lead to better herd management decision making and optimum management of available pasture.
- Forage budgeting also informed and enabled stock adjustment and seasonally responsive grazing planning e.g. mob sizes reflective of rainfall patterns and flexibility in the number of animals run in any year.

The ProfitProbe data set from Glenalpine showed improvements in a range of production and business metrics following changes in grazing management practices.

- Consistency of meat produced per hectare was evident after 2016 at Glenalpine, with the steady rise in the three-year moving average pointing to an improved efficiency in turning rainfall into kilograms of beef.
- Prior to grazing management changes in 2014, margin per kg of beef sold at Glenalpine was very uneven. Since 2015, margin per kg of beef sold has been less volatile and shown an upward trend to $2.01/kg in 2023, the highest result achieved across 18 years of records.
- The cost of production at Glenalpine has trended lower than the average of other ProfitProbe producers utilising the platform since about 2016.

Grazier attendance, the grazier/presenter interactions, and the feedback from the project activities indicates the vital role that practical projects and grazier extension have in progressing new ideas and better practices for the grazing industry.

Benefits to industry

The regenerative grazing practices being utilised on the demonstration properties, and across properties within the Collinsville region regenerative grazier network, were demonstrated to be as good as or better than previous set stocking practices on those properties, across a range of production and business measures.

The practices can be broadly adopted as indicated by the changes of practice observed at the many field events (across seven local properties) and by the widespread adoption of regenerative grazing practices across the three core and another six project network properties.

Discussions with owners and managers of the regenerative grazing properties suggested that there was no simple "formula" or approach taken to regenerative grazing practices. There was emphasis on a range of principles which were applied to decision making. The main grazing management principles to emerge (and the actual practices being implemented) converged on the following:

- Increasing the distribution of watering points, in conjunction with fencing out smaller paddocks around each watering point.
- Planned rotation of cattle mobs. Size of mobs and duration of graze in each paddock needs to be based on forage budgeting while pasture "rest" (or recovery) periods tend to be much longer than a 1–2-month wet season spell.
- Retaining sufficient ground cover and pasture integrity to allow triggering of ongoing growth cycles e.g. through repeated short duration grazes.

Future research and recommendations

The related CSIRO research project found a dearth of scientific literature on regenerative grazing practices despite widespread adoption of regenerative grazing practices in Australia and the observed strong interest in the Burdekin region.

The recommendation from the CSIRO research project is relevant to the MLA PDS, and illustrative of the need to further investigate regenerative grazing practices in the Burdekin Dry Tropics, and more generally in northern Australia. "Although there are indications that regenerative grazing can lead to improvements in land condition, this study (the CSIRO project) does not enable us to conclude whether regenerative grazing will accelerate improvements compared with other best practice grazing land management approaches, and further research on the social and economic dimensions of regenerative grazing is needed."

The recorded production and business benefits of this PDS provides strong evidence that more detailed research on regenerative grazing practices in northern Australia should be undertaken.

PDS key data summary table

Project Aim:
Demonstrate that planned livestock grazing programs, aimed at increasing soil biological activity and stimulating the production of high-quality pasture, are as good as or better than traditional set stocking practices across a range of performance measures.

	Comments		Unit
Production efficiency benefit (impact)			
Animal production efficiency - kg LWT/ha	For Glenalpine, 3 year moving average increased from 19kg/ha 2011/12/13 to 24kg/ha 2021/22/23		Kg/ha
Stocking rate - LSUs carried	For Glenalpine, linear trendline for LSU's carried went from 5,100 in 2006 to 6,800 in 2023		LSUs carried
Brandings	For Strathalbyn, brandings went from 2,175 in 2016 to 5,160 in 2023		brandings/yr
Stocking rate – AE	For Strathalbyn, 6.43ha/AE in 2015 to 3.61ha/AE in 2024		ha/AE
Margin per kg sold	For Glenalpine, 3 year moving average increased from $0.50/kg sold 2011/12/13 to $1.60/kg sold 2021/22/23		$/kg sold
Number of core participants engaged in project	Dartmoor, Glenalpine (plus Lucie, Dingo), and Strathalbyn (plus Tabletop and Amberkolly, Collinsville, Wentworth, Clermont)	3	
Number of observer participants engaged in project	5 Mile, Bowen, Flagstone, Collinsville, Glencoe, Bowen, Salisbury Plains, Bowen, Woodlands, Bowen, Wyena, Moranbah	6	
Core group no. ha	In Bowen/Collinsville Districts plus Lucie, Dingo and Wentworth, Clermont	157,000	ha
Observer group no. ha	In Bowen/Collinsville Districts plus Wyena, Moranbah	48,000	ha
Core group no. cattle	All properties	20,000	breeders
Observer group no. cattle	All properties	5,000	breeders
% practice change adoption – core	All properties	100%	
% practice change adoption – observers	All properties	100%	

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1. Background

1.1 Context

Grazing management in the Bowen, Broken and Bogie River catchments (the BBB), centred on Collinsville, was historically a regime of large, set stocked paddocks, with opportunistic wet season spelling. Land condition was declining for decades with increasing dominance of Indian couch (*Bothriochloa pertusa*) impacting on pasture quality and animal production.

The BBB has the highest discharge of fine sediment loads of any of the Reef Catchments, resulting in the Queensland Government investing in a Major Integrated Project in the catchment (the Landholders Driving Change project).

Increasing numbers of graziers in the BBB were seeking new grazing and business strategies to manage the challenges of remaining viable within a declining resource base. Across the broader Burdekin Dry Tropics, many graziers have completed Grazing for Profit, Holistic Management or similar training demonstrating their interest in regenerative grazing practices.

Regenerative graziers are using a wide range of increasingly sophisticated grazing management, business, and production approaches to their operations. Planning is undertaken using tools/measures such as grazing charts (calculations of stock days per hectare per mm of rainfall) and more recently MaiaGrazing, forage budgeting (knowing how many kilograms of feed is available), biological plans (timing of joining and weaning), grazing plans (knowing numbers of Large Stock Units, nutritional requirement of each category/class of animal, areas of paddocks, capacity of water infrastructure).

Implementation of regenerative grazing practices included mobbing up of cattle, greater numbers of paddocks and watering points, planned grazing based on matching stock numbers to carrying capacity (forage production), higher density, short duration grazes with appropriate (often extended) pasture recovery periods, and retention of desired levels of ground cover at the end of the dry season. The practices required an integrated approach, and all facets of the enterprise were equally important.

The project aimed to foster communication, peer to peer learning and practical interaction within the Collinsville region regenerative grazier network, influencing a wider network of about 35 like-minded graziers across the Burdekin Dry Tropics region.

The project assisted the Collinsville region regenerative grazier network to develop and progress their current regenerative grazing practices to the next level. The project worked with a demonstration group of three regenerative graziers in the BBB catchment to support the development and improvement of their regenerative grazing operations, with emphasis on suitability of application for the broader Burdekin Dry Tropics.

1.2 Complementary project activities

NQ Dry Tropics programs and projects and a CSIRO research project complemented the PDS project.

A major NQ Dry Tropics program, the Landholders Driving Change (LDC) project, and a Reef Trust project “Stomping out Sediment in the Burdekin” provided financial support for many of the project’s activities, including an initial grant for properties through the LDC project and co-funding for some field events, to increase grazier participation. The LDC financial contribution ($25,000 project investment/property) allowed the completion of paddock subdivisions and improvements to water point distribution.

CSIRO was funded through the Great Barrier Reef Foundation to undertake a two-year research project entitled “Do innovative regenerative grazing management practices improve vegetation and soil health in grazed rangelands? Preliminary insights from a space for time study in the Great Barrier Reef catchments”, which included the participation of two of the properties from the PDS project. Insights from the PDS project assisted in the establishment of the research project, and data and learnings from the research are directly relevant to the outcomes of this project. The research was published as Bartley R et al. (2023) The Rangeland Journal doi:10.1071/RJ22047.

2. Objectives

By February 2025, in the Broken, Bowen and Bogie River Catchments (the BBB) of the Burdekin Dry Tropics:

1. Four grazing operations will demonstrate that planned livestock grazing programs, aimed at increasing soil biological activity and stimulating the production of high-quality pasture, are as good as or better than traditional set stocking practices across a range of performance measures (including kg red meat/hectare)
    - in a range of grazing environments and at both a paddock and whole of property scale
    - by varying the frequency and/or intensity of grazing events
    - ensuring adequate pasture recovery & maintaining appropriate end of dry season ground cover
    - undertaking simple measures of pasture production (e.g. forage budgets) and utilisation (e.g. stock days/ha/mm rainfall), improved comparative ground cover (e.g. VegMachine), land condition (Patchkey) and soil health measures on comparative sites.

One of the original (four) demonstration properties was sold and was replaced with an alternative property prior to project commencement. The replacement property then withdrew from the project after commencement and was not replaced, leaving three participating properties.

2. Evaluate herd performance and profitability (e.g. kg of production/ha and gross margins) of the demonstration practices against set stocked paddocks and through benchmarking against established regenerative grazing operations.

Resource Consulting Services (RCS) provided analysis of Glenalpine’s ProfitProbe results and Dick Richardson, Nature’s Equity, provided grazing planning and stock movement analysis from MaiaGrazing records for Strathalbyn and Dartmoor.

The outcomes from the project indicate that the planned livestock grazing programs implemented on the three demonstration properties were as good as or better than the traditional set stocking practices previously utilised on those properties, across a range of performance measures.

3. Produce three case studies outlining the outcomes of the demonstrations at a range of scales i.e. site, paddock, and property.

Three written case studies were produced.

4. 75% of the core businesses will adopt relevant aspects of the grazing practices and an additional 5 producers will trial the practices.

All three core businesses adopted the grazing practices, and an additional six producers trialled and adopted the practices.

5. Conduct a total of 5 field events, including an annual field day and other extension activities to showcase the demonstration site results.

There was a total of nine field events/workshops delivered, and an additional event was held in the project area but was funded through another project as the PDS project had insufficient funds to deliver.

6. Through the field events, print and social media releases, interactions with the broader regenerative grazing network across the region (e.g. joint activities with Managed Grazing Program Grass Group members from other areas, active involvement, such as presentations, guest speakers, hosting visiting groups, with future NQ Dry Tropics and other relevant programs), promote and encourage adoption of key practices by 50 attendees participating in the project activities.

All activity areas were achieved, including the attendance of over 210 people at project events representing 50 properties.

3. Demonstration Site Design

3.1 Methodology

The project commenced in May 2020 with final project activities occurring in late 2024. The demonstration focus for the project was to trial, adopt and compare (to traditional set stocking practices) regenerative grazing practices at paddock and property scales, depending on the available property infrastructure and management capabilities of the demonstration enterprises.

Two enterprises with established regenerative grazing practices, Strathalbyn and Glenalpine Stations, trialled some new approaches to compare with their current practices (also comparing some remaining “set stocked” paddocks) and they provided some limited peer to peer support and benchmarking for the transitioning property, Dartmoor Station.

The transitioning property, Dartmoor Station, was initially largely set-stocked but progressively introduced regenerative grazing practices across the whole property, utilising MaiaGrazing as a grazing planning tool for herd movements. Dartmoor initially committed dedicated paddocks, and an attached breeding herd, to the project. A nominated group of set stocked paddocks, associated with another breeding herd, was utilised as a control, although a rotational grazing regime was quickly applied to these paddocks as well.

All properties utilised the grazing management software MaiaGrazing to plan and record stock moves and to provide forecasting and analysis of pasture utilisation and productivity.

Glenalpine made ProfitProbe information available for industry wide comparison of financial performance. ProfitProbe is a management accounting tool managed by Resource Consulting Services (RCS) providing an in-depth analysis of costs and profitability of a business and allowing comparison of an enterprise’s performance against aggregated data of peer properties.

Grazing management practices were dependent on properties having suitable numbers of paddocks and stock watering capacity to apply planned rotational grazing practices. Regenerative grazing treatments were based on:

- Matching stocking rate to carrying capacity (as determined by forage budgeting)
- Applying an adaptive grazing program featuring graze periods with pasture recovery periods (no grazing), considering seasonal and herd performance parameters:

- Graze periods varied based on livestock classes, seasonal and pasture conditions, graze objectives e.g. liveweight gains, reduction of old standing pasture, maintaining pasture quality, reduction of selective grazing, applying herd impact etc.
- Pasture recovery periods varied based on seasonal factors, particularly soil moisture and pasture growth conditions, livestock nutritional requirements, and landscape function goals e.g. plant germination and establishment, remediation of scalded and eroded sites etc.
- Trialling the effectiveness and applicability of "herd mobbing" and other paddock treatments (as advised by consultant Dick Richardson using his Grazing Naturally principles) and contrasting the outcomes with existing management practices across a range of performance measures.

- Retaining suitable ground cover at the end of the dry season.

3.2 Economic analysis

ProfitProbe analysis for Glenalpine Station provided an 18-year financial dataset of the business and profitability outcomes for that enterprise, as an example of the impacts of applying regenerative grazing principles on business performance.

3.3 Extension and communication

Three case studies outlining the outcomes of the demonstrations at a range of scales i.e. site, paddock, and property produced and distributed to the key audience.

Case studies were produced, part funded through the Landholders Driving Change project, for the three core demonstration properties.

75% of the core businesses have adopted relevant aspects of the grazing practices and an additional 5 producers have trialled the practices.

All three core businesses (100%) are adopting the grazing practices.

The owners of core property Glenalpine Station implement regenerative grazing practices across the whole property. Additionally, Lucie Station, Dingo was purchased in 2022 where regenerative grazing practices are also applied.

Wentworth Cattle Co., the owners of core property Strathalbyn Station, adopted similar grazing practices across all properties owned and managed by the Company in the Collinsville and Clermont areas. This includes Tabletop, Collinsville (purchased from another regenerative grazing operation in 2019), Amberkolly, Collinsville, purchased in 2022, and the home property Wentworth, Clermont.

Core property Dartmoor Station utilised regenerative grazing practices across the Solar group of demonstration paddocks and progressively implemented regenerative grazing practices across the whole property.

Six grazing properties within the project network are utilising regenerative grazing practices across their whole property. They include:

- 5 Mile, Bowen (attended the RCS workshop, Bowen September 2022, Woodlands field day April 2023, Strathalbyn field day April 2024)
- Flagstone, Collinsville (attended the Glenalpine field day May 2021, RCS workshop, Bowen September 2022, Salisbury Plains field day October 2023)

- Glencoe, Bowen (hosted informal event May 2022, attended the RCS workshop, Bowen September 2022, hosted a field day October 2022, Woodlands field day April 2023)
- Salisbury Plains, Bowen (attended the Glenalpine field day May 2021, hosted informal events May 2022, RCS workshop, Bowen September 2022, Glenalpine field day April 2023, hosted a field day October 2023) and have actively adopted new practices and installed new infrastructure largely based on the experiences of Glenalpine Station
- Woodlands, Bowen (hosted a field day April 2023, and attended Strathalbyn field day April 2024)
- Wyena, Moranbah (attended Glenalpine field day April 2023, Salisbury Plains field day October 2023, Strathalbyn field day April 2024) and are actively implementing practices demonstrated through this project.

Nine field events of a target of 5 field events, including an annual field day and other extension activities to showcase the demonstration site results, were successfully held.

There was a total of nine field events/workshops delivered, and an additional event was held in the project area but was funded through another project as the PDS project had insufficient funds to deliver the scope of the event.

Through field events, print and social media releases (at least an annual media release/social media post), interactions with the broader regeneration grazing network across the region have promoted and encouraged adoption of key practices by 50 attendees participating in the project activities.

- Flyers were widely distributed, as well as NQ Dry Tropics Facebook posts to promote the events while posts on Twitter/X and Facebook provided commentary post the events.
- 50 properties attended one or more project event.
- An update on the project was provided to the North Australia Beef Research Council in October 2022.
- Project stories were included in the NQ Dry Tropics Landholders Driving Change online newsletter “the Grit” in Winter 2021, Summer 2022, Winter 2023, Summer 2023 and Winter 2024.

3.4 Monitoring and evaluation

Land condition

It was initially proposed to establish permanent transects (e.g. utilising the CSIRO developed Patchkey monitoring technique) and other fixed transect monitoring techniques to monitor land condition on demonstration sites. However, complementary projects involving Strathalbyn and Glenalpine Station provided some insights into the biophysical monitoring outcomes for regenerative grazing using some of the proposed monitoring techniques. Due to the predominance of Indian couch in pastures, the value of Patchkey as an indicator of land condition change in the short term was questioned by the results.

The 6-year NQ Dry Tropics Stomping out Sediment project monitored two Patchkey sites at Glenalpine Station. CSIRO’s Patchkey landscape condition score was utilised for analysis of the Patchkey data. Over four years of project sampling 2019-2022, there was little difference in land condition score between a planned grazing and a stock exclusion site, despite considerable pasture utilisation (and animal production) from the grazed paddock.

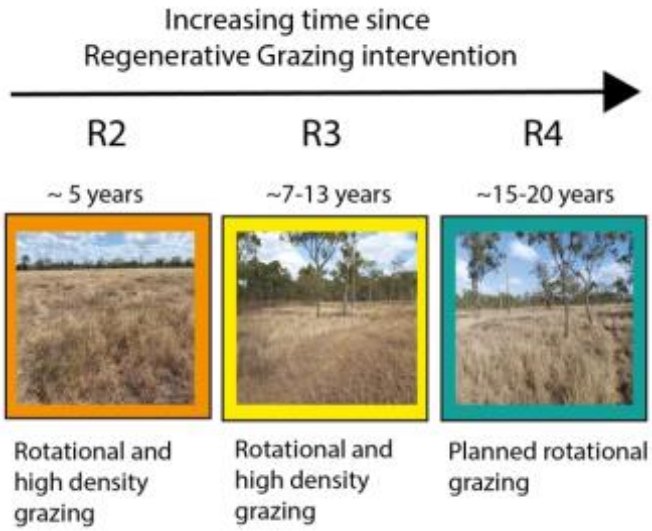
Similarly, at Strathalbyn Station, Patchkey data analysis for a degraded black soil flat again indicated little difference in land condition score between an ultra-high density grazing site and a stock exclusion site, over five years of sampling.

CSIRO - supporting project

In 2020 and 2021, CSIRO undertook a study "Do regenerative grazing management practices improve vegetation and soil health in grazed rangelands? Preliminary insights from a space-for-time study in the Great Barrier Reef catchments, Australia", published in January 2023 (Bartley R et al. 2023, The Rangeland Journal). Both Strathalbyn and Glenalpine were cooperators in this study based on their adoption of regenerative grazing practices - see Figure 1.

CSIRO noted "despite evidence supporting the benefits of regenerative grazing practices, many of the publications demonstrating scientifically robust changes are from temperate or sheep grazing systems, and there is limited evidence from the more climatically variable seasonal dry tropics region of northern Australia which represents ~60% of the total Australian beef cattle herd". The researchers concluded that their "study focused on bio-physical outcomes that could be achieved over time with elements of regenerative grazing and demonstrated that some attributes respond quicker to improved land management (e.g. percentage ground cover); however, converting these changes into sustained and measurable improvements in vegetation, soil and land condition is challenging. It is likely going to take between 3 and 15 years for key vegetation metrics to respond to changed grazing management, and in the order of 5–20 years to be able to confidently detect changes in soil condition".

Figure 1: CSIRO study properties included a range of time frames since adoption of regenerative grazing practices. From a Great Barrier Reef Foundation webinar by Dr. Rebecca Bartley, June 2022.

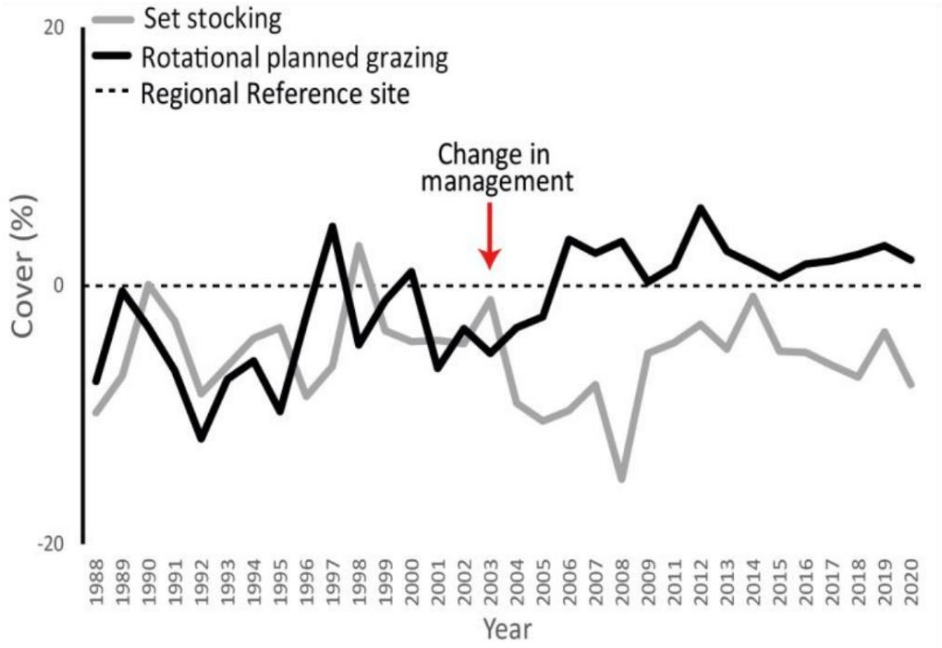


The R2 and R3 properties' regenerative grazing treatment sites showed statistically significant improvements in many of the vegetation attributes investigated, including biomass, cover, litter cover and species diversity, yet percentage basal area had not changed at these sites at the time of the study, probably due to the dominance of Indian couch.

Remote sensing tools, such as the dynamic reference cover method (Landsat-derived cover), were utilised by CSIRO for the two-year research project. End of dry season ground cover (approx. September) at each of the set stocking and regenerative grazing (rotational planned grazing) research sites for the R2, R3 and R4 properties were calculated using dynamic reference cover. Cover percentage for the research sites at the three properties were graphed against time, providing evidence for the differences between set stocking and regenerative grazing practices.

The cover percentage curve for the regenerative grazing (rotational planned grazing) treatments trended above the set stocking curve following the adoption of the regenerative grazing practices for the R3 and R4 properties, with an uptick in the cover percentage for R2 in 2019 and 2020. CSIRO noted that there was a time lag (up to 5 years) in the cover response following changed practices.

Figure 2: Example of dynamic reference cover for property R4 (15-20 years of regenerative grazing practices). From a Great Barrier Reef Foundation webinar by Dr. Rebecca Bartley, June 2022.



The property R4 (in the same district as Glenalpine) showed a markedly improved ground cover footprint for the rotational planned grazing practices in comparison to the set stocking control site and compared favourably to the regional reference site (the dotted line) Fig. 2.

The dynamic reference cover method and VegMachine data were utilised for the Stomping out Sediment project and were probably better/more responsive to grazing practice changes than the initially proposed monitoring techniques for this project and were also climate reflective.

In early 2022, it was therefore concluded that remote sensing was the sensible way to proceed for the monitoring of land condition for this project.

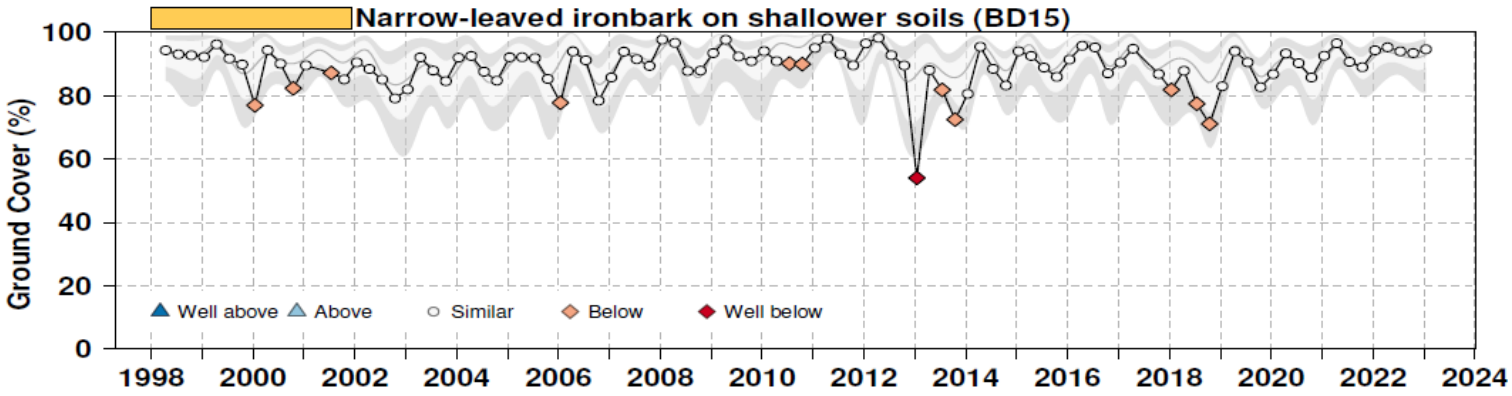
Remote Sensing tools

Remote sensing tools utilised to monitor project land condition changes included VegMachine FORAGE reports. FORAGE reports can be used to show a paddock's median ground cover changes over time for land types and can provide a comparison of ground cover between paddocks. The comparative data can be dependent on forage utilisation, so needs to be considered with reference to stock movements, mob sizes and grazing time in a paddock.

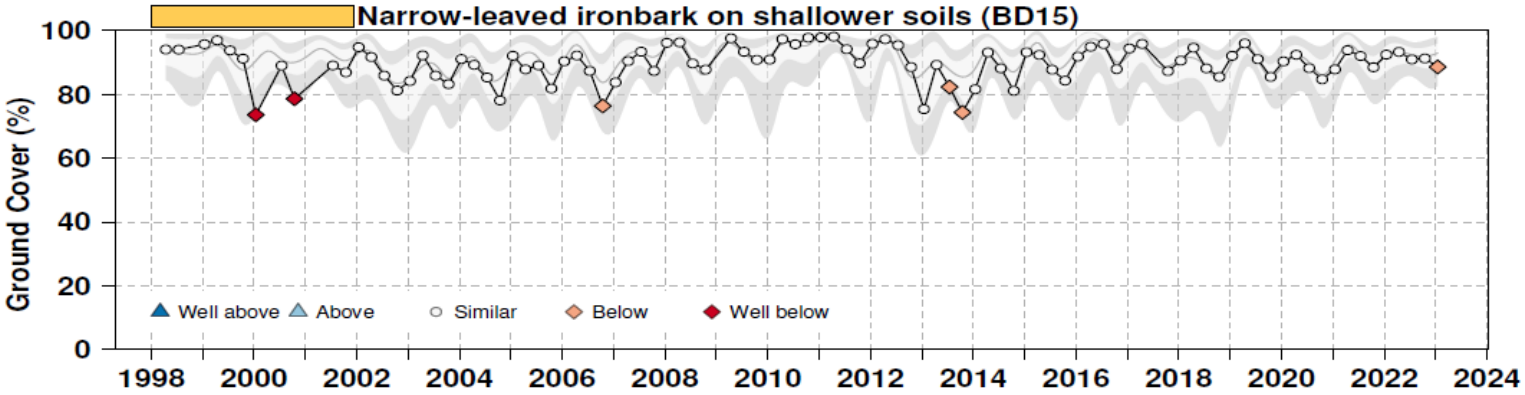
For Dartmoor, largely set stocked Oaky paddock (1370ha) and planned rotational grazing Solar MT paddock (850ha) were used for monitoring purposes, with two main land types. Dartmoor was predominantly set stocked prior to 2019 with some seasonal spelling of paddocks.

The Solar group of paddocks commenced planned rotational grazing in March 2019. Solar MT paddock is one of seven paddocks in the rotation. Oaky paddock was historically set stocked but became part of a rotational grazing practice from September 2021. Figure 3 shows the regional ground cover reports for both paddocks for the *narrow-leaved ironbark on shallower soils* land type.

Figure 3: VegMachine FORAGE regional ground cover reports 1998-2023 for the Dartmoor narrow-leaved ironbark on shallower soils land type - largely set stocked Oaky paddock and planned rotational grazing Solar MT paddock. Data points are in relation to a regional comparison.



Dartmoor Oaky paddock (1370ha largely set stocked until September 2021)



Dartmoor Solar MT paddock (850ha largely set stocked then planned rotational grazing from 2019)

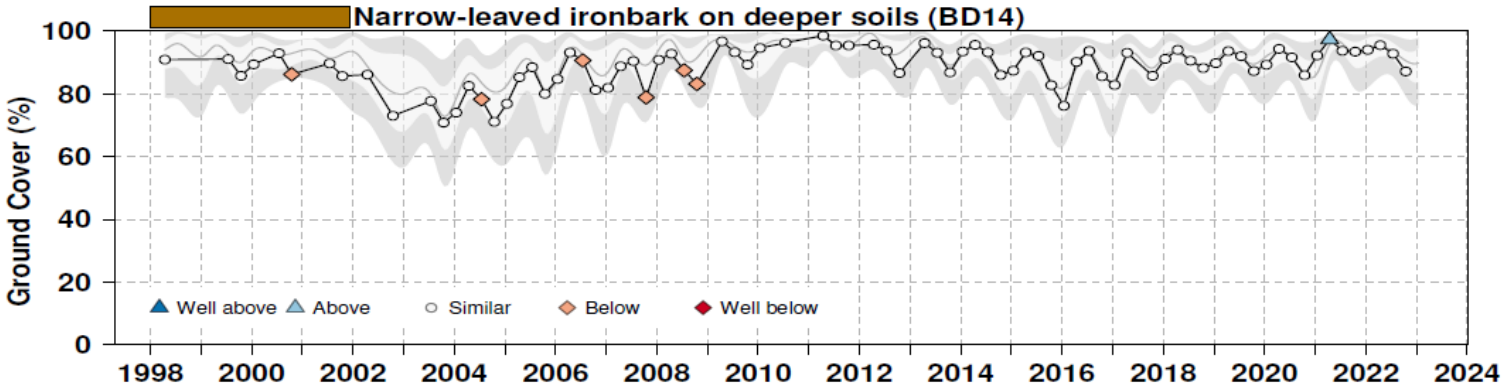
Oaky paddock is occasionally below regional ground cover and in 2013 one data point was well below regional ground cover. Generally, Solar MT had good cover levels in comparison to regional ground cover for the past 10 years and both paddocks generally performed well in comparison to regional ground cover after rotational grazing practices commenced.

For Glenalpine, the Hospital and project paddocks, and Jim's paddock were used to monitor ground cover under different grazing approaches. In early 2019, Hospital Back paddock (100ha) and several other paddocks (the project paddocks) were subdivided off a larger paddock, where rotational grazing practices commenced from about 2014. Jim's paddock (110ha) is a largely set stocked paddock, with periodic seasonal spelling, where a range of stock numbers and stock classes are grazed based on available forage.

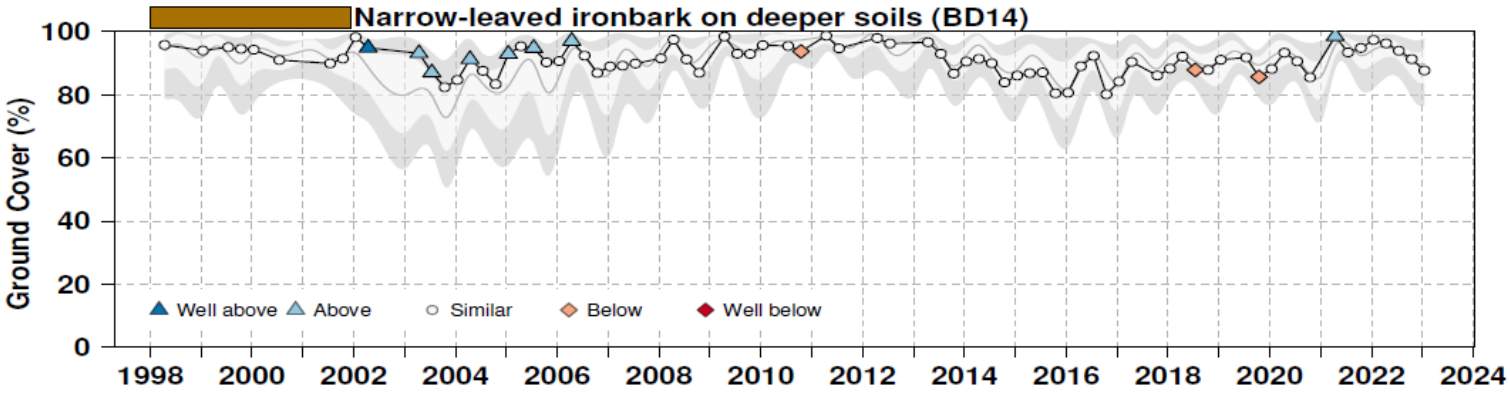
For the *narrow-leaved ironbark on deeper soils* land type, the FORAGE regional ground cover reports for the Hospital Back paddock area (100ha planned rotational grazing from about 2014) and Jim's paddock (110ha largely set stocked), indicate that prior to about 2010 ground cover in the Hospital Back paddock area was consistently lower than in Jim's paddock. Data points are in relation to a regional comparison e.g. 6 data points were below the regional comparison for the Hospital Back paddock area prior to 2010, and one data point was above the regional comparison in about 2021.

The Hospital Back paddock area's ground cover percentage improved from about 2010, and ground cover percentages were consistently like or better than Jim's paddock after planned rotational grazing practices were introduced in the Hospital Back paddock area from about 2014 (Figure 4).

Figure 4: VegMachine FORAGE regional ground cover reports 1998-2023 for the Glenalpine narrow-leaved ironbark on deeper soils land type - planned rotational grazing Hospital Back paddock area and set stocked Jim's paddock.



Glenalpine Hospital Back paddock area (100ha planned rotational grazing from about 2014)



Glenalpine Jim's paddock (110ha largely set stocked)

Figure 5 graphs the FORAGE ground cover comparison data for Glenalpine's Jim's paddock (110ha, largely set stocked) and the Hospital and project paddocks (about 480ha) where planned rotational grazing was practiced from about 2014, with the paddocks sub-divided from a larger paddock in early 2019 to give additional rotation options.

Over the 10 years of ground cover data, there is little ground cover difference between the two paddock areas.

CSIRO provided dynamic reference cover data for Strathalbyn Station (Figure 6), based on the Stomping out Sediment project paddocks, and paddocks investigated in the 2020/21 CSIRO research project - the largely set stocked Lord's paddock, and Bonnie Doon planned rotational grazing paddock.

Figure 5: FORAGE ground cover comparison reports 2013-2023 for Glenalpine's Jim's paddock (100ha largely set stocked) and the Hospital and project paddocks (480ha planned rotational grazing from about 2014, with additional project paddocks sub-divided in late 2019).

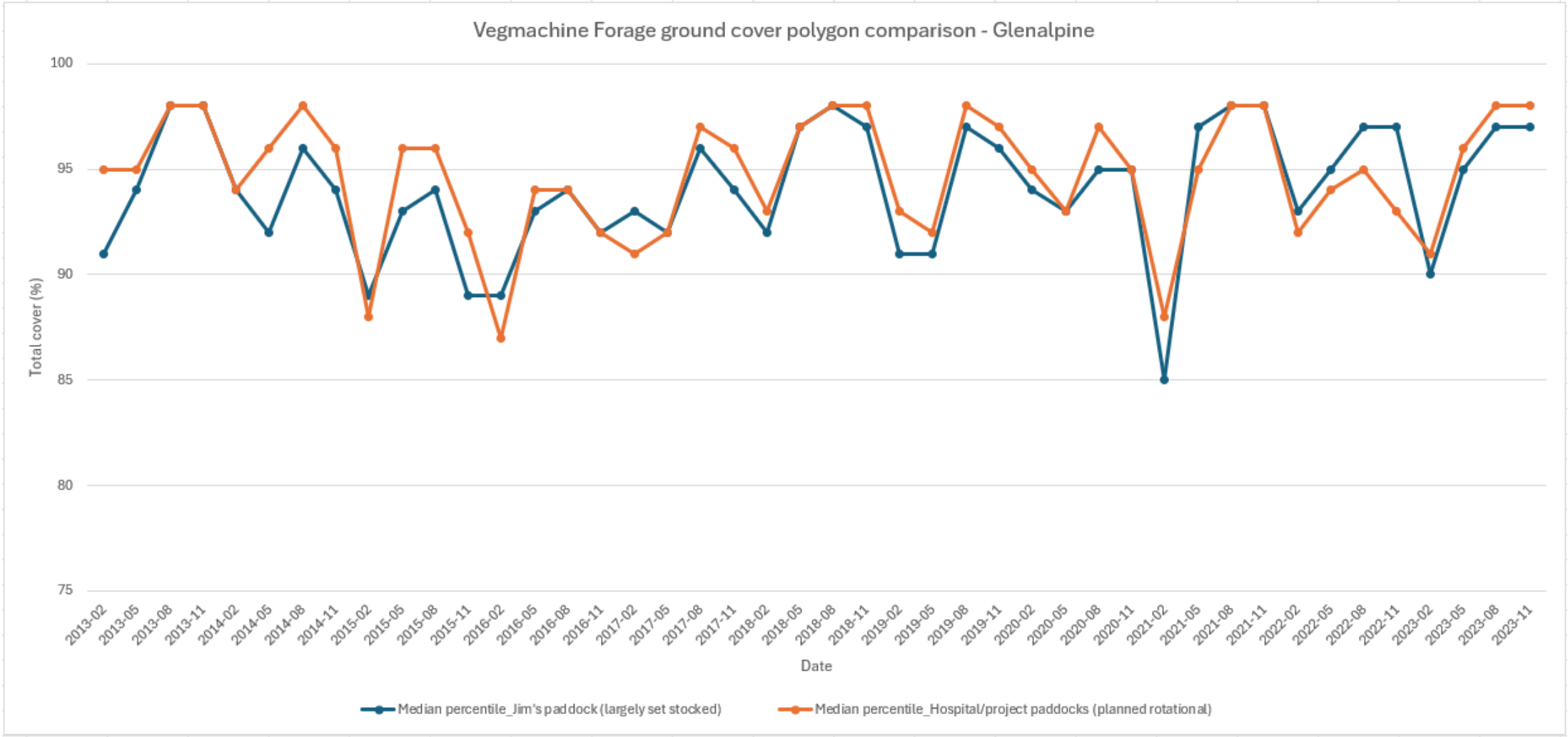
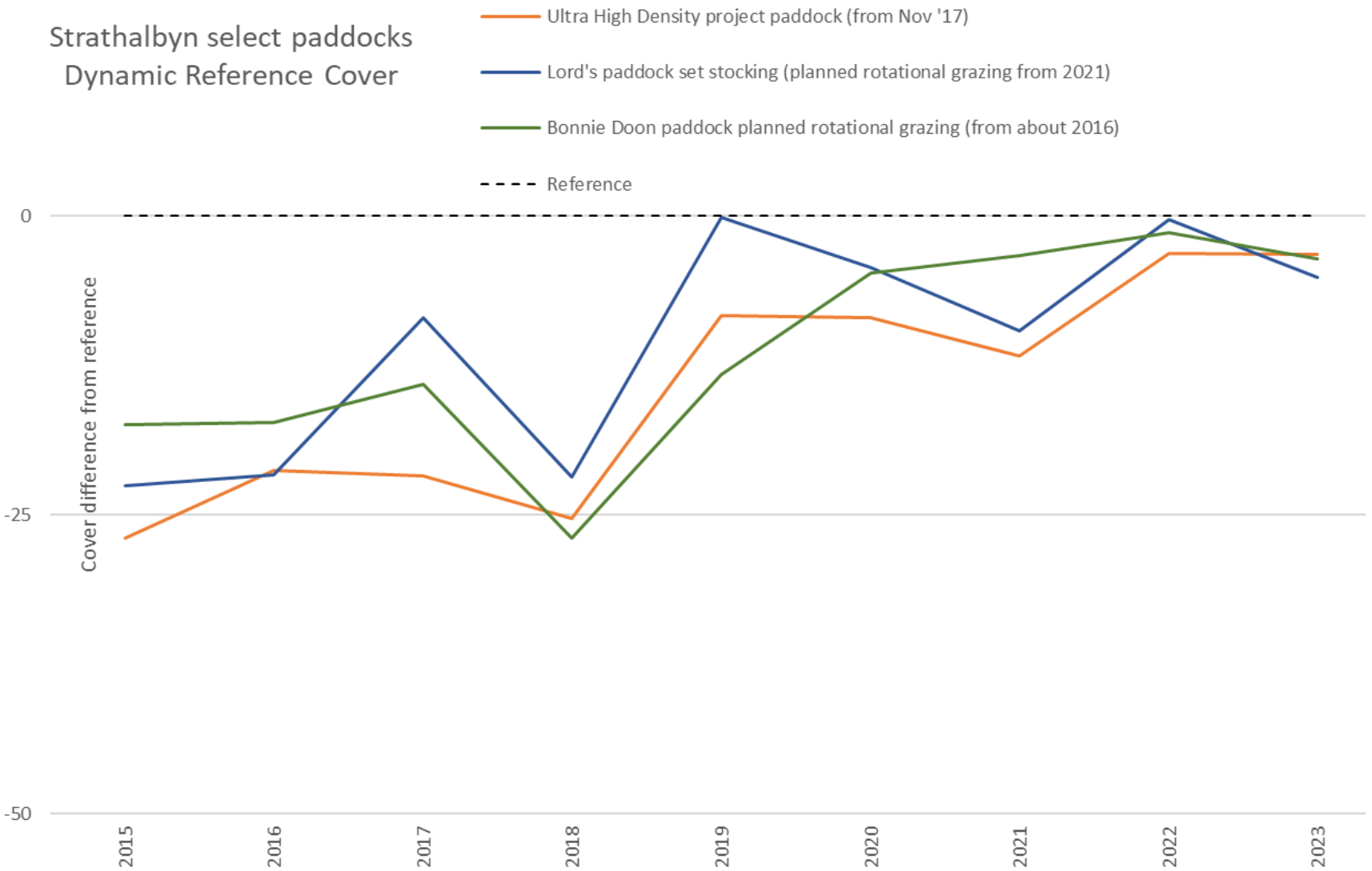


Figure 6: Dynamic reference cover for Strathalbyn 2015-2023 for the Stomping out Sediment ultra-high density project paddock, Lord's paddock largely set stocking (to 2021) and Bonnie Doon planned rotational grazing paddock (courtesy Brett Abbott, CSIRO Townsville).



As 2017/18 experienced a very poor wet season, the Stomping out Sediment ultra-high density project paddocks were very bare when the paddocks were fenced in early 2018. The paddocks progressively showed cover improvement from high density grazing treatments and long periods of stock exclusion. Largely set stocked (with seasonal spelling) until 2021, Lord's paddock was equally affected by the very dry 2017/18 wet season but generally had higher ground cover than the other paddocks until 2020. Bonnie Doon paddock management changed in about 2016, following its subdivision off a larger paddock, with the implementation of a planned rotational grazing practice. Cover improved following the very dry 2017/18 wet season and did not collapse like the other paddocks during 2021. All paddocks had similar ground cover results for 2022 and 2023.

Remote sensing data in monitored paddocks, for the three project demonstration properties, generally indicated that land condition and ground cover for regenerative grazing practices are comparable to largely set stocked paddocks.

Paddock records

Paddock records were recorded through grazing management software MaiaGrazing, providing an accurate reflection of paddock management and stock moves, and providing forecasting and analysis of pasture utilisation and productivity. Dick Richardson, Nature's Equity, provided grazing planning advice and stock movement analysis from the MaiaGrazing records for Dartmoor Station.

Evaluation of activities

Participants provided feedback on many of the field events, particularly the larger events, including the Glenalpine field day in 2021, the Strathalbyn field days in 2021 and 2024, and the RCS workshop in 2022.

The three core project producers participated in a post project survey.

4. Results

4.1 Demonstration site results

Strathalbyn Station

The 32,000ha Strathalbyn was purchased by the Hughes family in 2004 when the property had about 10 paddocks and was set stocked, with occasional wet season spelling. When a new, planned, rotational grazing system commenced in about 2015, adopting Dick Richardson's Grazing Naturally approach and with stock numbers based on forage availability, there were about 18 paddocks.

Over the next five years, around 150km of fencing, 90km of piping, installation of 60 troughs and 25 new tanks (creating a connected network of watering points and close to 70 paddocks), reduced grazing 'hot spots' and ensured more even distribution of grazing pressure. This enabled greater utilisation of the whole property and reduced over-utilisation, particularly on productive heavy clay soils.

Further subdivision of paddocks and installation of additional water infrastructure occurred, including as an initial activity for this project, and management of several thousand ha's of serious weed infestations (mainly rubber vine on black soils and dense belly ache bush off the Burdekin River and tributaries) and subsequent pasture improvement of the treated areas (seed mixes included legumes, improved pasture species, and high value species such as forage and silk sorghums) created improved grazing conditions across the property.

There was significant input into the weed management program through the MLA PDS project P.PSH.2003 *Cooperative, integrated weed management in the BBB catchment*. Since 2015, the property has also rapidly transitioned from a largely Brahman based herd to a fully Wagyu herd.

In 2015 when the property was still largely set stocked (with some wet season spelling), about 3,700 females were pregnancy tested - see Figure 7. By 2017, approximately 6,000 largely Wagyu infused females were pregnancy tested, and the numbers peaked at over 7,200 in 2020 (with nearly 5,200 calves branded from 5,450 PTIC), by which time there were 69 paddocks following extensive sub-divisional and water infrastructure development. Female numbers reduced from 2022 after the purchase of Collinsville property Amberkolly, when trucking of heifers from Strathalbyn commenced to restock Amberkolly.

In 2015 around 1,742,000 live kg were carried on Strathalbyn and this peaked at 3,393,000kg in 2020. There was a slight decline from 2022 as heifers were trucked to Amberkolly, with 3,023,000kg in 2023, but there has been a steady increase in live kg carried since 2015.

Using a standard 350kg animal weight, the stocking rate at Strathalbyn has almost doubled in the last 10 years and has remained reasonably steady at around 3.5ha to 1 AE since 2020. The improvement in stocking rate has been largely independent of rainfall, which has varied considerably over the 10-year period (example, for Bonnie Doon paddock rainfall gauge - 288mm in 2016, 330mm in 2018, 576mm in 2020, with a high of 790mm in 2022). See Figure 8.

Cause and effect for the improvements in livestock production is difficult to assign however:

- Increased paddock numbers, from sub-division of larger paddocks, and widespread water point distribution led to greater (and more even) utilisation of pasture across the property and a reduction in preferential grazing in paddocks.
- More paddocks provided increased flexibility for herd and pasture management, including for paddock/landscape recovery especially for areas in poor land condition. This was assisted by the capacity to provide long pasture recovery periods for paddocks which increased annual pasture seed production, plant establishment and accumulation of pasture biomass during the wet season.
- Weed management/pasture improvement improved forage availability, nutrition and total pasture biomass. Long pasture recovery periods allowed the maintenance of, and longer-term production of, sown pastures such as forage and silk sorghums.
- Forage budgeting and planned grazing practices appear to lead to better herd management decision making and optimum management of available pasture.

Figure 7: Females pregnancy tested at Strathalbyn and brandings 2015 - 2024 with linear trend lines.

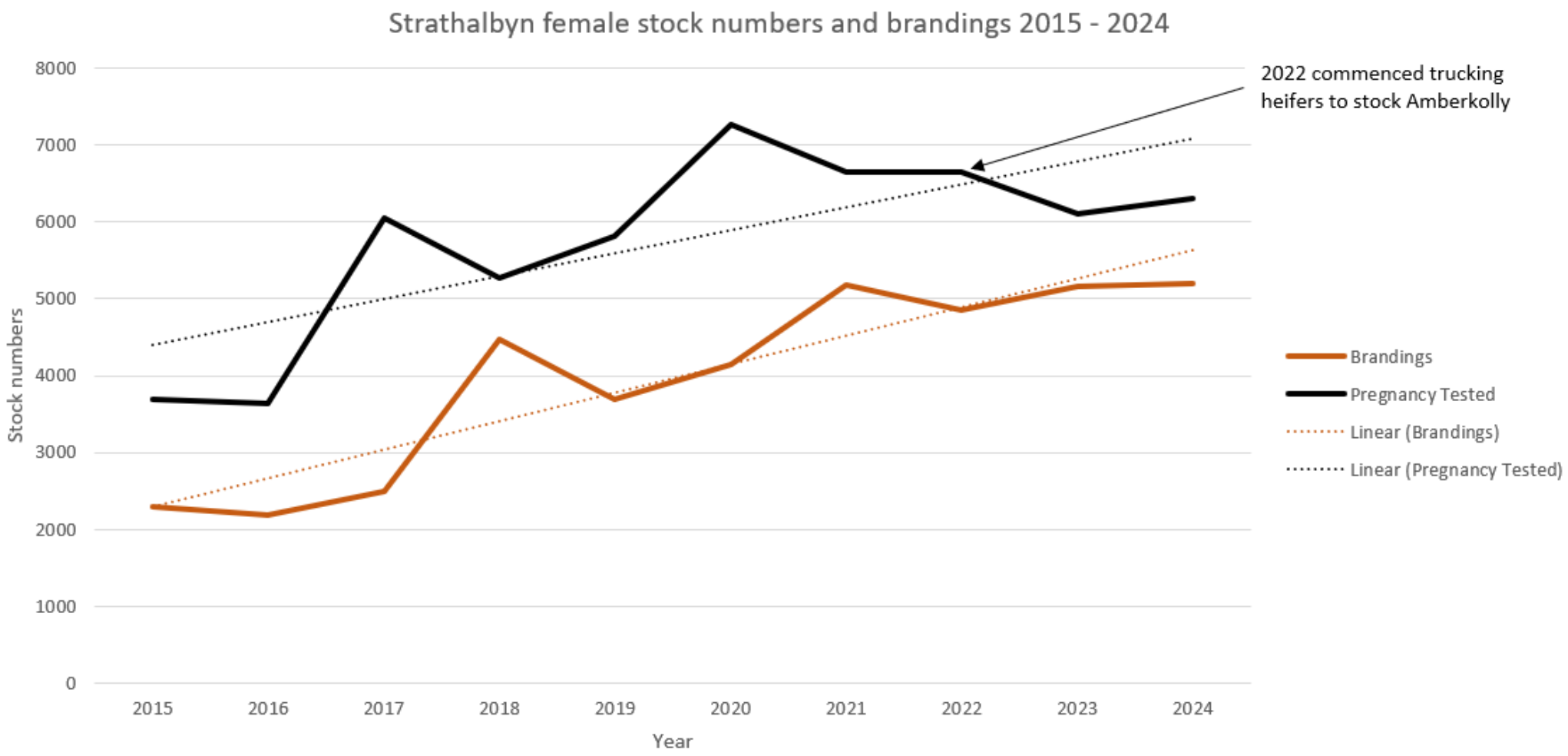
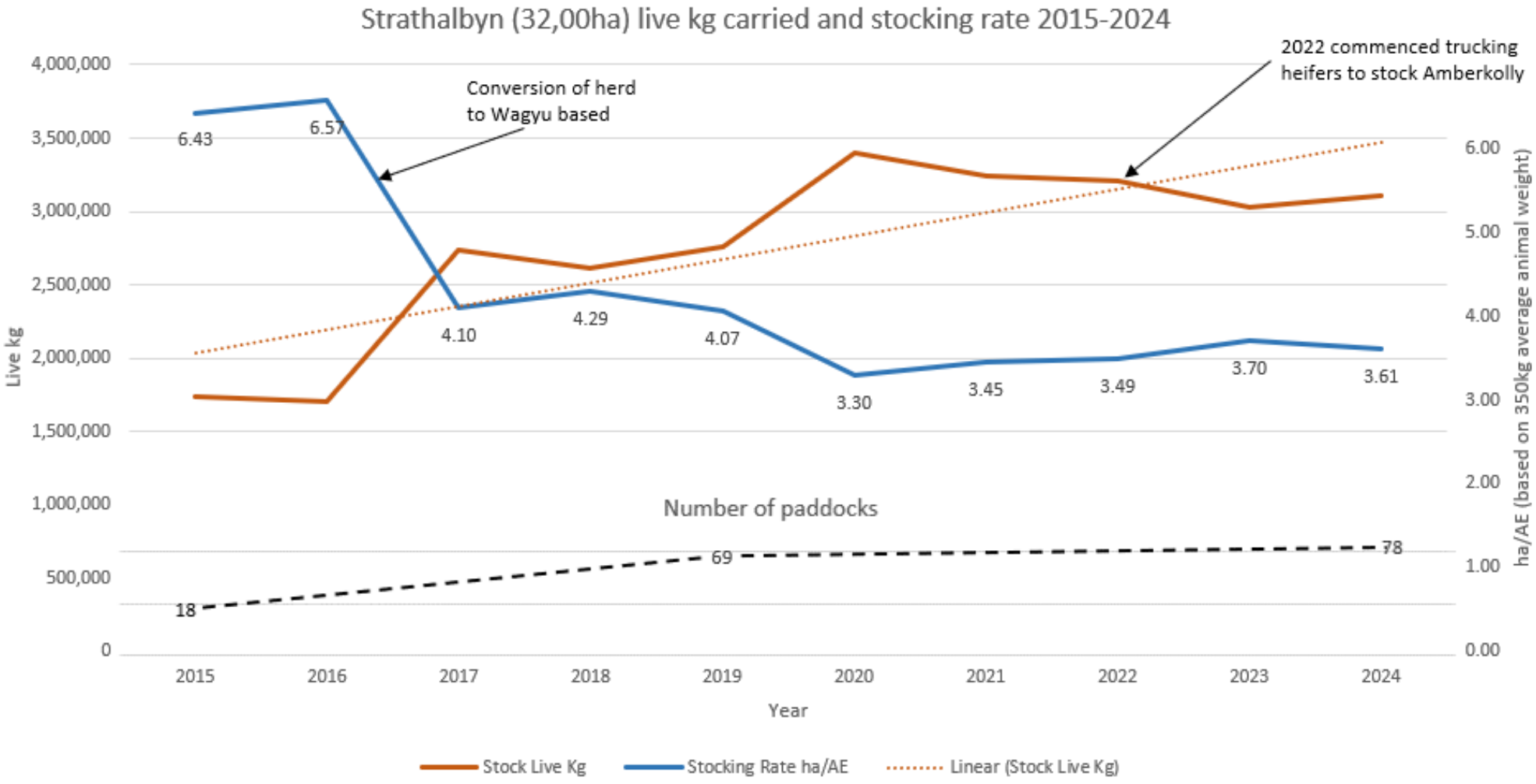


Figure 8: Live kg produced at Strathalbyn and stocking rate based on a 350kg average animal weight 2015 - 2024 and linear trend line for live kg.



Dartmoor Station

Dartmoor joined the project in early 2020 but the property changed hands in August 2020. The new owners continued with the project, with the property managers overseeing grazing planning and implementation. Livestock numbers were disrupted during the change over from the end of 2020 to early 2021 and cattle type also changed. Additionally, the practice of set stocking was reviewed by the new landholders and was changed to a rotational grazing practice. Paddock moves were largely based on forage budgets and planned (and recorded) via MaiaGrazing from 1 December 2018.

The whole property was set stocked prior to 2018 with some seasonal spelling of paddocks, as cattle were able to utilise natural waters during the wet season. Set stocking resulted in selective grazing with certain areas being severely grazed, while others were underutilised. Paddocks such as Oaky paddock had a dedicated mob (Petts mob) which grazed a well-watered paddock, year-round, with additional paddocks opened up to Petts mob based on seasonal natural waters. As Oaky paddock changed to a rotational grazing regime (with Top mob) from 25 September 2021, there are only set stocking grazing records from December 2018 to July 2021 - about 2 ½ years.

Oaky set stocked paddocks had an average mob size (1 December 2018 to 23 July 2021) of 400 head across 5,363ha of grazed paddocks. After the rotational grazing program commenced (from 25 September 2021) average mob size was around 725 head across 7,540 ha of grazed paddocks. Normalising for the larger grazed area, however, gives an average mob size of about 515 head - much higher than the 400 when the paddocks were set stocked. Rotational grazing allowed long paddock recovery periods, often 12 months or more (e.g. Top paddock with 561 days of recovery time during 2022/2023) allowing restoration of landscapes and accumulation of large bodies of pasture. Some graze periods had large numbers of stock (e.g. > 1000 head from March to August 2023 in Peter's House and Oaky paddocks), positively impacting on pasture utilisation across the paddocks.

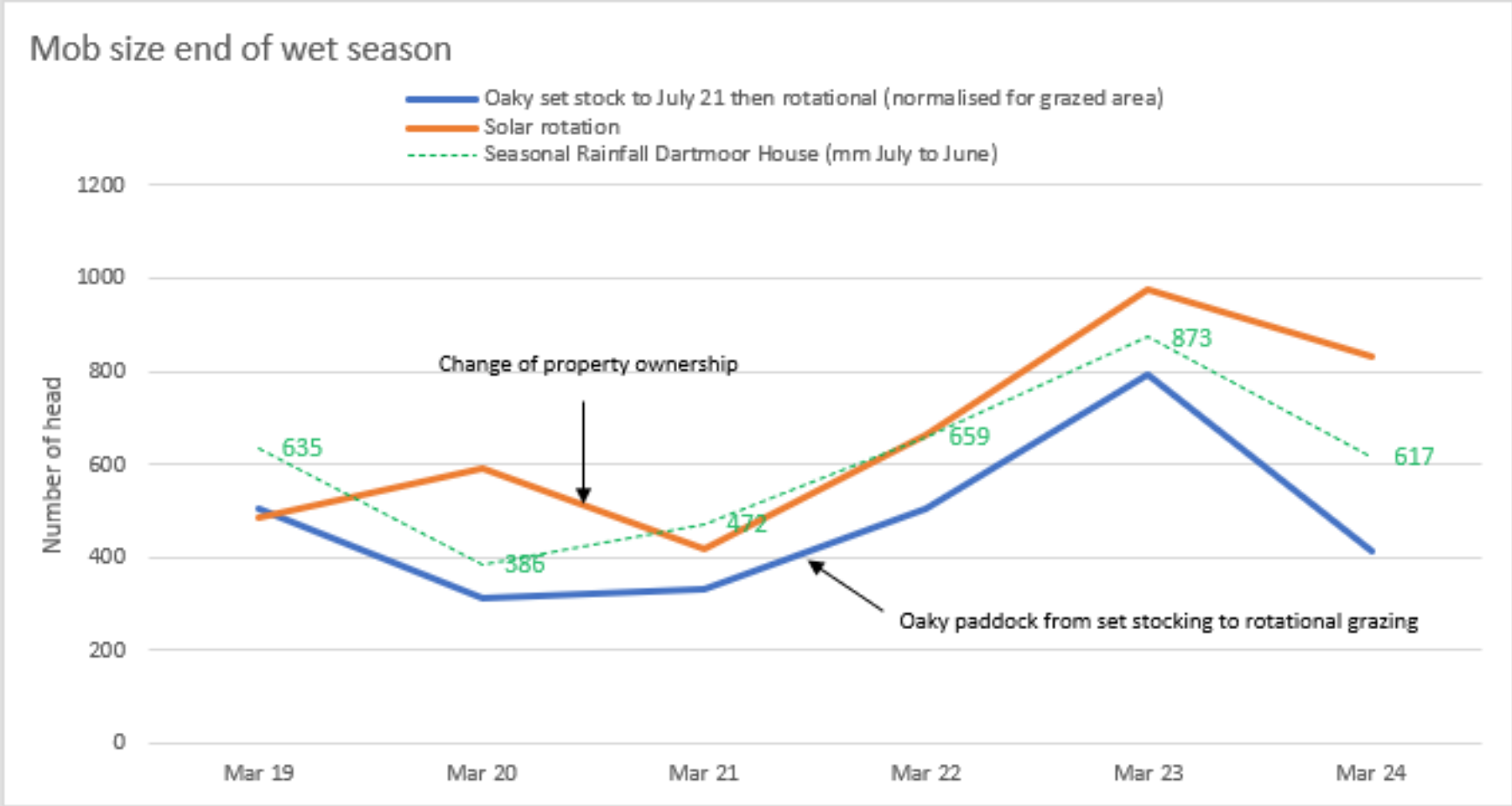
The Solar group of paddocks commenced a Grazing Naturally planned grazing rotation (with the associated Solar mob) on 1 March 2019, with a roughly five paddock rotation during 2019. Since 2020, some sub-division of larger paddocks occurred to give a 7-paddock rotation, and additional paddocks are occasionally added to increase grazing flexibility. The total grazed area of 5,490ha is comparable to the Oaky set stocked paddocks (5,363ha). Graze periods are generally much shorter (average 31 days) than the current Oaky paddock rotations (average 65 days). Recovery periods are also much shorter in the Solar paddocks with an average of 163 days compared to 292 days in the Oaky paddocks, although 12 months or more recovery periods are not uncommon (e.g. 526 days for Solar Road during 2022/2023). Remote sensing reports indicate that there was little difference in the end of dry season ground cover between Oaky paddock and one of the Solar paddocks - Solar MT.

The Solar paddock rotations varied the graze periods and number of grazes across seasons and also across years so that paddocks received a mix of wet season and dry season grazes with recovery periods also falling across seasons, aimed at a range of pasture responses to seasonal conditions. The shorter graze periods in Solar paddocks also reduced stock tracking, increased utilisation of pasture, particularly when mob size was high e.g. March to August 2023 and reduced preferential grazing.

End of wet season (end of March) mob size (Figure 9) in Oaky paddocks was adjusted to allow for seasonal conditions, with forage budgeting influencing grazing plans. Mob size was higher after good rainfall and decreased with reduced rainfall. Starting in 2019 with similar mob sizes to Oaky paddocks, mob sizes for the Solar rotation were consistently higher than Oaky paddocks with comparable total grazed areas.

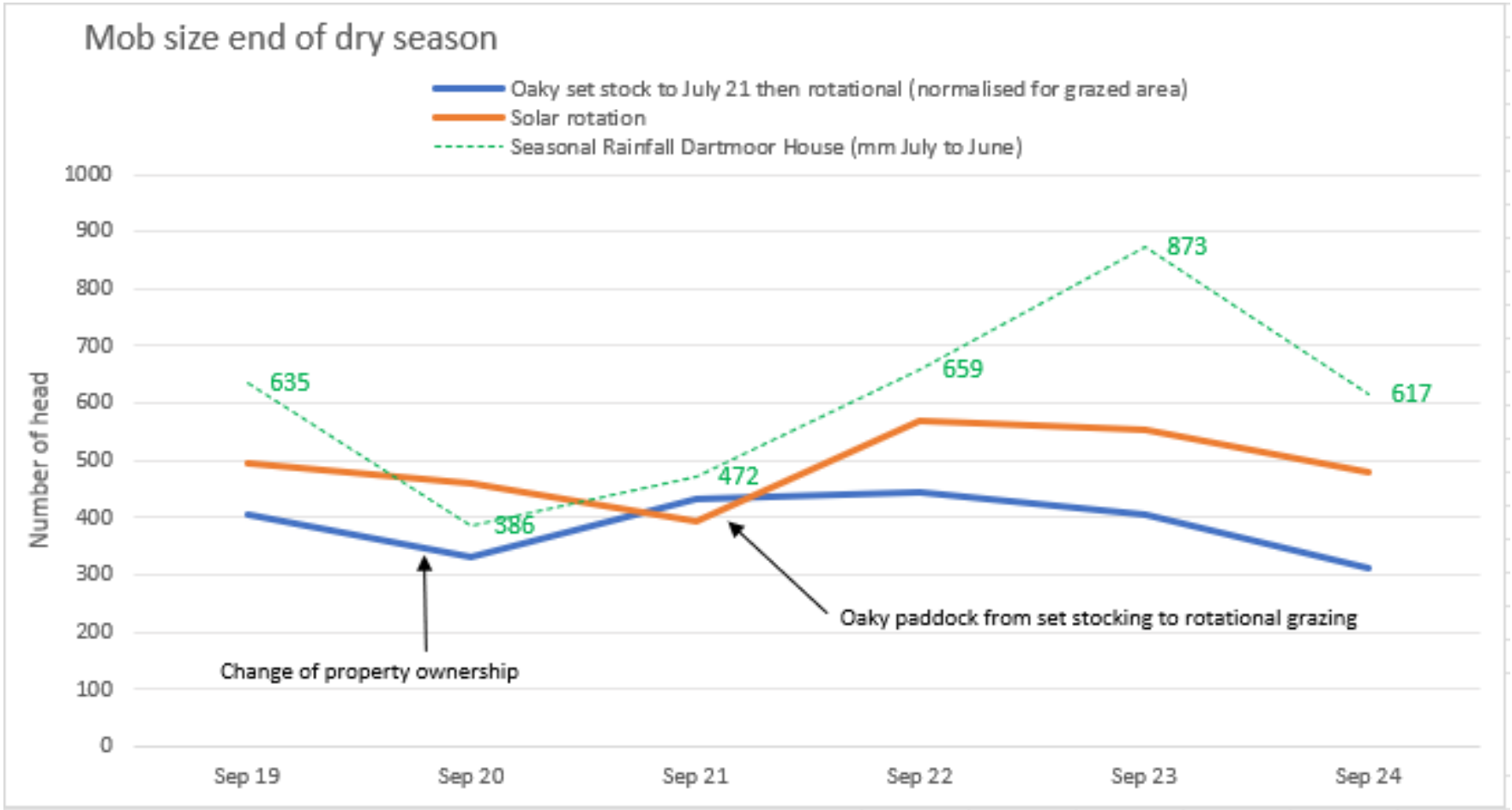
End of dry season (end September) mob size (Figure 10) in the Oaky paddocks was more consistent across years following the change to rotational grazing but adjusted to allow for forage availability (and seasonal conditions) with a lower mob size after reduced rainfall in 2024. Again, the mob sizes for the Solar rotation were generally higher than Oaky paddocks with comparable total grazed areas.

Figure 9: End of wet season (end March) mob sizes - Oaky paddocks and Solar rotation March 2019 to March 2024.



Mob size	Mar 19	Mar 20	Mar 21	Mar 22	Mar 23	Mar 24
Oaky rotational mob size from Sept 21				707	1117	584
Oaky set stock to July 21 then rotational (normalised for grazed area)	503	312	333	503	794	415
Solar rotation	485	593	417	663	977	830
Seasonal Rainfall Dartmoor House (mm July to June)	635	386	472	659	873	617

Figure 10: End of dry season (end September) mob sizes - Oaky paddocks and Solar rotation September 2019 to September 2024.



Mob size	Sep 19	Sep 20	Sep 21	Sep 22	Sep 23	Sep 24
Oaky rotational mob size from Sept 21				625	572	436
Oaky set stock to July 21 then rotational (normalised for grazed area)	406	333	432	445	407	310
Solar rotation	495	458	393	570	553	481
Seasonal Rainfall Dartmoor House (mm July to June)	635	386	472	659	873	617

When Oaky paddocks were set stocked, they carried smaller mob sizes than either the later Oaky rotational grazing practice or the Solar rotational grazing paddocks. The change of property ownership, different cattle types in the changeover, and the general change to rotational grazing creates some difficulties in attributing cause and effect but it appears that the Oaky and Solar rotations match or outperform the previous set stocking regime in the Oaky paddocks.

Advantages of the rotational grazing approaches included:

- adjusting mob sizes based on forage budgeting, reflecting rainfall and forage availability,
- allowing paddock graze/pasture recovery periods to be managed, including increased flexibility in applying very long landscape recovery periods (e.g. up to 18 months),
- the capacity to apply very large mob sizes (> 1000 head) to a paddock for short periods, increasing pasture utilisation across the whole paddock and reducing preferential grazing.
- allowing for an increase in average stocking rates compared to set stocking, with no recorded impact on land condition.

Glenalpine Station

In 2014 the O'Sullivan family embarked on a journey to transform Glenalpine Station into a regenerative grazing property. They adopted advanced regenerative, rotational, grazing techniques and commenced an accelerated program of paddock sub-divisions and improved distribution of water points. This provided greater utilisation of pasture across the whole property and increased flexibility of herd and pasture management and made noticeable improvement in areas of poor land condition (monitored through property and a range of project monitoring sites).

From 2017, property management incorporated elements of the Grazing Naturally approach to improve plant/soil health, resulting in more productive pastures and landscapes. Planned grazing and forage budgeting provided flexibility in the number of animals run on the property. This included holding over young cattle or purchasing trade cattle when pasture availability (and quality) allowed.

Considerable weed management activity also occurred, particularly with rubber vine on more productive soils and along extensive river and creek frontage throughout the property. There was significant input into the weed management program through the MLA PDS project P.PSH.2003 *Cooperative, integrated weed management in the BBB catchment*.

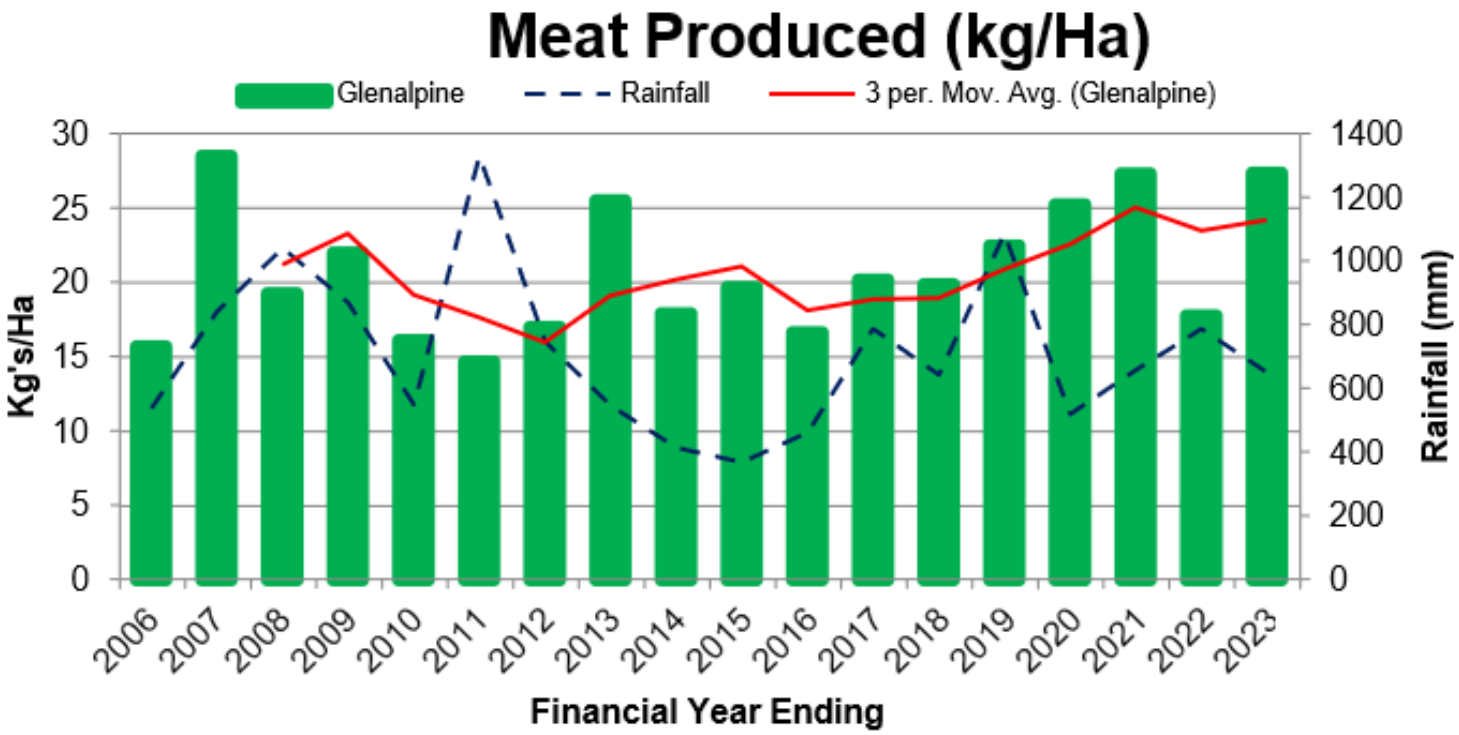
The O'Sullivans have utilised ProfitProbe, supported by Resource Consulting Services, since 2006. ProfitProbe is a management accounting process that allows data-driven analysis of the business for informed decision-making and to compare the performance of the business with aggregated data of other enterprises that also use the platform. The ProfitProbe data has demonstrated the financial benefits of undertaking the new regenerative grazing practices and indicate that profitability and productivity are closely linked to the ecological outcomes achieved from the grazing approach.

The Glenalpine ProfitProbe data set provided information on meat produced (kg/ha) across time and in relation to changes in management practices. The meat produced graph (Figure 11) also includes seasonal rainfall to compare the data with rainfall patterns.

Meat produced on a per hectare basis is uneven prior to management changes in 2014, with consistency of meat produced evident after 2016 (interrupted by the purchase of an additional property in late 2021).

Note the steady rise in the three-year moving average (the red line) in comparison to rainfall from about 2016. This points towards an improved efficiency in turning rainfall into kilograms of beef.

Figure 11: Meat produced (kg/ha) 2006 to 2023 compared to seasonal rainfall (July to June)

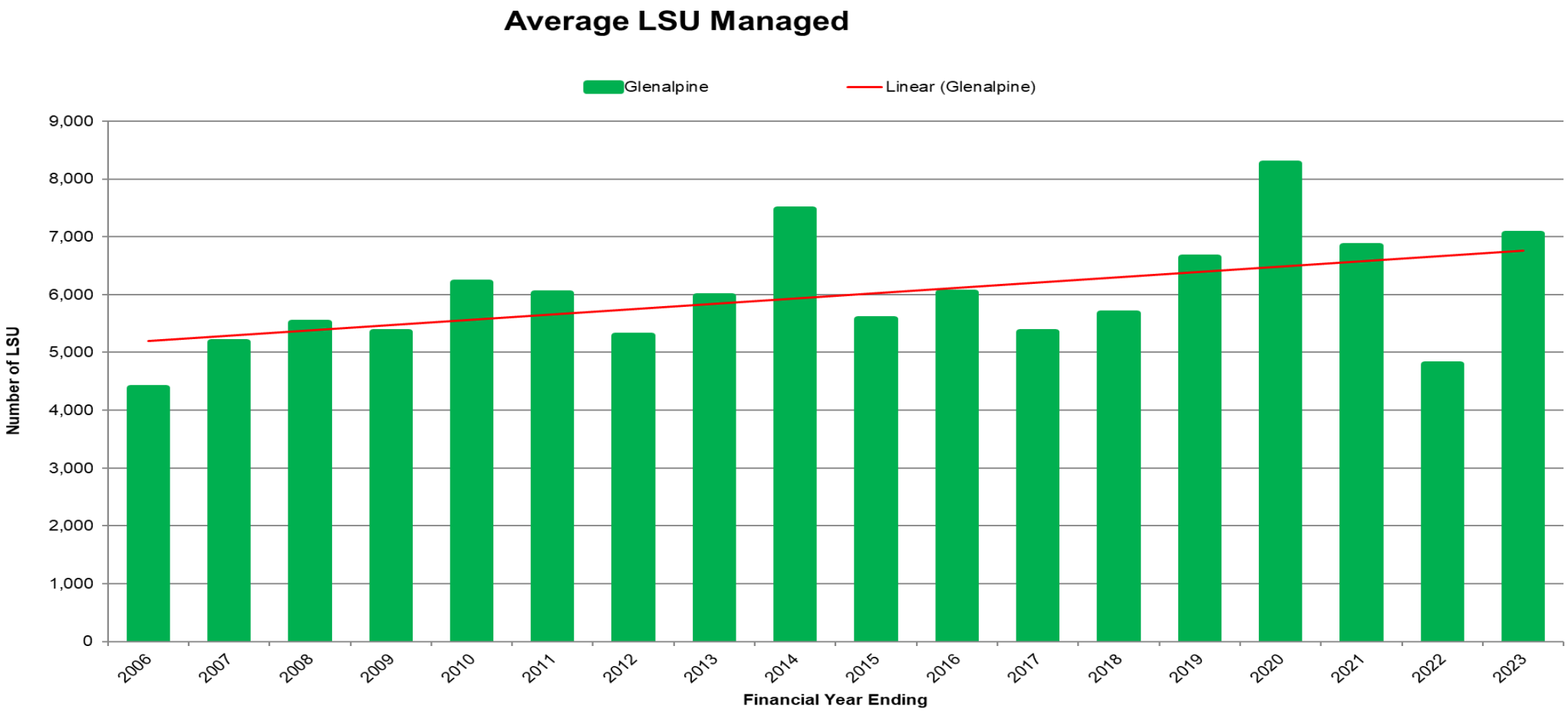


The average LSU's managed by the property since 2006, is represented in Figure 12. The linear trend line for Glenalpine indicates an increase in LSU's from around 5,100 in 2006 to 6,800 by 2023 or an increase of about 33%. In 2022, there was a dramatic drop in LSU's managed, as cattle were transferred from Glenalpine to the newly purchased property Lucie, near Dingo. More than 8,000 LSUs were carried in 2020, five years after new grazing practices were implemented.

Similarly to Strathalbyn Station:

- Increased paddock numbers, from sub-division of larger paddocks, and widespread water point distribution led to greater (and more even) utilisation of pasture across the property and a reduction in preferential grazing in paddocks.
- More paddocks provided increased flexibility for herd and pasture management, including for paddock/landscape recovery especially for areas in poor land condition. This was assisted by the capacity to provide long pasture recovery periods for paddocks which increased annual pasture seed production, plant establishment and accumulation of pasture biomass during the wet season. Weed management/pasture improvement improved forage availability, nutrition and total pasture biomass.
- Forage budgeting and planned grazing practices appear to lead to better herd management decision making, optimum management of available pasture, and, for Glenalpine, demonstrated improvement in financial and business metrics. Forage budgeting/planning also provided flexibility in the number of animals run in any year.

Figure 12: Average LSU's managed at Glenalpine 2006 - 2023 with linear trend line (from ProfitProbe data).



4.2 Economic analysis

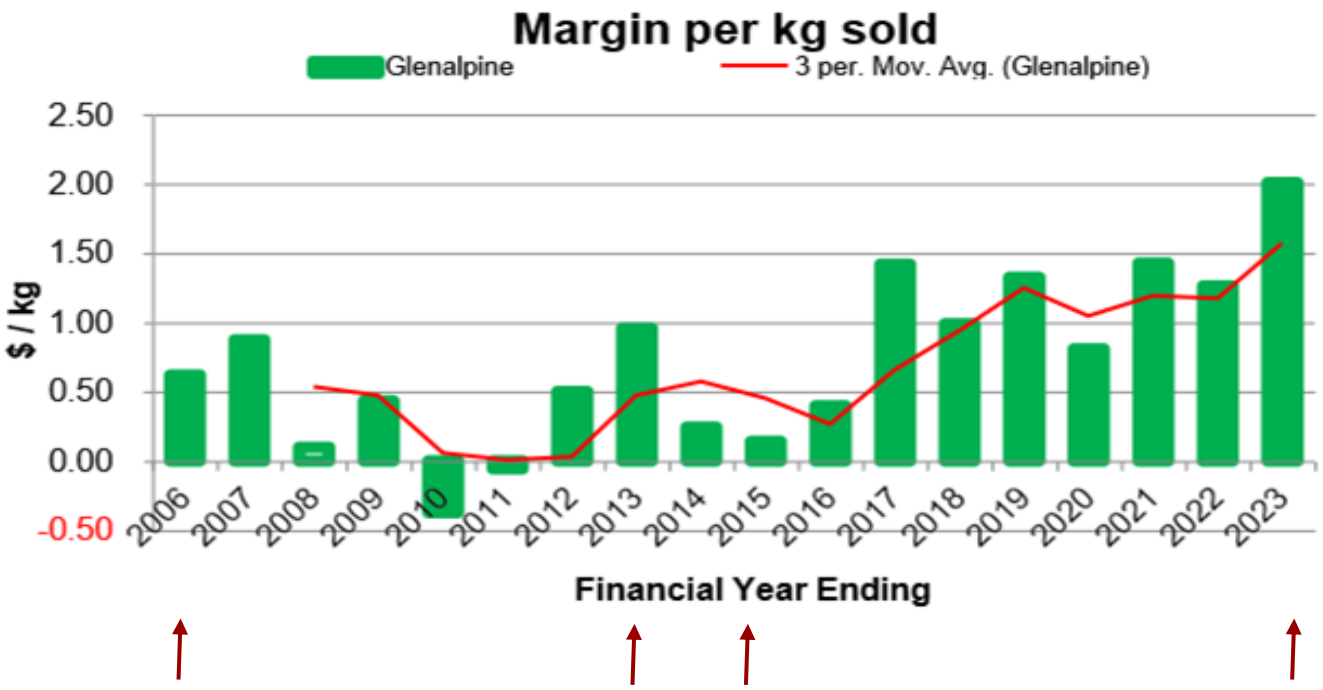
The Glenalpine ProfitProbe data set was provided by Glenalpine and analysed by Resource Consulting Services, with a range of analyses undertaken (graphed). One of the resultant reports is in relation to all ProfitProbe producers for industry wide comparison.

The Glenalpine ProfitProbe results for the 2022 year were influenced by the purchase of an additional property in November 2021, which impacted financial performance in the initial year of the combined operation. The new property had low stock numbers in the initial year, particularly as it was drought impacted at purchase.

Prior to 2014, when Holistic Management (regenerative grazing) practices were first introduced at Glenalpine, margin per kg of beef sold (average price received less cost of production "COP") was very uneven - see Figure 13.

Since 2015, margin per kg of beef sold has been less volatile and shown an upward trend to $2.01/kg in 2023, the highest result achieved across 18 years of records. With only a small change in average price received (down 12c), the significant decrease in COP is largely behind this.

Figure 13: Margin per kg beef sold, Glenalpine station ProfitProbe results.

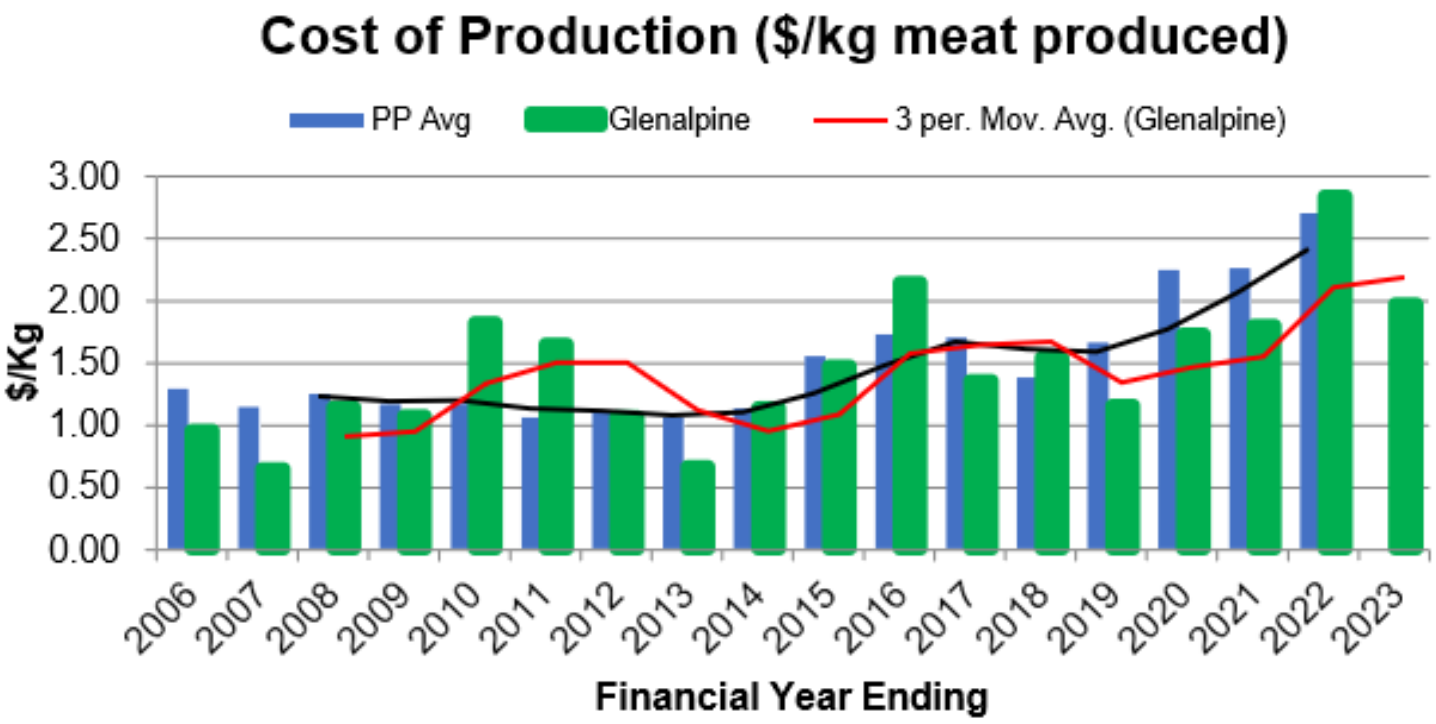


Predominantly set stock/wet season spelling/some rotational grazing to 2013

Holistic management adopted 2014/15 then progressed to Grazing Naturally 2017

The cost of production at Glenalpine (Figure 14) has trended lower than the average of other ProfitProbe producers (black line) since about 2016. The purchase of Lucie in late 2021 impacted on cost of production in 2022. However, total kgs produced rose to 765,527 in 2023 from a lull of 497,088 during that 2022 year. This production increase has assisted in diluting total costs and thus reducing the $/kg Cost of Production figure for 2023, thus continuing the lower trend.

Figure 14: Glenalpine cost of production 2006 to 2023 compared to the average of all ProfitProbe producers (PP Avg in blue) - includes 3 year moving average for both Glenalpine (red line) and all other ProfitProbe producers (black line) for comparison.



4.3 Extension and communication

There was a total of nine project field events/workshops delivered with seven properties hosting field events on regenerative grazing practices during the life of the project.

An additional event was held in the BBB area but was funded through another project as the PDS project had insufficient funds to deliver the scope of the event. The two-day Regenerative Ranching for Resilient Landscapes workshop, with Alejandro Carrillo, was held in Collinsville and on property (Mt. Pleasant Station) in August 2023.

The Dartmoor Station field event scheduled for May 2022 was washed out due to unseasonal heavy rainfall and informal arrangements were organised for network graziers with visits to Salisbury Plains and Glencoe Stations, and a forage budgeting workshop was held at Salisbury Plains.

Fifty properties were represented at one or more project events, with a total attendance across the project activities of over 210. Many properties attended multiple events, particularly properties involved in the regenerative grazing network. In addition, 44 people from 25 properties attended the two-day Regenerative Ranching for Resilient Landscapes workshop in August 2023.

The nine project field activities delivered were:

- Glenalpine field day May 2021. A core group of regenerative graziers in the Burdekin region were invited, and attendance was limited to 30 attendees due to weed management protocols for the property. Twenty-six people attended, including graziers from 10 properties, the Glenalpine hosts, NQ Dry Tropics staff, a consultant from Moranbah, and presenters Dick

Richardson (Nature's Equity), Brian Wehlburg (Inside Outside Management), Sam Skeat (Mulloon Institute) and Jim Fletcher (Queensland Department of Agriculture and Fisheries).

- Strathalbyn field day May 2021. The Young Graziers field day was jointly organised with the LDC and the Stomping Out Sediment projects. Thirty-five people attended, including station hands, managers and landholders from 15 properties, the Department of Agriculture and Fisheries' Peta Stockwell, special guests Dick Richardson (Nature's Equity) and Brian Wehlburg (Inside Outside Management), and five NQ Dry Tropics staff.

- Resource Consulting Service (RCS) workshop, Bowen September 2022. RCS presenter George Stacey facilitated a one-day producer forum to present on key grazing management principles for sustainability and profitability, and on the outcomes of preliminary ProfitProbe analysis for Glenalpine Station. There were twenty people in attendance including owners, managers and station hands from 7 local properties, NQ Dry Tropics field staff, and an economist and a field officer from the Queensland Department of Agriculture and Fisheries, Mackay.

- Glencoe workshop and field day October 2022. A grazing planning day with Dick Richardson (Nature's Equity) at Strathalbyn Station was rescheduled to Glencoe Station, Bowen, at short notice. Four RSVPs from two properties were unable to attend due to the late change of venue. There were eleven in attendance including owners and managers from 4 properties, NQ Dry Tropics field staff and an ABC rural reporter (who subsequently conducted interviews with Dick Richardson and attendees).

- A webpage was developed to promote the MLA Regenerative Grazing project and featured some of the field events held in 2022.

- Woodlands field day April 2023. The field visit, led by Dick Richardson, observed regenerative grazing practices being implemented on Woodlands Station. Five graziers and station hands from 3 local properties and the hosts attended.

- Hellsgate field day April 2023. A joint Stomping out Sediment/MLA field walk with Dick Richardson providing grazing management technical support. There were ten attendees representing 5 properties.

- Glenalpine forage budgeting day April 2023. A forage budgeting and dry season grazing planning day for local regenerative grazing network members was led by Dick Richardson. Six graziers from 3 properties and the hosts attended.

- Salisbury Plains field day October 2023. With significant grazing practice changes occurring on the property (including mobbing of breeding herds and an increase in planned grazing practices), Salisbury Plains were hosts to a field day with eighteen people in attendance including owners, managers and station hands from 5 properties and the hosts.

Figure 15: Facebook post following the April 2023 Hellsgate and Glenalpine field events.

NQ Dry Tropics NRM
15 May at 6:14 PM -

A cluster of properties in the Bowen and Collinsville area have been ground-truthing a range of landscape remediation (small and large) and grazing management techniques over the last five years.

While one objective was to address sediment loads, it has also been important to demonstrate characteristics vary considerably between gullies, requiring specific treatment plans for each gully.

it's been equally important to demonstrate grazing management practices work hand in hand with rehabilitation works to produce a resilient, profitable grazing business that produces positive reef water quality outcomes.

Earlier this month, Hellsgate and Glenalpine, located near Collinsville, opened their farm gates to graziers to showcase how well grazing management practices have performed.

Grazing management consultant, Dick Richardson, of Nature's Equity, led a discussion on grazing planning to increase forage and groundcover.

These field walks were supported by Meat & Livestock Australia (MLA). NQ Dry Tropics has partnered with MLA to develop a Producer Demonstration Site to accelerate the adoption of grazing management practices in the Burdekin.

This event was funded by the Stomping Out Sediment project, funded through the Australian Government's Reef Trust.

Meat & Livestock Australia Queensland Environment Queensland Agriculture Department of Climate Change, Energy, the Environment and Water Great Barrier Reef Foundation

Figure 16: Report on the October 2023 Salisbury Plains field event in the Landholders Driving Change newsletter "the Grit" Summer 2023.

- Strathalbyn field day April 2024. The final project field day was supported by the Landholders Driving Change project and the Hughes family. The day also celebrated 20 years of ownership of the property by Wentworth Cattle Co., which provided an opportunity for a wide range of rural interests to be involved in the day. Attendees included all of the property staff and Hughes family members, bankers, legal firms, property valuers, livestock transport, and veterinary services - providing a rich grazing and business experience to the day and promoting the regenerative grazing approach to a wide audience. The day included presentations by Dr. Christine Jones (Amazing Carbon), Raymond Stacey (Resource Consulting Services) and Leanne O'Sullivan (Glenalpine Station). Dick Richardson (Nature's Equity) led the field-based activities. A total of eighty people attended including representatives from 25 properties from the Bowen, Collinsville, Woodstock, Gumlu, Moranbah, Clermont, Nebo, Sarina, Mackay and Emerald districts. Report in the Grit June 2024.

Three project case studies were produced (development of the case studies was financially supported through the Landholders Driving Change project).

Glenalpine case study

Strathalbyn case study

Dartmoor case study

Additionally, video case studies developed by the NQ Dry Tropics Stomping out Sediment project are directly applicable to the regenerative grazing journey of Glenalpine and Strathalbyn Stations and some video footage was acquired at MLA PDS project supported events.

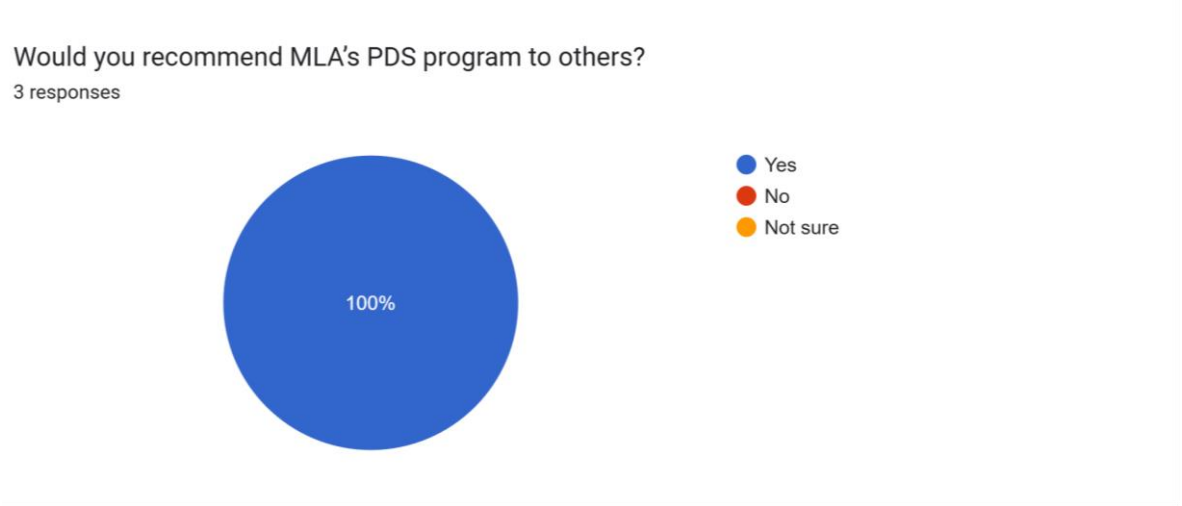
Glenalpine video: https://youtu.be/gfSEgof9-dE

Strathalbyn video: https://youtu.be/1YChc0EM-Dk

4.4 Monitoring and evaluation

Grazier feedback from key events was very positive. Grazier attendance, the grazier/presenter interactions, and the feedback from the project activities indicates the vital role that practical projects and grazier extension have in progressing new ideas and better practices for the grazing industry.

In particular, the three core demonstration properties provided feedback at the end of the project.



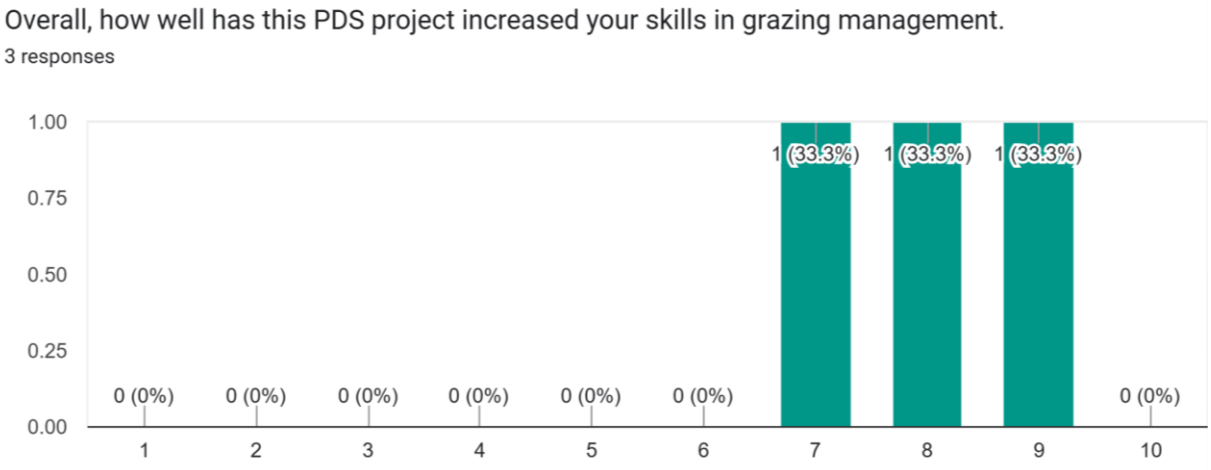
Please provide a short answer to explain your response.

3 responses

very informative and valuable information in being able to make the right decisions with stock and pasture management

Being involved with like minded people & having professional people educating & introducing information that I didn't previously know about.

Thoroughly enjoyed working Rod and the community of like minded people to better understand how and why regenerative grazing works and how it effects the land, animals and people that are involved in it.



All three properties reported that the following metrics relating to their business improved as a result of participating in this PDS:

- Kg of pasture production per ha - Changes have been made and pasture production has improved.
- Kg of beef production per ha - Beef production has improved.
- Groundcover % - Groundcover % has improved.
- Adult equivalents (AE) per ha - AE per ha has improved.

Have you made/do you intend to make any other changes to your business as result of participating in this PDS?

3 responses

N/A

Yes, I am allways trying to try new ways to broaden my tool box.

We were already actively participating in regenerative ag practices however through the project we increased what we were doing considerably

What impact did implementing any new practices have on matching Stocking Rate to Carrying Capacity?

3 responses

improved performance of stock and pasture

With the tanks & troughs we put in with the Pr

We were constantly having to increase stocking rate to match the increase in CC

Feedback from project field and other extension activities includes:

Glenalpine field day May 2021

What was a highlight of the field day for you?

- Total picture of management system as explained by Leanne & Barry with support from Dick.
- Being around like-minded people. (x 2 responses)

What was a key message you have taken home from the field day?

- How much more we can achieve with grazing management.
- How our business can increase profitability through planned grazing.

What is a key change you could make in your operations as a result of what you observed or heard at the field day?

- Continue to improve grazing management to increase productivity whilst improving the landscape.
- Graze pastures early in the season to set up those pastures for better nutritional value and productivity for cattle to graze later in the season.

What could have been improved so you received more value from the event?

- Cannot think of anything.
- I was satisfied with the day.
- Excellent day.

All respondents rated the effectiveness of the field day in improving their knowledge of grazing management and grazing practices to manage gullies and erosion at 4 or 5 out of 5.

Strathalbyn field day May 2021

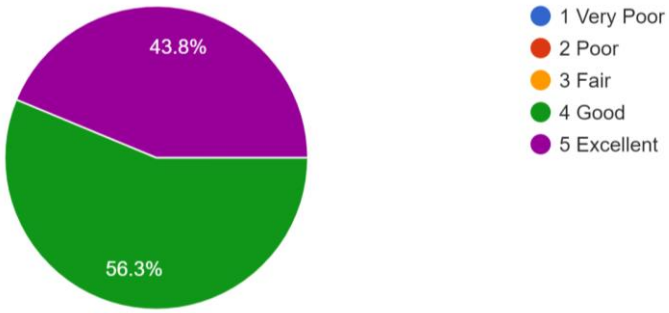
Feedback from the attendees indicated that all found it beneficial to attend, with all participants who completed the evaluation survey reporting that they had learnt something new. Feedback highlights:

- Over 60% of the attendees ticked '10', the highest score, for learning new information.
- 90% of attendees ticked '7' or higher for finding value in attending the event.

RCS workshop, Bowen September 2022

1. Overall, how would you rate the forum. (scale of 1-5 where 1 is Very Poor and 10 is Excellent).

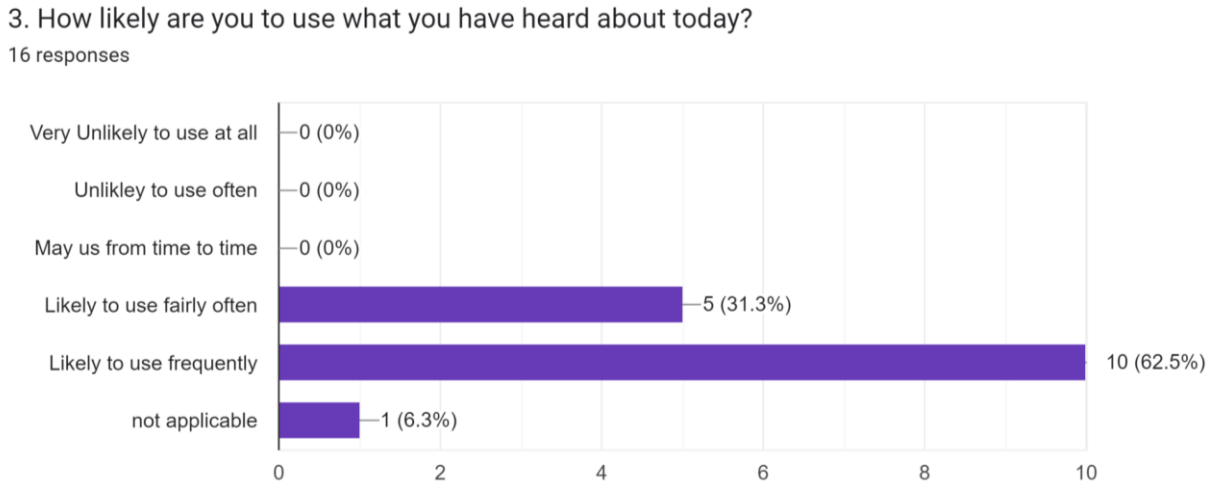
16 responses



2. What was your biggest/key take-away from the forum?

- Success is a result of a cumulative of many things that need to be done for a secure positive direction of any business.
- Plan/manage. Stocking rate and carrying capacity.
- The improvement overall in the financial figures.
- Ability to increase production and profitability despite lack of rain.
- Grass management and importance of rest, weeds are part of the recovery process. Graph of the 3 phases of grass growth.
- Great refresher for GFP. Insights into Glenalpine as a case study was very powerful to illustrate the results of changes.
- Land management of grasses and rotational movement of stock. Understanding phase 1, 2 and 3 of grass growth.

- Good to understand the deeper level of financial decisions involved in a grazing business.
- Revisiting principles. Mob up stock and more fences - utilise feed better, improve soil biology and plant diversity.



4. How could the forum have been improved?

- nil
- More time for breaks/interactions even if just a quick discussion at each table.
- A lot of information was provided in a very professional manner. Well done.
- Enjoyed the photos and an actual producer example.
- Would be good to have these days more often.
- Good refresher.
- Enjoyed it.

Strathalbyn field day April 2024

The NQ Dry Tropics, Strathalbyn field day, Facebook post generated 110 likes and 14 shares. The known shares received an additional 140 likes and numerous comments, including:

“Fantastic work! And frustrating that so many don't understand that hard work & thought spent on intensive rotational grazing works wonders for environmental health (which is of course long term better pastoral economics as well).”

The Wentworth Cattle Co. and Hughes family shares of the Post included the following sentiments:

Wentworth Cattle Co. “NQDT & the many professionals they have brought to the Burdekin have made a tremendous difference to the graziers in this unique landscape. We are enlightened custodians of the land & guardians of the reef, using grazing practices that create biodiversity enhancing life below & above the surface. The field days provide an opportunity for us to share with fellow practitioners & showcase to other stakeholders the true story of environmental stewardship. So grateful to everyone who has contributed to our 20-year journey at Strathalbyn. A proud moment for Bristow John Hughes & Ureisha Hughes for making our vision a reality.”

Dyan Hughes, Wentworth Station, Clermont. “Grateful to the many people who contributed to the progress @ Strathalbyn during our 20 years of stewardship. Bristow John Hughes & Ureisha Hughes were critical to inroads made, capitalising on the many opportunities created by NQ Dry Tropics. Projects undertaken & then showcased to others were integral to Landholders Driving Change. Bristow’s leadership, energy, and networking skills were critical to our success. Our resilient Wagyu's

were crucial to all the improvement, both through thoughtful grazing & their financial contribution. Wagyu are our warriors in regenerative agriculture."

Figure 17: Facebook post following the Strathalbyn field day.

NQ Dry Tropics NRM
3 May at 1:53 PM ·

It was a real milestone day at Strathalbyn Station for the Hughes family last week when they paused to mark 20 years since Richard and Dyan purchased the 32,000ha property from Jim and Linda Dunn.

The Dunns had broken it into 10 paddocks by the time they sold (there were three when they arrived), and the Hughes set about continuing that work.

By 2019, they had 69 paddocks and this year, they can count 78 paddocks used to rotate the grazing pressure around the property.

Richard and Dyan's son Bristow and wife Ureisha have managed Strathalbyn and the extended Wentworth Cattle Company operations since 2015.

They have enthusiastically tackled several projects with NQ Dry Tropics, not least being the MLA Regenerative Grazing and Integrated Weed Management projects.

They also participated in the Stomping Out Sediment in the Burdekin project, experimenting with unconventional approaches to gully management, including evaluating the use of livestock as a tool to remediate gullies.

The Hughes have undertaken a number of large-scale gully remediation projects supported by different investors, making a spectacular difference to parts of their property.

Department of Climate Change, Energy, the Environment and Water Great Barrier Reef Foundation Natural Resource Management Regions Queensland Queensland Environment Queensland Agriculture NRM Regions Australia National Landcare Program

The feedback survey from the field day was completed by 22 people. Some comments included:

1. What was a highlight of the field day for you?

    - The people who supported the graziers.
    - The speakers were great.
    - General conversations. How adoptable change can be.

- Seeing all the rehab work of soil and pasture.
- The knowledge of the presenters and property owners/managers and their openness to talk about their pasture renovation experiences.
- Listening to the guest speakers and just the interaction over the day in general.
- Although I'd heard Christine Jones talk on radio etc I hadn't met her or been to any of the field days she had spoken at and same applied to Dick Richardson.
- Looking at the paddocks and seeing the diversity of plants.
- Farm tour and looking at how changes in management practice have increased ground cover and enormously improved the variety of pastures.

2. What was a key message you have taken home from the field day?

- Erosion transformation is a must to develop a property.
- Grazing management to maximise plant health which feeds microbes for soil health which then cycles back to increased pasture production.
- Need a wider variety of grasses.
- All land is recoverable - it just takes work.
- Once regenerative grazing and land management practices are implemented, change can be quick to the landscape and a cattle enterprise.
- Stop grass hoarding!
- Management practices continue to evolve. Constant learning is required to ensure financial and environmental sustainability into the future.

3. What is a key change you could make in your operations because of what you observed or heard at the field day?

- Grass budget.
- Continue with better grazing.
- Better Leucaena management.
- Increase green and growing groundcover.
- Bigger mobs.
- Better grazing management.
- To persist with stock movements to encourage erosion and weed control.
- More plant diversity the better.
- Create awareness amongst other producers of what is possible.

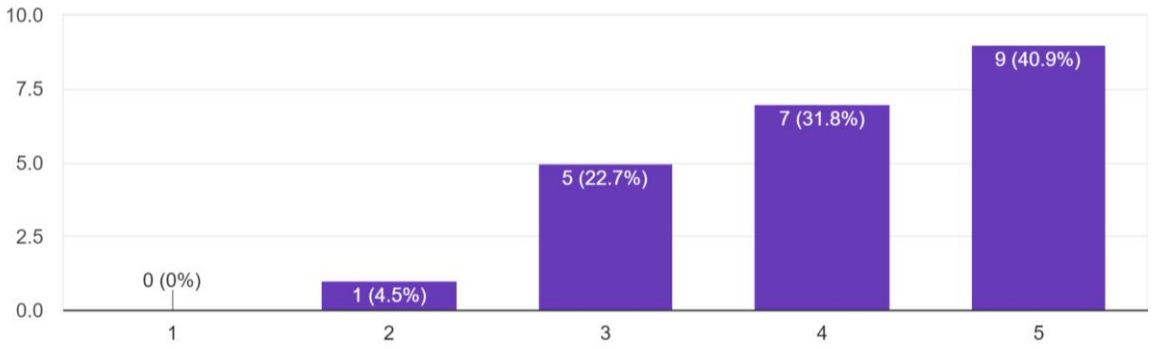
4. What could have been improved at the event, so you received more value from the activities?

- Maybe looking at doing it twice a year for the graziers to see the difference and improvements. Erosion control and how it makes a difference in value to animals and property.
- Nothing could have been done better. The whole day was well organised with the most important topics covered.
- It was very comprehensive.
- Grazing chart figures.
- Nothing.
- It was well organised, couldn't fault you guys.
- Thought it was well run.
- Not learning that it was Rod and Christine's last field days!
- I can't think of anything.
- I thought it was very comprehensive.
- Happy with how the day was organised.

- Perhaps have the speakers talking to us during the bus trips between sites to speed up and allow for greater understanding.

5. Rate the effectiveness of the field day in improving your knowledge of grazing management and grazing practices to improve profitability.

22 responses



6. Please provide any other comments/insights on the field day that you feel are relevant?

- Very informative and well-presented. You lot make us proud, thank you.
- Would be good if a video presentation of what has been achieved at Strathalbyn and similar sites could be part of the curriculum at schools, to show some of the positive aspects of agriculture, instead of kids being brainwashed that farmers are environmental vandals.
- Retaining moisture in the ground.
- Could have had other insights of the works from staff.
- Good talks on grasses and legumes. Maybe some new innovative Agtech presenters set up at lunch for people to have a chat.
- Thank you for a well-run and informative day!
- Having lots of contributors made the day very interesting.
- It was good to hear from Leanne as well, as she is a fellow producer. Having Christine, Dick, Raymond speak was a good refresher and tied it in together.
- Christine Jones and Dick Richardson were the relevant ones for us and why we made the journey (7 hours) and we were very glad we did.
- Well done. Thank you.

5. Conclusion

The PDS aimed to demonstrate that planned livestock grazing programs (regenerative grazing practices), aimed at increasing soil biological activity and stimulating the production of high-quality pasture, are as good as or better than traditional set stocking practices across a range of performance measures. The three demonstration properties provided a mix of approaches and data across a range of environmental, production and business parameters.

5.1 Key Findings

- Remote sensing data in monitored paddocks, for the three demonstration properties, generally indicated that land condition and ground cover outcomes for regenerative grazing practices are comparable to largely set stocked paddocks. In all cases no decline in groundcover of land condition was observed.

- For both Strathalbyn and Glenalpine, stock numbers and productivity increased following changes to grazing management practices. At Dartmoor, larger mob sizes were operated for

rotational grazing practice than with previous set stocking across similar areas of grazed paddocks.

- Grazing management observations included:
    - Increased paddock numbers, from sub-division of larger paddocks, and widespread water point distribution led to greater (and more even) utilisation of pasture across the property and a reduction in preferential grazing in paddocks.
    - More paddocks provided increased flexibility for herd and pasture management, including for paddock/landscape recovery especially for areas in poor land condition. This was assisted by the capacity to provide long pasture recovery periods for paddocks which increased annual pasture seed production, plant establishment and accumulation of pasture biomass during the wet season.
    - Weed management/pasture improvement improved forage availability, nutrition and total pasture biomass. Long pasture recovery periods allowed the maintenance of, and longer-term production of, sown pastures.
    - Forage budgeting and planned grazing practices appear to lead to better herd management decision making and optimum management of available pasture.
    - Forage budgeting also informed and enabled stock adjustment and seasonally responsive grazing planning e.g. mob sizes reflective of rainfall patterns and flexibility in the number of animals run in any year.
- The ProfitProbe data set from Glenalpine showed improvements in a range of production and business metrics following changes in grazing management practices.
    - Consistency of meat produced per hectare was evident after 2016 at Glenalpine, with the steady rise in the three-year moving average pointing to an improved efficiency in turning rainfall into kilograms of beef.
    - Prior to grazing management changes in 2014, margin per kg of beef sold at Glenalpine was very uneven. Since 2015, margin per kg of beef sold has been less volatile and shown an upward trend to $2.01/kg in 2023, the highest result achieved across 18 years of records.
    - The cost of production at Glenalpine has trended lower than the average of other ProfitProbe producers utilising the platform since about 2016.

5.2 Benefits to industry

The regenerative grazing practices being utilised on the demonstration properties, and across properties within the Collinsville region regenerative grazier network, were demonstrated to be as good as or better than previous set stocking practices on those properties, across a range of production and business measures.

The practices can be broadly adopted as indicated by the changes of practice observed at the many field events (across seven local properties) and by the widespread adoption of regenerative grazing practices across the three core and another six project network properties.

Discussions with owners and managers of the regenerative grazing properties suggested that there was no simple “formula” or approach taken to regenerative grazing practices. There was emphasis on a range of principles which were applied to decision making.

Several grazing principles were articulated by a small group of graziers, scientists and field officers as an outcome of the Stomping out Sediment in the Burdekin project which ran concurrently with this project (with both Strathalbyn and Glenalpine Stations as key cooperators). The outcomes of this PDS are consistent with, and supportive of, these principles for adoption by graziers in the Burdekin region. The main grazing management principles to emerge from the group discussions (and the actual practices being implemented) converged on the following:

- Increasing the distribution of watering points, in conjunction with fencing out smaller paddocks around each watering point.
- Planned rotation of cattle mobs. Size of mobs and duration of graze in each paddock needs to be based on forage budgeting while pasture “rest” (or recovery) periods tend to be much longer than a 1-2 month wet season spell.
- Retaining sufficient ground cover and pasture integrity to allow triggering of ongoing growth cycles e.g. through repeated short duration grazes.

6. References

Bartley R et al. (2023) The Rangeland Journal doi:10.1071/RJ22047

Bartley Rebecca, Abbott Brett N., Ghahramani Afshin, Ali Aram, Kerr Rod, Roth Christian H., Kinsey-Henderson Anne (2022) Do regenerative grazing management practices improve vegetation and soil health in grazed rangelands? Preliminary insights from a space-for-time study in the Great Barrier Reef catchments, Australia. The Rangeland Journal 44, 221-246.

7. Appendix


LANDHOLDERS
DRIVING CHANGE
MLA REGENERATIVE AG FIELD DAY
Monday 9 May Dartmoor Station
50km SW of Collinsville (35mins by road)
8am-12noon (lunch provided)
• Join Grazing Naturally's Dick Richardson and Dartmoor's owners as they show you through their demonstration site paddocks.
• Hear feedback on the MLA Regerative Grazing Project and the three host properties involved.
• Join the discussion on grazing systems, forage budgets, pasture utilisation, monitoring tools and evaluating of projects such as this.
• Network with local landholders.
mla
MEAT & LIVESTOCK AUSTRALIA
For more information and to reserve a spot please contact:
Neil Cupples 0423 327 706
Sheridan Callcott 0439 421 994
RSVP by 30 April for catering
Landholders Driving Change is a Burdekin Major Integrated Project funded by the Queensland Government through the Queensland Reef Water Quality Program.
DRY TROPICS
Queensland Government


NQ Dry Tropics
GRAZING FORUM
with
GEORGE STACEY
mla
MEAT & LIVESTOCK AUSTRALIA
George Stacey
Adviser - RCS
28 September
2022
10am to 3pm
Bowen PCYC
Cnr. Hay St & Queens Rd
Bowen
Increase your knowledge and receive practical advice about grazing systems based on animal and landscape processes.
The forum will explore
• Profit and herd performance and how grazing management impacts them.
• Business and herd performance data related to the producer demonstration site project properties.
• A risk management approach to preparing for drought.
This is a Meat and Livestock Australia Producer Demonstration Site workshop. NQ Dry Tropics has partnered with Meat and Livestock Australia to demonstrate productive, regenerative Burdekin grazing practices.
The workshop is also supported by Landholders Driving Change, funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.
RSVP
Rod Kerr
rod.kerr@nqdrytropics.com.au
0488943326
Great Barrier Reef Foundation
RCS
NQ DRY TROPICS

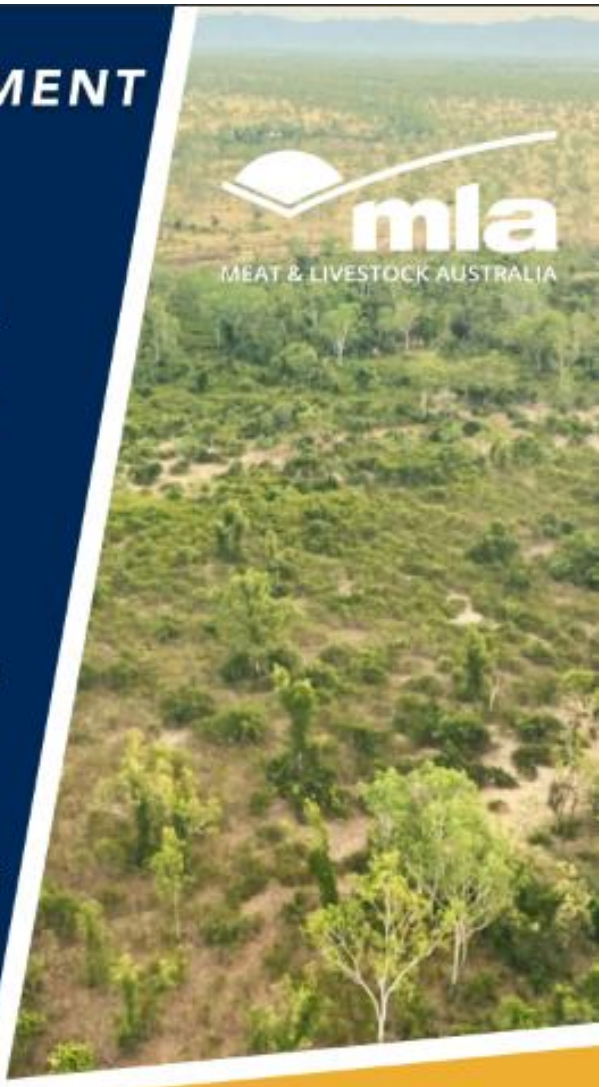
GRAZING MANAGEMENT

With Dick Richardson
Grazing Naturally

NQ Dry Tropics has partnered with Meat & Livestock Australia (MLA) to develop a Producer Demonstration Site to accelerate the adoption of grazing management practices in the Burdekin.

This field day will explore the implementation of a Grazing Naturally program, focussing on the coming wet season, with decision point discussions and planning requirements.

This will be followed by a field component which looks at the planning requirements for specific paddocks and a specific mob of stock.




Dick Richardson, Grazing Naturally

Wednesday 19 October 2022
Strathalbyn Station
Collinsville

9.30am - 3.30pm

RSVP by 14 October:

Rod Kerr 0488 943 326
rod.kerr@nqdrytropics.com.au

Tristan Gibson 0476 889 502
tristan.gibson@nqdrytropics.com.au

Morning Tea and Lunch Provided

This workshop is also supported by the Landholders Driving Change project, funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.

Australian Government | Great Barrier Reef Foundation | NQ DRY TROPICS

NQ Dry Tropics NRM
7 m ·

Following the successful Grazing Young Guns event in May last year, Dick Richardson, of Grazing Naturally, is returning to Strathalbyn Station, Collinsville, to discuss the benefits and challenges of the Grazing Naturally approach implemented in a number of paddock rotations for the past six years.

Benefits include invigorated soil health, improved pasture and animal production, and a positive impact on profitability. This is a great opportunity to learn what is involved in the planning and implementation stages, and to see the Grazing Naturally approach in practice.

The event is being held on Wednesday, 19 October, Strathalbyn Station, 9.30am - 3.30pm. Morning tea and lunch will be provided.

Spaces are running out so be quick to register. RSVP to Rod Kerr on 0488 943 326 or rod.kerr@nqdrytropics.com.au or to Tristan Gibson on 0476 889 502 or tristan.gibson@nqdrytropics.com.au

This is a Meat and Livestock Australia (MLA) Producer Demonstration Site workshop. NQ Dry Tropics has partnered with MLA to demonstrate Burdekin grazing management practices.

The event is also supported by Landholders Driving Change (LDC) funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.

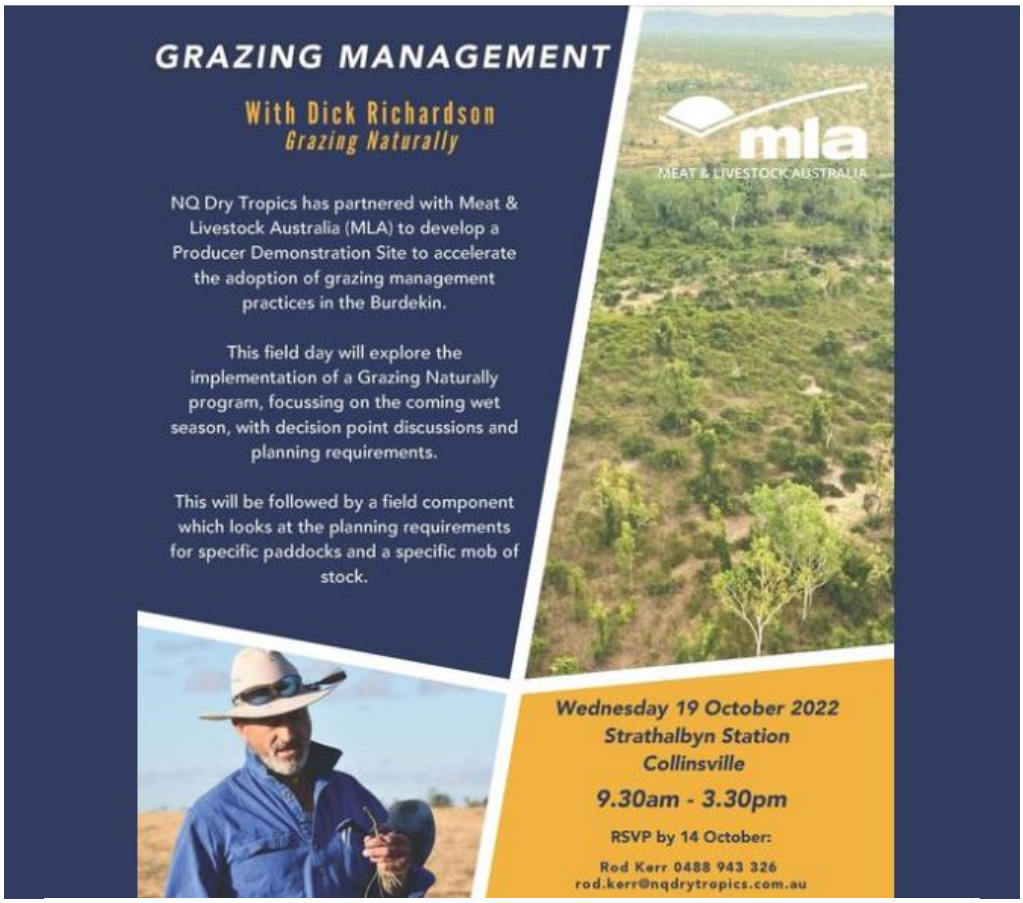
Meat & Livestock Australia Great Barrier Reef Foundation Grazing Naturally

NQ Dry Tropics NRM
22 September at 2:49 PM ·

A grazing workshop not to be missed!

Dick Richardson, of Grazing Naturally, is returning to Strathalbyn Station, Collinsville, to discuss the benefits and challenges of the Grazing Naturally approach implemented in a number of paddock rotations for the past six years.

Benefits include invigorated soil health, improved pasture and animal production, and a positive impact on profitability. This is a great opportunity to learn what is involved in the planning and implementat... See more



NQ Dry Tropics @NQDRYTROPICS · Oct 5

We've partnered with @meatlivestock to demonstrate regenerative grazing management practices in the Bowen/Collinsville region. Dick Richardson of Grazing Naturally is leading a discussion of the approach used on a property for the past six years. Details:bit.ly/3fKblVl

NQ Dry Tropics NRM
12 October 2023 ·

The Collinsville Region Regenerative Grazier Network met this week to discuss regenerative practices as a tool to improve business resilience in the Burdekin Dry Tropics.

The field day provided an opportunity for the group, along with other interested graziers, to discuss how improvements in herd productivity, vegetation, soil health and land condition can be obtained from implementing regenerative grazing principles.

Regenerative grazing, which generally involves some form of rotational grazing with strategic rest, is increasingly seen as a profitable and productive management approach to improve (and in some cases, accelerate) landscape recovery.

The Barrett family, of Salisbury Plains, near Bowen, hosted the day and graziers heard about their regenerative journey. A shout out to the Barrett family - it was a great day!

Technical consultant Dick Richardson, principal of Natures Equity, who is providing one-on-one support to the graziers, led discussions. Topics were wide ranging including:
- grazing management of paddocks
- herd density
- growing season and dry season grazing management
- principles of rest and recovery periods of paddocks
- nutrient supplementation and how to keep costs low; and
- understanding the carbon cycle in grazing land ecosystems.

The 'Demonstrating Productive, Regenerative Burdekin Grazing Practices' project is a Meat & Livestock Australia (MLA) producer demonstration site aimed to demonstrate that regenerative grazing practices are as good as, or better than, traditional set stocking practices across a range of performance measures, while maintaining or improving land condition. It runs from 2020 — 2025.

NQ Dry Tropics' Landholders Driving Change project partnered with MLA to develop the producer demonstration site.

Australian Government | Reef Trust | Great Barrier Reef Foundation | mla MEAT & LIVESTOCK AUSTRALIA

Grazing and gully management field walk

Strathalbyn Station, Qld
Friday 19 April 2024

This event is funded by the Landholders Driving Change project, funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.

Venue: Strathalbyn Station, Strathalbyn Rd, near Collinsville
Time: 9am - 5pm
RSVP: by 8 April, 2024
Morning tea and lunch provided

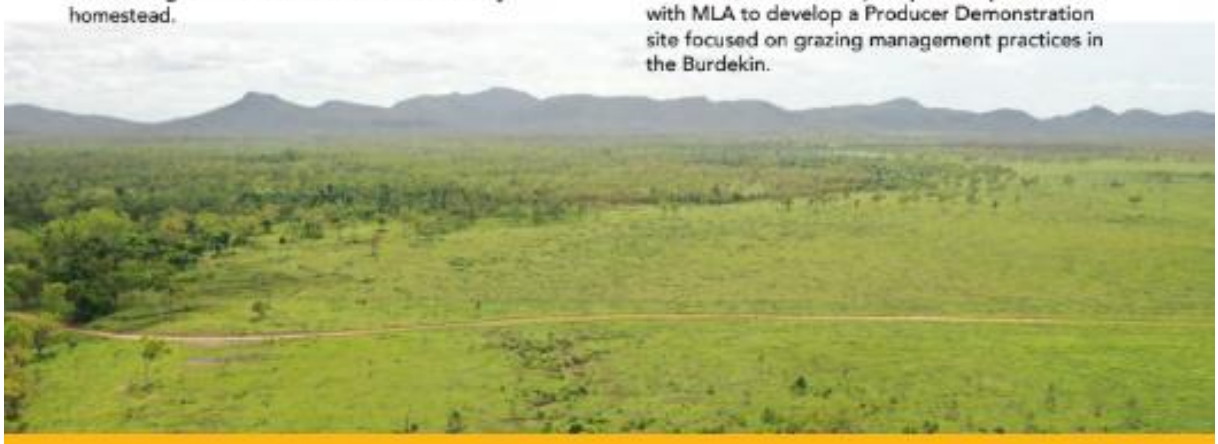
Strathalbyn has completed a range of gully rehabilitation measures and implemented different grazing practices over the past 10 years. We will look at how well these have performed. Speakers leading discussions:

- Dr Christine Jones, Amazing Carbon
- Dick Richardson, Nature's Equity
- Raymond Stacey, RCS
- Leanne O'Sullivan, Glenalpine Station

Places are strictly limited, get in quick to register your interest. Signs will direct visitors from Strathalbyn homestead.

Strathalbyn grazier Bristow Hughes (left) with NQ Dry Tropics Project Manager Rod Kerr at a previous MLA workshop.

This field walk is supported by Meat & Livestock Australia (MLA). NQ Dry Tropics has partnered with MLA to develop a Producer Demonstration site focused on grazing management practices in the Burdekin.



For more information or to express your interest, contact Rod Kerr:
P: 0488 943 326 **E:** rod.kerr@nqdrytropics.com.au

NQ DRY TROPICS

Transforming Agriculture

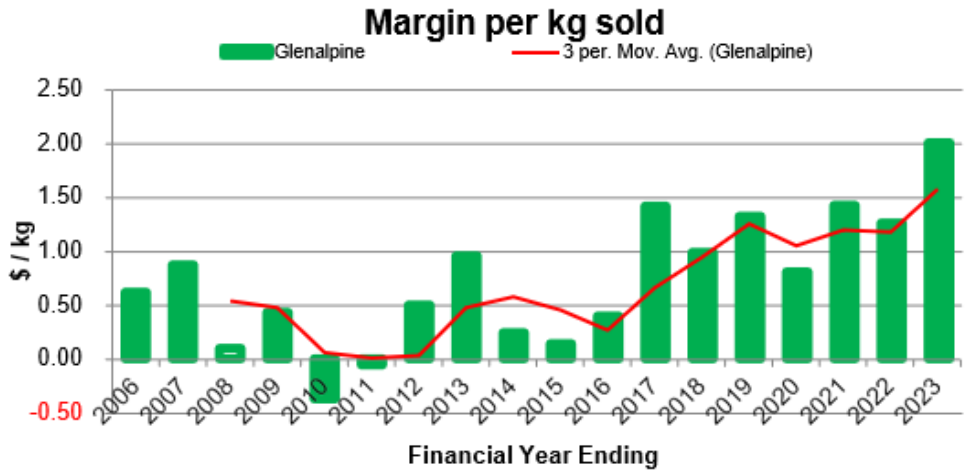
ProfitProbe Results and Interpretation for O'Sullivan Pastoral Holdings

FY 2022-23

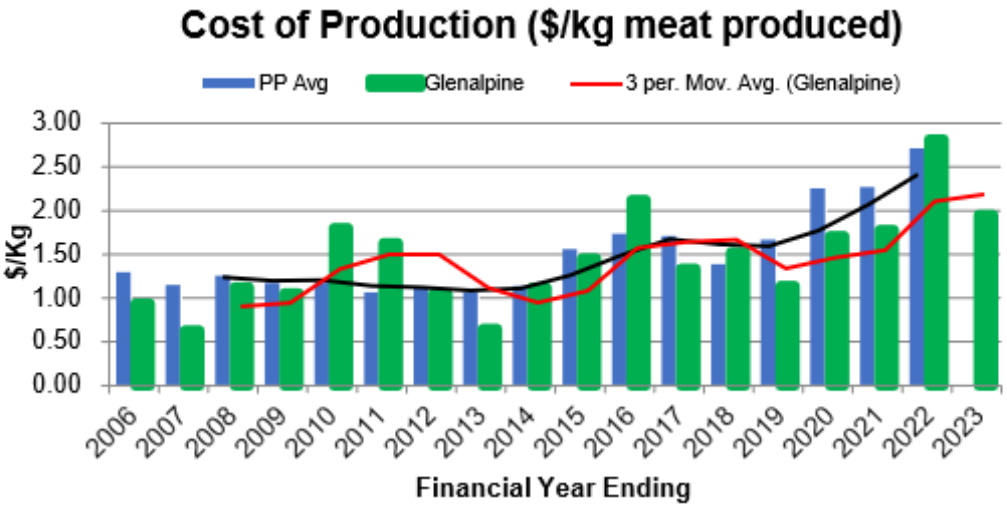
Prepared by

Resource Consulting Services

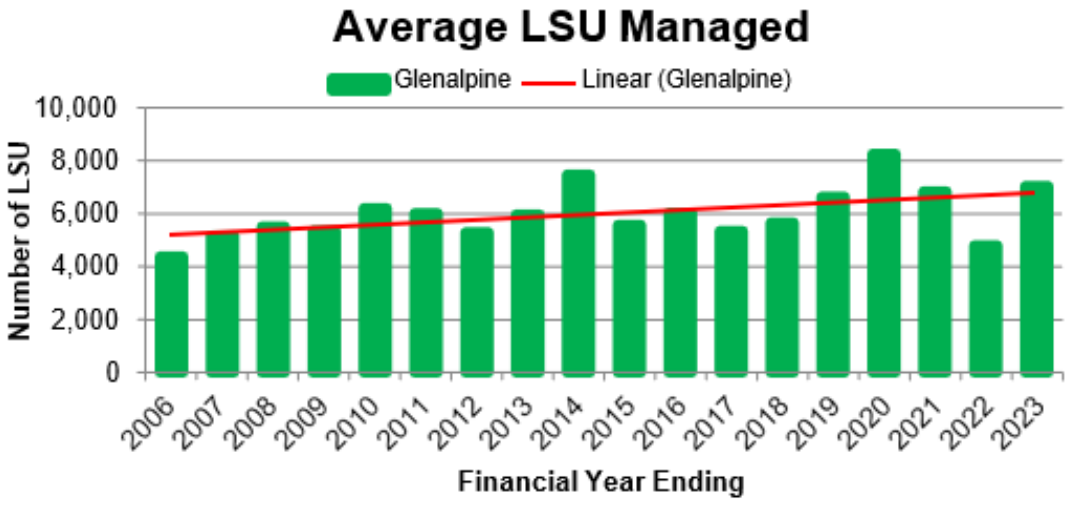
Margin per kg beef sold (Avg Price Received *less* Cost of Production) continued on an upward trend to $2.01/kg, the highest result achieved. With only a small change in avg price received (down 12c), the significant decrease in COP is largely behind this.



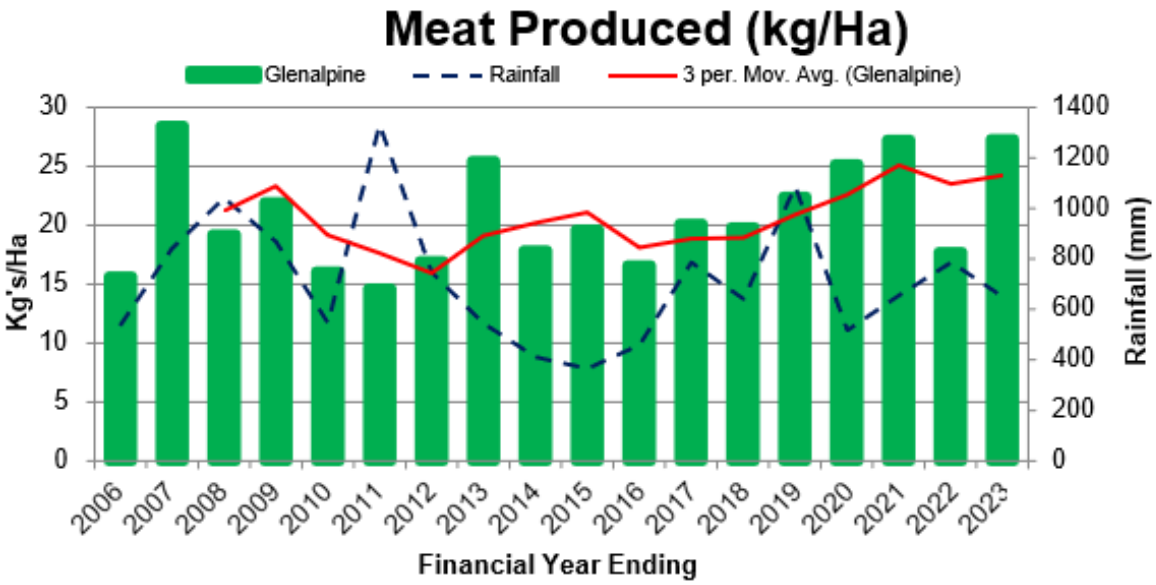
Total kg's produced figure has jumped back up to 765,527 from a lull of 497,088 during FY 22. This has assisted in diluting total costs and thus reducing the $/kg COP figure.



Average LSUs managed also returned to previous levels.



The increase in kg's is also evident on a per hectare basis as seen below. Interesting to note the steady rise in the three-year moving average in comparison to rainfall across time. This points towards an improved efficiency in turning rainfall into kg's of beef.



Core post MLA project survey

The MLA grazing project was started by Mick Shannon in May 2020 with a funded wire and water project and included sessions with Dick Richardson twice each year, and field days/workshops such as Glenalpine May 2021, Bowen RCS workshop September 2022, Hellsgate field walk May 2023, Salisbury Plains October 2023 and the final project event at Strathalbyn April 2024.

Dartmoor Station

O'Sullivan Pastoral Holdings

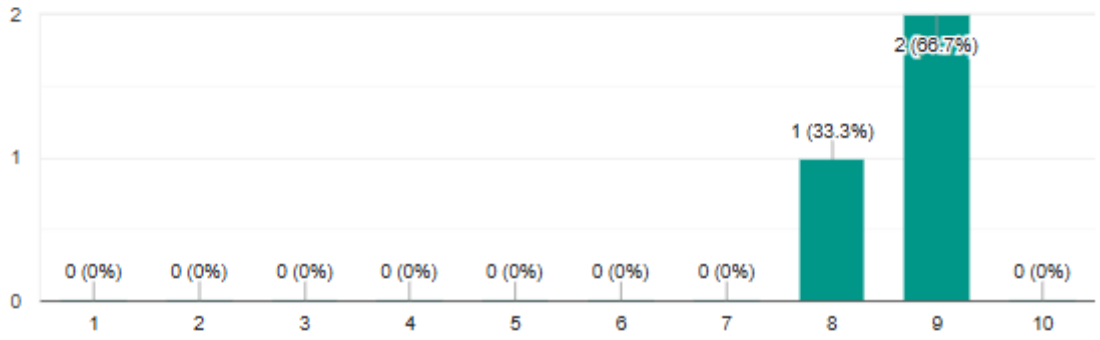
Wentworth Cattle Company

Section A - Your thoughts on the MLA Regen Grazing PDS project May 2020-end 2024

Overall, how **satisfied** are you with this PDS?

Copy chart

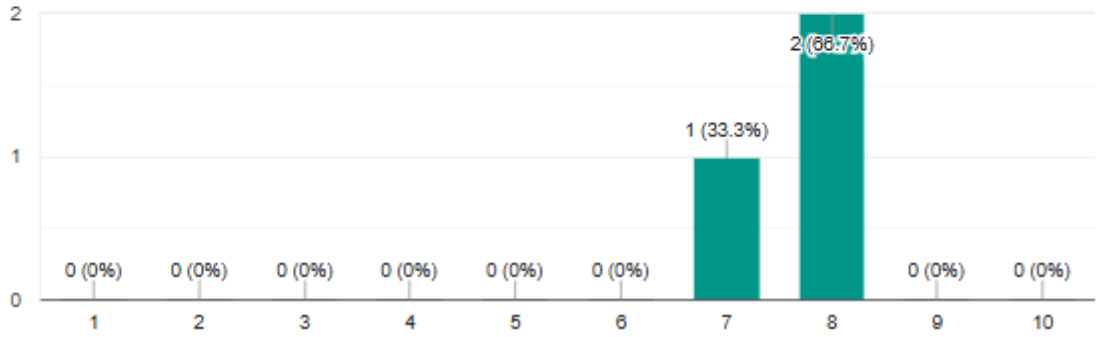
3 responses



How **valuable** was this PDS in assisting you manage your livestock enterprise?

Copy chart

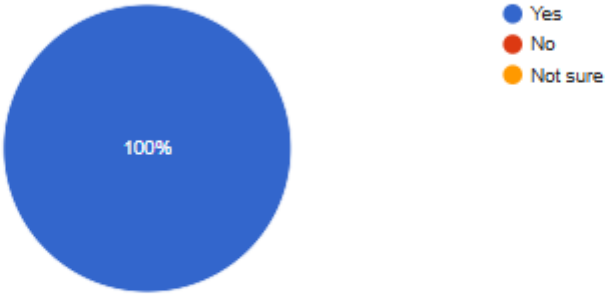
3 responses



Would you **recommend** MLA's PDS program to others?

Copy chart

3 responses



Please provide a short answer to explain your response.

3 responses

very informative and valuable information in being able to make the right decisions with stock and pasture management

Being involved with like minded people & having professional people educating & introducing information that I didn't previously know about.

Thoroughly enjoyed working Rod and the community of like minded people to better understand how and why regenerative grazing works and how it effects the land, animals and people that are involved in it.

Please provide any feedback to help us improve the MLA PDS program.

2 responses

I got allot of value out of this PDS program .

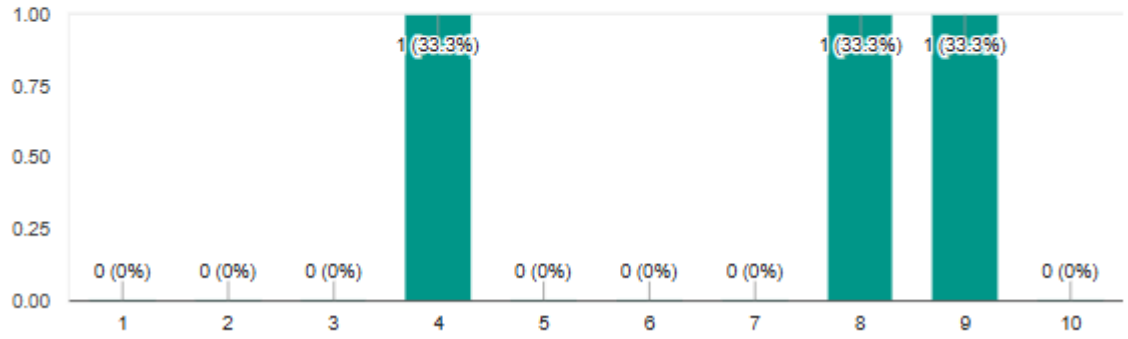
More funding and more projects.

Section B – Knowledge and Skills

Overall, how well has this PDS project increased your knowledge of grazing management.

Copy chart

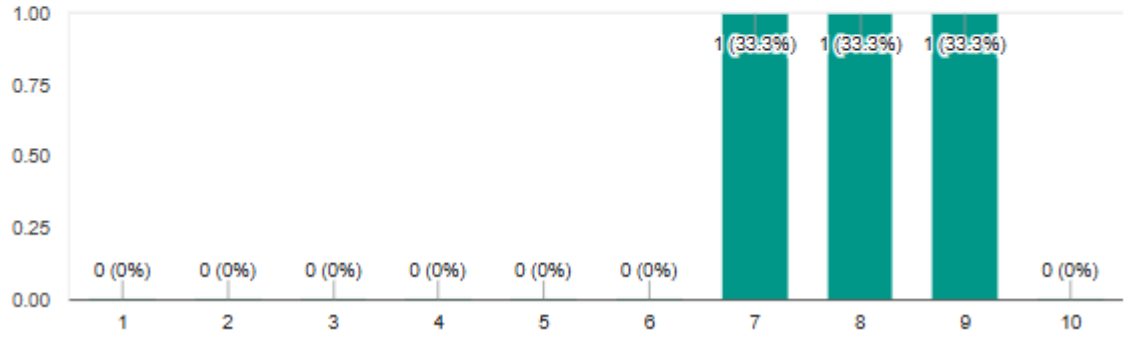
3 responses



Overall, how well has this PDS project increased your skills in grazing management.

Copy chart

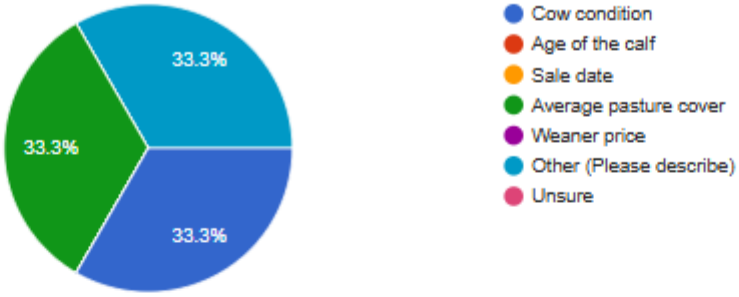
3 responses



What is the most important aspect in determining when to wean calves?

Copy chart

3 responses



How do you determine carrying capacity: (Tick one of the options below)

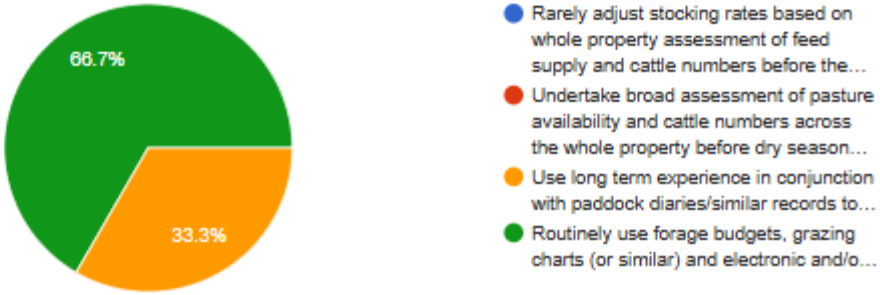
Copy chart

3 responses

How do you manage stocking rates? (Tick the answer that applies to you)

Copy chart

3 responses



Section C – Confidence and Practices

Do you currently use the following practice?

Matching Stocking Rate to Carrying Capacity

Copy chart

3 responses

Do you currently use the following practice?

Time Rotational Grazing

Copy chart

3 responses

As result of participating in this PDS have you improved any of the following metrics relating to your business:

Kg of pasture production per ha

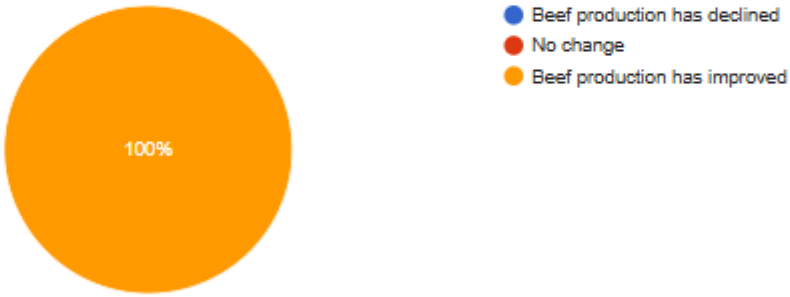
Copy chart

3 responses

Copy chart

Kg of beef production per ha

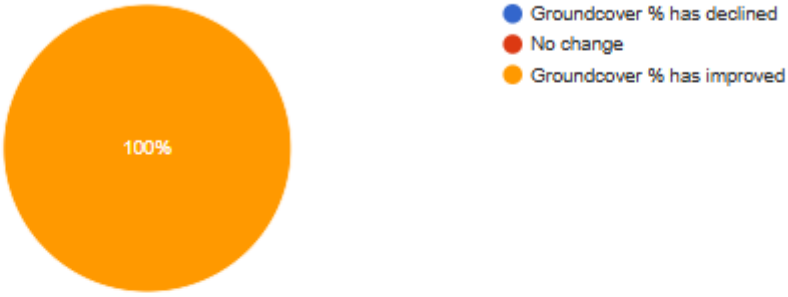
3 responses



Groundcover %

Copy chart

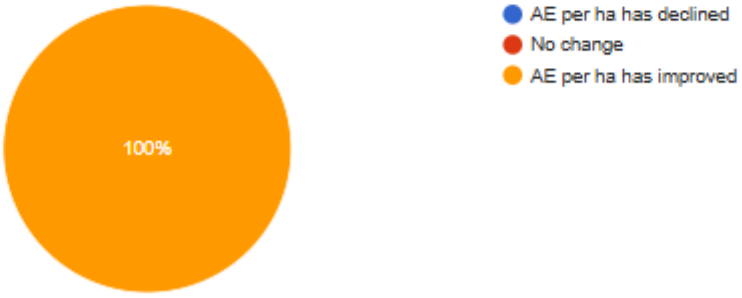
3 responses



Adult equivalents (AE) per ha

Copy chart

3 responses



As result of participating in this PDS could you comment on the following:

Have you made/do you intend to make any other changes to your business as result of participating in this PDS?

3 responses

N/A

Yes, I am allways trying to try new ways to broaden my tool box.

We were already actively participating in regenerative ag practices however through the project we increased what we were doing considerably

What impact did implementing any new practices have on matching Stocking Rate to Carrying Capacity?

3 responses

improved performance of stock and pasture

With the tanks & troughs we put in with the Pr

We were constantly having to increase stocking rate to match the increase in CC

What impact did implementing any new practices have on your productivity and profitability?

3 responses

increace in productivity

Our cattle were more productive.

Significantly increased.