final report

Project code: P.PIP.0498

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Date published: 20/11/17

PUBLISHED BY
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NORTH SYDNEY NSW 2059

NCMC Grazing Management Pilot Program

This is an MLA Donor Company funded project.

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government and contributions from the Australian Meat Processor Corporation to support the research and development detailed in this publication.

Executive summary

Investment & engagement with its members and increasing the production of cattle in the Northern Rivers have been identified as two key elements required for the Northern Co-operative Meat Company (NCMC) to plan for a sustainable long-term future. In order to invest and engage with NCMC producer members whilst fostering improved practices on farm, Meat and Livestock Australia and the Australian Meat Processing Corporation assisted NCMC to develop the NCMC Grazing Management Pilot Program. The pilot program incorporated a partnership with Agforce enabling Northern Rivers Graziers to access the highly successful and established Grazing Best Practice (Grazing BMP) program.

The delivery of the NCMC grazing management pilot program was designed specifically to increase the relationship of NCMC with its suppliers (both NCMC producer members and non-members) and encourage best practices throughout the local beef industry. The main component of the program included an opportunity for Northern Rivers beef producers to benchmark their own business practices against a set of industry standards through the established online Grazing BMP program.

The Grazing BMP program outlines 157 industry developed standards across all facets of management of a beef enterprise including; animal production, animal health and welfare, grazing land management, soil health and people and business practices.

The NCMC Grazing Management Pilot Program was promoted to hundreds of Northern Rivers graziers, with 60 graziers completing at least one or more of the online Grazing BMP modules. Feedback received was positive, with participant evaluation forms on average rating the satisfaction of the workshop as 5.65 / 7 or 81% very satisfied, identifying multiple actions they could implement to assist their operation reach or exceed the industry standard.

Delivery of the NCMC Grazing management program consisted of a mixture of one-on-one visits to producers to provide direct assistance to complete the online modules or via group workshops that included some additional extension covering either one or two of the Grazing BMP modules. There were also two producers that completed the self-assessment directly via the web portal.

Results of the various datasets identified key areas of underperformance throughout the local beef industry. Information gained from these initial results directed additional resources in the later stages of the program to commence extension activities to overcome some of these deficits.

Environmental & social benefits of the program are hard to quantify, however may receive the greatest return from the program as producers gain a greater understanding of their responsibilities and challenges themselves to reach a higher standard. Improved on farm practices also have the potential to create productivity and production gains in the longer term to the producer and the greater industry. Advances achieved in the Northern Rivers beef cattle industry have the potential to increase the quantity and quality of cattle available locally for processing at NCMC Casino service processing facility.

Key recommendations

- Provide graziers with access to tools that enable benchmarking - with support to use them
- Assist beef producers to connect with resources to overcome identified weaknesses
- Hold extension activities in small group environment to encourage two-way communication and knowledge sharing
- Encourage ongoing benchmarking with industry standards and against previous practices
- Continue to build relationships within the supply chain between NCMC and producers

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1 NCMC Grazing Management Pilot Program Background

1.1 Engagement and productivity focus

The Northern Co-operative Meat Company (NCMC) a producer owned beef, veal and pork service processing co-operative established in 1933 is committed to growing the beef industry in the Northern Rivers through encouraging improved practices on farm. Declining agricultural extension services to local beef producers, coupled with a focus of research and development only on the northern or southern production systems has resulted in a service gap to sub-tropical beef producers in the Northern Rivers region of NSW.

The MLA/NCMC Plant Identified Project - *NCMC: Planning for Commercial Sustainability* (2014/15) project identified both investment & engagement with the local community and investment in on-farm productivity as two key elements required to assist the co-operative plan for a long-term future.

In order to encourage on-going member involvement in the future successes of the NCMC and to foster improved practices on farm, MLA, NCMC & AMPC funded a NCMC Grazing Management Pilot program to be delivered across the Northern Rivers area. NCMC joined as a corporate partner with Agforce to access the established Grazing Best Practice (Grazing BMP) program. The Grazing BMP program offered an existing framework that NCMC could utilise to promote positive practice change on farm whilst fostering relationships between NCMC and its producer members.

MLA, NCMC & AMPC's funded the NCMC- Grazing Management Pilot Project which used the Grazing BMP tool to encourage Northern Rivers producers to benchmark their practices against an industry developed set of standard practices. The on-the-ground delivery of the project enabled both an increase in member engagement activities and measurable results from the entered data to identify specific areas where Northern Rivers producers may be operating below acceptable industry standards.

Grazing BMP is a voluntary grazing management system that provides online self-assessment tools that allow participants to benchmark their current practice against an industry developed set of standards. The program was modified slightly by Grazing BMP to allow for results from the pilot program in the Northern Rivers to be compared against the wider Grazing BMP data.

Feedback from Grazing BMP is available direct to producers in real time as they complete their assessment by choosing between 3 examples of listed farms practices that are either below, at or above industry standard. This allow producers to self-identify areas requiring improvements within their grazing operation and encourages the development of an "action plan" for them to meet or exceed the industry standard.

Results are also available to Grazing BMP Co-ordinators identifying property locations allowing targeted extension activities to be developed on a needs basis.

In addition to the potential direct benefits that the program can provide Northern Rivers producers with their on farm management, the Grazing BMP program may in the future have the added potential in product marketing by promoting that local NCMC Beef producers have been actively supported in their efforts to produce high quality food that is grown using environmentally sustainable practices with high animal welfare standards.

The Grazing BMP program has been in operation in QLD since 2006 with AgForce actively promoting the program actively since 2012. Over 1,700 producers in QLD have participated in the program to date via either via the self-paced online learning platform, on farm training, or face to face workshops covering; soil health, animal health and welfare, grazing land management, animal production and people and businesses.

The content of the NCMC Grazing management pilot program targeted a number of key themes in the Agricultural competitiveness white paper including:

- Strengthening our approach to drought and risk management
- Farming smarter
- Accessing premium markets.

1.2 Co-ordination and delivery

The NCMC – Grazing BMP pilot program was delivered throughout the Northern Rivers area where 80% of NCMC producer members are based. The area is considered of national significance due to its unique environmental attributes. The region covers 20,706 square kilometres with a population of 290,000 people or 4% of NSW population . Encompassing the Local Government Areas of Richmond Valley, Ballina Shire, Byron Shire, Clarence Valley, Tweed Shire, Lismore City and Kyogle Shire. (RDA (2015) *Northern Rivers Beef Industry: Industry Snapshot*, Northern Rivers, page 5)

The Northern Rivers beef industry is the largest Agricultural economical contributor to the Northern Rivers Local Land service area. However, it also presents some of the greatest challenges with small landholdings, competing land uses in particular from non-agricultural and urban development. The average herd size (Huefner & associates PL, 2012) is less than 100head.

The Grazing BMP aims to increase the self-awareness of participants on farm practices, skills and aspirations to encourage practice change in their grazing business, with a focus on building sustainable and profitable businesses. The on-line program consists of 157 standards across five modules covering all aspects business. Producers are able to self-access their practices against an industry developed example of “below standard” “at standard” or “above standard”. Participants that identify any area that they wish to make a practice change in are prompted to create an action plan to address the issues.

2 NCMC Grazing Management Pilot Project objectives

The aim of the project was to foster improvements to beef cattle production in the Northern rivers by encouraging best management practices for sustainable and profitable beef production whilst building the relationship between Northern Co-operative Meat Company and its suppliers.

2.1 Project objectives

The objectives as per the revised project contract:

- NCMC investment and engagement with members
- Provide linkage to the pilot program for MLA's new adoption model.
- Local beef producers in the Northern Rivers will have access to both the Grazing BMP Program and tools from MLA's new extension packages to Improve productivity in the following areas;

    - Measure current performance
    - Develop skills to assist manage during drought
    - Increase financial literacy of beef producer members
    - Gain greater awareness of industry requirements, including traceability, workplace health and safety.
    - Increase graziers awareness of current practices and pathways to address areas of underperformance
    - Collectively demonstrate better on property environmental management, address river quality.

3 Methodology

The NCMC-Grazing management pilot program consisted of a range of activities aimed at increasing 50 – 75 producer's awareness of industry standards, by assisting access to the Grazing BMP online platform to benchmark their own practices against these standards. A number of additional producer engagement and educational components related to these standards were also included throughput the delivery of the project.

The methodology involved conducting one-on-one interviews and workshops to assist with Grazing BMP data entry and to create additional opportunities for NCMC to engage with its suppliers. Later stages of the program provided forums to commence overcoming known deficiencies (as identified in Milestone 3). Additional member engagement activities replaced the re-assessment phase and included displays at the local primary industry field day PRIMEX and the addition of a succession planning industry day.

3.1 Promotion

The NCMC-Grazing BMP was promoted to NCMC members in newsletters (both mail & email) and all Northern Rivers producers via a number of websites, newspapers articles and at other industry events.

Other agencies with a connection to beef production such as Local Land Services, Casino Beef Week, Councils, Landcare, Beef Groups etc also assisted to encourage participation by allowing promotional items and presentations at producer field days and other gatherings.

Over 500 producers attended various information sessions that were held and over 2,000 “About Grazing BMP” Flyers were distributed.

3.2 Delivery

Project activities were designed to cater for various producer needs and learning styles. Given the high number of farmers in the area with varied demographic’s, the project also created an opportunity to investigate and trial the effectiveness of various different methods of extension services in delivering the pilot project to Northern Rivers beef producers.

Delivery methods of the Grazing BMP assessments via;

i. On Farm one-on-one delivery
ii. Group training at workshops (1 to 2 modules per workshop) with module extension
iii. Self-paced learning independently via website www.bmpgrazing.com.au

Delivery of additional engagement and education via;

i. Three-day display at the local agricultural field day to increase awareness of program and other resources available to local graziers
ii. Beef industry day focusing on underperforming areas to elicit effective practice change

3.2.1 One-on-One Delivery

Delivery of the NCMC Grazing BMP program via one-on-one was successful at ensuring producers completed multiple modules at each session. It enabled more in-depth discussion on the standards themselves, their practicalities in the local environment and producers quiet often shared detail of their personal experiences on the matter. This learning environment was created by the consultant being able to give full attention / assistance to the producer participant as required. This hands-on assistance was often required to use the computers due to the limited experience with that many of the members have had with ipads or computers.

Whilst the delivery to nearby properties were linked when possible, the sporadic nature of registrations resulted in inefficiencies by revisiting areas multiple times. The main disadvantage of delivering the program via one-on-one sessions was that it was very time consuming for both parties, relatively expensive and although the region is not geographically large, a number of the properties had no phone coverage, internet service and poor access roads.

3.2.2 Workshop delivery

Involved delivering the program in a small workshop environment, with expert guest speakers covering one or two of the Grazing BMP modules and then allowing the producers to access computers in the room and complete the relevant module/s online. This method proved to be highly effective as it allowed producers to get a very good understanding of the standards and why they are relevant to their operational system.

The workshop environment often saw neighbours sitting beside one another and often led to producers rating their practices as lower than they may have if completing a one-on-one. One farmer commented “…I better be honest and click below standard my neighbour is next to me…”

Another benefit of the workshop setting was the discussion that would take place between the farmers at a business level, they would discuss challenges and often work together to problem solve and collaborate to overcome issues.

The most notable disadvantage of the workshop session producers going through the modules at different speeds and the low computer literacy level of many of the project participants. It is estimated that that 25% of the participants had little or no previous experience at using a computer. This in most cases was not a barrier to the program when they could receive adequate assistance to register and begin to complete the modules. Difficulty reading the text off the computer was another common issue with some of the older farmers in the room resulting in each standard needing to be read aloud to some of the participants.

3.2.3 Self-paced learning directly via the website

Local beef producers also had the opportunity to register an interest and complete the program on line without assistance. We had 2 members (who were already highly engaged with NCMC) register and complete some of the modules via this method. However, both of these required assistance to set up with one requiring 3 phone calls to navigate the site and register the property details on the program.

A number of other producers that were interested in the Grazing BMP program, obtained a flyer and stated they wanted to complete the modules online failed to register or contact NCMC for assistance. Feedback from some of these graziers at a later date identified constraints to be that they are short of time, found the registration process difficult and need to focus on activities on farm that will provide a direct financial benefit.

3.2.4 Additional Extension and Engagement Activities

The NCMC Grazing management pilot project was varied to remove the requirement for - re-assessment phase (Milstone 5) as it was found to be too short of time frame for producers to complete significant practice change. A revised Milestone 5 included two member engagement - education activities, an Industry Day focusing on Planning for your future (Succession) at Casino Beef Week and a 3-day trade stand at Primex 2017 promoting Grazing BMP, NCMC and distributing additional educational MLA resources.

3.3 Post Registration Support

Additional support was provided throughout the project period to the participants both face-to-face, online and via telephone to assist producers at various levels of the program. This support included; assisting producers to register and commence the Grazing BMP modules, understand the standards and assist in providing suggestions as to avenues producers could investigate if they sought advice on how to overcome identified weaknesses.

3.4 Linkages

Throughout the NCMC Grazing Management project many collaborations were formed with other government agencies and associated groups to assist producers to access services and support to address skill deficiencies. The collaborative approach between these groups ensured that producers were linked with various supporting organisations, creating support networks well past the project period.

The Local Land Service, Department of Primary Industries, Local Councils, Meat & Livestock Australia, Landcare, Northern Rivers business bankers, the Rural Financial Counselling Service and the Grassland Society of Australia were all involved in various stages of the project.

Meat & Livestock Australia also supplied a number of relevant take home material that was distributed throughout the program including pamphlets, booklets and kits which were well received by participants for further learnings to be achieved.

3.5 Monitoring, evaluation and reporting

All NCMC – Grazing BMP assessment data was entered directly by the participating producer into the centralised AgForce Grazing BMP database. The raw data was then made available to NCMC in a variety of forms and reported to MLA, with the assistance of the Grazing BMP corporate reports.

All activities were monitored in terms of their alignment with the Grazing BMP modules and future activities were designed giving consideration of analysis of datasets that were obtained in order to provide relevant extension to address known skill deficiencies.

Producer feedback from the one-on-ones was provided verbally throughout the data entry process. Producer feedback from larger workshops was obtained from participants via a tailor-made feedback form with the results collated.

Project reporting was completed via a series of Milestone reports with updated industry data to MLA throughout the project period.

4 Results

4.1 Participation in NCMC - Grazing BMP

The uptake of the Grazing BMP component of the program met expectations of between 50-75 producers with 60 registering and completing at least one module.. The level of awareness of the Grazing BMP program in the local area was good, particularly amongst NCMC members due to the promotion via direct mailouts NCMC and other networks, however as expected only a small percentage of those attending information sessions continued onto registration and data entry.

Producers choosing to complete the modules, generally did so with an aim to;

1) Increase understanding of industry standards
2) Benchmark their standards against the industry set ones

3) Increase profitability
4) Increase sustainability
5) Personal development – one just for the certificate

Some of the reasons given by producers deciding not to go through to assessment phase; -

1) No direct financial benefit to producers
2) Concerns over data security - worried that those recorded as underperformers may be targeted at a later date
3) Belief Grazing BMP is a rebadged version of Cattlecare - which many local producers joined under the expectation of premiums that failed to be sustained
4) Producers are already time poor
5) Self-judging as below standard and not wanting to be identified formally as below standard
6) Believing they will not benefit from the program

4.1.1 Information and Education Sessions

A number of short presentations were held throughout the Northern Rivers to promote access to the NCMC – Grazing BMP component of the program. Interest was initially high, however actual uptake after the event in general was low as many producers were hesitant to sign up to the online program. A number of producers joined in the theory component (when available) to learn more about the standards, without proceeding to the online assessment. These producers were still encouraged to participate in the theory session, despite not contributing to the data collection component of the program, as they increased their own personal awareness of the standards thus provided an overall benefit to the industry.

Date	Location	Associated Group/Day	Number of Attendees
1st April 2016	Casino - Windara	NCMC – Collaborative Farming and Young Farmer Opportunity Day	60
6th April 2016	Grafton – Carrs Peninsular	Grafton LLS Beef Group	30
28th April 2016	Tweed – Doon Doon	Tweed Council Ag Group	15
5th May 2016	Casino – Mogul Brahman Stud	Casino LLS & Norco Beef group	120
10th June 2016	Geogia - Nimbin	Lismore Council Rural Land holders initiative	30
27th July 2016	Grafton – Hotel 5	NCMC	30
27th July 2016	Lismore – Workers club	NCMC	28
28th July 2016	Casino – Windara	NCMC	40
9th December	Ettrick Dung Beetle Day	Landcare	30
10th December	Mummulgum Dung Beetle Day	Landcare	20
23rd February	Grasslands	LLS, Grasslands	60
30th May 2017	Casino Earth Centre	NCMC, Casino Beef Week	100
26th April 2017	Wollongbar TAFE	NCMC	10
15,16, 17th June 2017	Primex Field Days	NCMC	150

Table. 1 Information and Education sessions

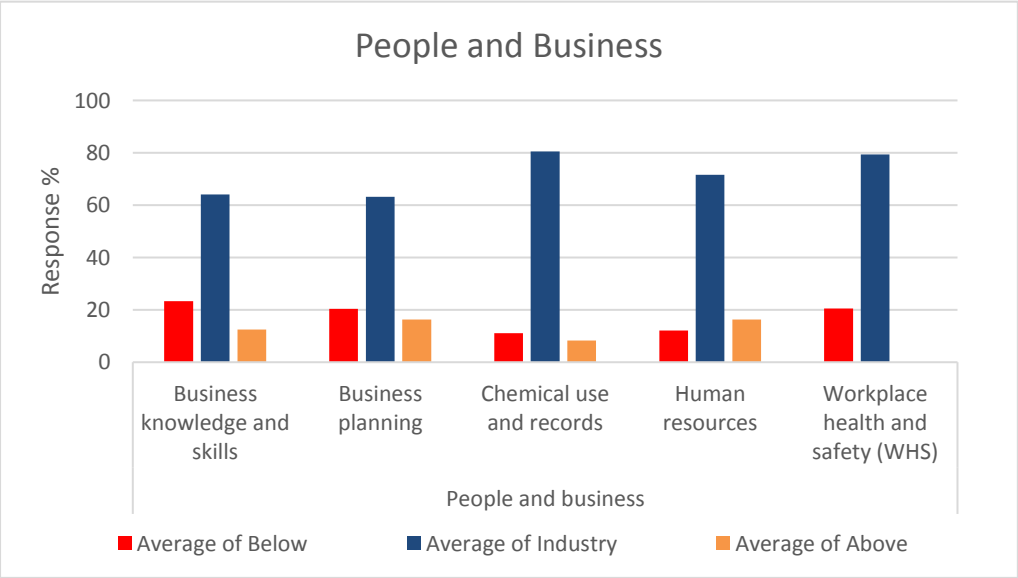
4.1.2 Data entry

The NCMC Grazing Management pilot program - Grazing BMP data measured the results of 60 approved businesses as at 25/05/17. The results were grouped according to the geographical location of the participant, allowing for specific feedback for the Northern Rivers area.

4.2 Grazing BMP Data results

4.2.1 People and Business

The Grazing BMP - People and business module assists producers to gain a greater understanding of how their practices of business management including setting goals, calculating their cost of production, return on investment, planning etc compare with that of the greater industry.



Graph 1 – Grazing BMP Data – NCMC Data People & Business Module

Source: GRAZING BMP Corporate report 2017. People and Business 1st Jan 2015 to 25th May 2017.

Key findings/challenges:

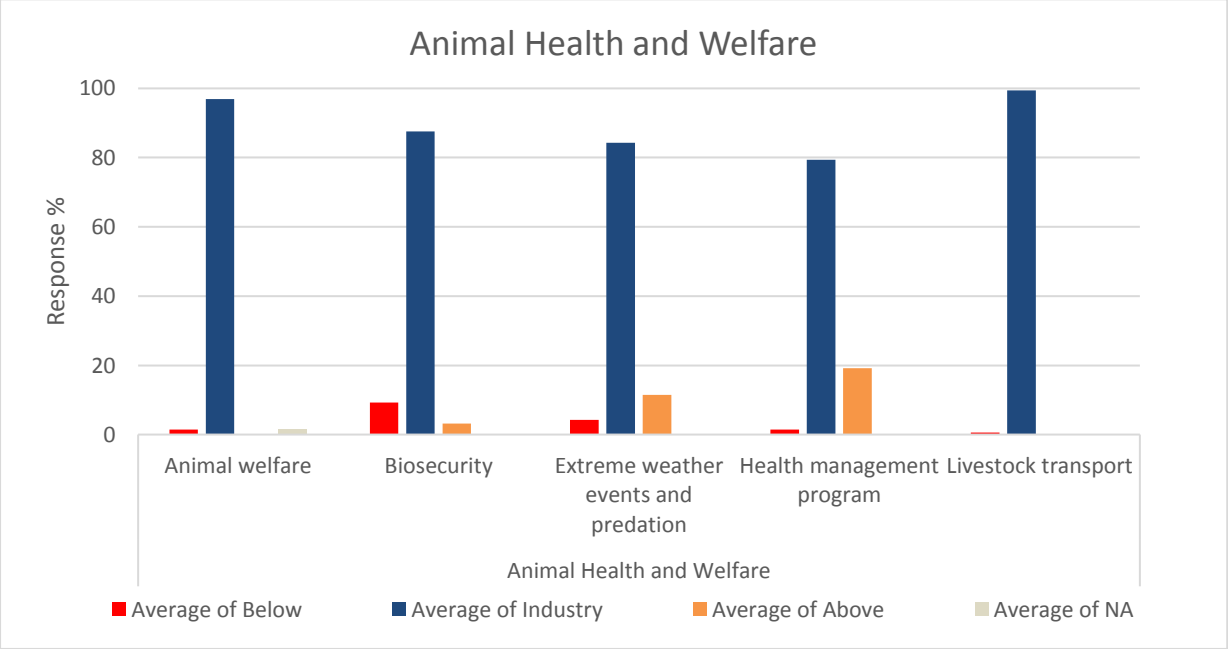
The results of the Business and People module in the data entered for the Norther Rivers identified the People and Business Module to be the greatest concern to the region as it was the lowest performing of all the modules.

- 30.2 % of participants self-identified as being *below standard* in relation to **succession planning**. Many did not have a will, power of attorney nor succession plan in progress
- 25.6% of were identified as below standard in regard to **Business and Financial records,** by only keeping the minimum amount of records for taxation purposes and lenders

- 45% were below standard as they failed to undertake **visitor inductions** or to keep details on visitors to the property.
- 40.5% had no emergency response plans as required for **workplace health and safety**
- 30.6% are below standard at keeping ang maintaining **chemical records**

4.2.2 Animal Health and Welfare

The Grazing BMP Animal Health and Welfare module specifies on-farm practices that are vital for processors such as NCMC to maintain global meat market access. The practices covered in the module are also becoming increasingly important to the wider community to ensure producers can maintain a social licence to farm. It encourages producers to understand their legal responsibilities and put steps in place to prevent and prepare for challenges to animal health and welfare.



Graph 2 – Grazing BMP Data – NCMC Data Animal Health and Welfare

Chart Source: GRAZING BMP Corporate report 2017. Animal Health and Welfare Module 1st Jan 2015 to 25th May 2017.

Northern Rivers project producers in general recognised the need to maintain very high levels of animal health and welfare. 100 % of producers self-assessed their practices at or above standard for their understanding of animal welfare responsibilities, treating sick or injured stock, suppling adequate feed and water and having adequately trained staff.

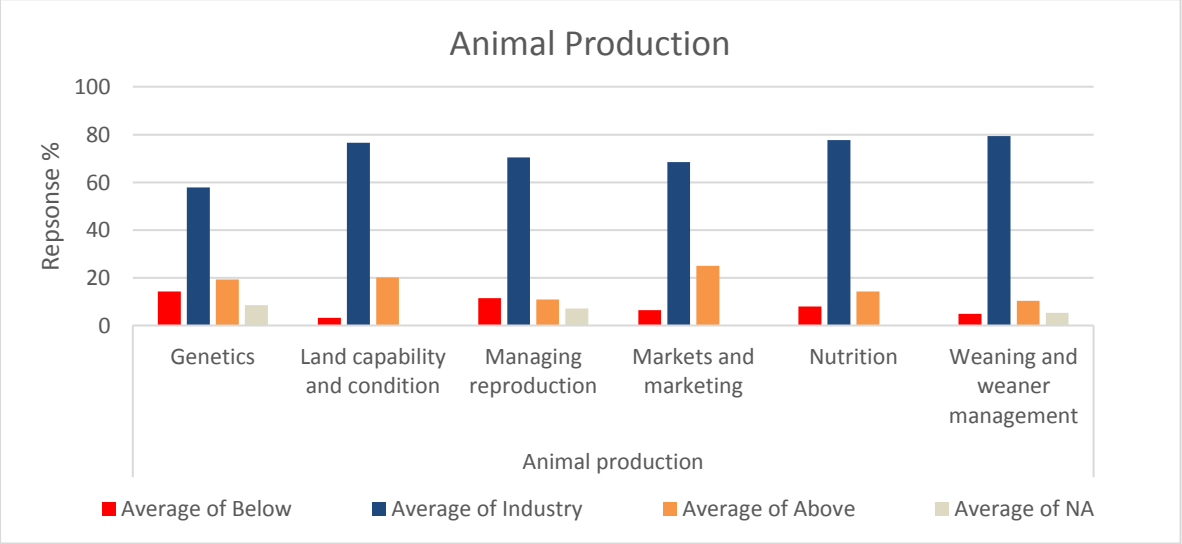
Key findings / challenges: -

- 97 % recorded practices of above industry standard at **identifying health risks**
- 5.4% reported to be below standard at **recognising disease**

- 14.3% reported as below standard for **livestock health**
- 14.3% were below standard in their **biosecurity** responsibilities for **vehicles and equipment**
- 17.1% reported as below standard in relation to **feral animals and wildlife** biosecurity responsibilities
- 11% were below standard at **keeping records** for biosecurity purposes
- 5.6% reported their **facilities & equipment** to be below standard

4.2.3 Animal Production

The Grazing BMP Animal Production module covers standards relating to understanding the land, its capabilities, condition and soils, carrying capacity and environmental considerations. Knowing land capabilities will assist in planning and providing animals with adequate nutrition, and forward planning for marketing options.



Graph 3 – Grazing BMP Data – NCMC Data Animal Production Module

Source: GRAZING BMP Corporate report 2017. Animal Production 1st Jan 2015 to 25th May 2017.

Results from the Animal production module of the program had a far greater distribution than other areas, with practices used for genetic selection and managing reproduction showing a real lead and tail in the results.

Local producers met or exceeded the standards in most cases for understanding their land capability and condition and there was over 30% of producers who had above standard for their marketing practices.

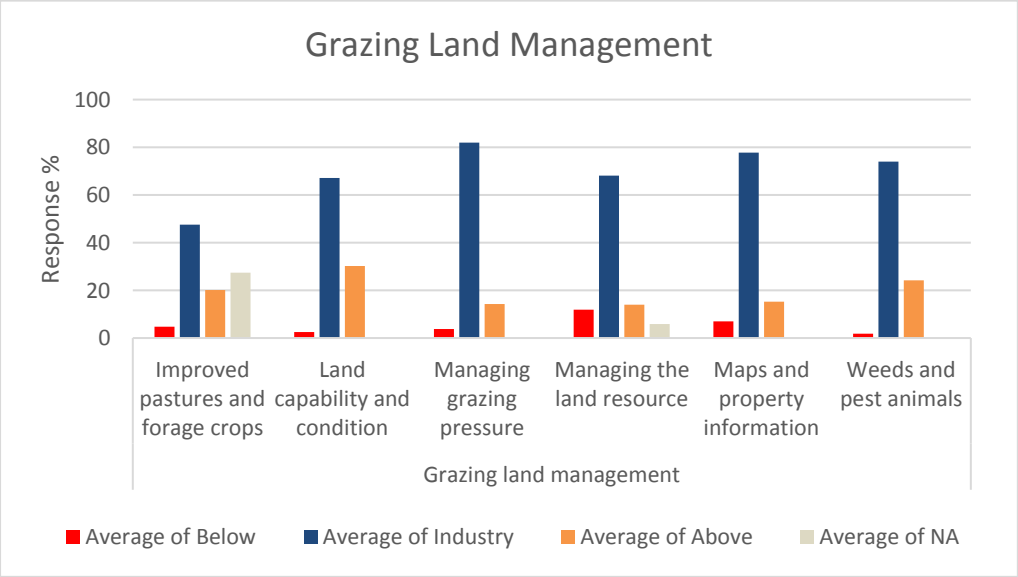
Key findings / challenges: -

- 26.7% were recorded as below standard at **selecting for fertility** (preg testing etc)
- 28.6% reported be below standard at supplying **adequate nutrition** for livestock performance

- 25% were below standard at **maximising genetic progress**

4.2.4 Grazing Land Management

The Grazing Land Management module focuses on producer practices for managing pastures and includes stocking methods, environmental management standards, erosion, weeds and pest animal practices which are all important aspects of beef production.



Graph 4 – Grazing BMP Data – NCMC Data Grazing Land Management

Source: GRAZING BMP Corporate report 2017 Grazing Land Management 1st Jan 2015 to 25th May 2017.

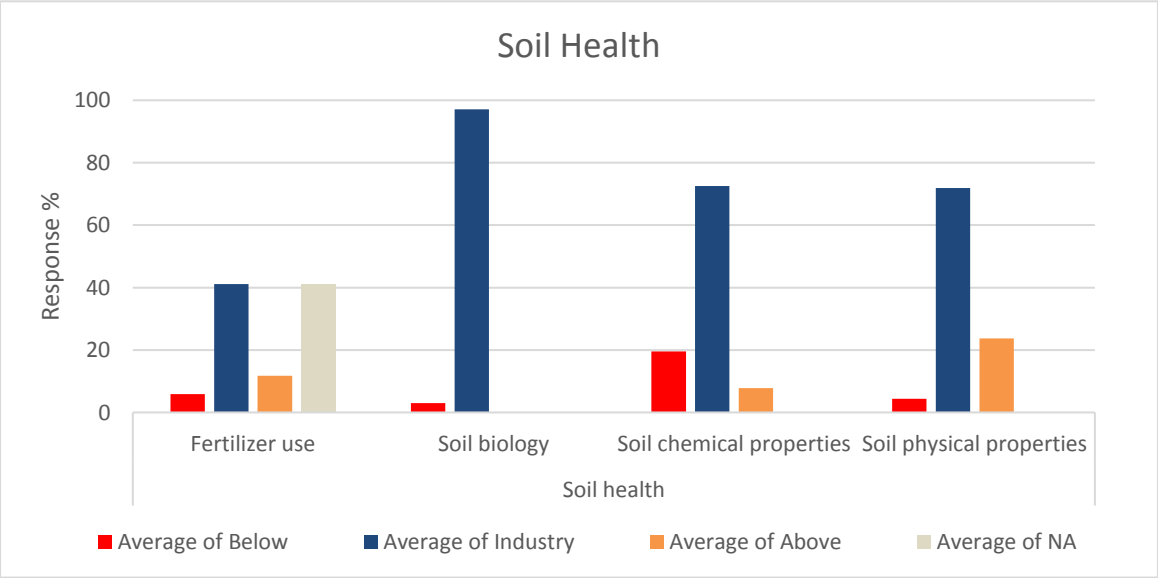
Key findings / challenges: -

- 28.6 % of participant producers recorded their practices as below standard for **managing frontages and wetlands**
- 26.1% rated at below standard for **fence lines, fire breaks and roads**, however 30% recorded their practices as above standard in this area
- Figures for both **weed and pest animal control** identified most businesses as operating at standard or above, however this does not reflect the verbal responses. Producers felt they were performing all the necessary practices to be at standard, however they were still not being able to keep up with pests or weeds.

4.2.5 Soil Health

Results from the soil component of the NCMC Grazing Management pilot program were varied, just as there is a wide variation in soils in the sample area. Results for understanding soil biology and soil organic matter were very high at between 96-100% which may be attributed to work recently completed in the area by Soil care, the soil food web and Judi Earl.

Participants had a good understanding of ground cover, nutrient cycling, water infiltration and storage and most had a desire to improve their soils for both production and environmental benefits.



Graph 5 – Grazing BMP Data – NCMC Data Soil Health

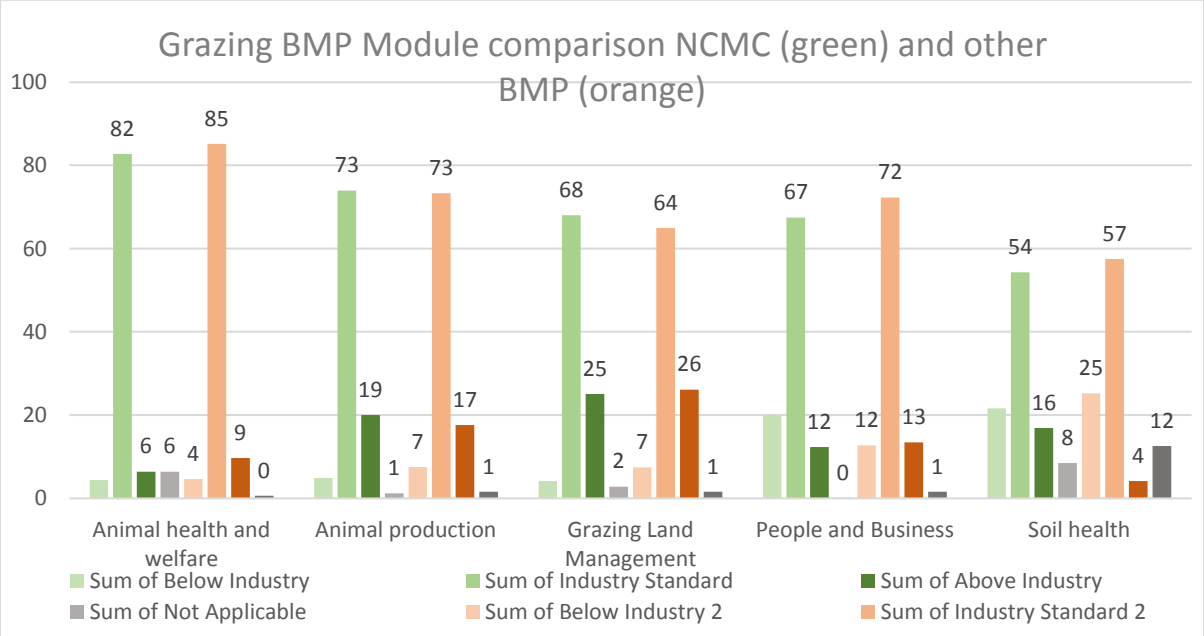
Source: GRAZING BMP Corporate report 2017. Soil Health 1st Jan 2015 to 25th May 2017.

Key findings / challenges: -

- 23% identified as below standard with practices surrounding a **soils chemical property** and **nutrient supply**
- 10.5% as below standard at understanding physical **soil types**
- Over 40% of graziers recorded that they **do not use fertiliser**, and of those that do most buy only what they need as they need it

4.3 Comparison of the Northern Rivers Data against Grazing BMP other data

The project data entered into the Grazing BMP database was able to provide a snapshot of how the participating Northern Rivers graziers practices compare against the greater Grazing BMP data.



Graph 6 – Grazing BMP Data – NCMC Data against wider industry data

Results from the local NCMC - Grazing BMP data suggests 74% of participating local producers assessed their operations at industry standard in standards relating to animal production, which is similar to the greater Grazing BMP data. Interestingly local participants rate their grazing land management practices as at a higher level (68% at standard) than other grazing BMP participants (65%).

The areas of the business where local Northern Rivers producers assessed their standards as a lower level than the greater Grazing BMP data were Animal Health & Welfare, People and Business and Soil Health.

- 83% of local participant's rate recorded their practices as at standard for **animal health & welfare** which is slightly below the greater Grazing BMP data. Approx. 5% recorded below industry standard for animal welfare.
- 67% of participating local producers considered their practices to be at standard when assessed on their **business and people** management areas of the business with 20% rating below industry standard for business and people.
- 54% of local participants were assessed at industry standard for knowledge and management of **soil health**, but greater than 20% reported being below standard for their soil health.

4.4 Feedback / evaluations

4.4.1 One-on-one interview feedback

The extensive one on one interview phase, allowed lots of discussion and feedback on the standards and many producers had to stop and think about their practices and where they fit in relation to the standards. A list of the most common verbal feedback provided for each standard is given below.

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
Health management program	AH 1.1 Identifying health risks	To be good to very good at identifying health risks	2.5	62.5	35	0
	AH 1.2 Health management program	Have a regular health plan in place with vaccinations, castration and general care. Few however have a written health plan	2.6	81.6	15.8	0
	AH 1.3 Staff training	Very few employ staff, most owner-operator and are very experienced & consider themselves to be skilled	0	86.5	13.5	0
	AH 1.4 Recognising disease	94% believe they are good at identifying sick or injured animals, quarantining them and treating accordingly	5.4	73	21.6	0
	AH 1.5 Monitoring livestock	Small properties are often easier to check on a regular basis & notice if animals are unwell	0	75.7	24.3	0
	AH 1.6 Responding to health issues	A good supply of local vets are generally available and utilised regularly by graziers	0	78.4	21.6	0
	AH 1.7 Managing parasites	All participants believed they were good at treating for parasites	0	75.7	24.3	0
	AH 1.8 Poisonous plants	All most all participants could identify poisonous plants	2.7	86.5	10.8	0
	AH 1.9 Toxicities	All participants believed they could identify other toxicities on their properties	0	94.6	5.4	0
Extreme weather events and predation	AH 2.1 Planning for extreme weather events	Most had a drought and flood plan in place, though only a small proportion had a written plan	5.7	71.4	22.9	0
	AH 2.2 Managing predation	Wild dogs were of high concern thus the majority of producers were actively engaged in a baiting program and/or had a shooting program on property	2.9	97.1	0	0

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
Biosecurity	AH 3.1 Biosecurity planning	Nearly 10% failed to have any sort of biosecurity plan. (Note: This was prior to LPA requirements changing.)	8.6	88.6	2.9	0
	AH 3.2 Livestock health	15% believed they were below average at keeping the livestock in good health. Often due to time constraints of off farm employment & variable seasons	14.3	80	5.7	0
	AH 3.3 Livestock movements	All had NVD books and kept track of livestock movements as required	0	100	0	0
	AH 3.4 Quarantine procedures	Nearly 95% quarantined new animals on arrival at farm	5.7	94.3	0	0
	AH 3.5 Vehicles and equipment	14.3% had issues with vehicles and equipment not being cleaned coming onto property. Vets / grain trucks / council roads were generally the concern	14.3	80	5.7	0
	AH 3.6 Fodder biosecurity	Most did not purchase outside fodder, those that did were careful about the supplier and often had only certain areas for fodder feeding where they could monitor weed germination in the future	2.9	85.7	11.4	0
	AH 3.7 Feral animals and wildlife	Whilst all had a plan for feral animals, nearly 20% believed they still had issues & livestock losses due to feral animals.	17.1	82.9	0	0
	AH 3.8 Record keeping	Most believed they kept good records. Quite a few would like to improve by keeping weights / calving histories etc. Lack of scanners & scales was a common issue	11.4	88.6	0	0
Animal welfare	AH 4.1 Animal welfare responsibilities	All responded that they destroyed animals as needed in the most humane method available at the time	0	100	0	0
	AH 4.2 Sick or injured livestock	All respondents noted that they treat sick or injured animals at industry level	0	100	0	0
	AH 4.3 Feed and water	All believed they had adequate feed & water for animals at all times	0	100	0	0
	AH 4.4 Facilities and equipment	Most identified as having a good set of yards and loading facilities.	5.6	94.4	0	0

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
	AH 4.5 Livestock handling	All believed they were experienced and knowledgeable livestock handlers	0	100	0	0
	AH 4.6 Environmental conditions	Cattle were only handled during suitable environmental conditions	0	100	0	0
	AH 4.7 Husbandry procedures	Most rated themselves as good with animal husbandry. A couple thought they were slow due to off farm commitments.	2.9	97.1	0	0
	AH 4.8 Staff training	Most owner-operators, very few with outside staff	0	100	0	0
	AH 4.9 Breeding management	Almost 20 % don't breed they just trade livestock	2.9	80	0	17.1
	AH 4.10 Humane destruction	Human destruction was a high priority for local producers	2.9	97.1	0	0
Livestock Transport	AH 5.1 Livestock transport responsibilities	All were aware of "fit to load" responsibilities	0	100	0	0
	AH 5.2 Planning livestock transport	Most used outside transport & found them to be suitable	0	100	0	0
	AH 5.3 Livestock handling competency	All rated as being good at handling animals	0	100	0	0
	AH 5.4 Vehicles and facilities		2.9	97.1	0	0
	AH 5.5 Pre-transport selection	All believed they could identify animals "fit to load"	0	100	0	0
	AH 5.6 Time off water	The small size of local farms and relatively short distance to markets results in little time off water in preparation or during transit.	0	100	0	0
	AH 5.7 Loading density	All loaded trucks at appropriate density	0	100	0	0
	AH 5.8 Handling and transport	Many own their own trucks or source the services of experienced local carriers	2.9	97.1	0	0
	AH 5.9 Humane destruction	Humane destruction of animals severely in transit.	0	100	0	0
Land capability and condition	AP 1.1 Identifying land types	All recorded themselves at or above standard, many thanks to the work of Judi Earl, soil food web etc	0	87.1	12.9	0
	AP 1.2 Understanding land capability	Over 20% were keeping grazing records and cell grazing, creating a deeper understanding of land capability over time	3.2	74.2	22.6	0

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
	AP 1.3 Assessing land condition	Most believed they could assess land condition confidently by viewing ground cover and plant species	9.7	80.6	9.7	0
	AP 1.4 Grazing management	Many of the 35% of respondents reporting as "above standard" were cell grazing or rotating their herds through a number of paddocks	0	64.5	35.5	0
Markets and marketing	AP 2.1 Market specifications	All believed they understood market specifications. Not all understood kill sheets / discounts etc though.	0	67.7	32.3	0
	AP 2.2 Marketing strategy	12% thought they missed the best market due to being price takers – often at the saleyards	12.9	54.8	32.3	0
	AP 2.3 Managing production	10% thought they needed to plan for production by knowing their markets better	9.7	54.8	35.5	0
	AP 2.4 Food safety and livestock traceability	Most were very aware of NLIS and the traceability within the supply chain	3.2	96.8	0	0
Managing reproduction	AP 3.1 Heifer management	Main issue identified by those failing to meet the standard was that they had trouble separating heifers from the herd & having replaced the bulls to stop inbreeding in small herds due to lack of available secure paddocks	13.3	73.3	6.7	6.7
	AP 3.2 Heifer mating weight	All were aware of having heifers at acceptable joining weights	0	80	13.3	6.7
	AP 3.3 Breeder body condition	Most had heifers in appropriate body condition at joining	6.7	86.7	0	6.7
	AP 3.4 Breeder herd performance	Many did not have NLIS readers or a history of herd performance	26.7	53.3	13.3	6.7
	AP 3.5 Breeder culling	Approx. 10% have been unable to cull on reproductive performance due to not preg testing & year round joining	10	63.3	20	6.7
	AP 3.6 Bull management	A large number of herds calved year-round. Many farms had nowhere to securely put bulls if they were taken away from Breeders	3.3	73.3	13.3	10
	AP 3.7 Fertility diseases	20% had known issues with pestivirus or other fertility issues. Most vaccinated bulls for vibriosis. Producers were cautious at trusting the resellers and drug companies for advice in this area	20	63.3	10	6.7

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
Weaning and weaner management	AP 4.1 Weaning facilities	10% below standard - producers believed they did not have adequate weaning facilities. Usually due to a lack of paddocks to wean the cattle into.	10.3	86.2	0	3.4
	AP 4.2 Weaning preparations	20% believed they prepared for weaning above industry level, knowing numbers, weights and cattle details	3.4	69	20.7	6.9
	AP 4.3 Weaner segregation	> 10% did not have another paddock available to wean correctly	13.8	55.2	24.1	6.9
	AP 4.4 Weaner nutrition	Almost all considered weaner nutrition during this period	3.4	79.3	10.3	6.9
	AP 4.5 Weaning training	The majority of respondent's yard weaned and almost all spent some time educating / imprinting weaners.	3.4	93.1	0	3.4
	AP 4.6 Weaner health	Almost all vaccinated and wormed at weaning	0	93.1	3.4	3.4
	AP 4.7 Post-weaning management	All recognised the need to provided good nutrition after the weaning period	0	79.3	13.8	6.9
Nutrition	AP 5.1 Production targets	14% at below standard due to having a set routine, rather than matching nutrition to animal "did what always do"	13.8	69	17.2	0
	AP 5.2 Understanding nutritional requirements	34 % Local producers thought they had above average understanding of animal nutrition	3.4	62.1	34.5	0
	AP 5.3 Nutritional deficiencies	96% of producers thought they could identify nutritional deficiencies and overcome them	3.4	89.7	6.9	0
	AP 5.4 Assessing feed supply	All producers believed they were at or above standard at assessing feed supply	0	86.2	13.8	0
	AP 5.5 Assessing feed quality		3.4	93.1	3.4	0
	AP 5.6 Managing feed supply		3.4	82.8	13.8	0
	AP 5.7 Managing livestock performance	Almost 30% rated themselves as being below standard at keeping adequate nutrition avail to their cattle	28.6	60.7	10.7	0
Genetics	AP 6.1 Breeding objectives	21% responded that they didn't really understand and/or lacked known objectives when breeding	21.4	57.1	10.7	10.7
	AP 6.2 Breed selection	A variety of breeds were represented. Only 7% had no particular preference for breed selection.	7.1	67.9	21.4	3.6
	AP 6.3 Breeding system		0	57.1	32.1	10.7

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
	AP 6.4 Objective selection	Many complained EBV's were often not understood or available.	17.9	64.3	10.7	7.1
	AP 6.5 Maximising genetic progress	Very mixed responses. Small herd size was often reported to be a limitation	25	42.9	21.4	10.7
Maps and property information	GM 1.1 Property mapping	17% of the group did not have a property map	16.7	70.8	12.5	0
	GM 1.2 Knowing paddock sizes	Whilst only 4% reported that they didn't know the size of the paddock – verbally they commented it was only as a guess	4.2	79.2	16.7	0
	GM 1.3 Identifying land types	Due to the relativity small size of farms all could verbally explain the various land types on the property, Sandstone, clay etc	0	83.3	16.7	0
Land capability and condition	GM 2.1 Understanding land capability	All stated that they were aware (due to previous seasonal experience) as to what their paddocks were capable of in terms of production	0	83.3	16.7	0
	GM 2.2 Monitoring land condition	Due to relatively small farms that were often the principal place of residence, farmers reported to be regularly monitoring land cond.	0	78.3	21.7	0
	GM 2.3 Improving land condition	30% were above industry standard actively trying to improve the land condition through using compost, teas, cell grazing and other land conditioners	0	69.6	30.4	0
	GM 2.4 Current carrying capacity	43% reported as above standard at matching stocking rate with carrying capacity	8.7	47.8	43.5	0
	GM 2.5 Potential carrying capacity	Nearly 40% identified as above standard as they were implementing strategies that plan or had started to increase carrying capacity	4.3	56.5	39.1	0
Managing the land resource	GM 3.1 Land type fencing	22% rated themselves as below standard at managing the land resource with fencing due to the constraints of small paddocks, the costs of fencing off creeks etc	21.7	52.2	26.1	0
	GM 3.2 Water points	Only 4 % thought they needed additional watering points. NOTE: The was so low due to the reliance on Creeks and gullies for watering points	4.3	73.9	21.7	0
	GM 3.3 Fence lines, fire breaks and roads	Cost was the main reported impediment to fencing & the maintenance of roads etc	26.1	43.5	30.4	0

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
	GM 3.4 Managing gullied areas	17% were under standard at managing issues / erosion etc with gullies	17.4	60.9	4.3	17.4
	GM 3.5 Managing frontages and wetlands	29% had wetlands and other fragile areas exposed to livestock due to the cost and impracticalities of fencing the area off	28.6	52.4	9.5	9.5
	GM 3.6 Protecting and improving biodiversity	Almost all had a passion for the environment and understood the need for biodiversity	4.8	71.4	23.8	0
	GM 3.7 Legislative responsibilities	Nearly 20% were confused as to their legislative responsibilities with regards to land clearing etc due to rule changes etc	19	81	0	0
	GM 3.8 Managing the tree–grass balance	In general, Northern Rivers Producers rated themselves quite highly on Managing the Land Resource.	0	61.9	38.1	0
	GM 3.9 Fire prevention and control	Most were not using fire as a tool and were not concerned about bush fires etc	9.5	90.5	0	0
	GM 3.10 Using fire	Nearly 40% reported fire as	0	61.9	0	38.1
	GM 3.11 Legal obligations for using fire	All were aware of obligations	0	100	0	0
Managing grazing pressure	GM 4.1 Setting stocking rates	All interviewed producers were aware of their cattle numbers and stocking rates	0	71.4	28.6	0
	GM 4.2 Adjusting stocking rates	Rates were varied to reduce grazing pressure as required	0	81	19	0
	GM 4.3 Timing livestock management	Off farm commitments / employment was the main reason given for being under standard causing delays & less than perfect timing	19	81	0	0
	GM 4.4 Managing the grazing system		0	76.2	23.8	0
	GM 4.5 Managing for even pasture use		0	100	0	0
Improved pastures and forage crops	GM 5.1 Improved pasture development	Lack of funds or knowledge was usually the reason cited for 10% of respondents being under standard for pasture development. Many had no improved pastures	9.5	57.1	19	14.3
	GM 5.2 Managing improved pastures		0	38.1	38.1	23.8
	GM 5.3 Sown pasture rundown		4.8	47.6	23.8	23.8
	GM 5.4 Using forage crops	Many did not have the equipment to plant forage crops	4.8	47.6	0	47.6

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
Weeds and pest animals	GM 6.1 Identifying weed incursions	All rated themselves highly at weed identification	0	69.6	30.4	0
	GM 6.2 Controlling weeds	All rated themselves at or above standard at controlling weeds but noted there was more to do	0	76.2	23.8	0
	GM 6.3 Preventing weeds	All at standard, but many producers mentioned that this still failed to be controlling the issue	0	100	0	0
	GM 6.4 Pest animals	Most at standard, but this still failed to be controlling the issue	4.8	95.2	0	0
	GM 6.5 Controlling pest animals	Many had shooters that regularly patrol properties, baiting was common due to LLS assistance	4.8	28.6	66.7	0
Business planning	PB 1.1 Business goals and plans	Approx. 22% no goals, no know direction, many with no wills or power of attorney	22.7	65.9	11.4	0
	PB 1.2 Natural resource planning	Over 25% were below standard at Natural Resource Planning	25.6	60.5	14	0
	PB 1.3 Infrastructure planning		7	72.1	20.9	0
	PB 1.4 Financial risk management	17% were below standard for risk management. Many relied on the farm as only source of income and had limited insurance etc	16.7	61.9	21.4	0
	PB 1.5 Succession planning	30% identified lack of a succession plan as one of the biggest issues to their business. Comments such as “no one to leave the farm too” “Would be unviable if we split it between the kids” “we have nothing else, was born here planning on dying here” were common	30.2	55.8	14	0
Business knowledge and skills	PB 2.1 Stock records	14 % were below standard with their stock records.	14	74.4	11.6	0
	PB 2.2 Business and financial records	A quarter thought they needed to spend more time on the financial side of the business. Many noted they were time poor due to off farm employment	25.6	65.1	9.3	0
	PB 2.3 Budgeting	48% had no farm budget	48.8	41.9	9.3	0
	PB 2.4 Cash flow analysis	32% in general don’t revisit cashflow to see where costs had been incurred after entry for taxation purposes.	32.6	51.2	16.3	0
	PB 2.5 Business performance analysis	A number couldn’t say if their business was viable	16.7	73.8	9.5	0

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
	PB 2.6 Business decision making	78% involved other people in business decisions, usually a spouse or other family member	2.4	78.6	19	0
Human resources	PB 3.1 Personal wellbeing	Many thought they should live healthier - do more exercise etc but were time poor	23.7	76.3	0	0
	PB 3.2 Work life balance	13 % reported an issue with limited work life balance. "Hard to find a caretaker etc"	13.2	60.5	26.3	0
	PB 3.3 Internal communications	Many owner/operator farms had limited communications and felt it unnecessary to keep records	13.2	68.4	18.4	0
	PB 3.4 External communications		5.3	81.6	13.2	0
	PB 3.5 Learning and networking	In general, those that registered and completed Grazing BMP were those that believed in education – so may not represent greater population of local graziers	7.9	65.8	26.3	0
	PB 3.6 Roles and responsibilities	Many of the farmers do not employ external staff thus the Human Resource responsibilities stopped with them.	8.1	70.3	21.6	0
	PB 3.7 Labour management	Those at or below standard generally were overwhelmed at the thought of employing staff. Workers comp insurance, calculating holidays, tax etc especially as many of the farms completing the modules were of small size	13.5	78.4	8.1	0
Workplace health and safety (WHS)	PB 4.1 WHS awareness	Again, due to the high numbers of owner operators there were few written down policies for WHS	16.2	83.8	0	0
	PB 4.2 Risk management	27% rated their business as below standard with risk management	27	73	0	0
	PB 4.3 Consultation		10.8	89.2	0	0
	PB 4.4 Training and supervision	Many jobs are one-person jobs thus it is no extra supervision	16.2	83.8	0	0
	PB 4.5 Worker induction and records	Very few had inducted staff formally or kept very good records for this	27	73	0	0

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
	PB 4.6 Visitor induction	Most farmers had not thought about their farm/home as being a business premises thus had not inducted visitors	45.9	54.1	0	0
	PB 4.7 Emergency response plans	40% failed to have emergency response plans	40.5	59.5	0	0
	PB 4.8 Remote or isolated work	Most of the respondents let someone else know where they were going and took some sort of communication devise with them in case of emergency	10.8	89.2	0	0
	PB 4.9 Child safety	10% were concerned their farm was not safe enough for kids.	10.8	89.2	0	0
	PB 4.10 First Aid	19% noted themselves as being below standard in first aid.	18.9	81.1	0	0
	PB 4.11 Personal Protective Equipment	Some lacked equipment, others failed to wear it	8.1	91.9	0	0
	PB 4.12 Environmental hazards		8.1	91.9	0	0
	PB 4.13 Incident reporting	Very few incidents were getting reported other than those requiring a hospital visit with mandatory reporting	27	73	0	0
Chemical use and records	PB 5.1 Product selection	25% rated as above standard at chemical selection, choosing the right chemical for the specific job.	8.3	66.7	25	0
	PB 5.2 Chemical use	Most had chemical accreditation	2.8	97.2	0	0
	PB 5.3 Staff training	Those keen to undertake the Grazing BMP were more likely to have invested in training	5.6	75	19.4	0
	PB 5.4 Chemical records	30% believed they do not have appropriate records for chemical storage	30.6	69.4	0	0
	PB 5.5 Storing chemicals	11% believed they needed a chemical shed or better storage of chemicals	11.1	83.3	5.6	0
	PB 5.6 Chemical and container disposal	Nearly 10% had issues disposing chemical containers or left-over chemicals	8.3	91.7	0	0
Soil physical properties	SH 1.1 Soil types	10% aware they were below average at identifying soil types	10.5	63.2	26.3	0
	SH 1.2 Soil structure	42% rated their knowledge of soil structures as above standard	0	57.9	42.1	0
	SH 1.3 Dispersive soils	Almost all of the respondents	5.3	73.7	21.1	0
	SH 1.4 Water storage capacity	All believed they understood the water storage capacity of their varied soils	0	100	0	0

Key Area	Grazing BMP Standard	One-on-one interview feedback	Below	Industry	Above	NA
	SH 1.5 Maximising ground cover	The northern rivers, relative to other places has in general good ground cover. Thus over 25% rated their ground cover as above average	5.3	68.4	26.3	0
	SH 1.6 Restoring bare areas	There was limited bare areas reported by farmers. Those that did have bare areas were usually due to erosion or slips.	5.3	68.4	26.3	0
Soil chemical properties	SH 2.1 Nutrient supply	A quarter would like to understand nutrient supply better and improve their soils nutrition level	23.5	76.5	0	0
	SH 2.2 Salinity	A quarter of respondents were vigilant about salinity. Some had planted trees, moved to rotational grazing etc	11 .8	64.7	23.5	0
	SH 2.3 Soil pH	A quarter of respondents did not know their soil PH	23.5	76.5	0	0
Soil biology	SH 3.1 Soil organic matter	Only 6% though they needed to know more about organic matter	5.9	94.1	0	0
	SH 3.2 Soil organisms	All understood the basic organisms in the soil	0	100	0	0
Fertilizer use	SH 4.1 Fertilizer application	Many did not use fertiliser	5.9	47.1	11.8	35.3
	SH 4.2 Fertilizer run-off	Many did not use fertiliser	0	58.8	0	41.2
	SH 4.3 Fertilizer records	Many did not use fertiliser	17.6	17.6	35.3	29.4
	SH 4.4 Fertilizer storage	Almost all NR producers didn't store fertiliser on farm	0	41.2	0	58.8

4.4.2 Producer Feedback and Program Evaluation

Feedback via the participant evaluation forms highlighted areas producers were able to benefit via the workshop environment with the addition of specialist guest speaker.

Combined feedback from workshops was positive with 17% of participants rating the workshop as extremely useful, 78% very useful and only 4% rating it only as average to their business.

90% of participants found that at least one item from the modules and associated extension activities to assist them in their business, from record keeping, analysing business performance, planning, succession etc.

How has the workshop assisted the following;

- 90 % Need to keeping effective business records
- 90% Analysing business performance
- 80% Develop a framework decision making and future planning
- 75 % Planning for succession
- 70% Maintaining personal wellbeing and a work/life balance
- 70% Learning and networking
- 70% Workplace health and safety requirements and risk management
- 70% Importance of developing goals, objectives and plans
- 65% First aid and personal protective equipment (PPE)
- 65% Use and storage of chemicals and fertilizers
- 65% Importance of planning documentation
- 60% Creating effective communication
- 60% Training, supervision and consultation in the workplace
- 60% Workplace inductions
- 60% Emergency response plans and incident reporting
- 60% Child safety on properties
- 60% Environmental hazards and risks of remote/isolated work
- 60% Keeping effective records for chemicals and fertilizers
- 55% Managing labour

If you plan to take some actions, please provide examples on what these may include?

- Financial record keeping and planning
- Lower cost of production
- Know cost of production
- Better cell grazing
- Implement plan
- Polish everything up
- Strategies as per BMP Reminders in the system
- Emphasisers kg beef / ha & cost of prodn. kg/ha
- Provide more written details
- Exploring costs of regularly weighing cattle

- Analyse the financial detail to gain a better understanding of the cost of production for cattle
- Pasture Improvement
- Complete all modules to make a complete farm plan
- Need to develop better understanding of COP

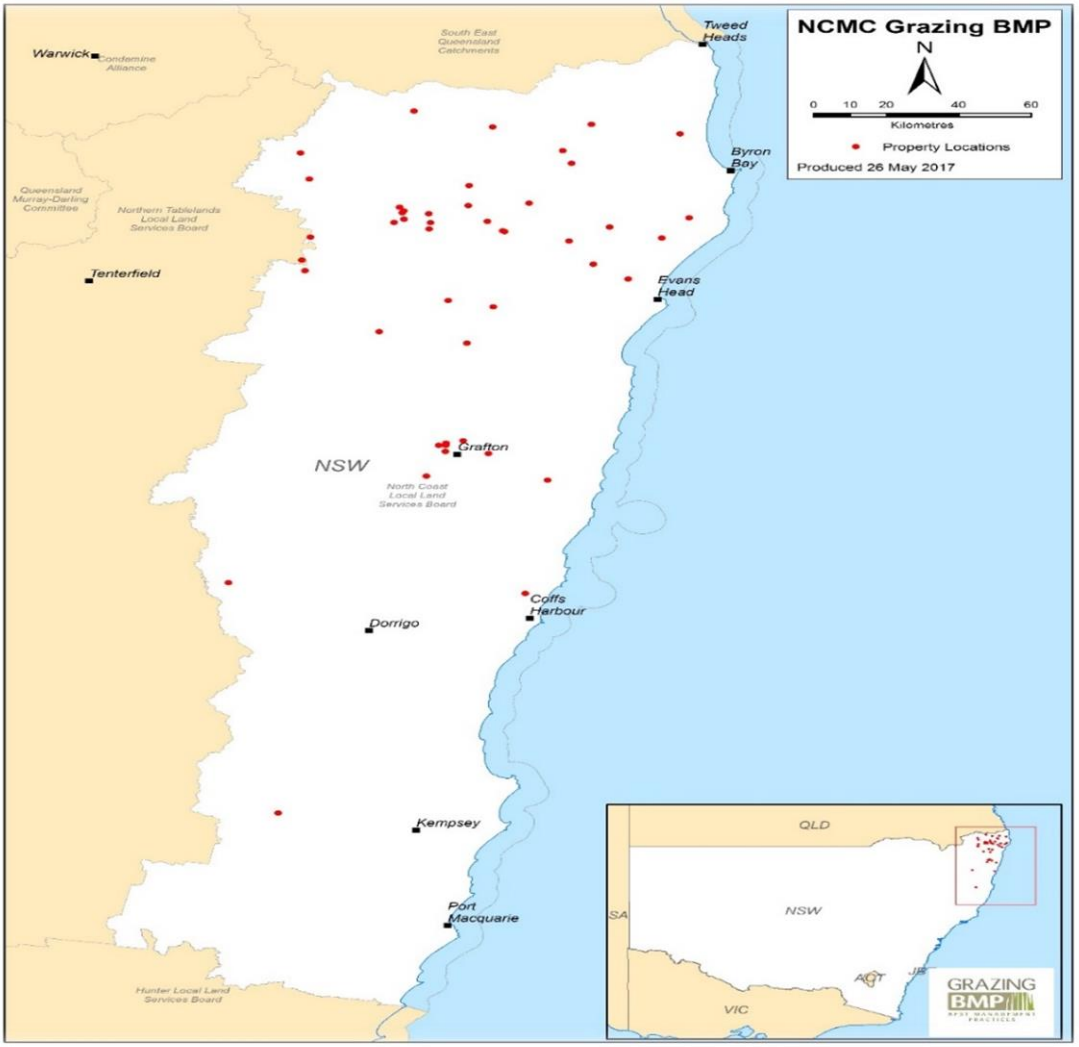
In what way do you plan on using the action plans you developed?

- 74% I intend to implement the action plans that I have developed for my property
- 16% I intend to review the action plans that were developed for my property
- 10% No action plan was developed for my property *(participant choose not to register one – many cases they do not use computers / email)*

5 Discussion

5.1 The NCMC – Grazing Management Pilot Program Delivery Area

The Northern Rivers area was chosen for the pilot program as an estimated 80% of NCMC members are based in the region and there are concerns regarding decreased productivity of local beef properties. The rough geographical boundaries of the pilot area were north to the QLD border, east to the coast, west to the Clarence River (Tabulam) and south to the Grafton.



Map 1. Geographical location of pil ot grazing project participants

5.2 Northern Rivers Cattle Herd Size

Beef is the largest agri-business contributor to the North Coast Local Land Service economy worth an estimated value of $344.4M covering 905,700ha of land. (Franklin J, 2015, *Characteristics of the socio-economic landscape of the North Coast Region of NSW,* EcoLogical*)*

The Northern Rivers Beef Industry is predominately made up of small farms, grazing small numbers of livestock. Whilst a number of these farms have operations valued at less than $40,000 falling

outside ABS's definition of a beef farm, collectively they contribute significantly to the economy and are an important source of livestock for NCMC.

YEAR	Total Australian Cattle Numbers (hd)	Northern Rivers Cattle Numbers (hd)	% of Australian cattle herd	Largest NRM Cattle Region by no. hd
June 2011	28,500,000	941,324	3.3%	8th
June 2015	27,400,000	856,046	3.1%	10th
June 2016	25,000,000	698,012	2.8%	13th

Table 2 Northern Rivers Cattle Numbers – Natural Resource Management Region (MLA)

(Data: MLA Market Information, *Cattle Numbers as at June 2011*, *Cattle Numbers as at June 2015 and Cattle Numbers as at June 2016* Natural Resource Management Region, MLA)

NOTE: Actual cattle numbers in the Northern Rivers are unlikely to have fallen over this period, it is expected the change in the reported number of head from June 2015-June 2016 (less 158,000head) is due to the Australian Bureau of Statistics now excluding businesses with an estimated value of Agricultural operations of less than $40,000. (MLA Market Information, Cattle Numbers as at June 2016 Natural Resource Management Region, MLA)

5.3 Project objectives

NCMC investment and engagement with members

The NCMC Grazing Management Pilot program successfully engaged with a large number of members through information sessions, extension activities and field days. A smaller number of graziers proceeded to register for Grazing BMP and complete one or more modules.

Provide linkage to the pilot program for MLA's new adoption model.

Throughout the project participants often sought advice on resources available to improve their farming practices to meet or exceed the standard. On numerous occasions we were able to direct enquires to the MLA website, where producers could access the many tools available e.g. cost of production calculator, market information etc, or to LPA or NLIS or other relevant party.

The following MLA resources were also kindly made available from MLA at all sessions for producers and were very well received;

- Tools: Pasture Ruler
- Tips & Tools: $ Indexes for Beef Cattle
- Tips & Tools: Getting started with simple time-based rotational grazing
- Tips & Tools: Grazing management for productive native pastures
- Tips & Tools: Strategies to boost the productivity of native pastures
- Tips & Tools: Managing soils to keep them healthy and productive
- Tips & Tools: Managing ground cover to reduce run-off and water loss
- Tips & Tools: Tactical grazing to maximise pasture and animal productivity
- Tips & Tools: Get the best out of set stocking

- Tips & Tools: Managing Annual Grasses to boost pasture production
- Booklet: A guide to best practice in beef cattle - Branding, castration and dehorning
- Tips & Tools: Weed removers, pasture improvers - effective weed control
- Tool: Pasture health kit
- Booklet & CD: Making better fertiliser decisions for grazed pastures in Australia
- Is it fit to load (Revised edition 2012 national version)
- Australian Red Meat Industry Supply Chain DVD

Local beef producers in the Northern Rivers will have access to both the Grazing BMP Program and tools from MLA's new extension packages to Improve productivity in the following areas;

Meat and Livestock Australia representative's spoke at a number of Grazing BMP related events including; Dr Tom Davison – Key MLA pasture R&D investments, Josh Whelan - Research & Development projects, and Jennifer Peart on Market Updates increasing producers' awareness of MLA, it's role in the industry and the assistance they can provide to levy payers.

- **Measure current performance**

The Grazing BMP component of the program enabled participating producers to measure their current performance against the industry developed set of standards. Producers created their own Grazing BMP account with login. This will allow producers to repeat the assessment process to independently measure practice change over time.

- **Develop skills to assist manage during drought**

A number of the standards in Grazing BMP were related to building producers' skills to manage droughts including; creating plans, adjusting stocking rates, managing ground cover and biosecurity issues surrounding introduced fodder etc.

- **Increase financial literacy of beef producer members**

Results from the Grazing BMP data collection highlighted financial literacy as one of the key areas where Northern Rivers producers were often below standard. Funding under the NCMC Grazing Management Pilot program was able to cover 3 additional workshops with Steve Lacey providing education in this area. The feedback was very positive from the education sessions, however throughout the program it is clear that additional assistance is necessary in this area.

- **Gain greater awareness of industry requirements, including traceability, workplace health and safety.**

The Grazing BMP program self-assessment process increased the participating producer's awareness of the industry standards surrounding workplace health and safety, and traceability, particularly when coupled with sessions led by Local Land Service vets.

- **Increase grazier's awareness of current practices and pathways to address areas of underperformance**

The Grazing BMP online tool was very effective at increasing grazier's awareness of current practices by benchmarking them against industry standards. The BMP tool enabled producers to create an action plan to address areas of underperformance. Ongoing support in this area however will be

required to encourage more producers to undertake the program and reassess after practices changes have occurred.

- **Collectively demonstrate better on property environmental management, address river quality.**

Whilst the pilot program is unable to provide any quantifiable results on its effect on river quality, it can attest to increasing producer's awareness to industry standards and own practices regarding ground cover, soil erosion and fertiliser use. Thus improved on farm practices will lead to positive environmental outcomes.

5.4 Effectiveness of various delivery methods

Delivery of the pilot program via a number of formats created an opportunity to assess the benefits of various delivery methods in the Northern Rivers.

- **On Farm one-on-one delivery**
  Highly effective at including producers that do not like groups, encouraging producers to complete multiple modules and assisting producers that have limited computer skills. It also created the best opportunity to actively engage with the producers and provide additional linkages to relevant resources to overcome identified challenges. However, one-on-one sessions are time consuming, expensive and didn't encourage peer-to-peer networking.

- **Group training at workshops (1 to 2 modules per workshop) with module extension**
  Appeared to highly suit the Northern Rivers region as there is relatively small distances between workshop locations and participants. Encouraged networking between graziers and the additional extension allowed for producers to gain a greater understanding of why each of the standard is important and strategies on how to lift practices where required. Additional costs were incurred by the added extension, however due to the increased ability to work with a small number of producers at a time overall cost per producer was less than one-on-one delivery. NOTE**:** A maximum of 3-5 producers per experienced Grazing BMP user is often required when computer literacy is very low.

- **Self-paced learning independently via website** www.bmpgrazing.com.au
  Appeared to be largely ineffective in the Northern Rivers region with a number of producers enquiring about the program but only two actually going through to registration process. Both the participants that completed the modules "independently" required assistance at the registration phase of the program.

5.5 Project Constraints

- The time constraint of only having one person on the ground assessing producers. To manage this, we have purposely only promoted the program according to the current work load.
- There were a number of producers concerned of Grazing BMP the program is very similar to Cattle Care as a producer quoted "didn't amount to much"
- Producers are concerned they may be penalised if they are "below standard" in any area

- Producers wanting tangible benefits for incurring extra work/costs to provide 3rd party benefits to others – river health, aesthetics, weeds etc.

6 Conclusions / Recommendations

The NCMC Grazing Management Pilot Program was successful in meeting project objectives. The program aligned with the strategies of the NSW Government to support industry, increase education and balance land use while protecting the natural environment. It is likely that if it was expanded it has the potential to assist economic, environmental and social benefits to the local region via improved practices on farm.

Small workshops that included graziers of similar demographics, cattle numbers, lifecycle of business proved to be the most effective as it was found they often had similar issues / constraints / interests and were happy to openly discuss issues and possible solutions.

Overall interest in the undertaking the program by graziers was relatively low as producers failed to see a value proposition and were busy in other areas of the business or working off farm.

Technology was a large barrier in the region, with an estimated 25% of participants not using computers and a number of properties that failed to have internet service available.

The data from the NCMC – Grazing Management pilot program provided valuable insight into a number of key practices where local producers were below industry set standards that has the potential to limit the viability and productivity of the Northern Rivers beef industry. Whilst there is scope for improvement across all the all modules, the key underperforming areas identified in the local project included;

1. Budgeting
2. Visitor induction
3. Emergency response plans
4. Cash flow analysis
5. Chemical records
6. Succession planning
7. Managing livestock performance
8. Managing frontages and wetlands
9. Risk management
10. induction and records

Should the grazing program run over a longer period a reassessment phase, it would be beneficial to include additional parameters identifying productivity and environmental measurements before the program and again after practice change to identify the value of extension activities.

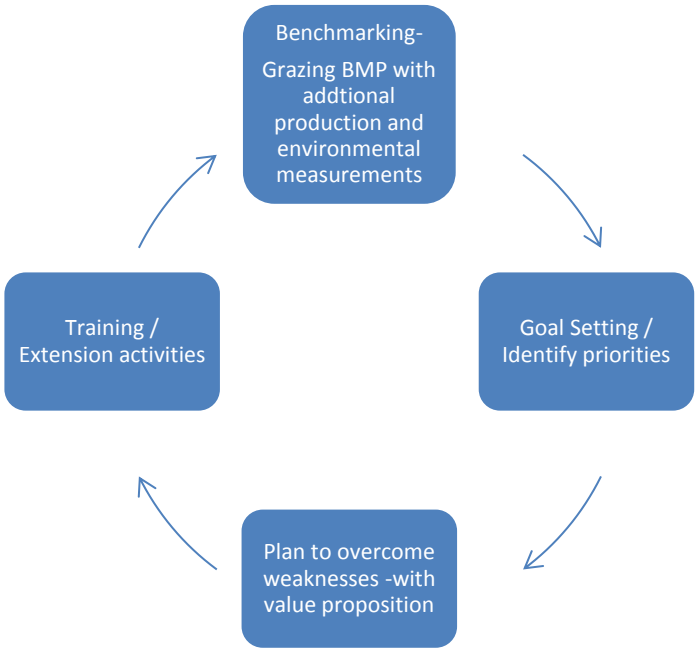


Chart 1 – Suggested flow of longer term Grazing BMP project

7. References

Franklin J, 2015, Characteristics of the Socio-Economic Landscape of the North Coast Region of NSW,

EcoLogical, Local Land Services.

Grazing BMP, 2017, NCMC Corporate report 2017

Huefner & associates PL, 2012 Casino Regional Livestock Exchange Review, Richmond Council.

8. Acknowledgments

Thanks to Northern Rivers graziers who were prepared to be a part of the pilot program and to the project steering committee. Agforce Grazing BMP team for assisting with training and assistance with the Grazing BMP database. Meat and Livestock Australia (MLA), Australian Meat Processor Corporation (AMPC) and Northern Co-operative Meat Company for contributing assistance, finance and facilities to the project. We also wish to thank the Local Land Services staff Nathan Jennings & Julie Dart (Senior Land Services Officers) and Phil Kemsley (LLS Veterinarian) for volunteering their time to assist in all facets of the program from promotion, education and support.

8.1 Pilot Program Steering Committee

The steering committee for the project included the following partners: -

- John Seccombe – Northern Co-operative Meat Company Ltd
- Simon Stahl – Northern Co-operative Meat Company Ltd
- Steve Lacey / Michael Taylor – Agforce
- Bruce Brown – Local Land Services
- Piers Harper – Local Land Services
- Craig Jenkins – NSW Trade & Investment
- Josh Whelan - Meat & Livestock Australia
- Irene Sobotta – Meat & Livestock Australia
- Rik Whitehead – NSW Department of Primary Industries
- Todd Andrews – NSW Department of Primary Industries

9. Pilot Program Workshop and Field Day Photos