

Northern muster

Information for rural business in North Queensland

In this edition

Spyglass Research	20
Welcome	21
2013 Cattle Market	22
Drought Support	23
Stress Management	24
Grazing BMP	25
Around the Northern Gulf	26
Around the Southern Gulf	27
Meat Matters	28
Beef Challenges	29
Spotlight on Beetaloo St	30

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A range of research projects in the pipeline

Spyglass Beef Research Facility

SEVERAL research projects are under way on Spyglass Beef Research Facility, including tracking Chital deer in an effort to assist in management plans, establishing monitoring sites in the process to improve long-term carrying capacity information, developing better pasture species, and calf hydration trials to understand reasons for calf mortality.

CHITAL DEER PROJECT

BIOSECURITY Queensland (BQ), with the assistance of the University of Queensland, is leading a pilot study to measure movement patterns and habitat use of Chital deer. To date, minimal research has been conducted on these species in North Queensland. Chital deer are a declared Class Two pest as they have adverse economic impacts on graziers through the eating of substantial amounts of pasture.

In August 2013, five adult Chital deer on Spyglass were fitted with GPS collars (two female, three male). The collars will be on the animals for approximately six months. A key outcome so far is that successful dosage rates and methods for darting of Chital have been established. The information collected on ranging behaviour (particularly habitat use) drinking frequency and ranging area, will help in developing management plans, including control measures, for the species.



A collared Chital stag on Spyglass Research Station is being used to measure movement patterns and habitat use of Chital deer.

Outcomes of this work will determine if funding should be sought to further the study. If so, this could involve requesting collaring deer on properties in the vicinity of Spyglass.

MAPPING AND MODELLING OF LAND TYPES

A NEW project is underway on Spyglass, lead by Queensland Department of Agriculture, Fisheries and Forestry (QDAFF) scientist Giselle Whish, which aims

to provide improved property mapping and long-term carrying capacity information to assist in grazing land management decision-making.

Five monitoring sites have been established on the more common land types that occur on Spyglass. The sites cover a range of productivity from the most productive Loamy alluvials, Box and Narrow-leaved Ironbark through to low productivity Box and Narrow-leaved Ironbark.

Over the next two years, tree cover, rainfall, pasture and soil measurements collected from the fenced sites will be used to calibrate the GRASP pasture and animal growth model. With improved estimates of pasture productivity for each paddock on Spyglass, stocking rates and long term carrying capacities can be determined, a range of grazing management options can be explored and the financial implications of these options can be determined.



QDAFF scientist, Lester Pahl, ensuring no animals will graze this monitoring site established on Spyglass.



QDAFF scientists, Chris Holloway and Lester Pahl, establishing a monitoring site on Spyglass where over the next two years scientists will measure rainfall, collect soil samples, and cut pasture from different quadrats within the wooden stake layout.

DEVELOPMENT OF NEW PASTURES

THE use of sown tropical grasses and legumes can significantly increase the productivity of beef grow-

ing and breeding enterprises in north Queensland. However, many areas have few, or no, well-adapted grasses or legumes and recently developed cultivars have not been comparatively assessed across a range of land types.

Over the next five years, QDAFF FutureBeef pasture research and beef extension staff, partnering with MLA, seek to compare the persistence and productivity of a range of new pasture plants with older cultivars.

Comparison is to be conducted on a range of soil types and rainfall environments in northern and central Queensland, targeting improved nutrition of younger livestock. 'Spyglass' is being used to represent red earths in the Burdekin catchment. Key genera include: (legumes) Centrosema, Chamaecrista, Clitoria, Desmanthus, Leucaena, Macroptilium, Stylosanthes; (grasses) Bothriochloa, Brachiaria, Chloris, Dichanthium, Digitaria, Heteropogon, Panicum, Urochloa.

The project is in its infancy. To date, the project team, generously supported by beef producers, have identified nine properties in the Northern and Southern Gulf and Burdekin grazing districts, defined sites considered representative of the land type, installed stock/kangaroo fences at five (including Spyglass) and made arrangements for the completion of the others. Seed for sowing has been sourced and testing begun to determine sowing rates.

The project is a collaborative effort between QDAFF research scientists Kendrick Cox, Mark Keating and Steven Dayes and FutureBeef extension staff Joe Rolfe, Bernie English and Emma Hegarty.

CALF DEHYDRATION

THE Cash Cow project, and others, has shown calf loss between confirmed pregnancy and weaning to be as high as 40 percent, and consistently between 10pc and 20pc in some areas of north Australia. Obvious effects on profitability occur. Previous research shows the greatest loss occurring within a week of birth.

The Cash Cow project showed most losses are associated with nutritional and environmental factors, with occasional significant loss due to diseases like Pestivirus. It is plausible that a high proportion of elevated losses in north Australia is associated with poor calf hydration and/or vigour, and that this may be as much a problem with the cow as the calf.

Two experiments have been undertaken at Spyglass to investigate calf hydration.

These studies will provide the basis for conducting further research that will hopefully lead to practical solutions in the future.

In a preliminary study led by Geoffry Fordyce of QAAFI, newborn Brahman calves were dehydrated over three days. This study provided a way to objectively measure the degree of dehydration.

These techniques require further development for use in systematic research under extensive grazing conditions. The experiment showed that newborn calves experiencing milk deprivation lose an average of 7pc of live weight daily under comfortable conditions (20 degrees Celsius), but twice this when maximum temperatures are in the vicinity of 40 degrees Celsius.

It also showed that when calves lose 15pc of their live weight, which is equivalent to 20pc dehydration, in as little as one to three days under tropical conditions, some calves are unable to recover without intervention.

A recent study by QDAFF scientist, Jarud Muller, focused more on milk supply in the first week of life.

The aim of the study was to measure normal variation in milk production and delivery in newly-calved Brahman cows, and whether this is possible to measure using a range of indirect measures.

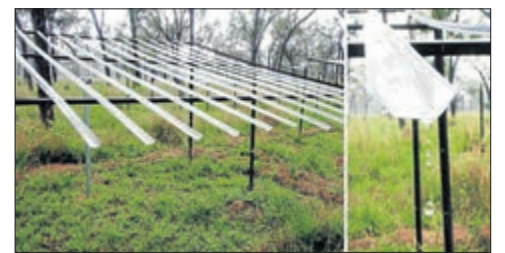
This is complex research as direct measurement of milk supply is not possible at present under range conditions. Indirect measures included a range of calf measures including weight, udder and teat measures, and behavioural observations (such as evidence of sucking). Analyses of the data have not been completed so no results are currently available.

EFFECTS OF NITROGEN DYNAMICS ON PASTURE AVAILABILITY AND QUALITY

NITROGEN and water are the key limiting factors for pasture and animal production in northern Australia. Nitrogen dynamics are strongly affected by rainfall.

Low nitrogen availability (and low animal production) often follows big wet seasons which cause nitrogen dilution. The opposite can occur following years of drought, which leads to high nitrogen availability (and high animal production) in response to a build up in available soil nitrogen.

In order to test the effects of the amount of rainfall in one year on the nitrogen availability in the second year, the amount of rainfall was manipulated in small plots at Spyglass.



A rainout shelter is being used to simulate the effect of drought by reducing the amount of rain falling to the ground by 25 percent.

'Drought' was achieved by building rainout shelters that reduce the amount of rain falling on the ground and 'wet' season was achieved using special irrigation. Soil and plants are being collected.

The results of this study will help incorporate the nitrogen dynamics and its effect on pasture availability and quality into existing animal production models. This will enable to increase animal production while maintaining land conditions. This project is being led by Moran Segoli of CSIRO: 0498 538 788, moran.segoli@csiro.au.

Angela Anderson, Spyglass Research Station, (07) 4091 8181, angela.anderson@daff.qld.gov.au



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Welcome to summer!

Summer 2013 Northern muster

THERE has been storm activity across the north in late November and early December with some individual falls recorded in excess of 100mm, kick starting the season for those lucky enough to be underneath.

For those who have received lesser falls of 25 to 50mm, especially in harder country, some run-off water has at least spread cattle out into gullies and gilgais, taking some pressure off the emergency water situation.

For those yet to receive their first significant fall, there is at least hope restored that it hasn't forgotten how to rain!

Please do not forget to put in your fodder freight and emergency water infrastructure rebate claim forms.

All claims must be submitted within six months of the date of purchase for water infrastructure and/or within six months of the date of movement for freight subsidies. There will be no tolerance given to late claims.

A further update on the rebates is provided in this issue.

We have made it to the end of what has been a tumultuous year for many primary producers and their families for many different reasons.

That is an achievement in itself.

Wishing you all a safe and happy Christmas and bring on a fresh, new, green 2014.

Phone 13 25 23 for advice and contacting QDAFF staff.

Emma Hegarty and Rebecca Gunther, DAFF FutureBeef extension officers, Northern muster editors



Department officers leave legacy for agricultural industry

Peter Smith

PETER Smith, or 'Smithy', is one of a handful of practising, top-notch cattle husbandry extension specialists who racked up more than four decades of service from 1970 with the then Department of Agriculture and Stock – or as he would say "back in the dreamtime".

Smithy's service spanned Queensland in Townsville, Gayndah, Ayr, Swans Lagoon, Richmond and Charters Towers, before heading west to Karratha, in the early 2000s. Smithy and his wife Del were equally well received in WA where he was one of a few cattle production development officers covering the Pilbara/Kimberley region, taking the younger extension officers under his wing.

He was awarded the inaugural North Australia Beef Research Council Medal for Communication and Extension in 2006, in recognition for his unflinching service to beef extension in the northern industry.

His career encompassed the cattle crash of the mid 70s, development of the Japanese market, the rise of live export markets, and several droughts in between.

Peter Smith is well known and widely respected by cattlemen and his peers for his work in developing early weaning, improved heifer management, supplementation, the rise and fall of Townsville stylo and-based urea feeding. Smithy will leave a legacy of service to the industry and a legion of well-wishers who started as clients, but became life-long friends.

Peter and Del have retired to Charters Towers.

Graeme Elphinstone

GRAEME Elphinstone is a legend in south-east Queensland beef circles, but when he officially retired his beef extension officer position in November, he ensured his legacy continues.

Graeme was also an inspirational figure to younger colleagues and always made the effort to mentor the up-and-coming beef extension officers, ensuring



LEFT: Peter Smith enjoys a laugh with Janine King in 2011 in Darwin.



Graeme Elphinstone, who recently retired.

they benefited from his decades of experience.

Early in his career Graeme worked in Brisbane, Toowoomba, Beaudesert and Miles before finally landing in Gympie, where he stayed.

He has mainly worked in pastures and cropping, with beef industry and sustainable production very strong themes.

DAFF Animal Science general manager Peter Johnston said Graeme

worked tirelessly to assist, inspire and coach the south-east Queensland beef industry with his major projects including giant rats tail grass management, buffalo fly management, trapping and dung beetles, and grazing land management.

"His passion is for sustainability of agricultural

production and his commitment to his clients is unwavering and total," Mr Johnston said.

He was heavily involved in Reef Rescue projects with the Mary River Catchment Coordinating Committee and has also been on countless local industry committees and drought and disaster management groups.

We wish Graeme all the very best in his retirement and thank him for a remarkable 51-year commitment to the beef industry and the impact he made across Queensland.



Negotiation checklist

Co-existence agreements

A PRACTICAL checklist has been developed to help landowners negotiate co-existence agreements with mining companies and other third parties.

The checklist is part of a Rural Industries Research and Development Corporation (RIRDC) research report titled Principles for Negotiating Appropriate Co-existence Arrangements for Agricultural Landholders. It was commissioned by industry peak bodies and co-funded by Meat and Livestock Australia (MLA).

MLA market specialisation manager Sylvia Athas said the checklist would provide a practical starting point and included key questions agricultural landholders should address when negotiating with a new land use proponent. "The checklist was drawn from the lessons learned in the report's case study analysis of real co-existence examples, along with best practice and online tools," Sylvia said.

The checklist has been divided into negotiation processes, conduct on farm, compensation payable and principles applicable to landholders.

MLA co-funded the research after consultation with industry peak bodies identified an increasing need for producers to co-exist with other sectors.

The industry bodies included the National Farmers Federation, Cattle Council of Australia, Sheepmeat Council of Australia, Australian Lot Feeders Association and the Red Meat Advisory Council.

They provided evidence suggesting that the compensation received by agricultural landholders for this co-existence was widely variable. "Landholders were being required to take into consideration the costs, benefits, disturbances and inconveniences they could experience in the short, medium and long terms. But there were few, if any, guidelines or tools available to assist them in these negotiations," Sylvia said.

Landholders can access the new Principles for Negotiating Appropriate Co-existence Arrangements for Agricultural Landholders at the MLA or RIRDC websites www.mla.com.au/industryissuesresearch or www.rirdc.infoservices.com.au/items/12-114

Sylvia Athas, MLA market specialisation manager, (02) 9463 9218, sathas@mla.com.au



Coming events

BUSINESSEGE WORKSHOP

GET the skills to make your beef business bullet proof. BusinessEDGE is a two-day workshop for northern beef producers to lift knowledge and skills in basic

financial and business management. Mount Isa – March 3-4. Charters Towers – March 6-7.

Ian McLean, Bush Agribusiness, 0401 118 191, or email ian@babusiness.com.au

16TH AUSTRALASIAN VERTEBRATE PEST CONFERENCE

The conference is a not-for-profit event held every three years to bring together researchers, land managers, students and policy makers dealing with pest animals. There will be presentations on control initiatives, innovations in research, management and policy and the latest research outcomes. May 26-29, Pullman Brisbane King George Square, Brisbane, Qld 4000. Visit www.avpc.net.au

RESOURCING WOMEN OF THE NORTH

TWO days of good food, friendships and great speakers on natural resource management, leadership, well-being and viability. April 29-30, Mt Surprise.

Erica Blumson, Northern Gulf Resource Management Group, 0488 499 266.

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2013 a harsh year for Qld cattle market

China demand offsets decline in trade to US, Japan, Korea

AS we head toward the end of the year, and hopefully widespread rain across the State, 2013 has seen some of the lowest cattle prices since the beef crash in the 1970s.

The widespread impact of the drought, plus the poor live export demand until now, has seen our abattoirs booked out for many weeks in advance, resulting in low cattle prices.

We are on track to produce something over two million tonnes of beef this calendar year, with exports tipped to be a bit over one million tonnes. Healthy demand from China and the Middle East has offset the decline in trade with our more traditional markets the US, Japan and Korea. At present, Australia has a 50 percent share of the beef export market into China followed by Uruguay at 25pc, New Zealand 16pc, and Canada 8pc.

As per usual for this time of the year, as prime cattle and quality store cattle supplies dry up, prices have quickly risen with best bullocks in Townsville in early November quoted at \$3.40/kg.

The live export situation has also changed rapidly since the federal election. There has been a flurry of activity with demand for the usual light types up to 350kg, but also solid demand for heavier cattle up to 650kg live weight. The prices offered of around the \$1.50/kg live delivered to Townsville or Charters Towers didn't attract much interest.

Early in November prices for light cattle for export were quoted at \$2/kg Darwin. If exporters are to attract heavier types from coastal areas of Queensland they need to rapidly lift their prices. Over the years it has never ceased to amaze how good prices can flush out suitable cattle for a market when industry experts said there was not that many available.

The shortage of good pastures has our feedlots busy with Queensland feeders having over 500,000 head penned and Australia wide close to 900,000 head on feed.

Our 2012-13 live export figures have totalled 633,293 head of sales which is down seven percent on the previous year. Low cattle values in Australia have assisted sales.

The Australian dollar has again risen in value against the USA dollar and is sitting around the 95c mark in early November. Australian exporters will again be under pressure from competing beef exporters around the world if our dollar rises much more.

Shipping Port	Number of head
Darwin	252,348
Fremantle	125,580
Portland	77,828
Broome	65,688
Karumba	17,304
Wyndham	17,257
Brisbane	10,438
Geraldton	8,195
Port Headland	6,100
Townsville	4,214

TABLE 1: Main shipping ports for the live trade 2012-13.

Live export destinations	Number of head
Indonesia	271,200
Israel	67,334
China (dairy)	59,123
Malaysia	38,548
Philippines	36,978
Russia	36,328
Turkey	35,609
Vietnam	15,903
Egypt	15,300
Japan	11,178
Jordan	9,000

TABLE 2: Main live export destinations 2012-13.

Another issue for our industry's competitiveness is our high costs of production right through the supply chain, our skilled boning room labour averages \$43 per hour versus USA \$18 per hour.

Power, gas and water costs to our abattoirs is double that of USA, to ship a 40 foot container from Brisbane to Japan costs \$3,700, USA to Japan \$2300.

Federal inspections and quarantine costs in Australia add another \$93 million across the industry, while Brazil and USA have no similar government charges. A carbon tax of \$6-\$8/head.

Our processing costs are two-and-a-half times of the USA and three times Brazil's.

US

CATTLE prices have hit all time record levels on the back of good domestic demand combined with tight cattle supplies due to the impact of drought and widespread herd reductions.

Their 2012-13 slaughter numbers are down slightly to 32.19 million head which has seen beef production decline one percent to 11.7 million tonnes. Good cattle prices are what their producers' need, but high meat prices for long periods, always results in consumers switching to more chicken and pork.

Our export volumes to the US have been quieter this year so far but have shown an upward trend since June. To date, about 160,000 tonnes have been exported. This is a far cry from the early 2000 years when our export volumes were around the 300,000 tonne mark per annum.

Many of our meat industry analysts were predicting good times ahead for our US meat export volumes during 2013 on the back of low US herd numbers, but

average US slaughter weights per head have been higher and our exporters have been attracted to other markets with better prices.

US beef exporters into Korea have received their second tariff reduction in January this year, giving them a 5.2pc price advantage over Aussie beef – Australia is still on a 40pc tariff.

Japan has also relaxed its age limit from 21 months to 31 months for USA slaughter stock destined for Japan.

CHINA

OUR meat exports have risen to 162,000 tonnes for the 2012-13 period – a rise of 243pc on the previous 12 month period. Both Brazil and USA are blocked from official imports into China at present because of BSE issues, but this situation will not be forever.

It's estimated that the Chinese domestic beef herd has fallen in number from 130 to 90 million head.

Market analysts are predicting good demand from an increasing middle class population that could number over 500 million by 2020.

Bernie English, FutureBeef Team, Mareeba, 0427 146 063, Greg Brown, Meadowbank Stn, Mt Garnet



LBN leads biosecurity push in Queensland

THE LIVESTOCK Biosecurity Network (LBN) encourages farming organisations to participate in developing a better response capability for exotic and endemic biosecurity threats. This includes promoting awareness of biosecurity risk and strengthening defences against outbreaks of exotic and endemic pests and diseases. LBN was formed in 2012 by Australia's three peak farming industry organisations: Cattle Council of Australia, Sheepmeat Council of Australia and Wool Producers Australia, which pooled \$5 million to fund the LBN after three years of intensive planning.



Sarah-Jane Wilson has been appointed to represent the LBN in Queensland. She will be based at the AgForce Queensland office in Brisbane.

Sarah-Jane will be working with key livestock industry 'influencers' to increase farmers' role in animal welfare, biosecurity, emergency animal disease responses and disease surveillance.

"My job is to support producers involved in the livestock industry to become more responsive and prepared for incursions of pests or diseases," Sarah-Jane said.

"We have on-farm biosecurity planning tools available and access to libraries of information about different diseases affecting your industry. I will be working with producers, industry representatives and peak-industry bodies to gather and report emerging and ongoing issues within the industries."

Stronger biosecurity safeguards will provide farmers with a set of measures for protecting livestock from infectious diseases and pest incursions. It encompasses all the veterinary, husbandry and management actions and decisions to ensure healthy and well cared for animals.

Freedom from invasive pests and diseases is a vital element in the sustainability of Australian agriculture, and particularly the livestock industries.

Sarah-Jane Wilson, Queensland Regional Officer, LBN, 0437 725 877, sjwilson@lbn.org.au



Poison hay

LIVESTOCK owners are being urged to take care when purchasing hay and to ensure that the type and quality of hay purchased is appropriate for the species of livestock they intend to feed. Bush hay cut in the Northern Territory consisting entirely of the herbage (Cullen species) known under the common names of verbine, scurf pea or native lucerne, has caused poisoning when fed to horses in North West Queensland.

Symptoms observed were consistent with photosensitisation with varying levels and severity of sunburn of the facial areas of the horses.

All horses displayed bluing of the eyes leading to blindness.

Horses with white on the facial area displayed swelling and cracking of these pale areas.

Symptoms occur within two days of ingestion. The severity of symptoms is determined by the:

- period of access to the verbine hay;
- amount of alternative sources of fodder available to the horses; and,
- amount of white or pink areas on the horses.

All symptoms of poisoning appeared to be reversible when the affected horses were removed from the hay

and veterinary medication applied. Affected horses should also be removed from direct sunlight and provided with a non-green fodder source until they are fully recovered.

Photosensitisation was not reported when the verbine hay was fed to cattle and this is most likely due to the different digestive process involved with ruminants.

As verbine can be quite succulent during the early stages of its growth, baling the plant can result in the production of mould and this has the potential to be toxic to all species of livestock.

Baling of bush hay from roadways and reserves can result in poisoning of livestock as many poisonous plants grow in these areas.

Livestock owners should make sufficient enquires to ensure they do not purchase hay they may not be able to use or that may cause harm to their stock.

It is also advisable to request a weed hygiene declaration when purchasing or moving feed to your property, and remain vigilant for new weeds regardless.

If stock appear unwell, or deaths occur after feeding non-commercial varieties of hay, contact your local veterinarian or biosecurity officer.

Rachael Palfreyman, Biosecurity Inspector, Cloncurry, (07) 4742 1311, Rachael.Palfreyman@daif.qld.gov.au



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Support is out there for drought affected

Subsidies available for water, freight, fodder and restocking

WITH over 62 percent of Queensland now drought declared under state government processes it's timely to remind readers of current state support for drought-hit producers.

DRAS

THE most commonly accessed assistance is through the Drought Relief Assistance Scheme (DRAS) which provides freight subsidies and emergency water rebates to drought declared properties. Freight subsidies are available for fodder, water, stock returning from agistment and restocking.

A change to the DRAS rules now allows assistance to remain available to graziers that have introduced stock to their drought declared property, as long as the stock are introduced from another drought declared property under the same ownership.

This new rule allows graziers with multiple properties to effectively manage the drought without reducing their access to state drought support.

The other well subscribed part of the DRAS scheme has been the newly introduced Emergency Water Infrastructure Rebate (EWIR). The rebate is for 50pc of the cost to purchase and install water infrastructure for emergency animal welfare need.

To access the rebate, producers need to complete a Water Availability Statement for endorsement by an authorised Queensland Department of Agriculture, Fisheries and Forestry (Q DAFF) officer.

The statement describes the emergency situation and what action will be, or has been taken. The rebate is for emergency animal welfare only and is not for general property development. Access to the rebate ceases when there is no longer an emergency animal welfare need.

The maximum subsidy ceiling for all combined claims under DRAS (freight and water infrastructure combined) is \$20,000 per PIC per financial year. This ceiling can be increased to \$30,000 with the submission of a Drought Management Plan (DMP). Local Drought Committees will assess the need to lift the ceiling for individual producers depending on the information provided in the DMP.

Federal Agriculture Minister Barnaby Joyce announced an additional \$7 million towards the EWIR scheme. It is expected that producers who have or will make application for the EWIR will be automatically considered for eligibility for the additional federal funds which would increase the rebate received by up to 25 percent, meaning that up to 75pc of water



DRAS freight rebate is available on fodder such as whole cottonseed but claims must be made within six months of movement of the fodder.



A common site in drought declared areas causing an emergency animal welfare need for alternative water infrastructure to be installed.

infrastructure could be covered under the combined Queensland and federal schemes.

This will take the rebate amount up to \$50,000 where an approved drought management plan is in place. Contact your local Q DAFF officer for further information. Find a list of Q DAFF staff in your area under the contacts tab on the FutureBeef website www.futurebeef.com.au.

Remember! All DRAS claims need to be submitted within six months of the date of purchase for water infrastructure and/or six months of the date of movement for freight subsidies.

OTHER ASSISTANCE

OTHER state government drought assistance available includes a freeze in rural land rents for the 2013/14 financial year, transport concessions for road trains, electricity tariff concessions and school transport allowances. Visit the DAFF website for more information www.daff.qld.gov.au

LAND RENT RELIEF

RURAL land rents will be frozen in the 2013/14 financial year for those farm businesses in drought declared areas or properties with an Individual Droughted Property (IDP) declaration. This should have been processed automatically. If you are unsure, please contact the Department of Natural Resources and Mines (DNRM) on 13 QGOV (13 74 68).

Properties can apply for hardship consideration for a range of circumstances (regardless of drought declaration status) if you are having problems paying the rent or instalments on state land you lease or licence under the Land Act 1994. Further information and application forms can be found at www.nrm.qld.gov.au/land/state/hardship or contact DNRM on 13 QGOV (13 74 68).

DEPARTMENT OF TRANSPORT & MAIN ROADS ASSISTANCE is provided for drought-affected primary producers including payment options for vehicle inspection fees, drought road train permits and increased vehicle height limit when transporting machined baled hay.

Families who drive their children to school or connect with a school bus run may be eligible for an increase in the school transport allowance.

Further information through your local Department of Transport and Main Roads office, online at www.tmr.qld.gov.au or 13 QGOV (13 74 68)

ENERGEX AND ERGON

IF YOU are a primary producer with an individual droughted property declaration or live in a drought-declared shire you may be entitled to an electricity tariff concession.

Further information online at www.energy.qld.gov.au/energy/rebates-and-concessions.htm

Karl McKellar, FutureBeef Team, Charters Towers, (07) 4761 5150, Karl.McKellar@daff.qld.gov.au



Protect pasture to prevent weeds

MORE than half the state is currently drought declared, and understandably many producers are focussed on maintaining their stock in good condition.

Weed management tends to be less of a priority during these tough times, but unfortunately drought provides ideal conditions for weeds to invade new areas or increase in density.

When much-needed rain arrives, weeds will be the first thing to take off and hinder pasture recovery.

Good ground cover and a healthy pasture play a big role in preventing weed invasion.

However, the reality for many producers is that due to the current dry conditions, pasture cover will be lower than usual, and in instances, less than that required to minimise weed establishment.

It's not all doom and gloom, with some proactive actions taken during droughts the impacts of weeds post-drought can be minimised.

These include:

Constant monitoring – Remain vigilant for new weeds on your property or existing weeds that may be showing up in new areas. Control of these will prevent their spread when more favourable conditions return. While some control techniques are less effective during dry times (e.g. foliar spraying), others such as mechanical control or cut stump and basal bark applications may still be effective. Often the plants produce fewer seeds during dry times so seedling recruitment should be less than usual.

Maximise the protection of pasture foundations – Giving the most susceptible pastures a rest once favourable rainfall conditions return will give grasses an opportunity to recover and then provide competition with any weeds that may be present.

Weeds such as parthenium and bellyache bush do not compete so well against healthy perennial grasses.

Farm hygiene and prevention – Be aware of the potential of introducing new weeds in fodder and put in place steps to minimise this risk.

Emergency fodder is a necessity during drought and can come from various locations in the state, with producers often unable to be particular about where they receive fodder from.

A report produced by a local council in New South Wales estimated that 97 percent of hay purchased due to drought feeding contained at least one noxious weed, but on average could contain up to 33 different weed species.

When purchasing fodder for stock follow these five steps below to remain on top of the weed situation and catch new infestations early:

- Know where the fodder/hay has come from, and be aware of weed risks from those areas;
- Distribute fodder to stock in a small paddock such as a holding yard, or select one part of a paddock and regularly check the area for new weeds;
- Hold or restrict livestock on return from agistment;
- Remain vigilant for unknown plants on your property and on adjoining stock routes and get them identified early; and,
- Pay particular attention to toxic weeds, stock are likely to eat anything when hungry and toxic weeds have been attributed to stock death during drought.

For more information on managing weeds during drought, visit www.daff.qld.gov.au or call 13 25 23. Alternatively, your local council Land Protection Officer can provide detailed advice on suitable weed control techniques and can assist with weed identification.

Lauren O'Bryan, Weed and Pest Officer, Biosecurity Queensland, (07) 4761 5740, Lauren.O'Bryan@daff.qld.gov.au



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AIDS IN REDUCTION OF WEIGHT LOSS AND STRESS LEVELS DURING TRANSIT AND WEANING TIMES.

IMPROVE RETURNS



Don't let stress win

Revive and Thrive is message from Flying Doctors

Support networks in action

THE Royal Flying Doctor Service (RFDS) health promotion officer, Elizabeth Lynch, coordinated a series of free Revive and Thrive workshops in several central and north-western Queensland communities in November.

About 120 people participated in the seven workshops that gave participants access to a range of information and particular contact points for further information as well as providing the opportunity for participants to catch up with other locals and socialise.

"There are some great supportive networks in these communities that strengthen the locals. It was greatly appreciated and a privilege to be able to link in with these to deliver the workshops. The success of these activities was determined by these networks and local residents giving of their time that already has huge demands on it," Ms Lynch said.

The organisation and implementation was a collaborative activity between government and non-government organisations.

Keynote speaker at the events was Philippa Harris, a mental health nurse known for her laughter workshops and who also featured in the recent *Glove Box Guide to Mental Health* released as a supplement in *Queensland Country Life*, October 13, 2013.

Philippa explained to participants that just as station work vehicles and watering points require services and to be checked regularly and maintained, as humans, our wellbeing also requires checking.

During dry times, health and wellbeing checks may be the first thing to be placed on hold. The pressure that individuals face may be managed in the short term but can have a high price to pay when this pressure is constant for an extended length of time.

An important step towards taking control of your well-being can be increasing your knowledge.

Under stress, the brain triggers an alarm that activates the fight-or-flight response, increasing the production of adrenaline and cortisol, which work together to speed heart rate, increase metabolism and



Philippa Lynch tells workshop participants that knowledge is important for someone taking control of their well-being.

blood pressure, enhance attention, the immune system and anti-inflammatory response, and lower pain sensitivity – all good things when your very survival is on the line. When the stressful situation is over, the body goes back to normal.

However, under constant stress, the body is unable to reset. High adrenaline and cortisol levels persist, potentially causing blood sugar imbalances and blood pressure problems and whittling away at muscle tissue, bone density, our immune system and inflammatory responses. These persistent high levels negatively affect the part of the brain responsible for encoding new memories. Put simply, too much stress can almost make us 'forget' how to make changes to reduce that stress, limiting the mental flexibility needed to find alternative solutions, and triggering general adaptation. This makes us feel unmotivated and mentally exhausted.

COMMON EXTERNAL CAUSES OF STRESS

- Major life changes
- Financial problems
- Work
- Being too busy
- Relationship difficulties
- Children and family

COMMON INTERNAL OR 'SELF-GENERATED' CAUSES OF STRESS

- Inability to accept uncertainty

- Unrealistic expectations
- Pessimism
- Perfectionism
- Negative self-talk
- Lack of assertiveness

COMMON WARNING SIGNS AND SYMPTOMS OF STRESS OVERLOAD

- Cognitive symptoms – memory problems, inability to concentrate, poor judgement, racing thoughts, anxious, constant worry, seeing only negatives.
- Emotional symptoms – moodiness, irritability or short temper, feeling overwhelmed, inability to relax, sense of loneliness and isolation, depression or general unhappiness.
- Physical symptoms – aches and pains, diarrhoea or constipation, nausea, dizziness, rapid heartbeat, chest pain, frequent colds, loss of sex drive.
- Behavioural – eating more or less, sleeping too much or too little, isolating self from others, procrastinating or neglecting responsibilities, nervous habits such as nail biting, and use of alcohol, cigarettes or drugs to relax.

The more signs and symptoms you notice in yourself, the closer you may be to stress overload.

Philippa Harris, Mental Illness Fellowship NQ Inc, Townsville, (07) 4725 3664, pharris@mifnq.org.au



TAKE ACTION

THE process of taking action and seeking support is not only courageous, but a responsible course of action, for which you hold the key. There are numerous supports available in the community and online to help you take action for better health and wellbeing.

Many of these services are listed in the *Glovebox Guide to Mental Health*, which was published in the October 10 issue of the *Queensland Country Life*.

The guide is also available online, presenting stories and information gathered from a wide range of locations across Queensland.

Either type in "glovebox guide to mental health" in your preferred search engine, or use the following web address: www.resources.farmonline.com.au/qcl/features/GGtoMH/3dissue/index.html



THINGS THAT INFLUENCE YOUR STRESS TOLERANCE LEVEL

- Support network – A strong network of supportive friends and family members is an enormous buffer against life's stressors.
- Sense of control – Have confidence in yourself and your ability to overcome or persevere through challenges; take stress in your stride. People vulnerable to stress tend to feel like things are out of their control.
- Attitude and outlook – Stress-hardy people have an optimistic attitude. They tend to embrace challenges, have a strong sense of humour, accept that change is a part of life, and believe in a higher power or purpose.
- Ability to deal with your emotions – You are extremely vulnerable to stress if you don't know how to calm and soothe yourself when you're feeling sad, angry or afraid. The ability to bring your emotions into balance helps you bounce back from adversity.
- Knowledge and preparation – The more you know about a stressful situation the easier it is to cope. You may not be able to predict the end of the drought, but you can prepare for an increase in your level of stress and that of those around you.

WHAT CAN YOU DO?

RATHER than simply living with stress, learn how to effectively master stress levels and build emotional resilience to help you feel and perform better on a daily basis, and protect yourself from the long-term damaging effects of stress.

1. **Get some exercise:** Studies show that aerobic exercise helps counteract the effects of stress. Regular exercise promotes good sleep, reduces depression and boosts self-confidence through the production of "feel-good" hormones (endorphins). You may lead a physically demanding lifestyle on the land, but a 20 minute walk in the afternoon with the family will still be beneficial.
2. **Have a laugh:** We all know from personal

experience that a good laugh can make us feel better, and this is increasingly backed by studies showing that laughter can reduce stress. Even just thinking about something funny can have a positive effect on reducing stress and the damage it causes to your brain. Watch your favourite comedy DVD, or phone a friend and reminisce about the good times.

3. **Socialise:** When you experience stress overload, it's easy to let personal connections and social opportunities fall off your list of priorities. But ample evidence shows that maintaining social relationships is critical for both mental and physical health. Don't miss an opportunity to spend time with family, friends, and even pets. This will give you a sense of belonging and help you remember how


good it feels to be with those you love.

4. **Relax:** Easier than it sounds, right? But relaxation – a walk around the yards, focusing on your breathing, meditation, tai chi, yoga, or whatever helps to quiet your mind and make you feel more at ease – can decrease blood pressure, respiration rate, metabolism and muscle tension. Meditation, in particular, is tremendously beneficial for managing stress and building mental resilience.

5. **Think positive:** How you think about what causes your stress can make a difference. Simply changing the way you look at certain situations, taking stock of the positive things in your life and learning to live with gratitude can improve your ability to manage stress and build brain resilience.

6. **Be grateful:** Showing that you appreciate your family, friends and loved ones for the positive aspects they bring to your life has a powerful calming effect. It is impossible to feel negative when you are feeling grateful for all of the good things and people you currently have in your life. Being grateful brings greater perspective and makes your worries appear as they are – temporary.

7. **Take control:** Studies show a direct correlation between feelings of psychological empowerment and stress resiliency. Take charge – deal with unhelpful sources of stress before they build up and become a bigger problem. Make choices – look at areas in your life where you could manage your situation better or change the way you respond.



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Manganese (Mn)	0.1%
MICRO INGREDIENTS	
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Zinc (Zn)	100000 mg
Copper (Cu)	10000 mg
Cobalt (Co)	1000 mg
Molybdenum (Mo)	100 mg

SINCE the 1980s, Indian couch has replaced native pastures over large areas of grazing lands in north-east Queensland. The main areas with Indian couch-dominated pastures are the Goldfields country from Charters Towers to Bowen, the Georgetown granites, and the Nulla, McBride and Sturgeon basalt provinces bounded roughly by Charters Towers, Mt Surprise and Hughenden. Other land types are also experiencing an increase in Indian couch pastures.

THE GOOD

Research by CSIRO at Lansdown Research Station in the early 1990s showed that Indian couch pastures will produce live weight gains comparable with native pastures dominated by the preferred species – the 3P (palatable, perennial and productive) species such as black speargrass. This trial was done in drought years and interestingly, the Indian couch treatments had to be destocked, as they were running out of feed at the same stocking rate as the native pasture paddocks that had sufficient feed to support continued grazing.

However, the land was in good condition in both cases. In commercial-sized paddocks this is usually not the case. On country that has lost most of the preferred pasture species and is dominated (more than 95 percent) by Indian couch, the soils are usually in a degraded state. In terms of the 'ABCD Land Condition Framework', this equates to land in condition C.

Indian couch will establish and colonise areas of bare ground. It provides high cover levels at relatively low yields, so it is good at slowing down overland flow, trapping sediment and reducing sheet erosion.

Indian couch also competes quite well with grader

Indian couch: The good, the bad and the ugly

grass. It is surprising that a low-growing species can challenge such a tall species as grader grass.



An example of an area that has lost most of its preferred pasture species and is now dominated by Indian couch. This country is in land condition C even though there is good cover.

A comparison of Indian couch, being a perennial grass, and grader grass, an annual, shows why this is the case. As the density of the Indian couch sward increases, the grader grass finds it more difficult to establish. The short viability of grader grass seed (12 months) is also a weakness that favours perennials.

THE BAD

INDIAN couch pastures have one major limitation for sustainable beef production – they have a tendency to die during a drought. The longer and more severe the drought, the greater the death rate. In those pastures that have a history of heavy stocking rates in the years prior to the drought, the situation is made worse.

This is understandable. Grasses that are continuously kept short have correspondingly shallow and restricted root systems. These die first when condi-

tions get tough as they can only extract moisture and nutrients from a small volume of soil.

During the last drought in the Burdekin region (2002-2005), widespread death of Indian couch occurred, resulting in a poor response to the rains when they came. In particular, the area from Charters Towers through Mingela and Ravenswood to the Burdekin Falls Dam grew a short goose-pick of green vegetation. On closer inspection, the dominant plant in the pasture was found to be Birdsville indigo (*Indigofera linnaei*), a native legume highly toxic to horses, but luckily not harmful to cattle.

As Indian couch is a prolific seeder, there was a large soil seedbank present. So over two years of reasonable rain after the drought, the pastures recovered. But the carrying capacity in the meantime was very low. So be aware that the response to rainfall on Indian couch pastures during the 2013/14 summer may be much less than you expect. If the seasons continue to be lean in subsequent summers, recovery may not occur until a couple of good seasons arrive.

THE UGLY

INDIAN couch pastures provide high cover levels at low yields, hence they reduce raindrop splash, which is the primary source of sediment generation. Much of the soil that is dislodged is trapped by Indian couch. So far so good. The sting comes from the fact that a disproportionately high volume of run-off is generated

on Indian couch-dominated country. Heavy grazing further aggravates the situation. As land condition declines, there is not only a loss of 3P pasture species, but soil condition also deteriorates. This is what has happened during the transition from 3P-dominant pastures to Indian couch. The soil has lost some of its ability to absorb rainfall, resulting in more run-off.

THE END RESULT IS TWO NEGATIVE CONSEQUENCES:

A LOSS of pasture growth and carrying capacity. On land that is in condition 'A', every millimetre of infiltration during summer grows about 7kg/ha of pasture on goldfields country at Ravenswood or 9kg/ha of pasture on red basalt country at Hillgrove. A probable loss of 15pc of the rainfall as run-off under Indian couch equates to 650kg/ha of pasture growth foregone in both instances. This represents a reduction in annual carrying capacity of 21 and 18pc on the goldfields and red basalt country respectively.

Accelerated gully erosion is a serious problem primarily on the goldfields country, which is prone to gullying, as well as some other soil types.

In the next edition of the *Northern muster*, we'll look at the possible causes of Indian couch dominance of pastures. In the meantime, I would welcome producers' experiences and views on Indian couch.

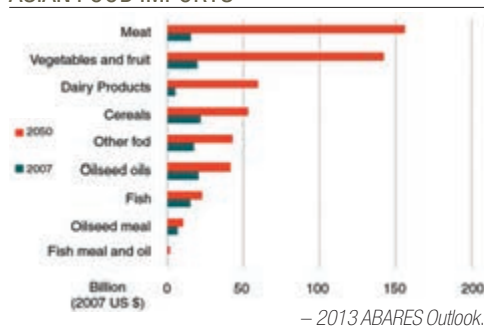
Bob Shepherd, FutureBeef Team, Charters Towers, (07) 4761 5150, Bob.Shepherd@daff.qld.gov.au



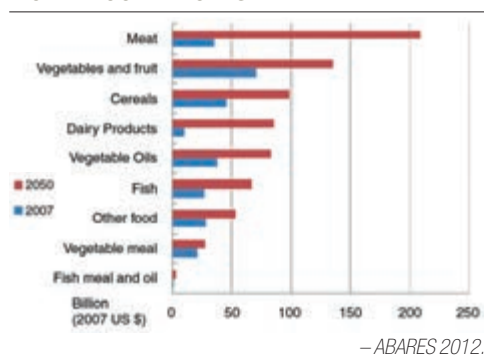
Standards for sustainability

Why Grazing BMP is vital for our industry

ASIAN FOOD IMPORTS



WORLD FOOD IMPORTS



PROTECTING the sustainability of the grazing industry into the future is a key responsibility for producers and is vital to ensuring the ongoing success of both individual businesses and the broader industry.

Over the next 50 years Australian beef production is expected to double through the combination of evolving Western-style diets across Asia and increased demand in existing markets (ABARES 2013).

As demand grows, the question of how the grazing sector addresses its environmental stewardship and consumer perception of animal welfare is becoming increasingly important to the long-term economic viability of our industry.

These challenges must be addressed through an open, honest and informed debate that continually reviews practices at farm level, while improving consumer understanding of the realities of farming and food production.

Now more than ever the industry needs to collectively develop and engage in an environmentally sustainable system of natural resource management; or, it can continue to expect externally developed regulation and negative narrative to undermine the social licence to operate.

The Grazing BMP Partnership of the Fitzroy Basin Association, AgForce and the Queensland Department

of Agriculture, Fisheries and Forestry, in conjunction with a panel of graziers, has proactively designed a set of standards that can clearly demonstrate equitable, sustainable production, and enhanced environmental and animal welfare outcomes to the broader community.

The Grazing BMP program has been developed from the 'bottom up' by graziers, for graziers.

Grazing BMP is an industry-led and owned tool that aims to provide real, current data. The aim is to build on existing good practices, identify areas requiring attention, and to assist those willing to evolve with the industry and to develop a truly mutually beneficial position. The industry will be able to use the collated Grazing BMP data to direct investment into research and development projects that help producers meet the challenges of an increasingly demanding regulatory environment, and growing consumer expectations and product knowledge.

As consumers increasingly demand produce sourced from sustainable production systems, industry can expect elements of sustainability or animal welfare concerns to dictate how they produce their product. To address this, Grazing BMP has identified standards that focus on grazing principles, not regional-specific issues. Grazing BMP standards are designed to evolve and continually improve and

adjust to community, scientific or legislative demands while retaining realistic costs of production.

The Grazing BMP partnership, in conjunction with the producer reference group, will provide direction for these changes, as appropriate, and focus on adjustments that strive for more sustainability, productivity and broader support in society.

With your voluntary support and involvement, the Grazing BMP program will continue to evolve and develop innovative ways of accurately measuring and communicating the positive work being undertaken using a robust, evidence-based approach.

The program provides producers with a voluntary, user-friendly industry benchmarking vehicle that, where appropriate, can facilitate changes in management practice to demonstrate the sector's credentials to the broader community.

The community and government perception of the Queensland beef industry's environmental and ethical credentials are of immediate and future importance.

The Grazing BMP program delivers a collaborative, whole-of-industry strategy, which delivers on community and industry expectations in terms of welfare and the environment.

Michael Taylor, AgForce Grazing BMP officer, (07) 3238 6048, www.bmpgrazing.com.au



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Outback kids join NGRMG

School children get involved in environmental concerns

OUTBACK kids have teamed up with the Northern Gulf Resource Management Group in 2013 in a range of activities to learn more about their local environment.

The first big event of the year was the Gulf Kids Competition on Healthy Waterways, with more than 100 students from Mt Molloy across to Karumba getting involved. 2013 is the International Year of Water Cooperation and to celebrate Northern Gulf Resource Management Group (NGRMG) incorporated the theme into its annual Gulf Kids Competition titled Gulf Kids – Healthy Waterways.

The competition was open to children aged five to 13 years living within the Mitchell, Staaten, Gilbert and Norman River catchment areas. Students were asked to develop collages, bumper stickers and posters depicting healthy waterways and healthy communities.

NGRMG education officer Erica Blumson said judges were very impressed with the high quality entries and found it challenging to decide on a winner.

"It's great to see so many students thinking about water and how we can use it efficiently as well as how to keep our waterways clean," she said.

Following the Healthy Waterways competition and theme was the annual Gulf Kids Environment Day (GKED), this year held at Lake Belmore near Croydon. This year GKED was themed around the International Year of Water Cooperation, celebrating healthy water ways from creeks to coast.

One hundred and twenty students from Croydon, Forsyth, Normanton, Georgetown and surrounding properties attended, with school staff and families travelling up to 200 km to attend.

GKED is in its third year and has been well supported by the community. The day opened with guest speaker Jodie Creek from Zoo to You, talking about the importance of looking after waterways. Presentations and a celebration cake ended the day.

Activities included water bug monitoring in Lake Belmore, a sustainable fishing game, getting hands-on with marine and freshwater animals and learning about water pests, healthy marine habitats and land management for water quality.

Students did some art activities using waste to make serpents and abandoned fishing nets to make carry bags. All the activities were done in teams to allow the kids to interact with others from their region;



Rebecca Gunther, Far North and North West FutureBeef Team, teaches kids about looking after soils at the recent Gulf Kids Environment Day.

one of the highlights was team-building with laser tag.

Each child took home an NGRMG sample bag full of goodies and a tackle box sponsored by the Michael Achurch Trust.

The project has been assisted by the Australian Government through the Australia Council for the Arts, its arts funding and advisory body. Frontier Services Savannah Regional Health Service contributed funding for the day. The event is also well supported by part-

nering organisations including Tinaroo Environmental Education Centre, Croydon Shire Council, Croydon School, and the Queensland Department of Agriculture, Fisheries and Forestry.

Outback Kids at Camp Cobbold, near Forsyth, also participated in natural resource management activities including Win it to Minute Sustainable Fishing, Geocaching, propagating veggies and sprouts, worm farming, weeds and feral animals.

We will be looking forward to a sustainable future if the keen interest that students in the region are showing in Junior Landcare continues through to their future careers. To see photos of any of this year's Junior Landcare activities visit the NGRMG facebook page Northern Gulf Resource Management Group.

Erica Blumson, Northern Gulf Resource Management Group, 0488 499 266, communications@northerngulf.com.au



Study of Northern Gulf nature refuges to provide guidelines

AUSTRALIA has many unique animal species and one of the most remarkable features of Australian fauna is the lack of large native herbivores.

Instead, Australia has a large number of small to medium-sized mammal species, the largest being the red kangaroo which can weigh up to 85 kilograms. The smallest of the mammals are less known by many and weigh as little as six grams.

These small mammals comprise both small native rodents, and another group called dasyurids, which are small carnivorous marsupials.

Small to medium-sized mammals are believed to play an important role in the health of ecosystems. They act as prey for larger species such as owls, assist in pollination and seed dispersal for vegetation, and some species play an important role in maintaining soil health by raising soil moisture through digging, and preventing runoff and nutrient loss.

Australia has a long history of mammal decline and extinction since European settlement. Between 1850

and 1960, 22 mammals have become extinct, and a further 10 now exist only on islands.

Mammal declines historically occurred in the arid, semi-arid and temperate regions in southern Australia. Tropical northern Australia has recently followed suite with a similar loss in mammal diversity and abundance.

Decline in Australia's mammalian fauna is presumably a combination of a range of factors. These include changes in land management, the introduction of feral species (e.g. red foxes, cats, black rats, pigs, European rabbit and cane toad), the introduction of weeds and exotic wildlife diseases.

Determining the specific cause of the decline is difficult as these changes all occurred simultaneously following European settlement, and at a broad scale.

Natalie Waller, a PhD student from the University of Queensland has recently joined the biodiversity team at Northern Gulf Resource Management Group to conduct extensive flora and fauna surveys on proper-

ties with nature refuges in Cape York and the northern Gulf.

Nature refuges have provided useful sites to evaluate the effectiveness of management practices such as exclusion fencing and fire in enhancing biodiversity, with a focus on small to medium-sized mammals.

The information gained from her project will increase our understanding of the ecology of these animals, and provide recommendations for improved management techniques to conserve small to medium-sized mammals in the region.

Land managers involved in the study will be provided with a report and the data of all records of the fauna and flora found on their properties.

Carly Starr, Northern Gulf Resource Management Group, 0477 999 749, bpm@northerngulf.com.au – Natalie Waller, University of Queensland, n.waller@uq.edu.au



RIGHT: Red-cheeked dunnart, *Sminthopsis virginiae*.



Carly Starr of the Northern Gulf Resource Management Group and Natalie Waller from University of Queensland have been conducting extensive flora and fauna surveys on properties with nature refuges in Cape York and the Northern Gulf.



Beef enterprise planning project designed to help producers in Gulf

FUTURE viability depends on better business management today – this is the motto of the new \$avannaPlan-Beef\$ense program developed to help Gulf cattle producers tackle their current financial challenges.

Queensland Department of Agriculture, Fisheries and Forestry (QDAFF), the Northern Gulf Resource Management Group, Southern Gulf Catchments and agribusiness consultants Alison Larard and Ian

MacLean have joined forces to identify and overcome key financial, herd and grazing management constraints.

\$avannaPlan-Beef\$ense is delivered on-property by a team that understands all aspects of running a profitable beef business from breeder productivity, and stocking rates through to cash flow budgeting, debt management and marketing.

The team also has a genuine interest in the indus-

try and the wellbeing of the people in it. Attuned to the sensitivities of people's lives and businesses, a \$avannaPlan-Beef\$ense service agreement is used to outline the program steps and appropriately cover confidentiality issues.

Beef enterprises across the Gulf vary in terms of scale, debt, property development and business management structures. Likewise, \$avannaPlan-Beef\$ense has the flexibility to focus on the issues

that will improve the viability of a beef business.

If you are interested in being involved in \$avanna Plan-Beef\$ense please contact the delivery team.

In the Northern Gulf contact Alison Larard, Bernie English, Tim McGrath, Olivia Pisani or Joe Rolfe. In the Southern Gulf you can call FutureBeef officers Emma Hegarty or Rebecca Gunther.

Far North and North West FutureBeef Team, Mareeba, 0427 378 412, Cloncurry, (07) 4742 1311.



Recognising industry's stars

Sarus Crane Award winners 2013

THE SARUS Crane Awards are held annually by Southern Gulf Catchments Limited (SGC) to acknowledge contributions individuals and groups have made to land management, the environment and local communities in Queensland's north-west.

The Sarus Crane Awards are an opportunity to reward and acknowledge those who have put exceptional effort into improving the environment, whether in sustainability, best practice, implementation, management or combating threats to our environment.

There was an overwhelming number of nominations this year, demonstrating the dedication and passion in communities for improving land management, controlling pests and weeds and developing best practice management plans to protect the environment for future generations.

The individual Sarus Crane Award was awarded to Ninian Stewart-Moore, local landholder and councillor with the Flinders Shire Council. In the past 12 months Ninian has been the driving force in establishing the Flinders Shire Wild Dog Advisory Group and the Flinders Shire Weed Advisory Group. These groups are chaired by Ninian and managed by local landholders and key stakeholders in the shire, working together to achieve positive long-term outcomes.

A major achievement of Ninian's leadership of the Weed Advisory Group, also a nominee in this year's awards, has been the establishment of the Good Neighbour Program. This involves five new Catchment Management Groups, each one introducing buffer zones on boundaries, watercourses and roads as well as other measures to reduce the spread of weeds from one property to another. Each group has its own problems and priorities and will aim to take ownership locally to deliver a high ratio of on-ground activities and develop long term management plans.

Charles Curry, project coordinator for SGC said the Good Neighbour Program was unique and could be adopted by many other shires.

"It will potentially involve all properties across the shire and is driven at the grass roots level. SGC will endeavour to assist with efforts to fund the groups and provide as much encouragement as we can," he said.

The Sarus Crane Award for groups was awarded to the Upper Gilliat Weed Management Group. This committed group consists of 10 property owners from Cairo, Rutchillo, Redland Park, Eulolo, Willcamp, Kooroora, Glen Bede, Malvie Downs, Kellosiel and Wolseley Downs properties working together since 2009 to stop the spread and greatly reduce the density of prickly acacia in the upper parts of the Gilliat River – an area in excess of 10,000 hectares.

In addition to on-ground weed control, over the past 12 months many in the group have also implemented paddock quarantine methods to control cattle movement and prevent the spread of prickly acacia.

By working closely as a group, significant achievements have been made on a sub-catchment scale instead of within individual property boundaries. Information sharing has led to a greater awareness in the community by opening discussions, sharing the problems and achieving results. This will assist in securing the long-term viability of properties in the region and conserve the area's biodiversity.

Bob Wilson, CEO of Southern Gulf Catchments Limited, explained: "Under Ray Campbell's guidance and leadership, this group has expanded and after four funding rounds and considerable efforts by all members, has achieved significant outcomes in their dedicated fight against prickly acacia on their neighbouring properties. The group has set excellent standards for other groups to aspire to."

Highly commended certificates were also awarded to the following landholders for their ongoing work in the community:

- Tex Battle from Sweers Island
- Arthur Ferguson of Richmond Shire Council
- Duncan and Judy Fysh from Proa
- Brett Epple, winner of the inaugural Sarus Crane award
- Carpentaria Land Council Aboriginal Corporation, Gangalidda and Garawa Rangers
- Gregory River Landcare Group
- Flinders Shire Weed Advisory Group

Victoria Corner, Southern Gulf Catchments Limited, (07) 4743 1888, admin@southerngulf.com.au



Ninian Stewart-Moore leading the Flinders Weeds Advisory Group meeting at Gunnerside Station.



The Upper Gilliat Weed Management Group, consisting of 10 landholders, on the job planning to stop the spread and reduce the density of prickly acacia.

Landcare group supports graziers with weed spraying

EIGHT members of the Gregory River Landcare Group (GRLG) spent a week in the Gregory River catchment in October to support local graziers by spraying several highly invasive weeds on three properties.

Rubber vine and bellyache bush were the key species targeted although mesquite, parkinsonia, calotrope and lantana were also treated. Three hundred and fourteen litres of herbicide mix were applied over two stretches of the Gregory River plus outlying infestations on tributaries.

The spraying exercise was a collaborative effort

with properties assisting GRLG with access to sites and on one occasion a barbecue lunch. Southern Gulf Catchments Limited (SGC) provided logistical support and funding for the trip through the Glencore Community Environment Program North Queensland.

Organiser Mark Van Ryt said since the Landcare group had been formed in 2006, volunteers had always done a bit of weed work on properties near Mount Isa and Gregory, but this was our first dedicated week-long spraying effort.

"While we achieved a lot it was very disturbing to

see how bad the weed situation has become.

"We will have to come back again shortly to do follow up spraying."

Five of the GRLG members were volunteers from Mount Isa and one, a member of South East Queensland-based Landcare group Bulimba Creek Catchment Coordinating Committee, flew up from Brisbane. The other two members were from SGC based in Mount Isa.

Charles Curry, Southern Gulf Catchments Limited, (07) 4743 1888, ccurry@southerngulf.com.au



Mark van Ryt (Gregory River Landcare Group) and Charles Curry (Southern Gulf Catchments) preparing spray equipment.



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TYPICAL ANALYSIS		
Protein Meal	400g/kg	40.0%
Urea	100g/kg	10.0%
Molasses	75g/kg	7.5%
Sulphur	25.3g/kg	2.53%
Salt	384.2g/kg	38.42%
Potassium	3.893g/kg	38.9%
Magnesium	8.828g/kg	88.2%
Calcium	25g/kg	2.5%
Phosphorus	5.45g/kg	0.545%
Manganese	6.18 mg/kg	
Iron	18.45mg/kg	
Copper	0.825mg/kg	
Zinc	188.87mg/kg	
Selenium	26mg/kg	
TOTAL PROTEIN		37.5%



Sizing up carcasses

Beef Challenge produces fantastic results



Emma Hegarty, FutureBeef Team Cloncurry, Rachael French of Eddington, Julia Creek, and Rebecca Gunther also of FutureBeef Cloncurry went to the abattoir to see the animals processed and the MSA data collected.

MCKINLAY Shire Beef Challenge cattle were sent to abattoirs in Kilcoy and Dinmore in July where MSA data was collected and used to assess the carcass attributes for each individual steer. This followed 132 head of steers being fed at Mort and Co Grassdale feedlot for 100 days.

Most of the cattle went to the Kilcoy abattoir, with 17 head below the 440kg minimum liveweight cut-off being sent to Dinmore. A summary of the data is shown in Table 1. All of the cattle met Meat Standards Australia (MSA) specifications, which are:

- pH < 5.7
- Meat colour – 1B to 3
- Rib fat minimum of 3mm

This was a fantastic result given that the steers went through a drier than normal wet season and a very dry start to 2013. While the cattle had MSA data collected on them, it was for a learning exercise only and none of



The rib eye of one of the higher marbling carcasses within the group.

the steers were actually marketed as MSA product.

While severe discounts (up to \$0.55c a kilogram) were given to carcasses that did not meet the company specification of four millimetres P8 fat, only two head fell short.

There were no dark cutters in the mob and fat colour was white across all bodies. Ossification was good with the highest score being a 200, which equals an approximate age of 30 months.

Marbling scores were quite low for the mob with the average carcass only showing slight marbling in the rib eye.

There was a small number of carcasses which showed quite good marbling scores of up to 480.

The average hump height across the mob of cattle was 132 millimetres, but ranged up to 265 mm. Hump height is used to measure the tropical breed content of the animal.

The steers were placed in to boning groups (BG) ranging from 6 to 14 on a 1 to 18 scale (BG 1 being the best). The data showed that as the boning group increased (and eating quality decreased) the rib fat decreased, hump height increased, and the MSA eating quality score decreased significantly.

The average price received was \$3.60/kg, ranging from \$2.60 to \$3.72. The highest price was received at Kilcoy for a 320+kg carcass with 8-25mm P8 fat and milk or two teeth. These prices were for 100-day grain fed product, non MSA.

The Richmond Beef Challenge cattle were sent to Kilcoy abattoir in mid-November following their 100 days on feed at Smithfield Feedlot, Proston. The carcass data from the Richmond Beef Challenge steers will be presented in the April 2014 issue of the *Northern muster*.

To learn more about the MSA grading system and for assistance with interpreting MSA feedback data

Carcass attribute	Average data
Average hot standard carcass weight	330kg
Average dressing percentage	54%
Average P8 fat	13mm (4-23mm range)
Average pH	5.49
Average ossification score	156 (110-200 range)
Average marbling score	260 (110-480 range)
Rib fat	12mm (3-27mm range)

TABLE 1: A summary of the average carcass data collected for the beef challenge steers.

visit www.mla.com.au/Marketingbeef-and-lamb/Meat-Standards-Australia/MSAbeef.

Emma Hegarty, FutureBeef Team, Cloncurry, 0467 808 340, emma.hegarty@daff.qld.gov.au



MSA data was collected to use as a learning tool to better understand carcass attributes for each individual steer.

MSA tool assesses impacts on eating quality

A NEW tool called the MSA Index allows producers to understand the direct impact of genetic traits, breed composition and management on eating quality.

The MSA Index will be a standard national measure of the potential eating quality of a carcass for the purpose of feedback to producers and lot feeders.

The MSA Index will be a number between 30 and 80, to two decimal places (ie. 54.62), to represent the eating quality potential of a whole carcass. The index is independent of any processing impacts and the value is calculated as a weighted average of the MSA eating quality scores of 39 muscles in the carcass, for the most appropriate cooking method.

It will be similar to an estimated breeding value (EBV), which indicates the potential merit of an animal. Livestock management, nutrition, as well as genetics will combine to contribute to changes in the index.

Producers are not required to do anything different on-farm to prepare cattle and consign them for MSA. The index will form part of MSA feedback available through a new online MSA feedback system, called myMSA, soon to be released.

This information will enable producers and lot feeders to make decisions about any future changes they may like to implement to improve the eating quality of their cattle.

The major factors impacting on eating quality, influenced by the producer, are HGP status, tropical breed content (represented by hump height), MSA marbling and ossification scores as well as milk fed vealer and saleyard status. The magnitude of these factors varies depending on individual production systems, for example north versus south.

The index is the most accurate predictor of eating quality the industry has seen so far. It will allow producers to do their own modelling and offers scope to consistently meet market specifications and increase returns.

A MSA Index calculator will also be available for smartphones and through myMSA, so producers can change scenarios and examine – by manipulating certain traits such as breed content, marbling or ossification – how the index changes and how to best meet processor specifications.

The MSA Index will be rolled out in the next 18 months as MSA processors Australia-wide take up the new carcass-sorting tool.

For more information: www.mla.com.au/msa





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GUARANTEED ANALYSIS	
MACRO INGREDIENTS	
Total Protein	86.25%
Crude Protein (from assay)	86.25%
Salt (NaCl)	40%
Urea	30%
Molasses	2%
Dicalcium Phosphate	2% - 2.4%
Min Iron	0.20%
Max Magnesium	0.50%
Activated Zeolite	3.00%



High performing cattle

McKinlay Beef Challenge

THE inaugural McKinlay Shire Beef Challenge has concluded with a celebratory dinner on Saturday, October 19, where high-achieving pens of cattle were recognised across grassfed, grainfed and carcass categories. Peter Lewis from ABC television's *Landline* travelled to Julia Creek, sharing with guests entertaining stories and a slideshow of fascinating photos from a recent trip to South America.

The cattle entered the paddock in October 2012 with two different induction weight ranges – 200kg to 230kg and 380kg to 420kg. The official challenge start weight for each animal was recorded in early November with the mob average at 375kg.

As the mob headed to Mort and Co's Grassdale feedlot in March, they had gained an average of 63kg per head, or 0.47kg/hd/day, an impressive effort given the lacklustre wet season.

The highest weight gain performing pen of steers on grass gained 92kg (0.69kg/d), entered by Calvin and Karen Price from Mimong Station.

The first half of the 100 days on feed (DOF), the cattle gained quickly, putting on 2kg/hd/d before slowing to 1.6kg/hd/d. Over the grain-feeding phase, the cattle put on 163kg. Since November 2012, the cattle gained a total of 227kg or average gain of 0.93kg/hd/d.

In comparison, the Richmond Beef Challenge cattle in the previous 2011/12 challenge on grass alone, gained 219kg, or an average gain of 0.66kg/hd/d.

The highest weight gain performing pen of steers gained 298kg (1.21kg/hd/d) from November to July, entered by John and Margo Stevens of Cremona.

The same pen of steers gained the most weight during the feedlot phase – 2.49kg/d.

The top five individual animals gained between 323kg (1.31kg/hd/d) and 347kg (1.40kg/hd/d) over the nine-month challenge.

On grain feeding only, the top 10 individual animals gained more than 260kg at a rate of or above 2.52kg/d

At induction into the challenge, producers were given the option to use HGP implants or not.



Calvin Price of Mimong, Elanco's Todd Donaldson and Colin Malone from Mount Grant discussing the finer points of the compiled data at the dinner.



LEFT: Cloncurry Rabobank manager Declan Keogh congratulates John Stevens of Cremona, on achieving the highest overall weight gain in the feedlot with his pen of steers.

In both weight groups, weight advantages were still seen in the animals that had been implanted.

The McKinlay Beef Challenge was made possible through the generous support of sponsors Rabobank, Zoetis, Elanco, Allflex, Ray and Judy Heslin, Q DAFF FutureBeef staff, and the hard work of committee members Lindsay Allen (president), Rachael French (secretary) and Gayle Batt (treasurer).

The group is looking forward to holding its next challenge in the new year.

RIGHT: A few of the McKinlay Challenge animals at the feedlot prior to processing.



Peter Lewis of the ABC sharing a laugh with Lindsay Allen, Longford.

Richmond Beef Challenge

SMITHFIELD Feedlot at Proston hosted the Richmond Challenge cattle for 100 days on feed.

The mob averaged 456kg when loaded at Richmond and had a 4.86 percent shrink to average 434kg at induction.

During their time at the feedlot, they gained at 2.05kg/hd/d, leaving the feedlot with an average weight of 637kg.

The cattle were processed at Kilcoy abattoir in mid-November with FutureBeef officer, Emma Hegarty, travelling down to be on the kill floor at Kilcoy.

Information was collected to enable the carcass feedback data to be analysed to provide producers with some detailed feedback on how their animals graded and performed.

Emma also travelled to Proston where Ryan Brown kindly gave his time to give Emma a comprehensive tour of the facilities.

Information collected at the feedlot and fill live-weight and carcass data will be reported to the group at a debrief day in February.

A full summary of the debrief day results will be published in the autumn issue of *Northern muster*.

Rebecca Gunther, FutureBeef Team, Cloncurry, 0417 726 703, Rebecca.Gunther@daff.qld.gov.au



	Average weight (kg)	Average gain (kg/hd)	Daily gain (kg/hd/d)
November	375		
March	438	63	0.47
May (53 DOF)	526	88	2
July (103 DOF)	601	75	1.8

	HGP	no HGP	diff	HGP	no HGP	diff	HGP	no HGP
SUMMARY	Overall Gain (kg)			ADG (kg/d)			No. of head	
overall	65.47	57.29	8.18	0.49	0.43	0.06	81	56
Group 1	80.58	68.63	11.96	0.61	0.52	0.09	24	24
Group 2	59.11	48.78	10.32	0.44	0.37	0.08	57	32

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Thinking BIG on Beetaloo Station

Daring development in Northern Territory

FOR the past decade, the Dunicliff and Armstrong families have implemented a daring development plan at Beetaloo Station, NT.

In transforming their 1,054,700-hectare piece of the Barkly Tableland into a well-watered and sustainably-grazed enterprise, the family has lifted carrying capacity from 20,000 to 100,000 head, while providing a blueprint for northern development.

The improvements are impressive: they are on track to finish 600 watering points by next year (at a cost of \$60,000 each), linked by a network of bores, pipes and fences.

While John Dunicliff – who runs Beetaloo with wife Trish, daughter Jane and son-in-law Scott Armstrong – admits there are times he thinks they were crazy to tackle such a project, he doesn't hesitate when asked if the investment was worthwhile. "We are in the business of growing grass and selling it as beef, but we can't do that without water. Our business starts and stops with water," John said.

When the Dunicliffs acquired Beetaloo (encompassing the perpetual pastoral leases of Beetaloo, OT Downs and Mungabroom) in 2002, less than 10 percent of the land was effectively watered.

"With the exception of heavily-grazed areas surrounding water points, most of the station was in a natural state with large areas that had never been grazed," John said.

These vast areas presented management challenges:

- Fires before each wet season in ungrazed areas;
- Inability to control grazing intensity and grazing of less palatable areas;
- Costly and inefficient mustering; and,
- Pasture degradation, contributing to habitat loss for native species;

The Dunicliffs worked with engineer Sid Dyer to develop a strategic network of infrastructure to redistribute grazing pressure.

The infrastructure changes involved two areas:

1. Establish a water supply system to redistribute grazing:

- 70 sub-artesian bores, connected by a grid network of 75mm pipe buried to 800mm (to minimise expansion/contraction with temperature change) along fence lines;
- 150,000-litre steel tanks at each fence intersection;
- Concrete troughs in each corner of each paddock gravity-fed by tanks;
- Each bore supplies nine tanks and each tank supplies four paddocks; and,
- 600 tanks planned by 2014.

2. Reduce paddock size to control stock:

- Initially, paddocks re-fenced to 4km x 4km (1600ha); more recently reduced to 1000ha to enhance pasture utilisation.

There are currently 40 paddocks in the rotational grazing system – groups of 5000 head are moved every three days to prevent over-grazing and promote pasture growth. John said any property develop-



A grid system of fences, complemented by strategic watering points underpins the development of Beetaloo Station.

ment, regardless of scale, must begin with small steps.

"Infrastructure is expensive and time-consuming, especially in northern Australia where access to resources and labour is difficult. If development is currently cost-prohibitive, use the time to develop a budget and an infrastructure plan. As seasonal and market conditions improve, start putting in waters one at a time – each one is a step forward."

Each new watering point delivers benefits, such as:

- Combining waters and fences allows stock to be controlled to increase pasture utilisation;
- The ability to spell paddocks promotes plant regeneration and soil health; and,
- Controlled, high-density stocking prevents over or under grazing, so pastures are consumed when their nutritional value is highest.

The Dunicliffs are increasing stock numbers by breeding, rather than buying. This strategy is helped by improved weaning rates, which John credits to improved pasture utilisation and management.

This year, they achieved 65pc weaning rates, up from historical rates of 50pc. They have set a conservative 100,000-head goal.

"An intensive grazing system of this size has limited destocking options so we will retain 20pc of pasture as a drought buffer."

CHALLENGES

COST is the biggest challenge, but John said dividing the capital cost by the number of cattle each unit of the investment can support, equates to a \$300 per beast area.

Diesel pumps are required to run bores daily for eight hours, to produce 50 litres/head/day for stock. Windmills could not generate the pressure required to fill tanks up to 30km from bores, and a suitable solar system would be cost-prohibitive.

A breakdown could be devastating, so every bore and trough has a back-up water supply. Remote switching systems have been unreliable, so a full-time employee manually operates, refuels, services and repairs the system during the dry season.

John and Trish Dunicliff, Beetaloo Station, NT, (08) 8964 4613, jadunicliff@gmail.com



Findings at Pigeon Hole Station provide answers

FOR the past decade, Heytesbury Beef's Pigeon Hole Station has been synonymous with cutting-edge cattle research. A new Meat and Livestock Australia (MLA) publication summarises the highlights and key messages from this research.

Encompassing 350 square kilometres of grazing land with 5000 head of cattle, the MLA Donor Company Pigeon Hole project channelled thousands of research hours into sustainably increasing carrying capacity in extensive enterprises.

The commercial scale research trial, run on the station in the Victoria River District of Northern Territory (NT), brought together the funding and capabilities of Heytesbury Beef, MLA, CSIRO, NT Department of Primary Industry and Fisheries (NTDPI&F), NT Parks and Wildlife, and the University of Queensland.

NTDPI&F Regional Director Neil McDonald said the Pigeon Hole project demonstrated that paddock carrying capacity could be increased through sustainable pasture utilisation rates and appropriate development of paddocks and watering points.

"Northern Australia has a lot of potential to increase productivity and profitability, but any case for growth requires a good financial and biological model for effective and sustainable implementation," Mr McDonald said.

"Many of the key findings from Pigeon Hole have already filtered through to the industry and we have seen many stations invest in new water points and sub-divide paddocks.

"Combined with uptake of programs like Grazing Land Management, this research underpins the 3 percent annual growth witnessed in the NT's beef herd in the past decade.

"The highlights of the project, presented as guidelines for development of extensive cattle stations, provide a foundation for future development, and a sound tool to support investment decisions."

The guidelines from the Pigeon Hole Project give producers strategies to answer critical questions, such as:

How much of your property is not being grazed?

What is the sustainable stocking rate?

Would a different grazing system improve pasture condition?

Will property development provide a better return on investment than buying additional land?

What management tools are available?

How will development affect biodiversity?

Get your hands on tools and tips for your own property development through the new MLA publication of the project's highlights and key messages available from MLA at www.mla.com.au/extensivecattleguidelines

MLA's BusinessEDGE courses provide planning tools to assess property improvements such as increasing stocking rates, investing in infrastructure and opening up new country. You can find out when these, and other training workshops are being held by visiting the events calendar on the FutureBeef website www.futurebeef.com.au

FutureBeef is a coordinated extension and communication program, bringing research-based information and producer activities through Qld, NT and WA state agricultural agencies and MLA.

Neil McDonald, Regional Director, NT DPI&F, (08) 8973 9739, Neil.McDonald@nt.gov.au



Mustering on Pigeon Hole Station.

A solid investment plan

THE Pigeon Hole project identified pathways for long-term investment that producers can implement at their own pace.

Whether you have current or future investment plans, the guidelines help identify strategies, to set in motion, well before outlaying funds:

Budget – For new infrastructure, maintenance, operating costs, additional stock, foregone sales from breeder retention, cash flow during development, potential climate variability and market volatility. **Identify development order** – Develop additional watering points first, then subdivision fencing. **Choose investments** – Is increasing carrying capacity through fencing/ water more cost-effective than purchasing more land?

Identify resources – More cattle may require more management, extra handling facilities and new pathways to market. **Identify suitable grazing systems** – Is rotational wet season spelling required to restore/ maintain pasture condition? **Assess current/potential carrying capacity** – Identify areas to develop economically. **Assess impact on biodiversity** – Will grazing stock in underutilised grassland reduce biodiversity? **Embrace new management tools** – Telemetry for remote monitoring of bores and watering points; water medication for supplementation may improve management efficiency and minimise costs; climate response tools. **Know the risks** – Will property values affect returns on investment? Do you have a dry season plan to sell/ move stock?



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