

# Regional Extension Plan for grazing in the Burdekin Dry Tropics

2019



*This project has been funded by the  
Queensland Government Reef  
Water Quality Program*



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## 1. Abbreviations

BMP – Best Management Practice

CHRRUP – Central Highlands Regional Resources Use and Planning

CSIRO – Commonwealth Scientific and Industrial Research Organisation

CQU – Central Queensland University

DAF – Department of Agriculture and Fisheries

DLC – Dalrymple Landcare Committee

GBR – Great Barrier Reef

JCU – James Cook University

LDC – Landholders Driving Change

MIP – Major Integrated Project

MLA – Meat and Livestock Australia

QFF – Queensland Farmers Federation

QG – Queensland Government

P2R – Paddock to Reef

RCS – Resource Consulting Services

RECG – Regional Extension Coordination Group (contracted name of the Regional Extension Network)

RExN – Regional Extension Network

RExP – Regional Extension Panel

WQIP – Water Quality Improvement Plan

## 2. Executive Summary

### Background

The Burdekin Catchment has been identified as the highest priority catchment for reduction of fine sediment being exported to the Great Barrier Reef, contributing an estimated 39% of total sediment load to the GBR Lagoon. Excessive fine sediment arises disproportionately from eroding 'C and D condition' land, managed below industry best practice standards. The purpose of this plan is enhance the delivery of extension services to the grazing industry to improve management practices and minimize sediment losses in the Burdekin region through *“more targeted and coordinated extension to support large scale land management practice change that will result in improved water quality outcomes for the Great Barrier Reef” (GBR Taskforce, 2015).*

The Enhanced Extension Coordination (EEC) Project is funded by the Queensland Government’s Reef Water Quality Program and is delivered by Natural Resource Management organisations and Department of Agriculture and Fisheries across six reef catchments. The project includes seven Regional Extension Coordinator positions and targeted discretionary funds to improve coordination and collaboration between extension service providers in the GBR.

### Enhanced Extension and Coordination Project Objectives

The EEC project aims to substantially enhance collaborative arrangements and efforts between extension providers, and build networks that support action in GBR catchments. It is based on key recommendations from the Coutts J&R (2017) report: [Review Report: Practice Change, Education and Extension in Reef Catchments](#).

The project will work with private and public suppliers to enhance extension services to better meet producer needs, improve the quality of extension services, support whole of property outcomes and make greater use of smarter and more innovative extension approaches to help achieve GBR water quality targets.

**The Enhanced Extension Coordination project aims to contribute to meeting the 2025 water quality targets as set by Reef 2050 Water Quality Improvement Plan for the Burdekin-**

**End of catchment fine sediment reduction of 30% (840 kilotonnes).**

### Delivering the Project in the Burdekin

A part-time *Regional Extension Coordinator* for Grazing has been established in the Burdekin and is hosted by NQ Dry Tropics. The key role of the Coordinator is to establish and facilitate a *Regional Extension Network* comprised of organisations which have an on-going involvement in grazing and natural resource management extension services in the Burdekin region.

This Network is essential to improving strategic collaboration across programs and organisations at the local level to more effectively address regional and sub-regional priorities. Through the EEC this Network will also enable more effective linkages within the broader Reef program, and promote better ways of achieving an accelerated adoption of grazing best management practices across the GBR catchment.

Together with the Coordinator, the Network has developed this Regional Extension Plan for Grazing in the Burdekin Dry Tropics. The Plan provides a strategic view of on-ground delivery of extension services in the Burdekin region, including gaps and personal and technical training needs.

#### Burdekin Grazing Regional Extension Network

- NQ Dry Tropics
- Department of Agriculture and Fisheries DAF
- Central Highlands Regional Resources Use and Planning CHRRUP
- Dalryple Landcare Group DLC
- Bowen Collinsville Landcare
- Desert Uplands Committee (Desert Uplands Build UP and Development Committee) DUC
- Resource Consulting Services RCS
- Meat and Livestock Australia MLA
- CSIRO
- James Cook University JCU

The Plan will support the EEC project to:

- facilitate improved coordination, collaboration, and networking between all extension providers;
- improve extension services to better meet grazier needs;
- establish more consistent messaging across the grazing industry;
- support groups in all aspects of their grazing operation to adopt best practice management;
- establish a broader geographic spread of grazing groups to support local adoption of new practices and contribute to a more representative regional perspective on grazing best management practices;
- encourage adoption of innovative extension approaches to achieve GBR water quality targets;
- ensure consistency with current funding programs and water quality priorities.

### INDEX to the Regional Extension Plan for grazing in the Burdekin Dry Tropics

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## Grazing related Project Investment and Groups

Significant Australian and Queensland Government investment has been made to improve grazing land management practices and water quality. Since 2018 to present there have been fifteen large projects funded in the Burdekin, including the Landholders Driving Change Major Integrated Project in the Bowen, Broken and Bogie priority catchments for sediment reduction. Three active Landcare Groups, nineteen landholder groups and four informal project-based groups are present in the Burdekin. In many cases these groups have been formed around industry initiatives or funded projects that have differences in scope and geographic distribution. As a consequence, the extent and delivery of extension services is variable, resulting in some areas receiving significantly more investment and support compared to others.

Funding is available through the EEC project for the *Regional Extension Network* to address regional priorities that enhance extension and coordination of projects in the Burdekin grazing industry that contribute to Reef water quality outcomes. Two of these funding streams are:

- **Peer-to-Peer Funds** for facilitated Peer-to-Peer learning activities delivered by graziers to graziers, with support from experts or industry leaders.
- **Flexible Funds** for activities that addresses barriers, fill gaps and improve collaboration in extension services to graziers and enhance the delivery of on-ground extension projects in the region.

Applications for projects are submitted via the Coordinator to a Panel composed of Regional Extension Network (RExN) members. Project proposals are assessed and ranked against established criteria and recommended for approval through a clear and transparent process.

‘Extension Personnel and Expertise’ funding is also available to support service providers to collaborate to develop regional capacity in priority speciality areas that improve water quality entering the GBR. Applications for these larger budget projects are assessed by an assessment panel facilitated by DAF program managers.

Funds are also available to subsidise training and capacity building activities to upskill the extension delivery personnel across sections in the GBR regions based on a training needs analysis undertaken in 2018. Funding will be provided to support reef extension personnel to attend training or participate in mentoring programs. The regional extension coordinator will play a key role in supporting capacity building for the regional extension providers, working with the DAF Manager (Reef Extension Training Development) to make available and coordinate opportunities for regional extension staff to participate in extension training.

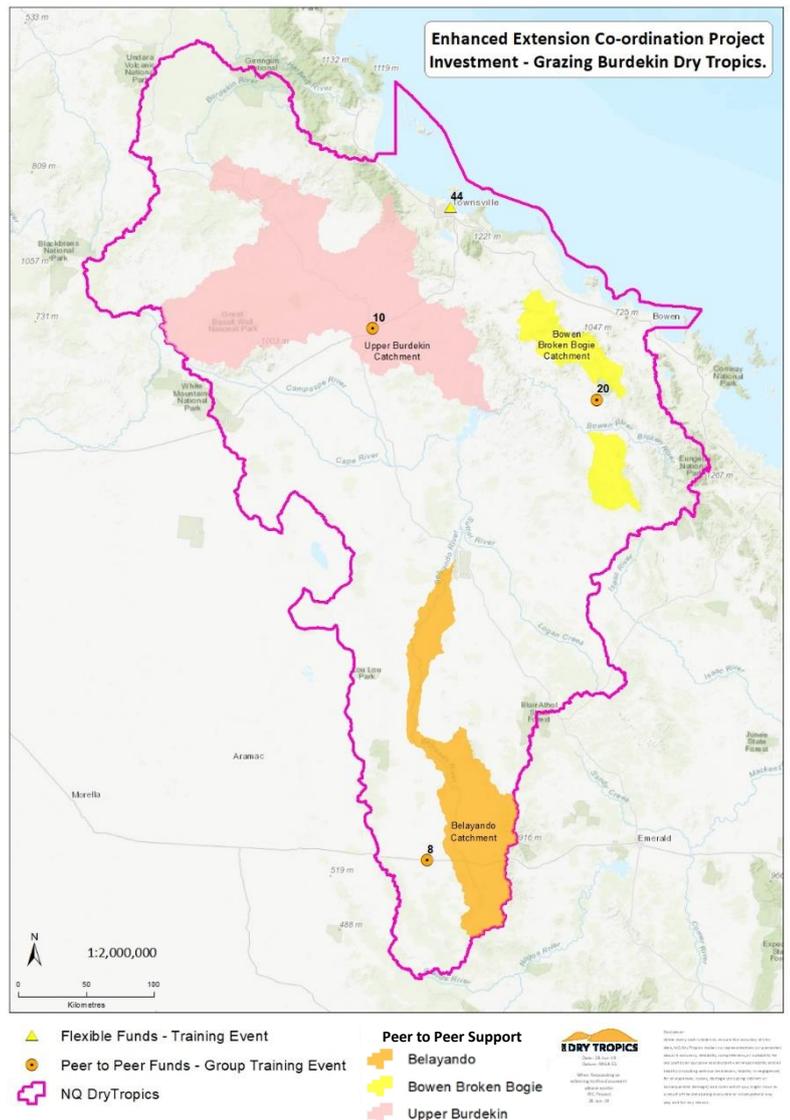
All projects must be completed by the end of May 2020.

## Projects Funded 2018- 2020

Since mid-2018 three Peer to Peer and two Flexible funding projects have been successfully completed by CHRRUP and NQ Dry Tropics to support landholder groups and meet training needs identified in the Plan and which contribute to improved water quality outcomes. The 2018-19 investment map (right) indicates the spread of investment across the Burdekin.

These projects have led the way for a new round of projects which expand the reach of the EEC project, address knowledge and skills gaps of extension staff and continue to support the good work of grazier peer groups. Five projects will be implemented over 2019- 20 and include:

1. CHRRUP - Validating cover cropping techniques in mixed farming systems.
2. CHRRUP – Supporting the Alpha Peer Group
3. DUC - Leading Lights tour of leading Burdekin grazing properties
4. NQDT – Introductory level soil conservation mentoring for extension staff
5. NQDT- Managed grazing Grass Groups program for two Burdekin peer groups.



## What's working in grazing extension in the Burdekin?

- Establishment of a Regional Extension Network as a platform for communication and collaboration.
- Shared grazing Calendar of Events as a method to better coordinate extension events between providers.
- Organisations each having a range of approaches to meet the diverse needs of the grazing industry.
- Experts and presenters sharing core principles but having different approaches.
- Utilising other organisation's strengths and resource sharing to allow great reach across producers.
- The Landholders Driving Change MIP developed and delivered by a consortium of organisations with ongoing grazier input whilst meeting grazier needs and water quality targets.
- Discretionary funds which address extension gaps

The Regional Extension Network identified a number of on-going areas such as funding and policy issues that are challenges and require high level input. Within their own means the Network identified a number of ideas which could be progressed in relation to grazier-led initiatives, grazier support that incorporates whole of landscape processes/ business needs, a stocktake of investment and extension activities for improved collaboration, leadership program for graziers, business skills, building staff capacity by matching training needs across organisations, technical and people skills training for extension staff.

The Regional Extension Plan will be reviewed in 2020 and an update of the progress of EEC funded projects and Regional Extension Network initiatives will be provided.

### 3. Acknowledgements

The Regional Extension Coordinator - Burdekin Grazing would like to acknowledge the support, effort and involvement that a number of organisations and individuals have made in the development of this Regional Extension Plan including NQ Dry Tropics – Rob Hunt, Lisa Hutchinson, Jared Sunderland, Sam Skeat, Brendan Smith and Rodger Walker, DAF- Bob Shepherd, Brigid Nelson, Megan Willis and Niall Connolly, CHRRUP – Simone Parker, Stacey Heindreich and Sara Jeppeson, DLC – Heather Jonsson.

### 4. Introduction

#### Background to the Enhanced Extension Coordination project

In 2015, the Queensland Government set up The Great Barrier Reef Water Science Taskforce to provide recommendations to the Queensland Government on actions and policies to protect and improve the health of the Great Barrier Reef (GBR). Within its final report, the Taskforce identified that: *Government is required to invest in more targeted and coordinated extension to support large scale land management practice change that will result in improved water quality outcomes for the Great Barrier Reef (GBR) and accelerate achieving the objectives of the Great Barrier Reef 2050 Water Quality Improvement Plan (Reef Plan).* In response, the Queensland Government engaged an independent consultant to review the current state of extension and education systems in Reef catchments.

One key objective of the review was to inform an implementation strategy for the Queensland Government and guide the delivery of funding aligned to the GBR Water Quality Taskforce recommendation 3: Extension and education under the Queensland Reef Water Quality Program. Over 200 stakeholders were consulted, including extension service providers and trainers and those who access extension services. A draft review was released in April 2017, and workshops, forums and follow-up interviews resulted in the final report: [\*Practice Change, Education and Extension in Reef Catchments\*](#) (Coutts J&R, 2017 – here after referred to as the E&E Review) published in June 2017. The Queensland Government has agreed, or agreed in principle, with all of the review recommendations and is investing funds to implement key recommendations ([Qld Government independent review response](#)).

The E&E Review identified a range of issues and made 65 recommendations on the education and extension systems to build extension capacity in GBR catchments under the following themes:

Theme 1: Improved coordination and collaboration of extension projects,

Theme 2: Skills gaps and the need for training and capacity building, and

Theme 3: More effective monitoring and evaluation of the extension effort and outcomes.

In consultation with Coutts J&R, two projects that addressed concerns of the Taskforce and recommendations in the review commenced in 2016/17. The first was a pilot capacity building program to provide extension training and work placement to recent university graduates. The pilot program was successful in training six graduates in extension services and resulted in all being offered positions in extension in GBR catchments. The program is administered by Queensland Farmers Federation (QFF)

and has since commenced training of two more cohorts of graduate extension officers, with the support of both Queensland and the Australian Government funding.

The second project, titled Enhanced Extension Coordination, was designed to facilitate improved coordination of extension activities in GBR catchments. Regional Extension Coordinators have been appointed in GBR NRM regions to engage local coordination networks and develop Regional Extension Plans for major agricultural industries. This Regional Extension Plan for Grazing in the Burdekin Dry Tropics is one of these plans.

#### Coutts Report recommendations underpinning the Enhance Extension Coordination Project

- R2.5 – An effective **Regional Extension Coordination Group** (RECG), facilitated by the regional extension coordinator, should be developed in each region ... to allow sharing of information and joint decision making.
- R2.5 – A **Regional Extension Plan** should be developed and updated annually, consistent with current programs and regional water quality priorities.
- R2.7 - The provision of **flexible funds** (within guidelines and regional level decision-making) of \$100,000 per year to the five major reef regions to allow priority cross-program/organisational activities to add value to current delivery programs, build synergies, address challenges and plug gaps.
- R5.5 – An increased focus should be on funding longer term, **Peer-to-Peer** facilitated group learning and exposure to new approaches and technologies. Funding should be available directly to producer groups who select their own facilitator or be accessed by delivery organisation who then work to establish groups for this purpose. Those producers less engaged in other approaches should be encouraged to participate in these groups.

In response to the Coutts Report recommendations the Queensland Government through the Department of Agriculture and Fisheries will provide support to address identified high priority skill gaps and training and development needs of extension providers in the GBR regions. DAF will provide funding to facilitate improved coordination and collaboration in extension activities to deliver better on-ground services for producers and to encourage producer peer-to-peer learning activities that are prioritised in the Regional Extension Plans.

The figure below outlines the project logic of how the Queensland Government in partnership with NRM organisations and industry will implementation the recommendations of the E&E Review.

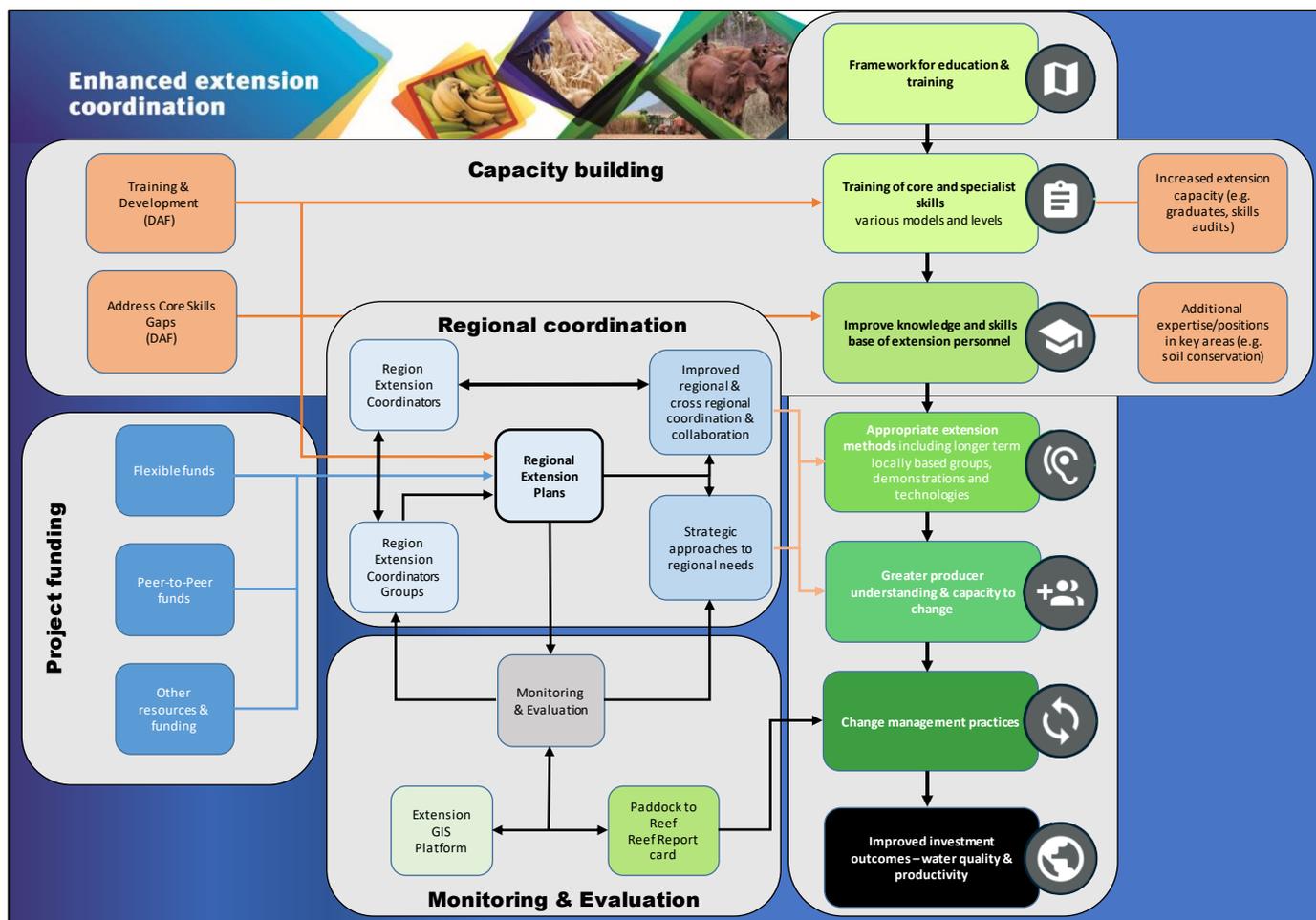


Figure 1. Project logic of the Queensland Government's Enhanced Extension Coordination project.

The E & E Review found that an effective Regional Extension Coordination Group/ Network is needed, driven and facilitated by extension coordinator/s, with flexible funds to allow strategic collaboration across programs and organisations to more effectively address identified regional and sub-regional priorities. A coordinated regional network will also enable more effective linkages to other programs within the broader Reef program and through these linkages promote better ways of doing things at the local level to accelerate adoption of improve farm management practices.

A constant theme reported in the E&E Review was the fragmentation of the extension effort (also highlighted in the Water Science Taskforce findings) and the need for better integration and planning of funded programs prior to them being rolled out in the regions. The Queensland Government is addressing this issue through the Enhanced Extension Coordination project and the placement of Regional Extension Coordinators (RECs) in each of the six GBR NRM regions. NQ Dry Tropics has been contracted by DAF to provide a 0.5 FTE Regional Extension Coordinator for grazing programs in the Burdekin Dry Tropics. Additionally a 1.0 FTE REC for cane programs is hosted by DAF. Both RECs service the region from Townsville.

The role of the RECs are to facilitate and support the continuation or establishment of Regional Extension Coordination Groups and their networks, to enable improved sharing of information and joint decision making and coordinate the implementation of these decisions through a Regional Extension Plan (REP) so that effort and resources being put into extension activities are maximised, coordinated and reported, with learnings being shared and duplication of effort avoided. For grazing in the Burdekin, a Regional Extension Network (RExN) made up of extension service providers has been formed.

The Burdekin Regional Extension Coordinator has developed the Regional Extension Plan for grazing in the Burdekin Dry Tropics in partnership with the grazing extension providers who participate in RExN. The Plan is used to inform and facilitate decision-making and collaboratively guide the regional extension services for grazing in the Burdekin region. The Coordinator will support the implementation of the Plan and work with the stakeholders to strategically plan and facilitate collaborative responses to extension needs that have a water quality improvement outcome; and provide a mechanism for information sharing, and dissemination across the region and broader extension network.

The Regional Extension Coordinator will also collate and provide feedback on extension delivery to the Manager (Extension Coordinator) and Manager (Training Development), both located with the Department of Agriculture and Fisheries, to work collaboratively across regions and facilitate cross-regional information sharing through the broader Reef extension network and programs and where required, provide strategic and practical advice to help inform investment programs in relation to extension requirements and possible solutions to support large-scale land management practice change across the catchments of the GBR.

## 5. Purpose of the Regional Extension Plan for Grazing, Burdekin Dry Tropics

The Regional Extension Plan for Grazing in the Burdekin Dry Tropics aims to provide a strategic view of on-ground delivery of extension services consistent with regional water quality priorities. The REP will provide information on extension delivery, gaps and barriers in the region and opportunities to address these gaps through a more collaborative approach and through strategic investment that expands and add value to current activities.

The REP highlights the relevant water quality targets and priorities outlined in both the Burdekin Water Quality Improvement Plan 2016 and the Reef 2050 Water Quality Improvement Plan 2017-2022. It provides an **overview of on-ground delivery of extension services** based on management priorities, previous and current programs; and identifies needs and gaps that are consistent with regional water quality priorities.

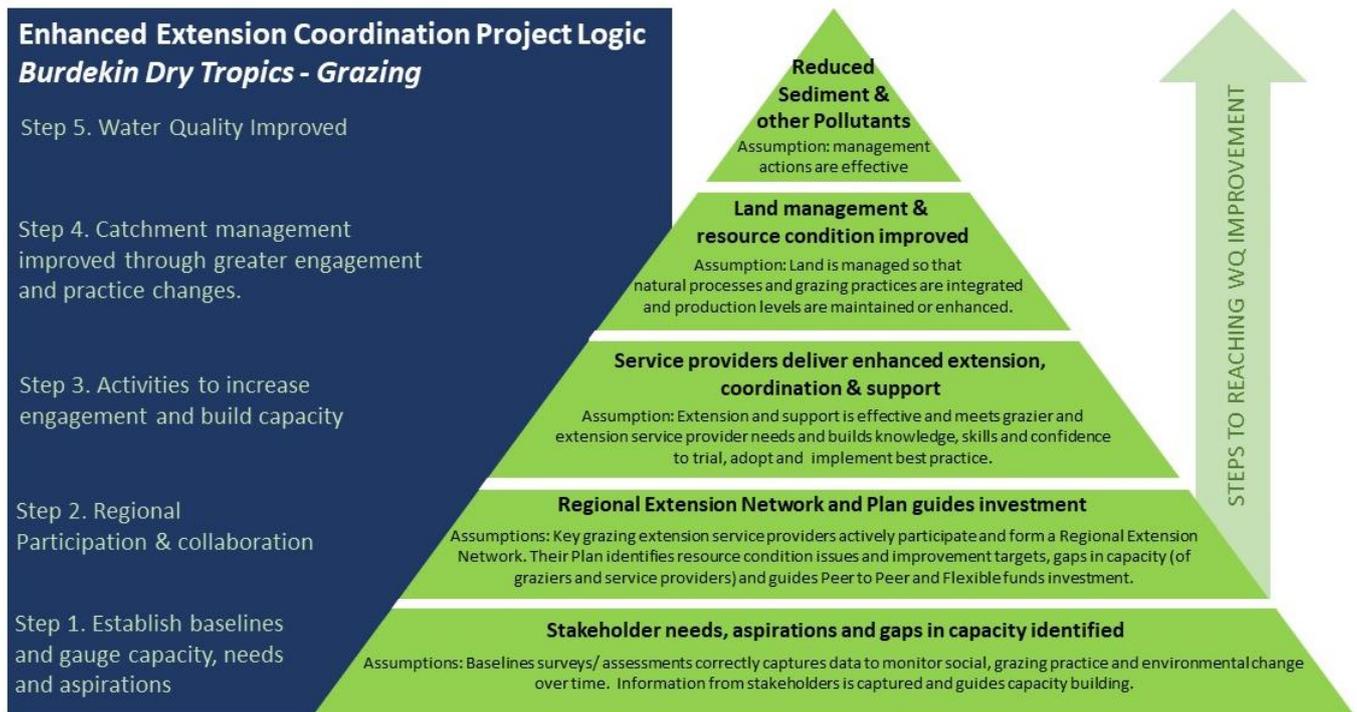


Figure 2. Project Logic for Burdekin Dry Tropics – Grazing

Through the Department of Agriculture and Fisheries (DAF), the Enhanced Extension Coordination project has provided funds to work with local extension networks to enhance current activities and address gaps and barriers affecting the delivery of extension services and to develop peer-to-peer learning activities. The Regional Extension Plan will be used to inform and facilitate decision-making via the Regional Extension Network and sets out the consultative and transparent decision framework and processes to prioritise project activity and the strategic allocation of funds to extension providers for grazing related projects in the Burdekin Dry Tropics region.

In addition, resources and opportunities are being made available for training and development of extension personnel and to augment existing services and expertise for high priority skills gaps (e.g. group facilitation and soft skills training and soil health) as identified in the REP and supported through ancillary projects being managed through DAF’s Manager (Extension Coordination) and Manager (Training Development).

The REP is a rolling document and will be developed and updated annually to be consistent with current programs and water quality priorities. The annual review of the REP will be in consultation with the RExN. Through this process the REP sets out a work plan for 2018 through to June 2020 which identifies implemented and future priority actions.

A rigorous monitoring, evaluation and reporting framework to track and collate the progress and activities of the extension efforts and outcomes is included in the Regional Extension Plan [Appendix 1](#). MERI activities will include the collation of spatial data on extension projects and information sharing with the Paddock to Reef project. The plan identifies what is working well, and the barriers and opportunities associated with achieving management practice change uptake by producers across the Burdekin region.

### **Regional Extension Plan for grazing in the Burdekin Dry Tropics- contributors:**

- Department of Agriculture and Fisheries
- NQ Dry Tropics, including the Landholders Driving Change Major Integrated Project,
- Central Highlands Resource Use and Planning Committee
- Dalrymple Landcare Committee

The information contained within the Plan has been extracted from:

1. Regional Extension Roundtable meeting 11 June 2018. A project and planning commencement meeting, SWOT and gap analysis of skills, knowledge and tools.
2. Regional Extension Plan Review 10 - 11 April 2019. A progress and plan review meeting.
3. Regional Extension Coordinator meetings 7 and 20 June. Plan review sessions.
4. Feedback from project related events.

## **6. The Regional Grazing Extension Network**

Extension to agricultural industries in GBR catchments is undertaken by a wide range of providers including industry, private consultants, agribusiness, NRM groups and Government. In order to achieve the intention of the Enhanced Extension Coordination Project, improved coordination and knowledge sharing between providers is encouraged. True collaboration between service providers may be considered a long term goal of the EEC project.

Within the Burdekin Dry Tropics, services that support the grazing industry to improve management practices are provided by a variety of extension, research and development and private practitioners.

### **Grazing extension services providers in the Burdekin Dry Tropics**

- Department of Agriculture and Fisheries
- NQ Dry Tropics
- Central Highlands Resource Use and Planning Committee
- Dalrymple Landcare Committee
- Desert Uplands Committee
- CSIRO
- James Cook University
- Meat and Livestock Australia
- Resource Consulting Services
- Private consultants

The Enhanced Extension Coordination project has supported the appointment of a part-time Regional Extension Coordinator for Burdekin grazing, whose responsibilities include forming a local representative Regional Extension Network (RExN) made up of key Burdekin grazing extension providers.

The RExN will identify areas where a more collaborative approach to extension can be supported, and where producer groups are interested in up-skilling their land and business management practices to reduce sediment delivery to the GBR. The RExN will feed this information to the Regional Extension Coordinator through a dedicated application process. A Regional Extension Panel (REXP) will be formed to ensure a rigorous and transparent decision-making process is used to prioritise application for support. This panel will also provide recommendations for training and development of extension personnel, as well as, professional skills needed to augment existing services and expertise that may be funded through the ancillary projects being managed by DAF (Figure2).

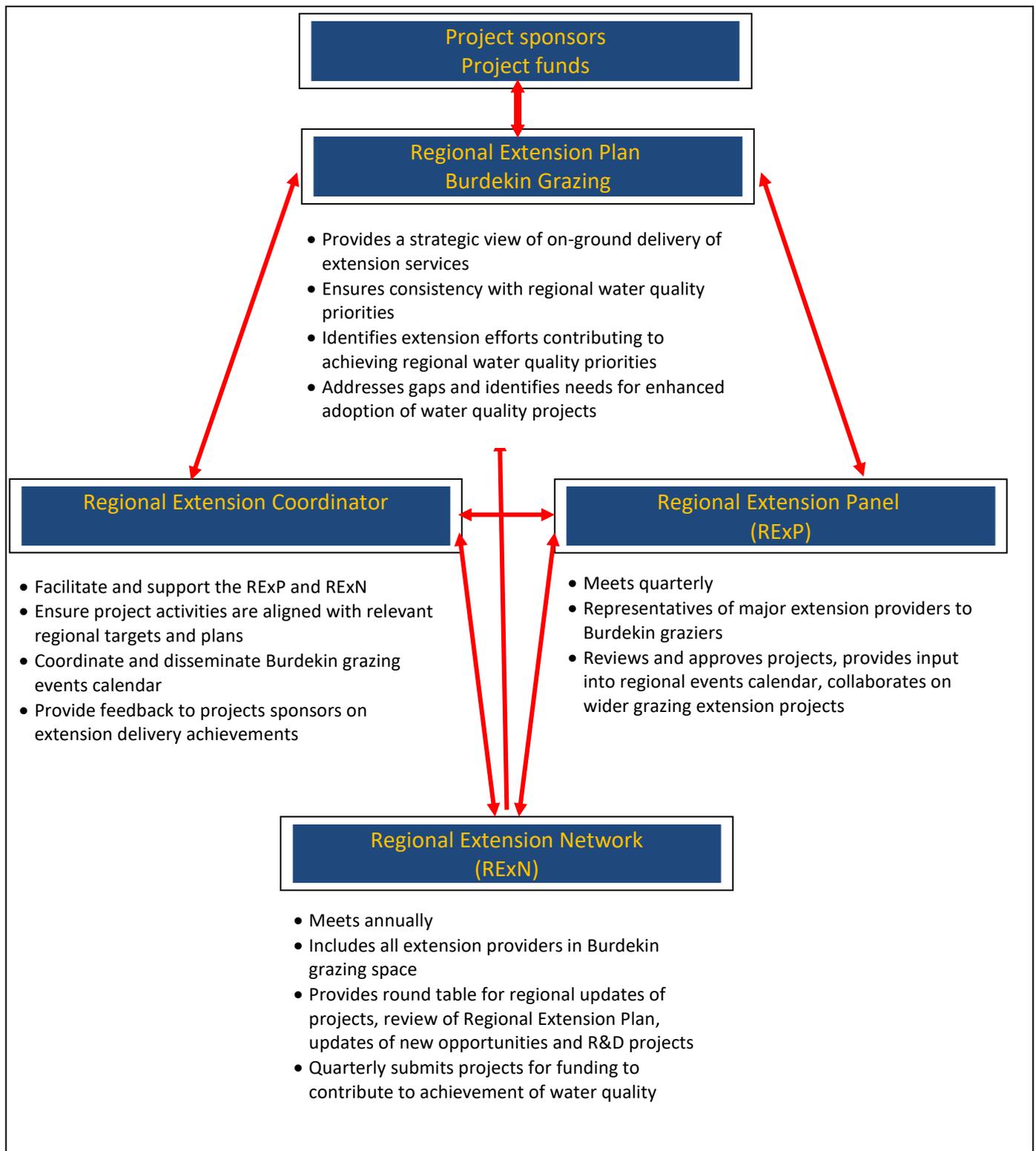


Figure 3. Schematic of communication and responsibilities in the Burdekin Region, directly related to extension services to the grazing industry.

## Regional Extension Networks (RExN)

The E & E Review recommended that to enhance coordination of Reef-based extension, effective Regional Extension Networks (RExN) are needed, facilitated by a dedicated Regional Extension Coordinator to support strategic collaboration across programs and organisations, and more effectively address identified regional and sub-regional priorities. These networks will also enable more effective linkages within the broader Reef program, and promote better ways of achieving an accelerated adoption of grazing best management practices at a local level.

Organisations with an on-going interest in provision of extension services in natural resource management in the Burdekin grazing space were identified by NQ Dry Tropics and DAF, and together form the Burdekin Grazing RExN. These extension providers are listed in Table 1.

**Table 1.** Regional Extension Network member organisations in the Burdekin Dry Tropics and their major focal areas in relation to NRM.

Organisation	Major focus area
NQ Dry Tropics*	Predominately funded by the Australian and Queensland Governments to deliver water quality improvement programs with emphasis on reducing sediment delivery to the Great Barrier Reef Lagoon. Includes the Major Integrated Project (MIP) titled Landholders Driving Change (LDC).
Department of Agriculture and Fisheries (DAF)*	Queensland Government department promoting sustainable and innovation in agriculture, with a regional focus on livestock, pasture and business research and development, agricultural biosecurity, stock health and welfare, landscape and soil health and resilience, and business management. Includes delivery of Grazing BMP and research facility at Spyglass Research Station
Central Highlands Regional Resources Use and Planning (CHRRUP)*	CHRRUP is an independent community-owned organisation, dedicated to increasing the sustainability of natural resources through improving land use practices and management. CHRRUP is the lead agency in the SafeStation program and has traditionally led the adoption of sediment management programs in the southern Burdekin region.
Dalrymple Landcare Group (DLC)*	DLC advocates for sustainable and profitable agriculture by fostering innovation, sharing ideas and increasing knowledge, improving the environment, increasing the resilience of people and businesses, strengthening the community and fostering innovation.
Bowen Collinsville Landcare	Community based Landcare group based around the Bowen to Collinsville region
Desert Uplands Committee (Desert Uplands Build UP and Development Committee) (DUC)	Proactive regional strategy group providing stewardship across the Desert Uplands Bioregion. The region covers almost 8 million hectares and includes 300 grazing businesses across the Burdekin and Desert Uplands NRM regions.
Resource Consulting Services (RCS)	Private provider of holistically-integrated education, training and advisory services to the agricultural sector. Work with individuals, families, corporate and

Organisation	Major focus area
	government groups, empowering them to grow productive, profitable agricultural businesses within regenerative landscapes
Meat and Livestock Australia (MLA)	Delivers research, development and marketing services that benefit the Australian cattle, sheep and goat producers, in addition to the transition of this research to producers through a range of extension, training and practical tools.
CSIRO	Leaders in innovation, research and development. Locally, CSIRO runs trials from their Landsdown Research Station between Townsville and Charters Towers, currently focused on technology in grazing (walk over weighing, online management platforms etc) and investigating methane reduction from cattle grazing using specific supplements.
James Cook University (JCU)	Works in collaboration with CSIRO on research projects, in addition to holding the Fletcherview cattle property lease north of Charters Towers where research projects are undertaken that focus on cattle reproduction and fertility, and pasture trials.

\*also sits on the Regional Extension Panel that assesses and makes project funding recommendations, details below.

The role of the RExN is to include all representatives of the extension network operating in the Burdekin grazing space, to review relevant past and current grazing best practice programs occurring across the region to identify specific skills, knowledge and demonstration gaps affecting adoption of on-ground practice change.

The RExN will contribute to collaboration on projects, events and training (where possible) and share information back to clients that is consistently messaged across the region. Doing so will facilitate an open, collaborative and transparent approach for extension service providers to communicate and provide more consistent, coordinated and strategic engagement with the grazing client base in the Burdekin. As such, the RExN is the centre of the decision-making framework.

The RExN will provide input into the development and review of the Regional Extension Plan for Grazing in the Burdekin Dry Tropics at meetings held annually, before April of every calendar year. The RExN will provide applications for project funding to the Regional Extension Coordinator throughout the year, and these will be assessed and prioritised by the Regional Extension Panel (RExP). The Regional Extension Coordinator's role is to develop and maintain the network through planned activities. A Collaboration workshop facilitated by Max Hardy pulled the network together and introduced the progressive stages of building organisational relationships which result in true collaboration.

The benefits of belonging to the RExN is that members have an identified structure to work together. The success of the RExN is largely due to a legacy of extension officers working together or coordinating efforts in the past. The RExN builds upon these relationships to now have the ability as a group (or a subset of the group) to access specific resources such as funding pools and training opportunities. The network also benefits from more effective information sharing particularly regarding projects and

events, new initiatives, effective extension responses to drought or flood events or relevant changes to legislation and regulations.

### Regional Extension Panel (RExP)

The RExP consists of the six largest representative groups currently operating in the Burdekin grazing space, in addition to the Regional Extension Coordinator. These representative groups operate most broadly across the region, have the strongest history in client delivery and are diverse in their application of extension services to the grazing community. Membership of the RExP belongs to a specific organisation or project, and that organisation or project will nominate the most appropriate person to sit on the RExP. A proxy may sit in place of the nominated member during voting and meeting sessions.

The RExP will meet four times per year via teleconference, videoconference or face-to-face. The RExP will be governed by an agreed Terms of Reference ([Appendix 5](#)).

The **primary function** of the RExP is to act as an open and transparent selection panel that ranks and supports priority projects for funding through available grant rounds. This includes the Flexible and Peer to Peer funds currently available by DAF and listed later in the [Allocation of funding resources](#) section. The RExP will also hold discussions on new funding programs and ideas, and disseminate this information to the RExN.

Essentially, the RExN will feed project ideas through to the Regional Extension Coordinator. These submissions will be presented to the RExP quarterly, and a prioritisation of the projects undertaken according to the general criteria set out below. Depending on the funding available, specific ranking criteria may be used to prioritise project submission that meets individual objectives and eligibility criteria of such grant rounds.

Members must rank from 0 – 5 each submission according to the following five key questions to commence the prioritisation process for applications:

- To what degree does the project align or enhance grazing best practice standards for the Burdekin?
- Can this project demonstrate linkages to improving water quality of the GBR?
- Does the project have capacity to influence changed management practices to a wider audience?
- Are there demonstrable outputs and/or outcomes of the project that can be disseminated to the public?
- Does this project fill an identified or explained gap or lack of skills/knowledge/demonstration sites?

### Regional Extension Coordinator

A constant theme reported in the E&E Review and highlighted by the Water Science Taskforce is the fragmentation of extension efforts and the need for improved integration and planning of extension programs prior to regional commencement. The Enhanced Extension Coordination project is addressing this through the placement of Regional Extension Coordinators in each of the GBR NRM regions.

Primarily, the role of the Regional Extension Coordinator is to facilitate and support the establishment or continuation of a RExN, to enable improved sharing of information, build joint decision making processes and coordinate the implementation of these decisions through the Regional Extension Plan. This will ensure efforts and resources dedicated to extension activities by all extension providers are coordinated, maximised and reported consistently, with shared learnings and reduced duplication of effort.

NQ Dry Tropics has appointed an experienced extension officer to the position of Regional Extension Coordinator – Burdekin Grazing. This position is responsible for the development of the Regional Extension Plan for Grazing in the Burdekin Dry Tropics in consultation with the Burdekin RExN. This plan will provide a platform to support the continual development and collaboration of extension activities within and across regions, and be used to inform and facilitate decision-making around extension services in the Burdekin Dry Tropics.

The Regional Extension Coordinator will guide the implementation of the Plan and work with the RExP and RExN to:

- strategically plan and proactively facilitate collaborative responses to address priority water quality issues;
- provide initial contact points for extension staff and access to networks, information and up to date progress on key initiatives occurring in the Reef program; and
- provide a mechanism for information sharing, interpretation and dissemination (including research findings) across the extension network.

The Regional Extension Coordinator will collate and provide feedback on extension delivery to the Manager (Extension Coordinator) and Manager (Training and Development), both located with the DAF. This will increase intra and cross-regional collaboration and facilitation of information sharing through the broader Reef Network, and provide an avenue for strategic and practical advice to help inform Reef investment programs focused on extension requirements and possible solutions to support large-scale land management practice change across the catchments of the GBR.

## **Regional Extension Plans**

As summarised in the introduction the Regional Extension Plan aims to provide a strategic view of on-ground delivery of extension services consistent with regional water quality priorities. This Regional Extension Plan will focus on the grazing industry of the Burdekin Dry Tropics NRM region, and provide information on extension delivery, gaps and barriers within the region, opportunities to address these through an enhanced collaborative approach and strategic investment that expands and adds value to current activities.

### **Objectives of the Regional Extension Plan**

The objectives of the Regional Extension Plan and Enhanced Extension Coordination project are to deliver actions that:

- Maintain, enhance and expand regional extension partnerships, increasing coordination and collaboration within the GBR catchments to deliver better on-ground services for producers.

- Respond to the relevant areas of need identified in the E&E Review report, including new and innovative approaches to extension and education.
- Enhance and support the increased extension efforts of currently funded projects, and the increased urgency for this to lead to on ground practice change outcomes for GBR water quality.
- Improve evaluation and review of extension effort and impact to identify gaps and opportunities, and provide feedback to inform and support future allocation and targeting of on-ground resources.
- Strengthen links and collaboration between extension programs to maximise impact and share information across geographic areas and programs.
- Connect, collaborate and leverage outcomes of research and science based knowledge to extension programs.
- Improve the professional capacity of the extension network.
- Provide strategic advice on regional gaps, needs and appropriate responses that meet the needs of Reef Plan and the Queensland Government Great Barrier Reef Water Quality program.
- Minimise the duplication of effort across Australian Government, State Government and industry programs which have extension activities associated with them.

The Regional Extension Plan for Grazing in the Burdekin Dry Tropics is part of an on-going process that captures and records priority extension activities needed to accelerate the adoption of improved land practices to address water quality priorities within the region. It sets out a collaborative and transparent process of prioritisation of project activities, as informed by the RExN Panel ([Regional Extension Network & Panel](#)), and the allocation of funds to extension providers for regional Burdekin projects ([Regional Extension Panel - RExp](#)). The Regional Extension Plan will be updated annually by the Regional Extension Coordinator in consultation with the RExN, to ensure consistency with current funding programs and water quality priorities.

Implementing the REP will:

- Facilitate improved coordination, collaboration, networking between all extension providers.
- Improve extension services to better meet grazier needs.
- Establish more consistent messaging across the grazing industry
- Support existing grazing groups in their overall grazing operation, including professional expert support to adopt best practice management
- Establish a more widespread, geographically diverse range of grazing groups to support local adoption of new practices and contribute to a more representative regional perspective on grazing best management practices.
- make greater use of smarter and more innovative extension approaches to help achieve GBR water quality targets

Overall, this project will improve the quality and coordination of public and private extension services provided to Burdekin grazing clients. It will avoid duplication, support whole of business outcomes and make greater use of innovative extension approaches to help achieve GBR water quality targets.

## 7. The Burdekin Dry Tropics Region

The Burdekin Dry Tropics is one of 56 Natural Resource Management (NRM) regions in Australia. It is defined predominantly by the Burdekin River basin (the second largest catchment in the GBR catchment), along with the local coastal catchments of the Black, Don, Haughton & Ross Rivers. It includes eight major basins (Map 1) and 52 sub-catchments. With a 500 km coastline fronting the Great Barrier Reef World Heritage area, the health of the Burdekin Dry Tropics is highly influential in the health of the GBR.

The Burdekin Dry Tropics is solely contained to the east of the Great Dividing Range, and includes 134,000 km<sup>2</sup> of terrestrial environments and an additional 12,000 km<sup>2</sup> of sea country, equating to 8% of the State. It has incredible natural diversity, with terrestrial, aquatic and marine assets of national and international significance.

The regional economy of the terrestrial Burdekin Dry Tropics relies on natural resource based industries, including agriculture, with commodity gross values edging \$1,300M (ABS, 2016). Production is heavily dependent on the significant water volumes captured by the Burdekin Falls Dam, and the fertile soils, pasture rich rangelands, mineral rich geologies and unique natural wonders across the region.

Agriculture is one of the key natural resource based commodities in the Burdekin Dry Tropics; over 90% of the land is used for grazing domestic livestock, with an estimated 827 landholdings and 500 commercial beef producers responsible for an average annual cattle herd of 1.4 million head in the region. Conservation estates cover an additional 6 per cent of the regions landscape, with the remainder of land allocated to intensive irrigation and dryland agriculture, forestry, defence activities, mining, townships and associated infrastructure.

### Regional land types and climate

Our regional ecosystems span across three bioregions ([Regional Ecosystem Framework](#)), and are highly-productive, richly diverse, and contain many organisms found nowhere else. The region is strongly associated with native pasture lands used for grazing, conservation, tourism and mining, with some areas suitable for dryland cropping and horticulture. Tropical savannas, woodlands, and grasslands dominate the terrestrial landscape, interspersed with pockets of diverse tropical ecosystems, mountainous rainforests, large river systems and wetlands.

There are 33 land types that are important for grazing in the Burdekin Dry Tropics, with wide variations reflecting the broad range of climates and geology across the region. The northern region is dominated by eucalypt woodlands on low to moderately fertile soils, interspersed with areas of highly fertile basaltic soils that support open grasslands. Towards the south of the region, vegetation changes to more brigalow-gidgee scrubs that have been cleared and developed with sown pastures. The coastal plains from Townsville to Bowen are primarily used for irrigated agriculture and horticulture.

Average annual rainfall across the region varies greatly, from 400 mm in the south to over 900 mm on parts of the coastal fringe. It follows a summer dominated pattern, with 75-85% falling between October and April. Frosts can occur west of the coastal ranges.

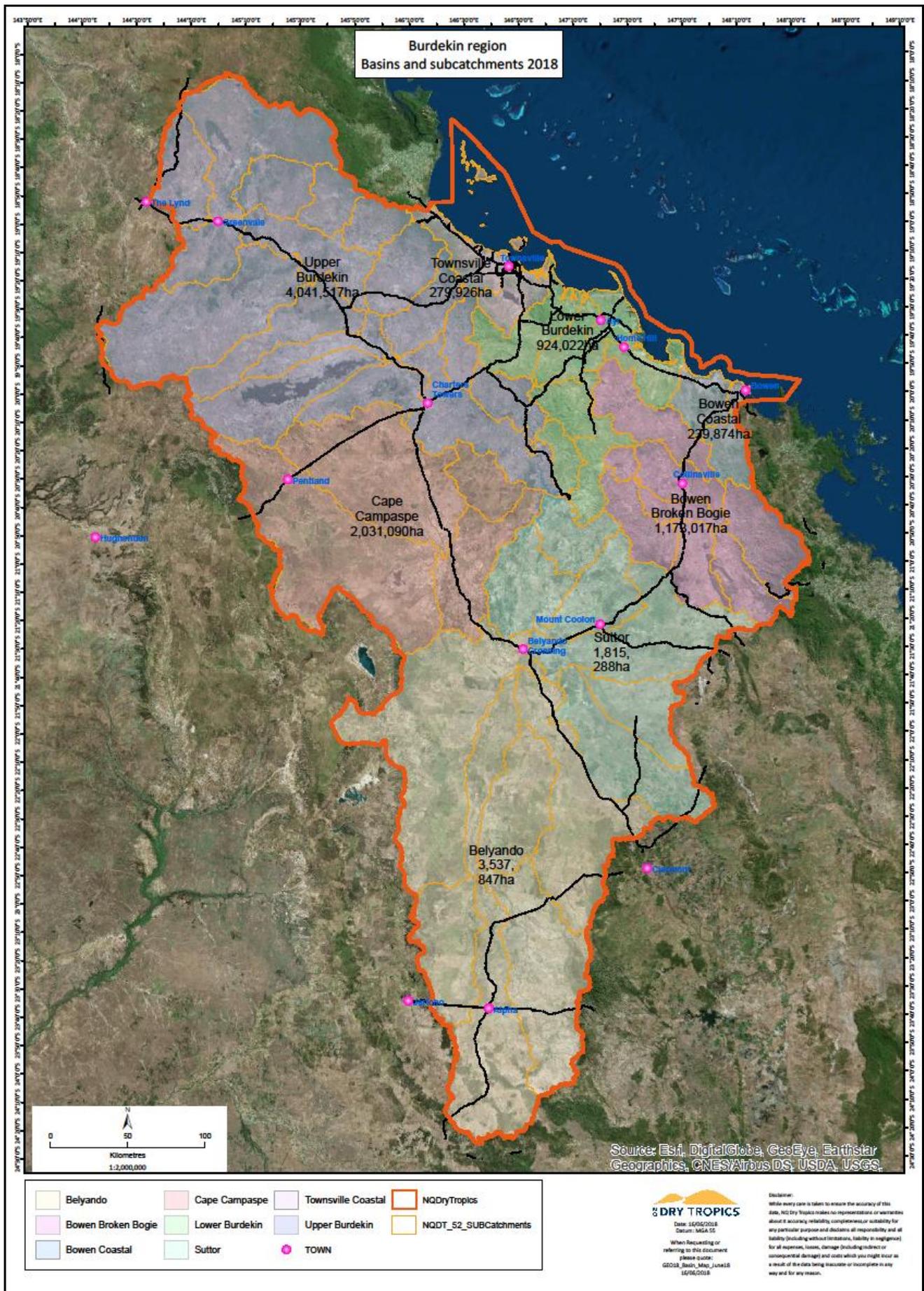


Figure 4. Basins and major regional centres of the Burdekin Dry Tropics

## 8. Current Condition of Burdekin Dry Tropics grazing lands

Grazing land condition is a measure of the health of the landscape, and is related to capacity of the land to produce useful forage (for animal production), runoff and soil erosion. It is measured by an ABCD framework shown in table 2, which considers the degree of 3P grasses (perennial, palatable, productive), soil condition, weed invasion, woodland thickening and carrying capacity in classification of landscapes.

**Table 2.** Land Condition ABCD Framework is a measure of health for grazing land that considers its capacity to produce useful forage, ability to infiltrate water and risk level for soil erosion.

	A condition	B condition	C condition	D condition
<b>Soil</b>	Good condition, no erosion	Minor erosion	Obvious erosion	Severe erosion and/or scalding
<b>Pasture</b>	Good coverage of 3P grasses	Increase in non-3P grasses	Large quantities of non-3P grasses	General lack of perennial grasses or forbs
	<30% bare ground in most years	30-50% of bare ground in most years	>50% bare ground in most years	
<b>Weeds</b>	No significant weed infestations	Some minor weed infestations	General increase in weed occurrences	Widespread weed occurrences
<b>Woodlands</b>	None, or very early signs of woodland thickening	Some thickening in woody plants	General thickening in density of woody plants	Thickets of woody plants cover most of the area
<b>Carrying capacity</b>	100% of A condition carrying capacity for that land type	75% of A condition carrying capacity for that land type	50% of A condition carrying capacity for that land type	20% of A condition carrying capacity for that land type

A review of the Water Quality Improvement Plan for the Burdekin Dry Tropics (2016) shows substantial areas of the Burdekin region are in poor ‘C condition’ and very poor ‘D condition’; these areas have significantly reduced groundcover and therefore exposed soils that are more readily eroded during the regions typical high intensity rainfall events. The Paddock to Reef (P2R) Water Quality Risk Framework Report Card produced by the Queensland Government in 2016 concluded that a large proportion of graziers in the Burdekin Dry Tropics are operating below industry best practice standards, reflected by the high amount of ‘C condition’ land in the region.

Recent reports show that soil erosion from grazing lands contributes 72% of total suspended sediment discharged to the GBR (Burdekin Water Quality Improvement Plan, 2016). The 2017 Consensus Statement - Land Use Impacts on the Great Barrier Reef identifies the Burdekin Catchment as the highest priority catchment for reduction of sediment, as it is currently responsible for an estimated contribution of 39% of total sediment load to the GBR Lagoon.

The Burdekin Water Quality Improvement Plan Atlas (2017) and Burdekin Water Quality Improvement Plan (2016) are designed to support and guide decision making and investment around the protection of the GBR and local ecosystems as they relate to water quality and to which terrestrial and aquatic resilience is intrinsically linked. These documents provide detailed information on a sub-catchment and catchment level, on the annual rates of soil erosion and total suspended sediment load as contributed by gully, hillslope and streambank erosion from all 52 sub-catchments. An abstract of this information is provided in Table 3.

**Table 3.** Rate of erosion (kg/ha/year) and total suspended sediment load (kilotonnes/year) discharged to the Great Barrier Reef lagoon by sub-catchment (Burdekin Water Quality Improvement Plan, 2016).

Catchment details and land condition	Sub-catchment	Rate of erosion		Total Suspended Sediment load (TSS)		Erosion type (% contribution to TSS)		
		Kg/ha/yr	WQIP ranking	Kilotonnes /year	WQIP ranking	Gully	Hillslope	Streambank
<b>Upper Burdekin Catchment</b>								
30% WQIP area	Allingham Creek	43	36	5	47	27%	58%	15%
89% grazed	Basalt River	128	31	37	29	67%	27%	6%
Similar proportions of land in A, B and C condition	Burdekin (above dam)	432	16	163	9	64%	2%	34%
Some extensive areas of chronic D condition land can be identified from satellite imagery	Burdekin (Blue Range)	402	19	110	12	56%	6%	38%
highly vulnerable and/or marginal D condition land can also be detected	Camel Creek	251	27	39	26	78%	16%	6%
	Clarke River	249	28	163	8	61%	31%	8%
	Douglas River	289	23	35	30	76%	17%	7%
	Dry River	94	34	19	37	69%	31%	1%
	Fanning River	434	15	48	21	82%	13%	5%
	Gray Creek	258	26	44	24	80%	18%	2%
	Hann Creek	178	30	33	31	93%	4%	3%
	Keelbottom Creek	412	18	68	18	77%	20%	3%
	Kirk River	276	24	37	28	95%	4%	2%

	Lolworth Creek	111	32	39	25	58%	21%	20%
	Running River	260	25	29	33	47%	20%	33%
	Star River	427	17	85	14	73%	21%	5%
	Upper Burdekin River	107	33	48	20	59%	33%	7%
<b>Cape Campaspe Catchment</b>								
15% WQIP area	Cape River	27	43	26	34	60%	35%	5%
82% grazed	Lower Cape River	17	47	5	46	78%	7%	15%
Half of catchment – overall C condition	Rollstone River	22	44	3	52	91%	8%	1%
One third catchment – overall B condition	Cape River	27	43	26	34	60%	35%	5%
Substantial areas of highly vulnerable, marginal D condition land can be detected from satellite imagery								
<b>Belyando Catchment</b>								
26% WQIP area	Belyando floodplain	15	49	3	51	43%	22%	35%
95% grazed	Carmichael River	14	50	14	39	58%	30%	13%
Largest portion of land considered B condition, with common A and C class land	Fox Creek	12	51	4	49	42%	44%	14%
Substantial areas of highly vulnerable and/or marginal D condition land can be detected from satellite imagery	Mistake Creek	30	40	18	38	48%	47%	5%
	Native Companion Creek	16	48	9	44	67%	30%	3%
Very fine suspended sediment from the Belyando Basin poses a particular risk to	Sandy Creek	11	52	3	50	70%	27%	3%
	Upper Belyando River	18	45	10	41	65%	33%	3%

water quality because this finer material, with low settling potential, is more likely to reach the coast and travel further in marine environments								
<b>Suttor Catchment</b>								
13% WQIP area	Diamond Creek	18	46	4	48	31%	48%	21%
93% grazed	Logan Creek	29	42	12	40	21%	73%	6%
6% dryland cropped	Lower Suttor River	35	38	9	43	65%	18%	17%
Largest portion - C and B condition	Rosetta Creek	34	39	9	42	73%	21%	6%
Extensive areas of high density D condition land	Selheim River	37	37	6	45	85%	12%	2%
Areas of highly vulnerable and/or marginal D condition land can be detected from satellite imagery	Upper Suttor River	44	35	23	35	50%	35%	15%
<b>Bowen Broken Bogie Catchment</b>								
9% WQIP area	Bogie River	1427	5	324	2	81%	16%	3%
76% grazed	Bowen River	1894	1	217	4	53%	7%	40%
<b>Individual sub-catchments losing up to three times WQIP average</b>	Broken River	1590	3	363	1	31%	65%	4%
Largest portion - C or B condition	Glenmore Creek	1048	8	168	7	89%	10%	1%
Satellite imagery shows extensive areas of chronic, vulnerable and marginal D condition land with significant gully erosion in places.	Little Bowen River	1383	6	203	6	67%	28%	6%
	Pelican Creek	1428	4	211	5	78%	18%	4%
	Rosella Creek	806	9	118	10	88%	9%	3%

Lower Burdekin Catchment								
7% WQIP area 79% grazed 12% intensive agriculture <b>Individual sub-catchments losing two to four times the WQIP average</b> Satellite imagery identifies the Burdekin River below the dam is in the poorest condition and is the most vulnerable to further soil erosion	Barratta Creek	315	22	38	27	51%	40%	9%
	Burdekin Delta	1121	7	103	13	9%	10%	81%
	Burdekin River (below dam)	1605	2	231	3	26%	4%	70%
	Haughton River	502	14	115	11	58%	30%	12%
	Landers Creek	399	20	44	23	81%	16%	3%
	Stones Creek	571	13	44	22	83%	8%	9%
	Barratta Creek	315	22	38	27	51%	40%	9%
Don Catchment								
	Upstart Bay	399	21	49	19	57%	33%	10%
	Abbott Bay	593	12	69	17	55%	32%	12%
	Don River	650	10	78	16	48%	32%	20%
Coastal Catchments								
	Ross River	228	29	29	32	36%	58%	7%
	Black River	594	11	83	15	35%	59%	6%

## Targets for improved water quality in the Burdekin Dry Tropics terrestrial environs

The ReefPlan 2050 established water quality targets for fine sediment (measured as a total suspended solids) for water discharged from terrestrial environments to the Great Barrier Reef. These targets, prioritised per catchment across the Reef regions, are designed to support improved Reef health and prioritise efforts and investment. The Reef2050 Water Quality Improvement Plan (2017-2022) has established a 2025 reduction target for the Burdekin catchment of 890 kilotonnes (30% reduction) and 55 kilotonnes (30% reduction) for the Don catchment.

## 9. Principles for improving water quality from grazing lands

The Burdekin Dry Tropics Water Quality Improvement Plan (2016) sets out some key principles and land management aims to improve the quality of water discharged from grazing lands, listed in table 4. This information should be read in conjunction with table 3, to piece together the current state of grazing land in the Burdekin Dry Tropics. Additionally, this table provides an indication of the management changes that can help to stabilise and improve the condition of the water discharged from grazing lands (although, this does not intend to be a comprehensive list) as cited by McIvor (2012).

Gully erosion contributes 67% of total suspended sediment (TSS) discharged from Burdekin grazing lands onto the GBR, hillslope erosion contributes 19% and stream bank erosion contributes 14%. Strategies for managing specific erosion pathways are outlined below:

### Gully management strategies

Determined by reducing runoff above gully, increasing cover on gully walls, and reducing gradient and increasing roughness of upslope:

- Lineal features (tracks, fences, fire breaks) and water points located and constructed to minimise the risk of initiating erosion
- Strategies implemented, where practical and affordable, to remediate gullied areas, and
- All factors detailed for hillslope management.

### Hillslope management strategies

Can be improved by matching stocking rate to carrying capacity to increase land condition, and:

- retention of adequate pasture and ground cover at the end of the dry season (forage budgeting)
- remediation of land in poor (C) or very poor (D) condition
- flexible stocking rate based on forage budget, rolling long-term carrying capacity, current land condition and property development, and
- management of heavily grazed land types

### Stream bank management strategies

Stock access and riparian tree cover are the main factors, in addition to managing the timing and intensity of grazing along river and creek frontages and wetland areas.

**Table 4.** Key principles and land management aims to improve the quality of water discharged from grazing lands, from Burdekin Water Quality Improvement Plan (2016)

Aim	Situation	Factors to consider	Management options
1. Maintain land in good (A and B) land condition	<ul style="list-style-type: none"> <li>Land in A/B condition</li> <li>Very few overgrazed patches with low ground cover and less desirable pastures (C condition)</li> <li>Continued overgrazing (C condition) will increase size and frequency of patches, shifting land condition from A/B to C.</li> </ul>	<ul style="list-style-type: none"> <li>Indicates good grazing management</li> <li>Temporal variability across the property leads to variation in feed supply</li> <li>Breeder enterprises have less flexibility to reduce stocking rate</li> </ul>	<ul style="list-style-type: none"> <li>Flexibly match stocking rate to carrying capacity</li> <li>Forage budgeting to adjust stocking rate to seasonal capacity</li> <li>Grazing radius around water points at 1.5 km</li> <li>Wet season spelling program</li> <li>Rotational grazing system matching stock density to feed availability on paddock scale</li> </ul>
2. Improve land in poor (C) land condition	<ul style="list-style-type: none"> <li>Land in C condition</li> <li>Some 3P grasses (low quantity)</li> <li>High occurrence of annuals, forbes, undesirable species</li> <li>Persistent patch grazing</li> <li>Ground cover highly seasonal and poor towards end of dry season</li> <li>Nutritional quality of feed quickly deteriorates in dry periods</li> </ul>	<ul style="list-style-type: none"> <li>Drought</li> <li>Chronic / sustained grazing pressure</li> <li>Land types not segregated, selective use occurs</li> <li>Wildfires</li> <li>Increased vulnerability to erosion</li> </ul>	<ul style="list-style-type: none"> <li>Reduce stocking rate to match land condition and revised carrying capacity (50% of A condition)</li> <li>Increase infrastructure (water, fencing) to manage grazing pressure in patch grazed areas</li> <li>Fencing land types to reduce selective grazing</li> <li>Land with presence of erosion is flexibly stocked to increase ground cover</li> <li>Active weed and feral animal control</li> <li>Wet season or rotational grazing system implemented</li> </ul>
3. Stabilise and recover land in very poor (D) land condition	<ul style="list-style-type: none"> <li>Significant soil erosion / gullying</li> <li>Substantial weed infestation</li> <li>Low to no ground cover</li> <li>Low numbers of 3P grasses</li> <li>Approaching desertification appearance</li> </ul>	<ul style="list-style-type: none"> <li>Chronic and continued overgrazing</li> <li>Loss of 3P grasses and groundcover</li> <li>Invasion of weeds</li> </ul>	<ul style="list-style-type: none"> <li>Reduce stocking rate to match land condition and revised carrying capacity (20% of A condition)</li> <li>Fencing to control grazing</li> <li>Increase water capture and infiltration on bare and scalded areas</li> <li>Starve gullies of water to reduce active erosion</li> <li>Active weed and feral animal control</li> </ul>

Aim	Situation	Factors to consider	Management options
4. Manage frontage country and wetlands currently	<ul style="list-style-type: none"> <li>Bare soils</li> <li>Gullies</li> <li>Eroding streambanks</li> <li>Poor vegetation, presence of weeds</li> <li>Highly turbid water / algal blooms</li> </ul>	<ul style="list-style-type: none"> <li>Stock concentrate in these preferred areas</li> <li>Selective grazing</li> <li>Weed and feral animal invasion</li> <li>Fire</li> </ul>	<ul style="list-style-type: none"> <li>Control cattle access to river frontage with fencing and water relocation</li> <li>Control pasture growth with priority grazing to reduce fuel loads</li> <li>Active weed and feral animal control</li> </ul>
5. Reduce grazing pressure in selectively grazed areas	<ul style="list-style-type: none"> <li>Heavily grazed patches contrasting with ungrazed and rank pastures</li> <li>Ungrazed areas vary in species composition/structure/quality</li> </ul>	<ul style="list-style-type: none"> <li>Selected grazing of nutritionally preferred vegetation</li> <li>Repeated grazing of high quality patches modifies plant community</li> <li>Distance to water determines grazing distribution</li> </ul>	<ul style="list-style-type: none"> <li>Implement wet season or rotational grazing system</li> <li>Use fencing to effectively manage grazing pressure</li> <li>Forage budgeting, matching stocking rate to carrying capacity of paddock</li> <li>Locate water and supplement away from degraded areas</li> </ul>
6. Locate water points to even out grazing	<ul style="list-style-type: none"> <li>Significant areas of the paddock receive little to no grazing pressure</li> </ul>	<ul style="list-style-type: none"> <li>Inadequate number of waters, longevity of water or distance between waters</li> </ul>	<ul style="list-style-type: none"> <li>Install additional water points in large paddocks (distance between water = 3 km maximum)</li> <li>Optimise paddock size with fencing</li> </ul>
7. Minimise erosion when locating infrastructure	<ul style="list-style-type: none"> <li>New forms or increased rates of soil erosion</li> </ul>	<ul style="list-style-type: none"> <li>Areas of reduced ground cover</li> <li>Altered water flows</li> <li>Problem soils</li> <li>Poor infrastructure placement</li> <li>Gully formation</li> </ul>	<ul style="list-style-type: none"> <li>Roads and tracks constructed to avoid problem soils and concentrating water</li> <li>Fences on contours or ridge lines</li> <li>Whoa boys to divert water from roads and fences</li> </ul>
8. Minimise woody plant problems	<ul style="list-style-type: none"> <li>Increased density shrubs/trees especially on productive soils</li> <li>Reduced pasture growth</li> <li>Tree encroachment into open land types</li> </ul>	<ul style="list-style-type: none"> <li>Sequence of wet/dry periods</li> <li>Reduced grass competition from grasses due to heavy grazing</li> <li>Reduced frequency/intensity of fire</li> </ul>	<ul style="list-style-type: none"> <li>Implement prescribed burning</li> <li>Flexibly match stocking rate to carrying capacity</li> <li>Active weed and feral animal control</li> <li>Implement wet season spelling or rotational grazing system</li> </ul>

Aim	Situation	Factors to consider	Management options
9. Manage chemical (herbicides and fertilisers)	<ul style="list-style-type: none"> <li>• Excess vegetation growth in water systems (algae)</li> <li>• Degradation of aquatic ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Run-off carries nutrients and chemical to waterways</li> <li>• Appropriate on-label use of chemicals</li> </ul>	<ul style="list-style-type: none"> <li>• Use chemicals according to on-label use</li> <li>• Use alternatives to synthetic chemicals</li> <li>• Use integrated weed management strategies</li> </ul>

## 10. Investment in grazing related programs

The RexN developed a list of grazing extension and demonstration projects funded and underway within the Burdekin Dry Tropics at the commencement of the Enhanced Extension Coordination Project in 2018. Projects are listed in Table 5.

**Table 5.** Identified project investment in Burdekin grazing from November 2018 to current. Identified project investment in Burdekin grazing from November 2018 to current.

Funding source	Lead organization	Project title	Funding duration
Australian Government Reef Trust 1	NQ Dry Tropics	Promotion of A-class grazing management practices	2015-2018
Australian Government Reef Trust 2	NQ Dry Tropics	Point Source Sediment Management in the Burdekin Dry Tropics NRM region (BBB)	2016-2019
	NQ Dry Tropics	Point Source Sediment Management in the Burdekin Dry Tropics NRM region – East Burdekin	2016-2019
	Greening Australia	Don River Catchment Sediment Reduction Project: Improving GBR water quality.	2016-2019
Australian Government Reef Trust 3	NQ Dry Tropics	Reef Alliance – Growing a Great Barrier Reef	2016-2019
	Resource Consulting Services	Project Pioneer: Innovation in Grazing Land Management	2016-2019
Australian Government Reef Trust 4	NQ Dry Tropics	Stomping out Sediment in the Burdekin - livestock impact for gully remediation	2016-2022
	Greening Australia	Gully restoration in priority reaches to improve water quality on the GBR	2016-2022
Australian Government Reef Water Quality Improvement Grant Program (GBRF)	NQ Dry Tropics (under contract to QFF)	Reef Alliance Project Phase 2 – supporting extension services to achieve Reef 2050 water quality targets	2019-2020
	NQ Dry Tropics	Reef Trust Reefwise Grazing of Burdekin Rangelands	2019 - 2021
	Resource Consulting Services	Project Pioneer: Innovation in Grazing Land Management	2019 -2021
	Greening Australia	Lower Burdekin Innovative Gully Restoration Project- phase 3.	2019- 2021
Australian Government National Landcare Program 2	NQ Dry Tropics	Building dynamic grazing business (Year 1)	2018-2019
	NQ Dry Tropics	Regenerative Grazing Tools for Burdekin Soils and Pastures (Year 2- 4)	2019 - 2023

Queensland Government Major Integrated Project	NQ Dry Tropics	Landholders Driving Change	2016-2020
Queensland Government Natural Resource Management Investment Program	NQ Dry Tropics	Linking landholders with frontage country	2018-2022
	NQ Dry Tropics	Coordinated regional pest and weed management in the Burdekin Dry Tropics	2018-2022
Queensland Government Department of Environment and Science	DAF NQ Dry Tropics	GRASS	2019 - 2022
	CHRRUP	Forage Budgeting in the Belyando	2019- 2021
	DAF	Demonstrating adaptive management strategies for sustainable and profitable management	2017 -2020
Queensland Government	NQ Dry Tropics	Enhanced Extension Coordination project	2018-2020
Queensland Government Reef Innovation Fund	Greening Australia	Rebuilding Eroding Land at Strathalbyn Station	2016-2020
Queensland Government Department of Agriculture and Fisheries	DAF	Grazing Extension Support Project	2017- 2022

## 11. Pulling it together - the Enhanced Extension Coordination Project

In order to support the efforts of existing grazing extension service providers operating in the Burdekin Dry Tropics, the EEC Project will fill identified extension gaps in projects or service delivery through a small grants scheme facilitated by the REC. In addition, identified gaps in personal and technical skills and knowledge will be addressed through a higher level training and development program delivered by DAF, as well as a separate funding program designed for capacity building at a regional scale.

### Allocation of EEC funding resources

The E&E Review highlighted that RExN are needed to effectively address regional and sub-regional priorities and to provide better integration and planning of funded programs prior to implementation. The Regional Extension Plan for grazing in the Burdekin Dry Tropics provides information on extension delivery, gaps and barriers in the region and opportunities to address these gaps through a more collaborative approach and strategic investment. The RExN will submit projects quarterly to the Regional Extension Coordinator, who in turn will work with the RExP to assess projects and provide recommendations on potential funding sources. For projects which align to funding sources directly tied to the E&E Review and managed by the Regional Extension Coordinator, a strategic priority allocation of

funds to extension providers will occur to encourage collaboration between extension projects and minimise duplication of effort.

To address the identified action and activities needed to improve extension delivery and create long-term change, a high level of long-term investment and regional stakeholder support and collaboration is required. The Regional Extension Coordinator will play a key role in progressing actions and activities that can be supported through existing positions and projects. Those activities that require new resources and extra support can be guided by this Regional Extension Plan, as it sets out processes for the RExN to identify potential projects and for the RExP to prioritise the allocation of available (or future) funding.

In response to the E&E review, the Queensland Government has committed \$2.25 million in flexible and peer-to-peer learning funds across GBR catchments, over three years (2017-18 to 2019-20) to support the work of Regional Extension Coordinators and networks. Further support regarding Extension Officer Training and Development, and specialist skills gaps, are available and administered directly by DAF.

The allocation of the funds for these funding sources is described below.

### Flexible funds

Through the Enhanced Extension Coordination project, the following funding is available for Burdekin grazing projects under the flexible funds

- 2018-2019 = \$75,000
- 2019-2020 = \$50,000

The flexible funds are intended to support extension and education activities that:

- address regional priorities and/or address a gap in extension delivery
- contribute to improved water quality outcomes
- support cross-program/organisational collaboration
- add value to planned activities/projects
- support the use of innovative learning approaches and/or new tools and technologies to support on-farm learning.

Funding allocations are flexible in the scope of appropriate activities as affirmed through Regional Extension Plans. Table 6 outlines the types of activities supported for flexible funds allocation. For activities not listed as eligible, the Regional Extension Coordinator should send a written request to the Manager (Extension Coordination), asking for the activity to be included in the list of eligible activities. To be eligible for flexible funding, the RExN must submit applications ([Appendix 1](#)) to the Regional Extension Coordinator, who then disseminates these to the RExP for consideration and prioritisation.

**Table 6.** Eligible and ineligible activities for flexible funds expenditure

What types of activities are eligible for flexible funding?	What types of activities are out of scope — not appropriate for flexible funds expenditure?
Targeted activities to increase uptake of key practices to address water quality priorities	Activities that fall outside Great Barrier Reef regions

Targeted extension activities that address challenges and fill gaps in current delivery effort	Vehicle purchase/lease/running expenses
Building synergies within catchments and regions to add value to current programs	Purchasing equipment for host organisation, which is not for use in a demonstration/trial
Supporting cross regional and cross organisational activities, learnings and information sharing (e.g. events such as field days/ workshops)	Delivery of existing activities or projects (e.g. BMP programs which have ongoing support via other funding arrangements), or activities which duplicate others, or are otherwise funded from previous or current funding sources
Innovative capacity building for producers and/or extension staff	Water quality monitoring or research if producer engagement and education is not the purpose of the activity
Piloting/demonstrating new technologies or platforms that assist in the engagement or education of producers and/or extension staff	Purchasing equipment or providing funding to a particular producer (e.g. as per grants program)
Facilitating producer groups (peer-to-peer learning), and may include targeted training for facilitators where not duplicating other projects/activities	Activities that are not related to agricultural management (e.g. urban or industrial)
Multi-year projects, in particular to support longer term peer-to-peer learning groups (annual funding allocations pending demonstration of outcomes and endorsement of reporting requirements)	Activities that do not contribute to improved water quality outcomes
Demonstrations/applied research trials aimed at engaging and educating producers e.g. regional validation of existing improved management practices in new areas*	Salary for existing staff and staff relocation costs
	Activities which are retrospective—have commenced/are funded but not yet completed
	Activities required to comply with any legislation or are part of an approval or funding contract under Commonwealth or State legislation or agreement
	Administrative costs above 10% of the total annual allocation
* This may include on-ground works in limited situations where it is an essential component of an extension activity that facilitates learning in an area of identified need or as part of peer-to-peer learning via facilitated producer groups.	

## Peer to peer funds

Through the Enhanced Extension Coordination project, the following funding is available for Burdekin grazing projects under the Peer to Peer funds:

- 2018-2019 = \$37,500
- 2019-2020 = \$25,000

Peer to peer funding has been provided to support producer groups and delivery organisations in identified high-priority learning activities, using experienced graziers or grazing experts to lead or consult on training and education programs. The RExN will provide submissions ([Appendix 2](#)) to the RExP on a quarterly basis for consideration and prioritisation of funding. Specific to this program, applications submitted will be assessed using the guidelines established in Table 6.

## **EEC Project Investment in the Burdekin Dry Tropics**

The following section identifies the projects and activities where Peer to Peer and Flexible funds have been invested in Burdekin Grazing lands (Table 7) and the following map geographically locates this investment and activities (Map 2).

**Table 7.** Projects Funded through Peer to Peer and Flexible Funds, July 2018 to June 2020 (updated September 2019).

PEER TO PEER FUNDS			
Project	Key Issue addressed	Project Description and links to water quality outcomes	Funding
<p><b>Healthy soils, healthy pastures</b></p> <p>Presented by: Christine Jones, Amazing Carbon, Also: Brian Welhberg (Inside Outside Management) and Dick Richardson (Grazing Naturally)</p> <p>Timeframe: 2018- 2019</p> <p>Lead organisation: NQ Dry Tropics</p> <p>Attended by: Graziers (Dry Tropics and Southern Gulf), NQDT &amp; LDC staff, DAF, CSIRO, Dalrymple Landcare, Bowen Collinsville Landcare.</p>	<p>Lack of more in-depth knowledge on soil health and its relationship to pasture and grazing management practices.</p>	<p>Delivered by internationally respected soil health and ecology expert Christine Jone, this extension officer training (2 days) and grazier field days (3 days) identifies the drivers for improved soil health using holistic planned grazing practices which result in greater density of healthy living pasture plants. Improved quality and quantity of pasture plants and associated soil biology has both production and water quality benefits by increasing infiltration, protecting soil surfaces, reducing run off and trapping sediment.</p>	<p>\$10,000</p>
<p><b>Grass Grass Grass</b></p> <p>Presented by: Andrew Lewis</p> <p>Timeframe: 2018- 2019</p> <p>Lead Organisation: CHRRUP</p> <p>Attended by: Graziers</p>	<p>Lack of grazier capacity to undertake fodder budgeting, graze planning and rotational grazing practices which improve production and environmental outcomes.</p>	<p>The project aims to change attitudes towards rotational grazing practices and increase understanding and implementation of techniques to improve ground cover. Participants will learn from presenter and grazier, hear firsthand accounts from graziers who have transitioned their grazing systems and then benefit from one on one property visits from the presenter. The events are held on-property and peer to peer learning is a central extension method employed to encourage more effective knowledge and skill building.</p>	<p>\$18,000</p>

<p><b>Pasture and Grazing Management one on one extension and DLC Small Holdings Field day</b></p> <p>Presented by: Judi Earl, AIMS</p> <p>Timeframe: 2018- 2019</p> <p>Lead organisations: NQDT and DLC</p> <p>Attended by: Graziers, Mt Leyshon mine managers.</p>	<p>Grazing and pasture management to maximise production and landscape rehabilitation leading to improved water quality outcomes.</p>	<p>Dr Judi Earl, a grazing and pasture management expert and northern NSW grazier will provide one on one extension to four landholders who have previously participated in her four part grazing and pasture management program delivered in the Charters Towers area in 2018 and a one day Dalrymple Landcare Grazing Management Field Day for small holdings. Pasture budgeting and graze planning to improve pasture quality and ground cover are key topics of discussion.</p>	<p>\$8000</p>
<p><b>Alpha Peer Group</b></p> <p>Timeframe: 2019- 2020</p> <p>Presented by: Ian McLean and leading graziers.</p> <p>Lead organisation: CHRRUP</p> <p>Attended by: Alpha Grazer Peer Group</p>	<p>Grazing and pasture management to maximise production and landscape rehabilitation leading to improved water quality outcomes.</p>	<p>This project aims to support previous learnings and fill further gaps identified by the Alpha Group in a 2018/19 P2P Funded project by delivering two information sessions. Session One Torres Creek with David and Donna Rankie to present on their changes in grazing management and woody weed management and Session Two with Ian McLean, Bush Agribusiness to discuss profitable and sustainable beef grazing businesses. Purchase of Brix meter to assess pasture quality. The project will also support two enterprises to attend a field day at Wambiana Trial site 17<sup>th</sup> October 2019.</p>	<p>\$15,000</p>
<p><b>Leading Lights Bus Tour</b></p> <p>Timeframe: 2019- 2020</p> <p>Presented by: Various, DAF, CSIRO, host landholders.</p>	<p>Best management practices in grazing management and grazing business management.</p>	<p>Bus tour of leading grazing properties in the Burdekin. This is part of a significantly larger two week program of events developed and delivered by the Desert Uplands Landcare committee. The project entails substantial collaboration across communities, projects and programs and will result in a greater</p>	<p>\$10,000</p>

Lead organisation: DUC Attended by: graziers, broad interest base		awareness of a great variety of land management issues including water quality, climate change impacts, financial planning and protecting and maintaining biodiversity on extensive grazing properties.	
<b>Managed Grazing Grass Groups Program</b> Timeframe: 2019- 2020 Presented by: Dick Richardson, Grazing Naturally Lead Organisation: NQ Dry Tropics Attended by: two grazier peer groups (North of Greenvale Group, Woodstock-Chartiers Towers Group)	Grazing and pasture management to maximise production and landscape rehabilitation leading to improved water quality outcomes.	Two 'Managed Grazing Grass Groups Program' will be introduced to the fundamentals of the Grazing Naturally system which moves away from conserving grass to an ecological community fit for purpose for grazing. The Grazing Naturally model sits on top of holistic grazing practices ensuring that sufficient groundcover is retained for soil protection against erosion. The objective of the project is to: develop peer groups of graziers at two locations in the Burdekin; build awareness of grazing management practices; build grazier confidence and skills to trial new grazing practices.	\$41,500
Peer to Peer Funds Subtotal			\$102,500
<b>FLEXIBLE FUNDS</b>			
<b>Project</b>	<b>Key Issue addressed</b>	<b>Project Description</b>	<b>Funding</b>
<b>A new approach to property management planning using the Ecologically Sustainable Rangeland Management (ESRM) program</b>	Lack of knowledge by Burdekin grazing service providers on the incorporation of natural resource and ecological factors in	This process will support grazing extension officers from within the Burdekin region to learn about developing and producing an Ecologically Sustainable Management Plans for grazing businesses in the Burdekin. This training will build the capacity of extension officers from three organisations to understand the concepts and relationships between production systems and	\$20,000

<p>Presented by: Contour Env and Ag Consulting</p> <p>Timeframe: 2018- 2019</p> <p>Lead organisation: NQ Dry Tropics</p> <p>Attended by: CHRRUP, DLC, NQDT</p>	<p>grazing management plans.</p>	<p>ecological processes. These skills will enable extension officers to engage in more effective and meaningful discussions with graziers and will results in a more robust whole-of-system property management plan.</p>	
<p><b>Negotiating change and Leadership within the Burdekin grazing landscape</b></p> <p>Presented by: Allan Parker, Peak Performance</p> <p>Timeframe: 2018- 2019</p> <p>Lead Organisation: NQ Dry Tropics</p> <p>Attended by: Graziers, QLD Govt, NRM extension officers, Landcare, St Vincent De Paul.</p>	<p>Creating leadership within the grazing industry and extension providers to improve productivity and drive practice change</p>	<p>This program will involve two workshops that work with both the leading producers and extension officers to gather skills to stimulate and expand thinking, put discussion before decisions, and excite the exploration of possibility, innovation, improvement and empowering the masses. This training will directly allow the leading producers become peer mentors for the industry and have influence in policy decisions affecting their leases, and will allow grazing extension staff to understand more techniques involved in building empowered partnerships with the grazing industry and stakeholders advising the industry</p>	<p>\$15,000</p>
<p><b>Validating Cover Cropping Techniques in Mixed Farming Systems – Kilcummin and Central Highlands</b></p> <p>Timeframe: 2019- 2020</p> <p>Lead Organisation: CHRRUP</p> <p>Attended by: two trial participants (Suttor and Comet), local producers</p>	<p>Improvements to soil health and nutrient management, groundcover and water quality.</p>	<p>This project will provide two landholders with one-on-one support from an expert through the initial planning phase of the cover cropping trials and with any follow up support needed. The project will provide the landholders in the area, with a process to validate the cover cropping practices in the local climate conditions, identify plant varieties suitable for cover cropping and will communicate the results to the local community through a field day and case study.</p>	<p>\$20,000</p>

<p><b>Introductory level soil conservation mentoring for extension staff</b></p> <p>Timeframe: 2019- 2020</p> <p>Lead Organisation: NQ Dry Tropics</p> <p>Attended by: Burdekin based extension officers</p>	<p>Improved soil conservation planning, design and construction leading to improved water quality outcomes.</p>	<p>NQ Dry Tropics is proposing this cross-program mentoring project to add value to a three day soil conservation training workshop being delivered by John Day, Geoff Titmarsh and Bob Shepherd through a tailored mentoring program targeting grazing extension staff from a range of organisations in the Burdekin. The mentoring program will be delivered concurrently with the delivery of existing projects where funding has been allocated for soil conservation works.</p>	<p>\$18,500</p>
Flexible Funds Subtotal			<p>\$73,500</p>
<p>2018 -2020 Flexible Funds \$125,000 Peer to Peer Funds \$ \$62,500 = \$187,000</p>			<p>TOTAL FUNDS ALLOCATED</p> <p>\$176,000</p>
Unallocated funds			<p>\$0.00</p>



## Training and development program

The Training and Development Program is administered by DAF and supports extension needs across all Reef catchments through links with the EEC Program manager, Regional Extension Coordinators and other key stakeholders. The Training and Development Program aims to address high priority knowledge and skills gaps.

As part of the program a Reef Extension Training Needs Analysis (TNA) was carried in October 2018 to guide both the range and the form of the training and development activities to build the capacity of extension service providers in the Great Barrier Reef catchments. 161 people responded to the online survey of which 31% or 49 people were from the Burdekin. Of these respondents, 30 identified as working in the grazing industry. Just over half of the total number of respondents worked for a Natural Resource Management organisation and about half of the respondents (56%) worked as extension officers. Out of all the survey respondents 32% had 2-5 years extension experience, 18% had 6-10 years' experience and 16% had less than 1 year experience in their current role. The survey highlighted key areas that extension providers identified as challenges to their role and where they require additional support.

The following ranked responses have been selected from the TNA to demonstrate the range of challenges, extension skills and technical training needed for effective extension delivery across all reef catchments and primary industries. An assessment of training needs of grazing extension staff in the Burdekin is generally consistent with these findings, see Table 13 and 14 later in this Plan.

**Table 8.** Top ten responses to three key TNA survey questions.

Extension delivery challenges	Extension skills needed	Technical skills needed
1. Producer engagement*	1. Extension and facilitation skills*	1. Access to and use of existing and new technologies
2. Attitude towards change*	2. Technical knowledge *	2. Topics and issues related to soil management
3. Lack of resources*	3. Meaningful producer engagement*	3. Training and mentoring
4. Project relevance and uptake	4. Reporting requirements	4. Industry specific knowledge
5. Funding impacts	5. Understanding producer knowledge levels	5. Land management
6. Abundance of information sources	6. Measuring change	6. Data management
7. Access to grower information	7. Time management	7. Access to research
8. Project continuity	8. Meaningful producer relationships	8. Business related skills
9. Policy and regulatory impacts	9. Understanding delivery tools	9. Economics
10. Access to growers	10. Understanding social media	

\* indicates the top three for grazing industry respondents.

Consistent with feedback from RExN members, the TNA identified that the Top 5 effective extension methods leading to effective practice change are:

1. One-on-one extension
2. Peer to peer learning
3. Local and continuous communication
4. Relevant and timely information
5. Workshops

The Training and Development program is currently investing in training activities to meet the needs of extension providers identified in the Reef Extension Training Needs Analysis. The training is being offered to all extension providers, including members of the Regional Extension Network operating in the Burdekin Dry Tropics.

**Table 9.** Training and Development Program investment relevant to grazing 2018 – 2019.

Training Event	Outcomes for extension delivery
Peer to Peer training Viv McWaters Half day workshop 15 May Townsville	Extension officers, managers, on-sellers from all reef catchments were introduced to a range of tools and techniques to get people communicating effectively.
Think Tank Unconference 15- 17 May Townsville	120 participants from 45 different organisations (NRMs, OGBR, DES, DAF, RCS, universities, product on-sellers and extension identified 60 different session topics. Those needing more information and those with the skills and knowledge to share participated in the sessions of interest. A networking opportunity amongst service providers. Several small projects were identified and funded by the T&D program.
Behavioural Science Training 18 July Biggenden, 1 August Rockhampton, 13 August Innisfail, 15 August Ingham, 5 September Townsville	Enhancing the practices of on-the-ground extension staff by providing a toolkit of new skills in behavioural science. Topics include: the science of human behaviour; farmer motivations and barriers to adoption; how to engage with a broader farmer base; communicating more effectively; strategies for managing resistance; techniques for measuring and validating your effectiveness
Introduction to Soil Health and extension provider training	Two day training in soil health and extension techniques with David Hall, September 2019.

### Specialist skills gaps

The E&E Review noted a lack of capacity in some specialty areas, exacerbated by:

- the real, or impending, loss of experienced extension personnel in the regions, and
- an inability to readily replace these expertise in a timely manner to deal with issues around land management practices facing producers in the region.

Consequently, there will be cases where specialised skills are not available in the region to address priorities identified in Regional Extension Plans and the specific nature of a task or timeframe does not enable the development of these skills locally through training.

Through the Enhanced Extension Coordination project, DAF will provide resources to augment existing services or expertise for high priority skills gaps, determined through gaps identified by the RExN and detailed in the Regional Extension Plan. This may include sharing skilled experts cross-regionally. However, where region specific needs exist, Regional Extension Coordinators will collaboratively plan and prioritise areas to support with available resources. The decision on what skills gaps can be filled will also depend on being able to access suitable expertise and their availability to service projects in the regions at times when aligned projects are being rolled out. If there are opportunities to align to the Training and Development program and value add to this program this will also be considered.

The Personal and Expertise Funding Program is a funding stream in addition to the Flexible, Peer to Peer and the Training and Development program. The P&E program encourages extension providers to co-design projects that addresses skills needs at a regional or cross regional scale. The program will open in July 2019 to support collaborative approaches that address priority speciality areas, for example soil conservation projects supported by technical experts and implemented by graziers.

## 10. Burdekin grazing extension groups and projects

Details regarding Burdekin grazing extension groups and projects have been developed through two facilitated consultation workshops with the Regional Extension Network. The first RExN meeting was held on 12 June 2018 and the second over two days in April 2019. (Meeting agendas Appendix 7 & 8)

The inaugural meeting established a baseline understanding of grazing groups, including those formed around projects/ research and Landcare groups whether they play a role in activities that improve water quality entering the GBR. Landcare and grazing groups within the Burdekin Dry Tropics have been identified together with new and potential groups (Table 10) and located (Map 3). Gaps in geographic delivery of extension services and projects delivery as well as gaps in capacity were also identified and used as baseline information for the development of this Regional Extension Plan.

The objective of the April 2019 workshop was to move forward from the baseline, introduce and discuss meaningful collaboration in the RExN context and to identify what is working and where extra investment and effort is needed to progress the RExN on the path towards collaboration.

### Current Landcare and grazing groups within the Burdekin

Within the Burdekin region, and with a focus on grazing lands and extension of improved grazing management, there are 3 identified active Landcare Groups:

- Dalrymple Landcare Committee
- Bowen Collinsville Landcare Committee
- Desert Uplands Committee

The RExN also identified 19 active landholder groups operating in the Burdekin region (Table 10). These groups are strategic in nature (generally have a specific topic of interest in a discrete location) and are

supported by extension staff and topic experts. The geographic centre of these groups is represented numerically on the following map (Map 3).

**Table 10.** Active grazing groups in the Burdekin region, as of June 2018.

Landholder group name	Map identifier	Primary support
<i>Goshen</i> Northern Grazing Demonstration and Northern Beef Genomics	1	DAF
<i>Blue Range</i> Northern Grazing Demonstration and Northern Beef Genomics	2	DAF
<i>Wambiana</i> Producers Group	3	DAF
<i>Spyglass</i> Advisory Group	4	DAF
<i>Basalt River</i> black soil Rehabilitation Site	5	DAF
<i>Minnievale-Nyoola</i> Rehabilitation Site	6	DAF
<i>Illamatah</i> pasture and legume site	7	DAF
<i>Basalt</i> Neighbour Group	8	NQDT
<i>Toomba</i> Biodiversity Group	9	NQDT
Landscape Rehydration Group	10	NQDT
<i>Tabletop</i> Stomping Out Sediment Site	11	NQDT
<i>Strathalbyn</i> Stomping Out Sediment Site	12	NQDT
<i>Bowen River</i> LDC Cluster Group	13	NQDT
<i>Exmore Road</i> LDC Cluster Group	14	NQDT
<i>Alpha</i> Grazing Management (west) Group	15	CHRRUP
<i>Bowen</i> Holistic Management Group	16	Independent
Northern Beef Producers Group	17	Independent
<i>Clermont</i> Challenge Group	18	Independent

The membership and direction of these groups widely varies, from completely landholder driven (independent, not supported by government or NRM extension officers), to site specific project based information groups facilitated by science and extension staff and supported with funding through local projects. Level of support for these groups varies according to the funding programs available at any specific time of the year.

### Future grazing groups within the Burdekin

There are four grazing groups in the early stages of formation or could easily form if resourcing was available (Table 11).

The Next Gen program - currently a DAF-led pilot study underway north of the Burdekin – is a potential area for support. The program engages and provides professional support for a network of young graziers in education, training and adoption of best practice in grazing management. The program is having great success in the north, and there is the opportunity to provide funding in the 2018-19 financial year to fast-track it’s progression into the Burdekin region. DAF has funding for 2019-20 onwards for the program.

**Table 11.** Currently planned grazing producer groups or neighbourhood groups in the Burdekin region, June 2018.

Landholder group name	Map identifier	Primary support
Alpha Grazing Management (east) Group 2	20	CHRRUP
Innovative Grazing Management Group	21	NQDT
Ulcanbah/Carmichael Desert Rehabilitation group	22	NQDT
Next Gen network	23	DAF

### Geographic gaps in grazing groups within the Burdekin

The Regional Extension Group identified two obvious geographical gaps in the presence of actively supported grazing groups - the Belyando and Cape Campaspe Basins.

Within the context of natural resource management programs, sponsors are not currently prioritising these two basins for investment as they have a lower modelled sediment load impacting the Great Barrier Reef. This means they are often overlooked and less supported in terms of extension programs, education, training and on-ground adoption of changed practices.

However, in these basins, there is a priority need for analysis of the desires of local graziers to forming grazing groups, and the basis for which these groups should be established (what is the common theme they want to work on). From a sediment mitigation standpoint, the properties in this region are large and a practice change across a few properties may achieve similar sediment savings as working with the same number of landholders in higher priority catchments. Collaboratively, the RExN will work together to determine these needs with local landholders.

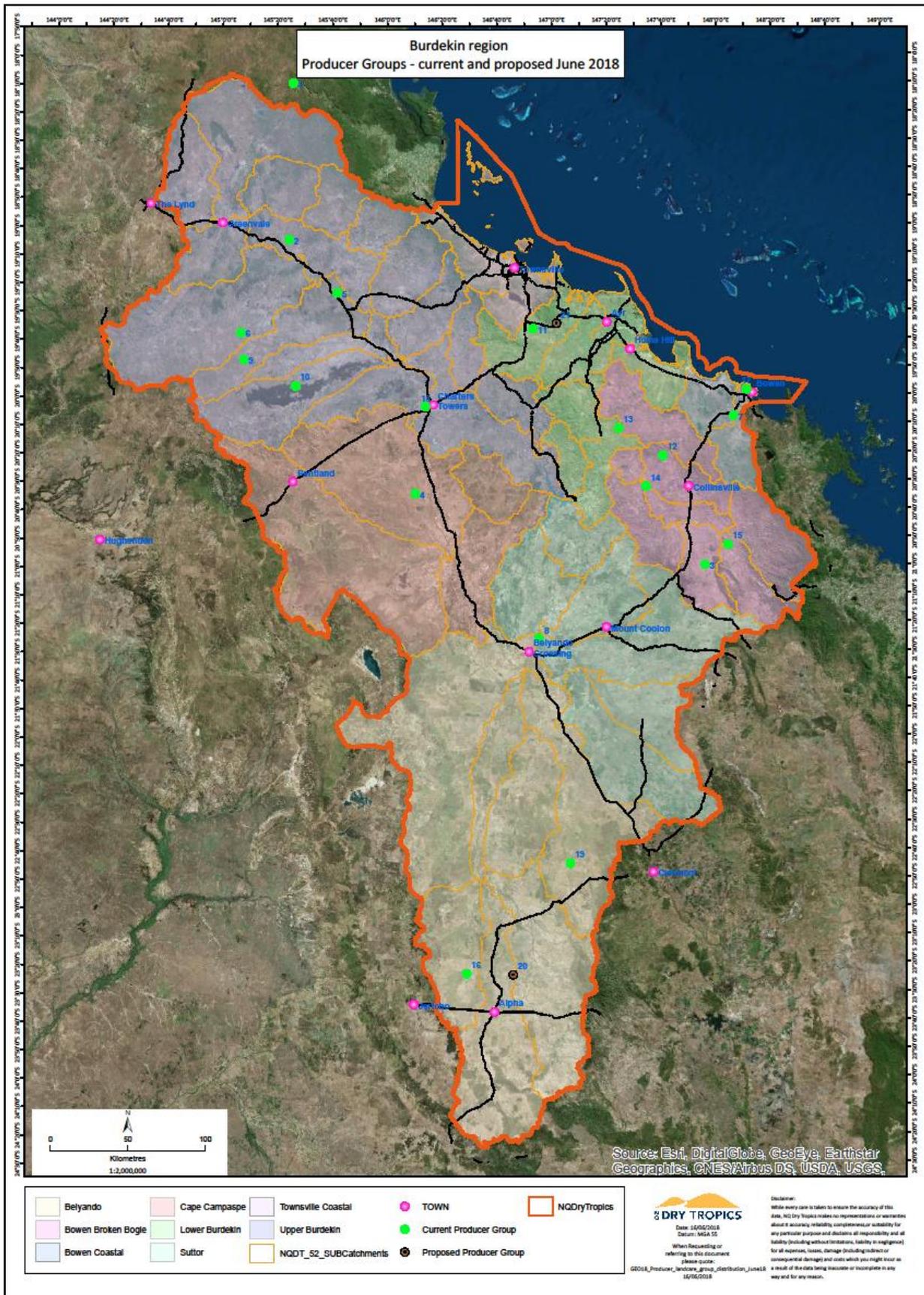


Figure 6. Geographic locations of landholder groups within the Burdekin Dry Tropics

## 11. Areas and actions for investment in grazier groups

The following Table captures the level of support, funding and activities for each Landcare and producer group discussed by the RExN and the group's capacity/ scope to undertake actions towards achieving water quality outcomes.

**Table 12.** Areas and actions for investment in grazier groups in the Burdekin as of June 2018

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
<p>Groups formed around project 'Demonstrating adaptive grazing management strategies for sustainable and profitable management' TF11.13 (also referred to as the Northern Grazing Demonstration Project) and a Northern Beef Genomics project</p> <p>Contact: DAF Dave Smith Charters Towers Office Ph: 4761 5150</p> <p>Group 1. Goshen Station (Upper Herbert)</p> <p>Group 2. Christmas Creek Station/Blue Range Station (Nth of Greenvale)</p> <p>Group 3. Leichardt Creek Station Site 3. (near Bowen)</p> <p>Group 4. Located in the Fitzroy Basin.</p>	<p>(15.8.19 update by Brigid Nelson)</p> <ul style="list-style-type: none"> <li>• DES Science Project funded 2017- 2020.</li> <li>• Linked to DAF grazing reef extension (ex Grazing BMP).</li> <li>• Demonstration of best management practices.</li> <li>• Genomics project is an add-on.</li> <li>• Producer groups formed at three sites in the Burdekin and one in the Fitzroy catchment. The properties were chosen as they are conservatively grazed properties in good condition.</li> <li>• Aim of the project is influence total of 36 enterprises to adopt sustainable grazing and land management activities based on findings from Wambiana Station trials.</li> <li>• The producer groups benefit from peer to peer learning and DAF extension.</li> <li>• Goshen Station Group has hosted Neighbour days and one on one follow-up.</li> <li>• Leichardt Creek Station has hosted a number of neighbour days, also exploring genomics in their herds.</li> <li>• Some overlap where NQDT has provided incentives to some of the enterprises involved in the trials</li> <li>• The project is progressing well.</li> <li>• Project progress reports are available through Dave Smith.</li> </ul>	<ul style="list-style-type: none"> <li>• Properties are demonstration sites for best practice land management and profitable grazing business eg. Wet season spelling</li> <li>• Land condition monitoring, fodder budgeting and matching stocking rates to carrying capacity for all properties works toward improved land management practices and water quality outcomes.</li> <li>• Project sites are located in priority sub-catchments</li> </ul>

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
<p>Wambiana Industry Advisory Group Contact: Dr Peter O'Reagan DAF</p>	<ul style="list-style-type: none"> <li>• Funding via MLA. Trial has been underway for 16 years.</li> <li>• Group oversees strategies and decisions made in the Wambiana grazing trial. The group has tight terms of reference and there is limited scope for add-on.</li> <li>• Might be able to use some advanced personal/ soft skills rather than management skills</li> <li>• Comprehensive project with strong linkages with research and extension providers</li> <li>• Regular producer and research visits, uni student research</li> <li>• Wambiana data used to validate new DES models and tools eg pasture growth models and cover imagery eg Long paddock</li> </ul>	<ul style="list-style-type: none"> <li>• Grazing management trial work for different grazing strategies.</li> <li>• Trial investigates variations of stocking rate: carrying capacity.</li> <li>• Forage budgeting</li> <li>• Wet season spelling demonstration work</li> <li>• Numerous extension activities to inform staff, graziers, researchers, policy makers etc.</li> </ul>
<p>Spyglass Industry Advisory Group Contact: Bob Shepherd (Secretary) DAF</p>	<ul style="list-style-type: none"> <li>• This group is specific to input into the research and development undertaken at Spyglass Research Station.</li> <li>• Group oversees strategies and decisions, similar to Wambiana Group.</li> <li>• The group has tight terms of reference and there is limited scope for add-on.</li> <li>• Trialing pasture and legume species for pasture rehabilitation.</li> <li>• Extensive pasture monitoring used to validate DES modelling and groundcover imagery.</li> <li>• Spyglass is a high level research development and extension project site. Research results informs cattle industry strategic direction, commercial herd, general best management practices and industry advice.</li> </ul>	<ul style="list-style-type: none"> <li>• Activities are high level and a demonstration of best practice in the northern beef industry.</li> <li>• Station is managed to demonstrate best land management practices.</li> </ul>
<p>Basalt River Black Soil Rehabilitation Site Contact: Heather Jonsson DLC or Bob Shepherd DAF</p>	<ul style="list-style-type: none"> <li>• This is a DAF funded DLC project site. Funding has rolled over from 2016 to June 2019 due to lack of rainfall for trial work.</li> <li>• Trial involved remediation of C and D condition land trialing a range of sown pasture and legume species to find most suitable.</li> <li>• Best performance by Desmanthus legume and a mixture of pasture species. Final report and cost benefit analysis completed and available from DAF or DLC.</li> <li>• Project now finished but monitoring will be undertaken by DAF.</li> </ul>	<ul style="list-style-type: none"> <li>• Grazing management</li> <li>• Pasture rehabilitation with introduction of alternative pastures and legumes</li> <li>• Potential for some support through the P2P learning funds to host a collaborative day.</li> <li>• Potentially a series of small field days with different grazing focuses over 12 months</li> </ul>

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
	<ul style="list-style-type: none"> <li>Given proximity and common 'neighbours' DAF and NQDT could work more closely together. The Grazing Naturally (Dick Richardson) group could work in with the DAF trial group through shared activities.</li> </ul>	<ul style="list-style-type: none"> <li>Basalt pasture demonstration Field day 9<sup>th</sup> April 2019 was held.</li> <li>Potential to expand trial site to another location</li> </ul>
<p>Pasture Rehabilitation of land in C and D Condition</p> <p>Minnievale Station (Gordons)</p> <p>Nyoola Station (Holmes)</p> <p>Mountain View (Smith)</p> <p>Contact: Roxanne Morgan DAF Mackay</p>	<ul style="list-style-type: none"> <li>DAF funded project to trial a range of pasture renovation treatments for degraded grazing land and economic analysis</li> <li>Minnievale Station trial now completed however DAF will use as demonstration site. Minnievale is a good site to demonstrate typical pasture rehabilitation of C and D condition land dominated by Indian Couch. Site has high fertility soil but a long history of heavy grazing.</li> <li>Bowen Collisville Landcare and Greening Australia also involved in the trial work.</li> <li>Jim Fletcher DAF undertook a cost benefit analysis.</li> <li>There has been a high level of interest amongst graziers in the trial.</li> <li>Jim Fletcher carrying out soil testing (an LSC in-kind contribution from DAF) has created opportunities to discuss pasture improvement and land management.</li> <li>Nyoola Station and Mountain View Station trials were more opportunistic in trial layout and rehabilitation techniques. Trial involved sown pasture species and legume species on C and D condition land.</li> <li>Potential to collaborate with DAF to identify additional activities and or value-add to this group.</li> </ul>	<ul style="list-style-type: none"> <li>Pasture rehabilitation with introduction of alternative pastures and legumes.</li> <li>Trial identifies species that will successfully establish ground cover on degraded land thus reducing erosion and sediment.</li> <li>Improved grazing management for water quality outcomes.</li> </ul>
<p>Illamatah pasture and legume trial site (near Mt Coola)</p> <p>Contact: Roxanne Morgan DAF Mackay</p>	<ul style="list-style-type: none"> <li>DAF funded project to trial sown pasture and legume species on C condition Land.</li> <li>Potential to collaborate with DAF to identify additional activities and or value-add to this group.</li> </ul>	<ul style="list-style-type: none"> <li>Pasture rehabilitation with introduction of alternative pastures and legumes.</li> <li>Trial identifies species that will successfully establish ground cover on degraded land thus reducing erosion and sediment.</li> <li>Improved grazing management for water quality outcomes.</li> </ul>

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
Grazing Naturally (Dick R) Group Contact:	As above for Basalt River Black Soil Rehabilitation Site	<ul style="list-style-type: none"> <li>• See above, for a collaboration with the Basalt River Black Soil Rehabilitation Site</li> <li>• Grazing management focus</li> <li>• Pasture management (stocking rate: carrying capacity)</li> <li>• Forage budgeting</li> <li>• Peer to peer – Dick Richardson repeated visits</li> </ul>
Toomba Biodiversity Group Contact: NQ Dry Topics	This is a group that NQDT developed around a multiple year biodiversity project on private property on and adjacent to the Basalt Wall. Group activities included Lantana and Rubber Vine control, deer and pig control. Unsure whether the group focused on grazing related activities.	<ul style="list-style-type: none"> <li>• Pest plant, deer and pig control</li> </ul>
Landscape Rehydration Group Contact: NQDT Sam Skeat, Elizabeth Lyons (landholder)	Not yet specifically formed as a group, but a network of local graziers around the Woodstock/Giru/ Charters Towers area interested in Landscape Rehydration process.	<p>This group needs to be formally established.</p> <ul style="list-style-type: none"> <li>• Assist in putting the group together, forming group direction</li> <li>• No current project funding to support this group. An AG Smart Farming project application was unsuccessful. A 2019-2020 Peer to Peer project will continue to fund expert support (Dick Richardson, Grazing Naturally) in the area and increase participation in group.</li> <li>• Landscape function and rehydration</li> <li>• Pasture management for production and ecosystem services.</li> <li>• Intervention in erosion</li> </ul>
Tabletop Stomping Out Sediment Site Contact: NQDT Rod Kerr	Reef Trust IV project site with a neighbour group attached.	<ul style="list-style-type: none"> <li>• Unsure if additional support is required as group is supported by the current funds and can tap into the Landholders Driving change events.</li> <li>• Potential for holistic management refresher training</li> <li>• Expert with soil health (Christine Jones)</li> </ul>

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
		<ul style="list-style-type: none"> <li>• Pasture management (Dick Richardson and Brian Wehlberg)</li> <li>• Design of earthworks to slow runoff</li> </ul>
Strathalbyn Stomping Out Sediment Site Contact: NQDT Rod Kerr	Reef Trust IV project site with a neighbour group attached.	<ul style="list-style-type: none"> <li>• As above for Tabletop.</li> </ul>
Bowen River Pub LDC Cluster Group Contact: NQDT Adrienne Hall	Funded project group (5 properties) with LDC project. Key areas of interest machinery modification/ new machinery for pasture regeneration (degraded area restoration/ pasture renovation)	<ul style="list-style-type: none"> <li>• Sediment reduction</li> <li>• Pasture renovation</li> <li>• No priority support identified. This group is fully funded through the Major Integrated Project</li> </ul>
Exmoor Road LDC Cluster Group Contact: NQDT Sheridan Callcott	Funded project group (3 properties) with LDC project, Direct small scale sediment erosion control works eg whoa boys,	<ul style="list-style-type: none"> <li>• Sediment reduction</li> <li>• No priority support identified. This group is fully funded through the Major Integrated Project</li> </ul>
Nomanby Road Cluster Group Contact: NQDT Adrienne Hall	Funded project group with LDC project. Key areas of interest are nutrition and supplementation, technical support offered by Jim Wade.	<ul style="list-style-type: none"> <li>• Improvements to stock nutrition and therefore health 'may' result in lighter stocking rates.</li> </ul>
Eungella Rainforest Restoration LDC Cluster Group Contact: Pioneer Catchment and Landcare Group	Post fire rainforest restoration. Neighbourhood fire management plan to be developed with DES.	<ul style="list-style-type: none"> <li>• Vegetation and fire management – groundcover improvement and reduction in sediment entering waterways.</li> </ul>
Crediton-Broken River LDC Cluster Group Contact: NQDT Rodger Walker	Small holdings group funded via the LDC project. Landholders focused on control of Giant Rats Tail and other invasive species, pasture management, Soil Health and waterway restoration and stock management.	<ul style="list-style-type: none"> <li>• Pasture management – groundcover improvement, sediment retention.</li> <li>• Riparian zone management – reduction in sediment entering waterways</li> </ul>
Scottville Small Holdings LDC Cluster Group Contact: NQDT Rodger Walker	Small holdings group funded via the LDC project. 6 Landholders focusing on erosion issues via site property plans developed by DAF but also pasture agronomy, soil health, weed management and riparian zone management.	<ul style="list-style-type: none"> <li>• Targeting erosion control works – reduction in sediment entering waterways.</li> </ul>

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
Bowen Collinsville Landcare Group Contact: Steve Holmes	This is an incorporated Landcare group based around the Bowen Collinsville area whose members are also part of the Bowen Holistic Management Group	<ul style="list-style-type: none"> <li>• Pasture restoration – groundcover improvement, sediment retention.</li> <li>• Erosion control – reduction of sediment entering waterways.</li> </ul>
Bowen Holistic Management Group Contact: Bob Harris	<p>This is a group of graziers from around Bowen that undertook Holistic Management training together in 2015. The group meets when they can (bimonthly) or opportunistically at (LDC) events.</p> <ul style="list-style-type: none"> <li>• Individuals of this group have sought further learning and support through the RCS Project Pioneer.</li> <li>• The NQDT Stomping out Sediment project supported a holistic management refresher training provided to graziers in the area 15- 17 May with soil ecology and health and grazing support.</li> <li>• Interested in Pasture regeneration trials on the coastal country</li> </ul>	<ul style="list-style-type: none"> <li>• Soil health, ecology and management – reduced erosion, improved water quality and pasture growth.</li> <li>• Pasture renovation/ regeneration – groundcover improvement, sediment retention.</li> <li>• Grazing management - ground cover management.</li> </ul>
Northern Beef Producers Group	This is an independent group that formed the Northern Beef Expo and various supportive events related to beef cattle production.	<p>Unsure if support is required</p> <ul style="list-style-type: none"> <li>• Speak with the group to determine if there are areas that could be supported by this program with a water quality focus</li> <li>• Potential to sponsor a guest speaker for the event related to grazing management</li> </ul>
Clermont Challenge Group	This group is a production based group that has a focus on hosting a commercial cattle competition annually.	<p>Unsure how this program could fit with the group Need more information on the group and its priorities</p>
Innovative Grazing Management Group	There are a number of graziers around the Haughton River that are keen to transition into new technology to manage animals.	<p>Group is an initiative of NQDT - not sure of participants or scope of group in regards investment however this will be worked on.</p> <ul style="list-style-type: none"> <li>• Technology for decision making</li> <li>• Technology to detect grazing management issues</li> </ul>
Next Gen network Burdekin Producer Group	This is a DAF initiative that supports young graziers with specific and detailed training and education across the whole of business	An activity of the DAF Burdekin Extension Support Project. Producers working on all elements of the beef

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
	spectrum, and supports graziers to undertake practice change towards best practice management	business including personal development and succession planning
Alpha Group (East) Contact: Stacey Heindreich (CHRRUP)	<p>This group has received some training events and is more formed as a group however they continue to want additional on-property activities and on-going support.</p> <ul style="list-style-type: none"> <li>• Implement repeated on-property learning programs focused on changing grazing management from set stock to wet season spell or rotation management</li> <li>• Grazing mentor engaged to deliver Grass Grass Grass and one on one Fodder budgeting. Good pilot to roll out.</li> <li>• Cost benefit assessment of infrastructure improvements</li> <li>• Potentially MLA Business edge training later in project</li> </ul>	<ul style="list-style-type: none"> <li>• Grazing and Pasture management – groundcover improvement, sediment retention.</li> </ul>
Alpha Group (West) Contact: Stacey Heindreich (CHRRUP)	<p>This new group of graziers in the Belyando Basin need further support as a group to on improving grazing management systems.</p> <ul style="list-style-type: none"> <li>• Moving from set stocked system to wet season spelling and rotational grazing.</li> <li>• Potential to roll out Grass Grass Grass program to this group.</li> </ul>	<ul style="list-style-type: none"> <li>• Grazing and Pasture management – groundcover improvement, sediment retention.</li> </ul>
Suttor Kilcummin area Group	<p>This group has formed around the one year NLP2 funded project with another 4 years of funding Regenerative Grazing Tools for the Burdekin project 2019- 2023. They have received training in soil health (Digging Deeper with David Hardwick) and pasture support (Grass grass grass). Participating landholders will participate in grazing management training, grazing business action planning, receive 4 years of forage budgeting and soil health support.</p>	<ul style="list-style-type: none"> <li>• Grazing business actions plans that incorporate ecologically sustainable land management – water quality and biodiversity outcomes.</li> <li>• Soil Health improvement</li> <li>• Grazing and Pasture management – groundcover improvement, sediment retention.</li> <li>• Improved infrastructure planning and construction – reduced sediment entering waterways.</li> </ul>
Cape Campaspe Cluster area Group	<p>A group likely to be consolidated around the 4 year NLP2 Regenerative Grazing Tools for the Burdekin project. The group will receive soil health training, landholders will participate in a grazing management</p>	<ul style="list-style-type: none"> <li>• Grazing business actions plans that incorporate ecologically sustainable land management – water quality and biodiversity outcomes.</li> </ul>

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
	<p>program, grazing business action planning, receive forage budgeting and soil health support. Woody plant/ weed management support is also needed.</p>	<ul style="list-style-type: none"> <li>• Soil Health improvement</li> <li>• Grazing and Pasture management – groundcover improvement, sediment retention.</li> <li>• Improved infrastructure planning and construction – reduced sediment entering waterways.</li> </ul>
<p>Belyando Cluster area Group</p>	<p>A group likely to be consolidated around the 4 year NLP2 Regenerative Grazing Tools for the Burdekin project. The group will receive soil health training, landholders will participate in grazing management program, grazing business action planning and participating landholders will receive forage budgeting and soil health support.</p>	<ul style="list-style-type: none"> <li>• Grazing business actions plans that incorporate ecologically sustainable land management – water quality and biodiversity outcomes.</li> </ul>
<p>Ulcanbah/Carmichael Landscape Repair group</p>	<p>This is a select group of members of the Desert Uplands Committee (DUC spans both Burdekin and Desert Channels Queensland NRM regions). The group has hosted a Darren Doherty workshop and a Dalrymple Landcare Committee project site recently.</p> <p>DUC and the Regional Landcare Facilitator identified topics of interest/ investment for 2019- 2020. Collaboration between DUC and the RALF (and EEC project) may support one or more of the following of the ranked priority initiatives:</p> <ol style="list-style-type: none"> <li>1. Impact of a changing climate on cattle production</li> <li>2. Regrariarism in the Dessert Uplands (following on from the Darren Doherty workshop)</li> <li>3. Bus tour of the leading grazing practitioners (potentially a 2019/20 peer to peer funded project)</li> <li>4. Native seed collection</li> <li>5. Technology workshop (telemetry, drones, walk over weighing, new licks, best solar pumps)</li> <li>6. Bush foods and medicine 9investigate and trial aboriginal agriculture)</li> </ol>	<ul style="list-style-type: none"> <li>• Grazing and Pasture management – groundcover improvement, sediment retention and consideration of these given climate variability.</li> <li>• The June 2020 Bus Tour of leading practitioners has been funded by the EEC program through 2019- 2020 Peer to Peer funds.</li> </ul>

Group	Details and Activities	Relation to Water Quality Improvement Plan & water quality initiatives
	7. Digital workshops (website, computer and social media training),	

## 12. Personal and technical skills for Burdekin grazing extension officers

The Regional Extension Group gave consideration to, and identified the key knowledge and skill areas required in the grazing extension space in the Burdekin (Table 13). Split into two categories, these skills were discussed and prioritised as ‘soft’ personal development skills and technical skills.

### Personal development skills of extension officers in the Burdekin grazing sector

**Table 13.** OBJECTIVE: Grazing extension officers within the Burdekin are provided with specific training to increase confidence, skills and knowledge in working with clients, sponsors and the public on land, business and stock management programs.

Specific objective	Activity	Possible provider	Outcome - How this contributes to water quality outcomes	Activities 2018- 19
Develop extension officer skills to better understand and communicate with clients, project sponsors and the public	Communication Adult learning styles Respectfulness to clients and their families	External ( <a href="#">The Right Mind</a> )	Extension officers have increased awareness and ability to use a wide range of communication tools <ul style="list-style-type: none"> <li>Improved engagement, participation and adoption of best management programs and grazing management tools to improve ground cover and quality of water discharged to the Great Barrier Reef Lagoon.</li> </ul>	Approx 20 grazing related staff and graziers –Allan Parker Leadership and negotiation skills training (F)
Extension officers have a greater ability and are comfortable with undertaking public relations and external media opportunities as they arise	Media training Public media Social media	Internal External ( <a href="#">The Marketing Factory</a> )	When presented with opportunities to be interviewed on land management activities, extension officers are able to articulate clear and consistent messages in a professional manner <ul style="list-style-type: none"> <li>Greater awareness of project success stories in the wider community</li> <li>Greater understanding and adoption of science based outcomes by producers, as extension officers can relate the story more effectively and efficiently.</li> </ul>	4 grazing related staff trained in smartphone photography (O)
Create confidence in extension officers in presenting at public forums and within groups	Presentation skills Public speaking Tools to present to groups	External ( <a href="#">Peak Performance Development</a> )	A wide range of presentation skills are adopted and used by extension officers to increase enthusiasm and promotion of positive land management programs and achievements of grazing clients <ul style="list-style-type: none"> <li>Increased participation by graziers in group, field day and forum events as extension officers are able to put on more targeted and attractive events</li> <li>Greater adoption of practice change by attending graziers, as they have clear messages on how to proceed with plans</li> </ul>	Nil

Specific objective	Activity	Possible provider	Outcome - How this contributes to water quality outcomes	Activities 2018- 19
Increase extension officers ability to critically assess technical, scientific and publicly available information for discussion with clients	Critical thinking Critical assessment of technical information Distinguishing myths from facts		Extension officers are able to critically analyse and discuss with producers, published evidence behind alternative land management and grazing practices, to elicit changed management systems that improve the resilience of landscapes. <ul style="list-style-type: none"> <li>Extension officers more able to describe scientific theories and findings to graziers, increasing their understanding of the latest research and its application to their business</li> </ul>	NQDT extension staff Training in P2R methods
Increase the ability of extension officers to engage and negotiate with a new cohort of clients previously unengaged	Negotiation & persuasion Selling our services to our clients Managing conflict Negotiating to create practice change	External ( <a href="#">Peak Performance Development</a> )	Extension officers are able to successfully undertake on-ground works or training with land managers that have, until now, remained relatively unengaged in NRM projects and whose practices are causing D-condition landscapes <ul style="list-style-type: none"> <li>Increase the participation of graziers in best management programs for improving water quality discharge</li> <li>Increased ability to engage with the unengaged</li> <li>Increased ability to challenge and work with graziers to improve grazing management, business management and landscape function</li> </ul>	Approx 20 grazing related staff and graziers –Allan Parker Leadership and negotiation skills training
Project management training is provided to extension officers to improve the delivery of projects across the region	Managing people, projects and personalities Reading people Understanding motivations and goals Time management Forming effective teams	External	Extension staff are able to develop, undertake, manage and acquit projects in a timely manner, to budget and with a robust framework for monitoring and evaluation. <ul style="list-style-type: none"> <li>Project delivery in the Burdekin is improved as extension staff are able to more skilled at project delivery</li> <li>All projects delivered in the Burdekin grazing space meet high standards of monitoring and evaluation to ensure outcomes are communicated to show practice change and land management improvement</li> </ul>	Nil
Extension staff recognise and can use a wider and more up-	Extension & group	External	Extension staff are able to call upon an expanded range of tools and skills to develop and work with grazing groups and clients on land management programs.	Approx 7 grazing related staff

Specific objective	Activity	Possible provider	Outcome - How this contributes to water quality outcomes	Activities 2018- 19
to-date range of extension tools and group facilitation methods relevant to our grazing client base.	facilitation methods Methods of extension Different ways to facilitate groups Ways to form effective teams		<ul style="list-style-type: none"> <li>Increased participation by graziers in group, field day and forum events as extension officers are able to put on more targeted and attractive events</li> <li>Greater adoption of practice change by attending graziers, as they have clear messages on how to proceed with plans</li> </ul>	attended Half day Peer to Peer training Viv McWaters.  Behavioral Science training Sept 5 19 Townsville.  Facilitation training Les Robinson Townsville 14 Oct 19.
A selection of extension officers in the Burdekin grazing space are able to take leadership opportunities and represent our program and industry confidently in the public space	Leadership Becoming effective leaders	External ( <a href="#">Marcus Oldham Rural Leadership Program</a> )	Extension officers have the necessary personal characteristics and a familiarity and confidence in taking leadership roles, representing industry and addressing issues faced by our clients <ul style="list-style-type: none"> <li>The projects and successes of investment in, and change towards, best management practice are widely publicised by key leaders within the extension network in the Burdekin</li> </ul>	Nil

### Technical skills of extension officers in the Burdekin grazing sector:

To ensure coverage of the wide range of skills required to deliver projects and services to Burdekin grazing clients, the module themes that form the Grazing Best Management Practice (GBMP) process were used to identify the full spectrum of NRM related activities and technical skills (Table 14). These are: grazing land management, animal production, animal health and welfare, soil health and people and business. The close relationship between animal production and animal health and welfare led us to group these areas together for skill analysis.

**Table 14.** OBJECTIVE: Collectively as extension providers in the Burdekin grazing space, government, private and not for profit businesses have in-house technical skills and knowledge to promote best practice grazing management and provide advice.

Specific objective	Potential activity	Possible providers	Outcome	Activities to date
<b>Grazing Land Management technical skills:</b> <ul style="list-style-type: none"> <li>• Links between different grazing practices and landscape function</li> <li>• Understanding production systems</li> <li>• Identifying environmental risks</li> <li>• Understanding functioning ecosystems</li> <li>• Grass, tree, legume ID</li> <li>• Grass biology</li> <li>• Plant diseases</li> <li>• Land types and land condition (safe carrying capacity)</li> <li>• Forage budgeting, carrying capacity, long term grazing capacity</li> <li>• Property planning</li> <li>• Drought planning</li> <li>• Water planning</li> </ul>	Host a series of on-property workshops to be delivered over 18 months focused on plants - identification, biology, diseases, dieback. Course to be delivered by local, knowledgeable graziers or experts Throughout the program, take photos and collect information to develop a Burdekin plant guide that includes biodiversity indicators	External (Jamie Gordon) (Raymond Stacey)	Grazing extension officers are able to readily identify regional plant, shrub, tree and legume species specific to grazing, including an understanding of increaser and decreaser species and biological diversity. Learning is supported through the development of a regional plant ID book specifically for Burdekin grazing plants, with hard copy printed versions provided to all extension officers	A grazier-friendly regional plant identification guide will be produced as part of a 2019- 2023 NLP2 project managed by NQDT.
	A 2-day course similar to GLM EDGE shaped specifically for extension staff training, including topics: <ul style="list-style-type: none"> <li>• Influencing pasture growth</li> <li>• Assessing and improving land condition</li> <li>• Calculating short and long term carrying capacity</li> </ul>	Internal (DAF)	Grazing extension officers in the Burdekin have consistent knowledge of the principles of grazing land management, and can use this knowledge to work with clients on land management programs that increase the adoption of pasture budgeting, consider flexible stocking rates with mindfulness to long term	Internal DAF peer to peer training is currently in place. DAF staff have attended GLM and Nutrition Edge Courses. Where there is demand a 2 day GLM course is possible.

Specific objective	Potential activity	Possible providers	Outcome	Activities to date
<ul style="list-style-type: none"> <li>Invasive and pest species management</li> <li>Biosecurity</li> <li>Spatial analysis, GIS and associated technology</li> <li>Understanding feed intake needs of stock classes</li> <li>Understanding what graziers desire and matching to available projects</li> <li>Legislation - Vegetation, Reef</li> </ul>	<ul style="list-style-type: none"> <li>Managing the tree-grass balance</li> <li>Fire management</li> <li>Weed control</li> <li>Principles of successful, resilient grazing systems</li> </ul>		carrying capacity, promote optimal land condition and productivity, and manage fire for beneficial outcomes	
	Develop a two-day 'planning' course that covers off on: <ul style="list-style-type: none"> <li>Natural resource identification</li> <li>Planning infrastructure (water, fence, roads)</li> <li>Planning for biodiversity</li> <li>Incorporating drought strategies into property planning</li> <li>Property mapping</li> <li>Economics of development</li> </ul>	Internal and external providers  Richard Maver (Contour Environmental)	Extension officers have a sound understanding and can assist grazing clients with developing infrastructure plans that focus on cost-effective and landscape suitable installation of roads, fences and water points. This will enhance the protection of vulnerable land types in the Burdekin from erosion, contributing to a reduced sediment load reaching the GBR.	NQDT and CHRRUP extension officers received training in Environmental Sustainability Rangeland Management Planning (ESRM) July & October 2019 delivered by NQDT.

Specific objective	Potential activity	Possible providers	Outcome	Activities to date
<p><b>Soil health technical skills:</b></p> <ul style="list-style-type: none"> <li>• Understand soils types and influences</li> <li>• Source, read &amp; understand soil maps</li> <li>• Read soil tests specific to grazing</li> <li>• Understand soil health components</li> <li>• Recognise what practices build healthy soils and why</li> <li>• Appreciation of soil types and pasture selection/growth suitability/ legume preference</li> <li>• Managing for soil conservation</li> <li>• Protection soil when developing infrastructure</li> <li>• Cost benefit analysis of building soil health</li> <li>• Understand soil carbon, carbon farming and carbon trading schemes</li> </ul>	<p>Develop a three-part series to be delivered over a 12 month period where extension officers link with 1 grazing family to receive technical training from internal and external providers on:</p> <ol style="list-style-type: none"> <li>1. Undertaking soil sampling correctly</li> <li>2. Getting soil chemical and biological properties analysed</li> <li>3. Reading a soil test</li> <li>4. In-field monitoring of soil health (GRASH method)</li> <li>5. Understanding soil functioning (biological role pay)</li> <li>6. Understanding how grazing impacts soil health</li> </ol>	<p>Joint delivery: David Hardwick (<a href="#">Soil, Land, Food</a>) Ash Martin (<a href="#">Microbiology Lab Australia</a>)</p> <p>Agronomist David Hall.</p> <p>Christine Jones</p>	<p>Extension staff across the Burdekin grazing space have common baseline knowledge of soil properties and soil health, and how soil conservation efforts can be integrated into grazing systems and projects. This knowledge will enhance the ability of extension officers to have informed and robust discussions with graziers, and implement scientifically sound land management practices that protect soil and improve its health.</p>	<p>EEC Training and Development Project engaged David Hall to deliver two day soil health training in each GBR catchment second half 2019.</p> <p>Christine Jones, Dick Richardson and Brian Whelberg presented on soil health to NQDT extension staff and graziers mid 2019.</p> <p>RALF supporting two Digging Deeper Soil Health Programs with David Hardwick early 2020.</p> <p>Dick Richardson will run 4 Grass Groups at 4 locations in Burdekin 2019- 2020 hosted by NQDT.</p>
	<p>Work with DAF and private consultants to adapt and roll out the Soil Conservation training course (3 days) for Burdekin grazing systems:</p> <ul style="list-style-type: none"> <li>• Erosion processes</li> <li>• Calculating runoff</li> <li>• Site surveying</li> <li>• Designing erosion control structures</li> <li>• Managing for erosion in infrastructure development</li> </ul>	<p>Joint delivery: DAF External consultants (John Day, Geoff Titmarsh, George Bourne)</p>	<p>This technical course will ensure that all extension officers in the Burdekin have the skills to recognise soil degradation and work with graziers through available options to reduce actively eroding gullies and redistribute water to safe locations.</p>	<p>Training delivered to NQDT, DAF and CHRRUP extension staff 28-30 August 2018 Hillsborough Station.</p> <p>A second 3 day workshop will be hosted by BMRG for all grazing extension staff early 2020.</p> <p>Fruition Environmental will follow up the 3 day workshop with mentoring support to grazing</p>

Specific objective	Potential activity	Possible providers	Outcome	Activities to date
				extension officers in early 2020. Funded by the EEC program.
	Webinars on carbon farming initiatives relevant for Burdekin grazing systems and the new Reef Credits system	External ( <a href="#">Green Collar</a> ) ( <a href="#">Country Carbon</a> )	Grazing extension officers have an awareness of carbon farming initiatives for Burdekin grazing and how the new Reef Credits system may impact on future projects	NQDT internally investigating carbon farming options.
<b>Animal production &amp; animal welfare technical skills:</b> <ul style="list-style-type: none"> <li>• Animal nutrition (deficiencies, disease &amp; identification)</li> <li>• Supplementation (tools)</li> <li>• Parasites (impact and treatment)</li> <li>• Animal classes</li> <li>• Husbandry practices</li> <li>• Stock practices (pain relief)</li> <li>• Performance benchmarks</li> <li>• Genetics and genetic potentials</li> <li>• Bull selection</li> <li>• Reproduction principles</li> <li>• Breeding systems (with marketing knowledge)</li> <li>• Drought planning</li> <li>• Property &amp; grazing planning (forage budgeting)</li> <li>• Record keeping</li> </ul>	Using an experienced production vet, co-deliver a one-day course on: <ul style="list-style-type: none"> <li>• Stock suitability for northern production systems</li> <li>• Different production systems - benefits and pitfalls</li> <li>• Detecting and sampling for pests and diseases affecting cattle production</li> <li>• Identifying animal welfare concerns</li> <li>• Latest products to reduce animal welfare concerns</li> </ul>	Internal (DAF) External (Dr Ian Braithwaite)	Extension officers have a greater appreciation and understanding of the animal health and welfare issues facing northern beef producers, and are able to be on the front foot when faced with concerning land or animal management practices. A regional network of experienced personnel will be developed to assist extension officers and clients to deal with animal production and welfare concerns.	Ian Braithwaite has been engaged by NQDT to run a series of three breeder management and preg testing workshops across the Burdekin, October 2019.  Reefwise Grazing Project delivered by NQDT subsidizing attendance to KLR Marketing October 2019.
	Provide an introductory session to extension officers to cover the economics behind animal production systems, including: <ul style="list-style-type: none"> <li>• Essential record keeping</li> <li>• Tools to assess production performance and benchmarks</li> <li>• Options analysis for assessing and matching profitability, production and landscape resilience</li> </ul>	Internal (DAF)  RCS	Extension officers will have a greater understanding of the economic drivers that underpin grazer decision making processes, and have the tools through options analysis to work with families on adopting flexible, profitable and ecologically sound production systems.	RCS Grazing For Profit 6 day school runs November each year, Townsville. Keep in Touch days occur variously in the Burdekin.  Dick Richardson will run 4 Grass Groups at 4 locations in Burdekin 2019- 2020 hosted by NQDT.

Specific objective	Potential activity	Possible providers	Outcome	Activities to date
<ul style="list-style-type: none"> <li>• Production economics</li> <li>• Predation (welfare)</li> <li>• Stock handling and herd dynamics</li> <li>• Diagnostic tools for beef cattle</li> <li>• Sampling techniques</li> <li>• Preg testing and its role in a beef system</li> <li>• Understanding and interpreting scientific reports</li> </ul>	Adapting knowledge of the Breeding and Nutrition EDGE courses, tailor two one-day programs to introduce the basic knowledge of breeding systems and nutritional requirements of northern beef systems throughout varied seasonal conditions to extension officers	Internal (DAF) External (Producer, Dr Ian Braithwaite)	Extension officers are able to have informed conversations with graziers on how animal supplementation impacts grass consumption rates, weight gain and reproduction performance of stock. Nutritional requirements during drought will be highlighted, to ensure that robust conversations around grass quality and availability and stock class and numbers can be had with graziers (ensuring additional pressure is not put on scarce pastures during dry times).	Ian Braithwaite has been engaged by NQDT to run a series of three breeder management and preg testing workshops across the Burdekin, October 2019.
<b>People and business technical skills:</b> <ul style="list-style-type: none"> <li>• Business planning and business structure</li> <li>• Business systems and governance</li> <li>• Understanding finances (bookkeeping, budgets to actuals)</li> <li>• Business financial analysis (profit drivers, opportunity costs)</li> <li>• Understanding legislation and tax</li> <li>• Industry economic analysis</li> <li>• Communication (with people, public through social media)</li> <li>• Succession planning</li> <li>• Mental first aid + personal first aid</li> </ul>	Working on businesses: A 2-day course designed to build financial literacy and understanding of grazing business operation for extension officers.	Internal (DAF) External ( <a href="#">Resource Consulting Services</a> , <a href="#">Bush Agribusiness</a> )	Extension officers will have an enhanced appreciation and understanding of financial aspects that drive a grazing business, assisting producers to take better records, increase business efficiency and make more informed business decisions to improve profitability.	RCS Project Pioneer supports graziers through a multiple part capacity building program. 2018-2020.  Ian McLean, Bush Agribusiness will be hosted by CHRRUP to work with Alpha Grazing Peer Group as part of a EEC funded peer to peer project.
	Series of webinars for extension officers to participate in, to understand the process of family property succession planning	External ( <a href="#">Next Rural</a> )	Extension officers have increased awareness of, and are able to provide guidance to grazing families on ways to approach succession planning including how to incorporate tradition grazing strategies with new emerging technologies.	Nil

Specific objective	Potential activity	Possible providers	Outcome	Activities to date
<ul style="list-style-type: none"> <li>• Workplace health and safety</li> <li>• Marketing and branding (business, self, product)</li> <li>• Managing people in the workplace (HR, office management, recruitment)</li> <li>• Networking tools</li> <li>• Skills and gap analysis for businesses</li> <li>• Accreditation processes (GBMP, organic etc)</li> <li>• Project management</li> <li>• Grant writing</li> <li>• Technology updates</li> <li>• Understanding political motivations</li> </ul>	<p>One to two day training course on current workplace health and safety practices that achieve grazing best practice, including introduction to SafeStation program and presentation on mental health and mental first aid</p>	<p>Internal (Grazing BMP, CHRRUP <a href="#">SafeStation</a>) External (<a href="#">Rural &amp; Remote Mental Health</a>)</p>	<p>Extension staff are able to synthesise and assist grazing clients to meet current Work Health and Safety regulations, creating safe workplaces for families. Extension officers can call on skills and tools to identify mental health issues and provide support to services that deal with these issues specifically for rural and remote clients.</p>	<p>CHRRUP delivers on an on-going basis the Safe Station program to agricultural businesses in the Burdekin and across QLD. The program is delivered individually and to small groups of businesses. CHRRUP are developing HR resources for including in the existing Safe Station material.</p> <p>DAF hosted an open Rural Mental Health First Aid Training session Charters Towers October 2019.</p>

## 13. Monitoring and Evaluation Framework

This Monitoring and Evaluation (M&E) Framework has been designed to monitor and evaluate the performance of the Regional Extension Plan in coordinating the extension effort in the grazing space of the Burdekin region, and in facilitating collaboration amongst extension providers to implement the Regional Extension Plan. It is based around Key Result Areas established by the Enhanced Extension Coordination project developed by the DAF with input from the Department of Environment and Science and Coutts J&R. In addition, the M&E Framework includes objectives identified by the RExN and associated with other projects and funding sources (Flexible Funds and Peer-to-Peer funds) that are being managed through the Regional Extension Plan for Grazing in the Burdekin Dry Tropics.

The components of the framework, evaluation questions, performance indicators and evaluation methods are aligned to the MERI Plan for the Enhanced Extension Coordination project ([Appendix 3: Tables 1, 2, 3](#)) and have been influenced by the Stockwell *et al.* (2015) RP150 report, Coutts *et al.* (2017) E&E Review report and Moore and Rinehart (2017).

The information collated in the later described [YourDATA](#) and [Reef Extension and Education WebMap App](#) will form part of the Evaluation Methods and be used to inform the Performance Indicators. Analyses will be limited by the information that is available at the time and not all datasets will be at the same spatial or temporal scale, as they are aggregated from various sources. The aim of the evaluation will be to coordinate and prioritise extension effort in the Burdekin grazing region, but will also identify data needs and target the information required to improve the efficacy of Performance Indicators to implement in future iterations of the Regional Extension Plan for Grazing in the Burdekin Dry Tropics.

The purpose of the evaluation information can be summarised into the following categories:

- Reporting: justifying the investment
- Communication: increasing awareness of the outcomes, successes and lessons learnt
- Adaptive management: making improvements to project delivery
- Informing future work: evaluate outcomes to provide recommendations for future projects.

In following this M&E framework, the Regional Extension Plan for Grazing in the Burdekin Dry Tropics can be revised, updated and processes improved over time to support more effective extension projects that increase the adoption of improved grazing practices that result in improved water quality outcomes.

### M&E Implementation

This monitoring and evaluation framework will be implemented by the Regional Extension Coordinator with the RExN and form part of the broader cycle of review, reporting and improvement of the Enhanced Extension Coordination project.

However, this M&E Framework does not substitute project level monitoring and evaluation and does not provide for the monitoring and evaluation of all the individual extension projects being coordinated by the Regional Extension Plan for Grazing in the Burdekin Dry Tropics region. It does, however, build on

project level evaluation and captures outcomes from such projects, as a measure of the effectiveness of enhanced coordination. To this end, an M&E template to guide the monitoring and evaluation of projects supported through the Regional Extension Plan for Grazing in the Burdekin Dry Tropics is provided in [Appendix 4](#).

## M&E Framework

[Appendix 3](#): Table 1 identifies the users of the evaluation information and how it will be used to inform the monitoring and evaluation framework. By identifying the users and needs upfront, the framework will be selective and efficient and only conduct the evaluation that is needed and negate unnecessary over-evaluation.

[Appendix 3](#): Table 2 describes the objectives of the REP and the activities to deliver these outcomes with evaluation questions and performance indicators to measure and assess progress and outcomes. The evaluation questions are designed to assess five key evaluation criteria:

- Effectiveness  
How well has the project delivered on planned methods and outputs and what were the benefits?
- Efficiency  
How efficient has the project been in targeting investment and using resources?
- Impact  
What impact has the project had on creating change and contributing to Reef2050 and regional targets?
- Legacy  
What are the lasting long-term benefits and obligations of completing the project?
- Project Management  
What project processes and systems have been developed and is there evidence of learnings and adaptive management?

Performance measures are based on the project objectives and will be measured through a combination of quantitative and qualitative data and analysis. [Appendix 3](#): Table 3 outlines how the information in the Evaluation Methods described in Appendix 3: Table 2 will be collected including, the proposed timeframes and responsibilities.

## YourDATA platform

The YourDATA platform has been chosen to manage reporting to the DAF on activities coordinated through the RExN and the implementation of the Regional Extension Plan for Grazing in the Burdekin Dry Tropics. YourDATA is an online monitoring and evaluation database developed by Coutts J&R to assist programs and projects collect and report key evaluation data, including project activities, narratives, milestones, and feedback sheet responses. It provides a secure central data collection point with individual user accounts – allowing team members to input, edit, and view their own M&E data (or all data for their assigned region/project) and managers to view, filter, analyse and export all project/program data for reporting.

## Reef Extension and Education WebMap App

Regional data on extension effort, resources and uptake of improvement management practices will be collated by the Regional Extension Coordinator and entered into the Reef Extension and Education WebMap App. This platform is an interactive online mapping tool designed to display the extension, incentive and best management practice projects delivered in the Reef catchments on a basin level. This tool will make information more accessible to extension providers, and assist the RExN and extension providers to review, prioritise, plan and monitor their extension activities in their region.

## 14. References

Burton J, Furuichi T, Lewis S, Olley J, Wilkinson S. (2014) Identifying Erosion Processes and Sources in the Burdekin Dry Tropics Catchment - Synthesis Report. Department of Science, Information Technology and Innovation, Brisbane.

Coutts J., Murray-Prior, R., Long, P. and Coutts, B. 2017. Practice change, Education and Extension in Reef Catchments Review Report. Coutts J&R.

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Mclvor, J. (2012) Sustainable management of the Burdekin grazing lands – A technical guide of options for stocking rate management, pasture spelling, infrastructure development and prescribed burning to optimise animal production, profitability, land condition and water quality outcomes. State of Queensland.

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Wilkinson SN, Kinsey-Henderson AE, Hawdon AA, Ellis TW, Nicholas DM (2013) Gully erosion and its response to grazing practices in the Upper Burdekin catchment. A report to NQ Dry Tropics for the Paddock to Reef program. CSIRO.

## Appendix 1: Application form - Flexible funds

### APPLICATION FORM - FLEXIBLE FUNDING

The Enhanced Extension Coordination in GBR Project aims to help address the Great Barrier Reef (GBR) Water Science Taskforce (The Taskforce) recommendation that the Queensland Government invest in more targeted and coordinated extension to support large scale land management practice change that will result in improved water quality outcomes for the GBR.

The Taskforce engaged Coutts J&R to undertake a review of reef extension, The Review of Practice Change, Education and Extension in Reef Catchments (E&E Review). One recommendation from the E&E Review was to provide *'flexible funds to allow priority cross-program/organisational activities to add value to current delivery programs, build synergies, address challenges and plug gaps'*.

In response to the E&E Review, the Queensland Government has provided flexible funding for the Burdekin region, split between the grazing and cane industries. The following information provides specific advice, criteria and processes involved in submitting an application to the Burdekin Dry Tropics Grazing flexible funds program.

Applications must be completed on the following form. Applications must be submitted to the Regional Extension Coordinator (Burdekin Grazing) prior to the first Friday of each quarter. Applications will be assessed by the Regional Extension Panel and advice provided back to applications within 2 weeks.

Further information will be provided on reporting requirements on the success of application. The intent is for the reporting to focus on key achievements and not to be overly onerous.

Projects must be no longer than 12 months in duration

**Please submit your completed electronic application to:**

Sharon Cunial

Regional Extension Coordinator (Burdekin Grazing)

Email: [sharon.cunial@nqdrytropics.com.au](mailto:sharon.cunial@nqdrytropics.com.au)

Phone: 0407 317 316

**APPLICANTS: please read the following criteria to ensure your project meets funding guidelines**

Flexible funds will support extension and education projects. Applications will need to be eligible for funding under the below criteria:

<b>What types of activities are eligible for flexible funding?</b>	<b>What types of activities are out of scope — not appropriate for flexible funds expenditure?</b>
<ul style="list-style-type: none"> <li>Targeted activities to increase uptake of key practices to address water quality priorities</li> </ul>	<ul style="list-style-type: none"> <li>Activities that fall outside Great Barrier Reef regions</li> </ul>
<ul style="list-style-type: none"> <li>Targeted extension activities that address challenges and fill gaps in current delivery effort</li> </ul>	<ul style="list-style-type: none"> <li>Vehicle purchase/lease/running expenses</li> </ul>
<ul style="list-style-type: none"> <li>Building synergies within catchments and regions to add value to current programs</li> </ul>	<ul style="list-style-type: none"> <li>Purchasing equipment for host organisation, which is not for use in a demonstration/trial</li> </ul>
<ul style="list-style-type: none"> <li>Supporting cross regional and cross organisational activities, learnings and information sharing (e.g. events such as field days/ workshops)</li> </ul>	<ul style="list-style-type: none"> <li>Delivery of existing activities or projects (e.g. BMP programs which have ongoing support via other funding arrangements), or activities which duplicate others, or are otherwise funded from previous or current funding sources</li> </ul>
<ul style="list-style-type: none"> <li>Innovative capacity building for producers and/or extension staff</li> </ul>	<ul style="list-style-type: none"> <li>Water quality monitoring or research if producer engagement and education is not the purpose of the activity</li> </ul>
<ul style="list-style-type: none"> <li>Piloting/demonstrating new technologies or platforms that assist in the engagement or education of producers and/or extension staff</li> </ul>	<ul style="list-style-type: none"> <li>Purchasing equipment or providing funding to a particular producer (e.g. as per grants program)</li> </ul>
<ul style="list-style-type: none"> <li>Facilitating producer groups (peer-to-peer learning), and may include targeted training for facilitators where not duplicating other projects/activities</li> </ul>	<ul style="list-style-type: none"> <li>Activities that are not related to agricultural management (e.g. urban or industrial)</li> </ul>
<ul style="list-style-type: none"> <li>Multi-year projects, in particular to support longer term peer-to-peer learning groups (annual funding allocations pending demonstration of outcomes and endorsement of reporting requirements)</li> </ul>	<ul style="list-style-type: none"> <li>Activities that do not contribute to improved water quality outcomes</li> </ul>
<ul style="list-style-type: none"> <li>Demonstrations/applied research trials aimed at engaging and educating producers e.g.</li> </ul>	<ul style="list-style-type: none"> <li>Salary for existing staff and staff relocation costs</li> </ul>

<p>regional validation of existing improved management practices in new areas*</p> <p>* This may include on-ground works in limited situations where it is an essential component of an extension activity that facilitates learning in an area of identified need or as part of peer-to-peer learning via facilitated producer groups.</p>	<ul style="list-style-type: none"> <li>• Activities which are retrospective—have commenced/are funded but not yet completed</li> </ul>
	<ul style="list-style-type: none"> <li>• Activities required to comply with any legislation or are part of an approval or funding contract under Commonwealth or State legislation or agreement</li> </ul>
	<ul style="list-style-type: none"> <li>• Administrative costs above 10% of the total annual allocation</li> </ul>

**Application form: please complete all sections**

**Application name**

**Primary contact details**

**Date**

**Project title**

**Sub-catchment**

**Briefly, outline how your project supports one or more of the following:**

- Cross-program or organisational collaboration
- Adds value to current water quality activities
- Supports the use of innovative learning approaches and/or new tools and technologies to support on-farm learning

**Briefly, describe how the project will contribute to meeting the 2025 water quality targets (as set by Reef 2050 Water Quality Improvement Plan:**

- End of catchment fine sediment reduction – 30% (840 kilotonnes)

**Briefly, describe how you are addressing one of the identified gaps in extension services to the Burdekin grazing industry (geographic, skills, knowledge)**

**What is the budget you are requesting – please break this down into main expenditure areas?**

## Appendix 2: Application form – Peer to Peer funds

The Enhanced Extension Coordination in GBR Project aims to help address the Great Barrier Reef (GBR) Water Science Taskforce (The Taskforce) recommendation that the Queensland Government invest in more targeted and coordinated extension to support large scale land management practice change that will result in improved water quality outcomes for the GBR.

The Taskforce engaged Coutts J&R to undertake a review of reef extension, The Review of Practice Change, Education and Extension in Reef Catchments (E&E Review). One recommendation from the E&E Review was to provide *'flexible funds to allow priority cross-program/organisational activities to add value to current delivery programs, build synergies, address challenges and plug gaps'*.

In response to the E&E Review, the Queensland Government has provided flexible funding for the Burdekin region, split between the grazing and cane industries. The following information provides specific advice, criteria and processes involved in submitting an application to the Burdekin Dry Tropics Grazing flexible funds program.

Applications must be completed on the following form. Applications must be submitted to the Regional Extension Coordinator (Burdekin Grazing) prior to the first Friday of each quarter. Applications will be assessed by the Regional Extension Panel and advice provided back to applications within 2 weeks.

Further information will be provided on reporting requirements on the success of application. The intent is for the reporting to focus on key achievements and not to be overly onerous.

Projects must be no longer than 12 months in duration

**Please submit your completed electronic application to:**

Sharon Cunial

Regional Extension Coordinator (Burdekin Grazing)

Email: [sharon.cunial@nqdrytropics.com.au](mailto:sharon.cunial@nqdrytropics.com.au)

Phone: 0407 317 316

**Application form: please complete all sections**

**Application name**

**Primary contact  
details**

**Date**

**Project title**

**Sub-catchment**

Briefly, please describe the expert or grazier you would like to have with your producer group?

Briefly, how will working or hearing from this presenter help graziers attending improve the condition of land and quality of water discharged to the Great Barrier Reef?

What is the timeframe you'd like to use the presenter for (one-off, repeated, occurrence)?

What are the estimated costs of this expert?

What outcomes do you expect the group will achieve from working with this expert?

## Appendix 3: MERI Plan for the Enhanced Extension Coordination project

**Table 15.** Users and uses for the evaluation information.

Who needs the information?	What do they want to know?	How will they use the information?
Regional Extension Coordinators & RExN partners	<ul style="list-style-type: none"> <li>• Is the RExN functioning effectively?</li> <li>• Is the REP &amp; work plan implementation on track?</li> <li>• Is the work meeting needs?</li> </ul>	<ul style="list-style-type: none"> <li>• Report on progress to DAF towards milestones and objectives</li> <li>• Make improvements to the structure and functioning of the RExN</li> <li>• Make improvements to the Regional Extension Plan &amp; work plan</li> <li>• Make decisions about resourcing</li> </ul>
Stakeholders (e.g. extension officers, industry, NRM, growers)	<ul style="list-style-type: none"> <li>• What is the project doing?</li> <li>• How does the project impact their work?</li> <li>• Is the project improving the on-ground delivery?</li> </ul>	<ul style="list-style-type: none"> <li>• To inform their work program/determine whether to participate</li> <li>• To develop linkages with the project or others</li> <li>• To communicate to other stakeholders or peers</li> </ul>
DAF	<ul style="list-style-type: none"> <li>• Are RExN functioning effectively?</li> <li>• Have Regional Extension Plans been developed and are they being implemented?</li> <li>• Are partnerships operating effectively?</li> <li>• Is there improved extension coordination &amp; collaboration in each GBR region?</li> <li>• What results, expected and unexpected, and direct and indirect, are produced?</li> </ul>	<ul style="list-style-type: none"> <li>• Report on progress to OGBR (DES) towards milestones and objectives</li> <li>• Make improvements to the Enhanced Extension Coordination project</li> <li>• To facilitate learning and continuous improvement</li> <li>• Make recommendations about investment</li> <li>• Make decisions about staffing, resourcing</li> <li>• To justify program and continued support for Regional Extension Coordinator positions</li> </ul>
Office of the Great Barrier Reef (OGBR)	<ul style="list-style-type: none"> <li>• Are partnerships operating effectively?</li> <li>• Is the project meeting milestones and objectives?</li> <li>• Is the project worth the investment?</li> <li>• What results, expected and unexpected and unexpected; and direct and indirect are produced?</li> </ul>	<ul style="list-style-type: none"> <li>• To justify investment</li> <li>• Make decisions about investment</li> <li>• Report on Taskforce recommendations</li> </ul>
External funders (including Australian Government and GBR Foundation)	<ul style="list-style-type: none"> <li>• Is the Extension network functioning effectively and worth investing in?</li> </ul>	<ul style="list-style-type: none"> <li>• Make decisions about investment</li> </ul>

**Table 16.** Evaluation framework for projects

Project objectives	Activities/deliverables	Evaluation questions	Performance indicators	Evaluation methods
Overall Reef Water Quality Outcomes	Reef 2050: Queensland Reef Water Quality Program Goals of which the Regional Extension Plan and associated actions are contributing activities.	<p>Impact</p> <ul style="list-style-type: none"> <li>• What measurable progress has been made towards meeting Reef 2050 WQIP 2025 land management and water?</li> <li>• How has the Regional Extension Plan and coordination added to the rate and quality of progress?</li> <li>• What have been the positive and negative impacts that have resulted?</li> </ul>	<ol style="list-style-type: none"> <li>1. Extent of progress</li> <li>2. Evidence of added value from the Regional Extension Plan and coordination</li> <li>3. Examples of positive and negative impacts</li> </ol>	<ul style="list-style-type: none"> <li>• Paddock to Reef Report Card</li> <li>• Scientific Consensus statements</li> <li>• Collated data from the evaluation of the coordination project below.</li> </ul>
<p>Key Result Area 1: <i>Improved effectiveness and efficiency through improved collaboration and coordination</i></p> <ul style="list-style-type: none"> <li>• <i>Maintain, enhance and expand regional extension partnerships and collaboration across major agricultural industries and NRM groups, programs (e.g. MIPs) and projects (e.g. Reef Trust Phase 3 and future funding e.g. Reef Taskforce)</i></li> </ul>	<p>Coordination Positions</p> <ul style="list-style-type: none"> <li>• Regional Extension Coordinator</li> <li>• RExN</li> </ul> <p>Resources</p> <ul style="list-style-type: none"> <li>• Flexible funding to support collaborative activities and fill regional gaps.</li> <li>• Peer-to-Peer funding.</li> <li>• Skills/expertise gap program.</li> <li>• Training and Development program.</li> </ul> <p>Platforms</p> <ul style="list-style-type: none"> <li>• Establish and maintain a Regional Extension Group and regional extension network – formally bringing deliverers together,</li> </ul>	<p>Benefits derived</p> <ul style="list-style-type: none"> <li>• What cost efficiency, practice change, economic and environmental benefits have occurred from the extra coordination and funding in terms of improved efficiencies and effectiveness of extension?</li> <li>• Has the effectiveness of extension in the Burdekin grazing region improved through the implementation of the Regional Extension plan?</li> </ul> <p>Impact on organisations and people</p> <ul style="list-style-type: none"> <li>• To what extent has extension coordination improved across the Burdekin grazing region?</li> </ul>	<ol style="list-style-type: none"> <li>4. Documented cases of newly initiated collaborative extension activities, projects or programs and linkages between related programs – at regional, cross-regional, state and national levels.</li> <li>5. Increased formal linkages between extensions and capacity building programs and projects funded to improve water quality.</li> <li>6. Evidence of impact of improved coordination on practice changes on enterprises which have a known impact on economic</li> </ol>	<p>Secondary data</p> <ul style="list-style-type: none"> <li>• Documentation/progress reports of structures, positions, resources, activities and outputs put in place in the coordination program.</li> <li>• Membership and activity details of proposed RExN.</li> <li>• Regular extension practitioner workshops sessions about coordination, learning, issues and impacts.</li> </ul> <p>Primary data collection</p> <ul style="list-style-type: none"> <li>• Outputs of monitoring and evaluation from projects</li> </ul>

Project objectives	Activities/deliverables	Evaluation questions	Performance indicators	Evaluation methods
<ul style="list-style-type: none"> <li>Strengthen links, collaboration and leverage of product development between researchers/ scientists (reef, industry etc.) and extension staff to maximise knowledge transfer</li> <li>Minimise the duplication of effort across Australian Government, State Government and industry programs which have extension activities associated with them</li> <li>Enhance and support the increased extension effort being provided through and the increased urgency for this to lead to on ground practice change outcomes for reef water quality</li> </ul> <p>Key Result Area 2: Improve the professional</p>	<p>facilitating collaboration and new initiatives to fill gaps and developing the Regional Extension Plan.</p> <ul style="list-style-type: none"> <li>Inclusion of other regional industry, NRM or community groups in coordinated extension program</li> <li>Community of practice – on-line platform and face to face events.</li> <li>Working with other regional groups and industry extension coordinators.</li> </ul> <p>Activities</p> <ul style="list-style-type: none"> <li>Development of Regional Extension Plan.</li> <li>Identified regional extension gaps and barriers.</li> <li>Identify extension practitioners influencing improved management practices in the Burdekin grazing region.</li> <li>Identify opportunities to improve collaboration.</li> <li>Undertaking agreed collaborative activities in line with the Regional Extension Plans, supported through Flexible funds.</li> </ul>	<ul style="list-style-type: none"> <li>To what extent are extension and other programs being (better) strategically planned and targeted (with reduced overlap) at areas of greatest need and to achieve largest potential impact towards water quality targets?</li> <li>What new initiatives have resulted from the coordination activities?</li> <li>To what extent do extension personnel feel more connected, supported and valued and better able to undertake their extension activities?</li> </ul> <p>Effectiveness of process</p> <ul style="list-style-type: none"> <li>Has the implementation of the Regional Extension Plan been effective?</li> <li>To what extent is communication and sharing of information/ experience (more effectively) occurring in the Burdekin region and between projects within and across regions and industries?</li> <li>What extra capacity building activities have occurred and what was the participation, reaction and impact on participants?</li> <li>To what extent is the communication and collaboration</li> </ul>	<p>and/or water quality benefits.</p> <ol style="list-style-type: none"> <li>Improvements in the levels of stakeholder satisfaction re coordination, access and effectiveness of extension delivery.</li> <li>Increases in the extent/type of interaction between extension staff within region and between regions and their awareness of other programs</li> <li>Production and use of required Regional Extension Plans.</li> <li>Extent of participation in extension capacity building activities and resulting improvement in the levels of understanding, skills, motivation, job satisfaction and commitment to extension in the reef regions.</li> <li>Documented use of new science being used in extension activities and their uptake by producers.</li> </ol>	<p>and programs being funded and/or supported through the Regional Extension Plan.</p> <ul style="list-style-type: none"> <li>Use of YourDATA to record extension coordination activities.</li> <li>Narratives and detailed case studies of where extra coordination has resulted in collaboration and impacted on efficiency and impacts</li> <li>Regional Landholder Engagement Project List updated annually</li> <li>Updated E&amp;E Spatial Database / Layers annually</li> </ul>

Project objectives	Activities/deliverables	Evaluation questions	Performance indicators	Evaluation methods
<p>capacity of the extension network</p> <p>Key Result Area 3: Improve evaluation and review of extension effort and impact</p> <ul style="list-style-type: none"> <li>• <i>Identify gaps and opportunities, and provide feedback to inform and support future allocation and targeting of on-ground resources</i></li> <li>• <i>Provide strategic advice on regional gaps, needs and appropriate responses that meet the needs of Reef Plan and the Queensland Government Great Barrier Reef Water Quality program</i></li> </ul>	<ul style="list-style-type: none"> <li>• Facilitated Peer-to-Peer learning projects.</li> <li>• Undertaking regional Communication Activities – led or facilitated by Regional Extension Coordinators</li> </ul> <p>Training</p> <ul style="list-style-type: none"> <li>• Undertaking the training needs analysis, identifying professional capacity challenges, and working collaboratively to address them.</li> <li>• Raise awareness amongst network and facilitate training organised through DAF Manager (Training &amp; Development).</li> </ul> <p>Skill/expertise gaps</p> <ul style="list-style-type: none"> <li>• Identify regional needs for skills and expertise to value add to extension activities and for support from DAF skills gap/expertise project.</li> </ul> <p>Evaluation</p> <ul style="list-style-type: none"> <li>• Record information in YourDATA and provide data for the E&amp;E WebMap platform.</li> <li>• Regional Extension Coordinators to work with P2R and delivery organisations to increase spatial monitoring and evaluation of extension impact.</li> </ul>	<p>between researchers/scientists and extension officers increased?</p> <ul style="list-style-type: none"> <li>• To what extent does reporting of M&amp;E meet the P2R needs and requirements?</li> <li>• To what extent is strategic advice being provided to investors on where extension effort should be targeted?</li> <li>• What barriers/ issues have impacted on the process and what changes are needed?</li> <li>• What were the expected/ unexpected results of coordination?</li> </ul>		

Project objectives	Activities/deliverables	Evaluation questions	Performance indicators	Evaluation methods
	<ul style="list-style-type: none"> <li>• Document findings to provide policy makers with information and implications for extension policy, funding and operational activities.</li> <li>• Facilitate annual regional meetings to provide feedback to key stakeholders including Manager (Extension Coordination)</li> </ul>			

**Table 17.** Evaluation Methods and Timing

Evaluation Method	Focus	Timing	Responsibility
Secondary data capture and analysis	Using available reporting and data sets to capture trends, activities, changes in linkages and impacts. Includes analysis of capacity building/extension projects and linkages; progress reports of extension providers; P2R reports and Report card; Reef Extension Network data.	Annually	Regional Extension Coordinators Member extension providers
Narratives	To qualitatively capture impacts and outcomes from projects and also barriers/issues.	Collected throughout projects and reported via six-monthly progress reports.	Regional Extension Coordinators
Case studies	To quantify where possible specific instances of change and resulting efficiencies and impact	Annually with an emphasis on final 6 months	Regional Coordinators Member extension providers
Interviews with informed stakeholders	To quantify and qualify benchmarks and changes in coordination, collaboration and extension delivery performance. Informed Producer input should also be sought in the final benchmark.	Annually	Regional Extension Coordinators Member extension providers M&E Consultants
Workshop debrief of coordinators	Capture observations, experiences and outcomes from coordinators as well as opportunities for improvement.	Annual Regional Extension Coordinator workshop	Manager (Extension Coordination) to organise workshop M&E Consultants
Workshop evaluation – AG and QG	Capture feedback provided to AG and QG, actions planned and success of workshop, areas for improvement	Annual Regional Extension Coordinator workshop	Manager (Extension Coordination) to organise workshop M&E Consultants/ Independent facilitator to collect data
Extension personnel survey	To capture feedback, satisfaction, observations and experiences from stakeholders involved in the project and document examples of actions taken and how activity assisted.	Annual	Manager (Extension Coordination) M&E Consultants
Analysis of Communication activities	Show evidence of key messages being developed and used by extension officers. To share project outputs and outcomes.	Reported in six-monthly progress reports	Regional Extension Coordinators Communications officer Manager (Extension Coordination)
Capacity building evaluation	Show evidence of capacity building in extension network.	Reported in six-monthly progress reports	Regional Extension Coordinators Manager (Training & Development)

## **Appendix 4: Monitoring and Evaluation Template** to guide the monitoring and evaluation of projects supported through the Regional Extension Plan for Grazing in the Burdekin Dry Tropics

A Project Plan should be developed setting out the Project Logic and SMART Objectives to guide this Monitoring and Evaluation Plan. Each Project will be assessed against the criteria of: Effectiveness, Efficiency, Impact, Legacy and Project Management.

Key Evaluation Questions (KEQs) need to be devised for each criteria. Example KEQs (based on those that will be used for the Program scale evaluation) are given below. New, Project specific questions can be added under the relevant criteria.

Note that monitoring data can be quantitative (eg. P2R reporting and output measures) or qualitative (e.g. collected through interviews, focus groups, other)

Standard Key Evaluation Questions (based on those that will be used for the Program scale evaluation) are given below. New, Project specific questions can be added under the relevant criteria.

When answering the Key Evaluation Questions refer to the methods, outputs, objectives, outcomes outlined in the Regional Extension Plan, the Reef 2050 WQIP intermediate outcomes, land management and water quality targets in the Project Plan.

### **Flexible and Peer to Peer Funds Project Reporting**

End of Project and Progress reporting templates based on the objectives of the Enhanced Extension Coordination Program will be used to inform the MERI plan.

**Table 18.** Monitoring and Evaluation Framework

Evaluation criteria	Key Evaluation Question	What will be monitored and how will it be monitored  Metric and how measured (method)	What information sources and monitoring data (including existing M&E tools or specific monitoring or data collection) will be used to answer the question  Where will you get the data from and what is that data	Monitoring frequency  How often will the data be gathered	Evaluation and reporting process  How often will the evaluation be reported (through a MERI report)
Effectiveness	How well has the project delivered on planned methods and outputs				
	What measurable progress has been made towards the stated Project Objectives (as a result of the methods and outputs)				
	What extent has this progress contributed to the WQIP intermediate outcomes?				
Efficiency	What measures have been taken to improve project efficiency (e.g. targeting investment, cost sharing)?				
Impact	What evidence is there that the project has made a contribution towards Reef 2050 WQIP land management and water quality targets?				
	What progress would have been made anyway, in the absence of the funding for this project?				

	What, if any, unanticipated positive or negative impacts have resulted from the project?				
Legacy	What are the long-term requirements and arrangements for managing and resourcing maintenance of the project outcomes?				
Project Management	How well are the project management arrangements, systems and processes contributing to efficient and effective project performance?				
	What processes and evidence is there of adaptive management and learning and active implementation of MERI?				

# Appendix 5: Regional Extension Panel Terms of Reference

## Enhanced Extension Coordination project

### Regional Extension Panel

#### Terms of Reference

Draft: September 2018

#### **Background**

The Great Barrier Reef Water Science Taskforce (the Taskforce) recommended that the Queensland Government invest in more targeted and coordinated extension to support large-scale land management practice change that will result in improved water quality outcomes for the GBR and accelerate achieving the objectives of the Great Barrier Reef 2050 Water Quality Improvement Plan (Reef Plan). In response, the Queensland Government engaged an independent consultant to review the current state of extension and education systems in Reef catchments.

One key objective of the review was to inform an implementation strategy for the Queensland Government and guide the delivery of funding aligned to the GBR Water Quality Taskforce recommendation 3: Extension and education under the Queensland Reef Water Quality Program. The final report was released in 2017: [Practice Change, Education and Extension in Reef Catchments](#) (Coutts J&R). The Queensland Government has agreed, or agreed in principle, with all of the review recommendations and is currently investing funds to implement key recommendations ([Qld Government independent review response](#)).

The current project, Enhanced Extension Coordination, is designed to facilitate improved coordination of extension activities in GBR catchments. Regional Extension Coordinators have been appointed in Great Barrier Reef Natural Resource Management regions to engage Regional Extension Networks and develop Regional Extension Plans for major agricultural industries.

The Department of Agriculture and Fisheries, in its capacity as project administrator, will address identified high priority skill gaps, and training and development needs with extension providers in Great Barrier Reef regions. They will provide funding to regions for extension activities that are identified as high priorities in each Regional Extension Plan, to facilitate improved coordination and collaboration to deliver better on-ground services for producers and to encourage producer peer-to-peer learning activities that are prioritised in the Regional Extension Plans.

#### **Role of the Regional Extension Panel**

The primary roles of the Regional Extension Panel are to:

- Advocate for strengthening the role of regional extension and regional extension providers to funding bodies (including corporate, private and government)
- Communicate the activities and reasoning behind the Regional Extension and Education Coordination project to extension networks
- Distribute application forms to regional extension officers and community groups to gain ideas and feedback on potential projects to fund, and
- Review and provide recommendations on applications for funding through relevant funding streams (e.g. the Flexible and Peer to Peer associated with the Regional Extension and Education Coordination project).

In line with the Enhanced Extension Coordination project, the Regional Extension Panel is expected to guide the design of future programs, including advocating for actions and projects that explore opportunities to build on and value add to activities already being, or scheduled to be, delivered in the project area. This includes advising on opportunities for collaborating or coordinating with other programs, and avoidance of duplication of works or investment.

Regional Extension Panel meetings also provide the opportunity for effective knowledge sharing and deliberation of resource management issues within the Burdekin grazing space, with the aim to:

- highlight the diverse and common interests of stakeholders and landholders;
- enable development of solutions aligned with community needs, with higher potential for uptake; and
- encourage stakeholders and landholders to take ownership of the proposed solutions.

### **Term of the Regional Extension Panel**

The Regional Extension Panel is convened for a period of 2 years, from July 2018 to June 2020. This coincides with the terms of the current contract for the Enhanced Extension Coordination project between the Department of Agriculture and Fisheries and NQ Dry Tropics. Any future funding to support the Regional Extension Panel, the Regional Extension Coordinator and/or the Regional Extension Plan may change these Terms of Reference, in correlation to the major project sponsors guidelines.

### **Operation and secretariat**

The RExP will be chaired by the Regional Extension Coordinator.

The role of secretariat will be shared amongst the RExP members in a rotational system, as guided by the Regional Extension Coordinator. The secretariat will be responsible for recording the minutes of each RExP meeting, and sharing these with all panel members in a timely fashion.

Meeting dates will be set at the previous meeting, in addition to the type of meeting and location.

### **Location**

Face to face meetings will be held in the Burdekin.

### **Remuneration**

The Enhanced Extension Coordination project will pay the travel costs of REXp members to attend face to face meetings, either in reimbursement of costs of flights from the closest airport to head office to the specific meeting location, or mileage repaid at \$0.66/km.

The Enhanced Extension Coordination project will not pay attendees sitting fees for attending meetings.

### **Members**

Members of the Regional Extension Panel are to be sourced from the primary extension bodies that operate in the grazing sphere within the Burdekin. Current members are:

- Regional Extension Coordination – Burdekin Grazing
- NQ Dry Tropics
- Department of Agriculture and Fisheries (DAF)
- Grazing BMP
- Central Highlands Regional Resource Use Planning (CHRRUP)
- Dalrymple Landcare Group (DLC)

### **Membership**

Regional Extension Panel members are expected to:

- declare any actual, potential or perceived conflicts of interest that could influence their advice;
- apply objectivity, analysis and judgement in contributing to Project Panel deliberations;
- maintain confidentiality where required;
- ensure they are prepared for Project Panel meetings and Workshops
- where necessary, provide communication linkages or direct communication between the project, the organization they represent and other key partners.

The REXp chair will be expected to facilitate the resolution of issues that may arise during discussions.

### **Frequency of meetings**

A REXp meeting will be held four times per year, occurring in each quarter. These will be face-to-face, teleconference or videoconference meetings.

## Addendum: DRAFT Burdekin Grazing Extension Collaboration Strategy

*This strategy has been prepared by Max Hardy with additions by Burdekin grazing REC Sharon Cunial as an addendum to the Regional Extension Plan for Burdekin Grazing, August 2019. The content is in DRAFT form in preparation for review by the RExN by December 2019.*

### Introduction

The Great Barrier Reef Water Science Taskforce (the Taskforce) recommended that the Queensland Government invest in more targeted and coordinated extension to support large-scale land management practice change that will result in improved water quality outcomes for the Great Barrier Reef (GBR) and accelerate achieving the objectives of the Great Barrier Reef 2050 Water Quality Improvement Plan (Reef Plan).

Project TF3.5 Enhanced Extension Coordination in GBR, through a network of regional coordinators and regional extension coordination groups was established to formalise regional extension networks so they have clear and transparent structures, systems and processes to coordinate and prioritise extension projects at a regional and subregional scale and improve the effectiveness and efficiency of extension programs through improved coordination and collaboration.

The Enhanced Extension Coordination project, funded by the Queensland Government Reef Water Quality Program, was established to build capacity with regard to better coordinating extension services, including collaboration, in response to the Coutts J&R Review, 2017. Coutts J&R identified a range of issues and made 65 recommendations on the education and extension systems to build on extension capacity in GBR catchments under the following themes:

- Improved coordination and collaboration of extension projects,
- Skills gaps and the need for training and capacity building, and
- More effective monitoring and evaluation of the extension effort and outcomes.

A foundational element of the Coutts J&R Review was the appointment of Regional Extension Coordinators in each of the six Great Barrier Reef NRM regions to provide support for regional coordination groups, consisting of local extension providers, and with these groups develop Regional Extension Plans to guide and coordinate the roll out of on-ground extension programs.

### ***Burdekin Grazing workshop***

Regional Collaboration Workshops were held in each of the regions, as part of the project *Regional Extension Coordination and Collaboration* (Hardy 2019). The purpose of these workshops was to consult with each regional extension coordination group and their networks; and assess what is working well and not so well, in terms of individuals and organisations working together to deliver extension services to landholders. The content of this Collaboration Strategy is based on what emerged from participants during the workshop held in Charters Towers on the 11<sup>th</sup> April 2019.

The Regional Extension Coordinator organised an event attended by 13 participants from four extension service organisations. Max Hardy facilitated a session to consider issues impacting on the delivery of extension services and to identify what is working well, not so well, and ideas to strengthen coordination and collaboration amongst service providers.

There were many similar positives and negatives to earlier regional workshops. Most time spent to considering ideas and prioritizing them. The following ideas were discussed and prioritised (highest priorities first)

#### ***Grazier-led change***

- A fully collaborative/partnership approach to delivery of Burdekin catchment extension services; led and designed by beef producers and a range of innovative and practical thinkers.
- Empower producers and changing extension process. Identify and employ (part-time) producers to work in key projects and assist with extension.
- Identify and upskill landholders to drive learning priorities
- A focus on projects such as 'Next Gen' to enable producer run groups that lead to improved business skills professionalism and then GLM principles.

#### ***Individual support for graziers***

- Lots and lots and lots of individual support for graziers. Most importantly planning landscape management for regeneration of country and improved animal performance. This flows onto like-minded groups to support and advise each other.

#### ***Stocktake and optimising current investment***

- Undertake a stocktake of all extension, research and investment in the region, map out expected outcomes; strategic vision, identify gaps, potential realignments and resourcing requirements. Make use of current investment while it's available.
- Develop an agreed cross-organisational strategy to implement extension services and seek to influence how investment is made in the entire region.

### ***Leadership program for graziers***

- A Burdekin extension network developed, designed and delivered, leadership program for graziers.
- Increased levels of peer to peer learning and coaching from graziers outside the district.

### ***Fun***

- Make it more fun – social, positive interactions.

### ***Business skills development***

- Business skills development and relate to GLM
- Linking business performance to all projects across the region – cost/benefit, record keeping/ cost of production.
- Improve business and animal management – support benchmarking groups to record and understand their beef production (eg kg beef/hectare)
- Assist producers to understand their business profit drivers.

### ***Beyond networking, to partnering***

- Burdekin match – Facilitated and organised relationship building activities between service providers in the Burdekin. This would include scheduled on-property visits/done with someone you don't know well from another organisation. Staff matched strategically. This would allow knowledge of each other and complementary skills.
- More partnerships when delivering in the same area/region
- Collaborative project delivering eco-system services – designed and delivered under new scheme
- Collaboration and branding (eg grazing BMP but not divided by competing funding elements; clearly defined roles and objectives that complement rather than compete).

### ***Flexible, longer term approach***

- More of what we do now but having less constraints to deliver tailored extension to individuals or groups (geographic, sediment etc) but improved practice change outcomes.
- Projects that have continuity to support grazing business (financial, admin, animal, NRM) over a five to ten year period using relevant tools and technologies specific to the Burdekin - maybe via LDC learnings??
- More flexibility in funding to support producers that are ready to change now, that are outside priority areas.

### ***Upskilling extension officers***

- Upskill extension officers in group facilitation.

### ***Technical focus***

- Advocate development of Sed calculator, to offer a more useful options model for farmers based on reliable information.
- Develop and promote the links between lighter stock ratios with better diet quality from the pasture and higher herd performance and profitability.

#### ***What participants considered is working well?***

- Extension services within a specific project (eg Landholders Driving Change a Major Integrated Project) where there is collaboration across multiple agencies
- Shared calendar of events
- Presenters/ facilitators sharing core principles, yet differ in approaches
- Organisations having a diversity of approaches serves the diverse needs of the industry
- Drawing upon individual organisational strengths and resource sharing allows a greater reach across producers

#### ***What participants considered is working not so well?***

- Outside of a specific project collaboration is difficult due to organisational structures and funding
- There is no central method to keep track of projects/ programs or to share high level client information for tailored extension
- Silos and misalignment between organisations at a high level results in no shared goals
- Not enough utilisation of each organisation and individual extension staff's strengths
- Over supply of project/ events risk dilution of messaging or confusion
- CHRRUP and DAF need to work more together
- Funding priorities, sediment modelling favours some but excludes other geographic areas
- Gap in funding subsidies for a range of training packages eg. EDGE products
- Graziers confused by use of some providers and the information they supply
- Lack of follow up, one on one support post workshops and events
- Gap in extension services for mixed farming and irrigated enterprises

#### ***What ideas could be pursued to improve coordination and collaboration?***

Despite the difficulties of bringing people together from across the region, the workshop highlighted that the RExN members have the energy and enthusiasm to explore opportunities to network more often and to begin exploring opportunities to collaborate; especially regarding the grazer-led change concept (recommendation 5 below).

It's recommended that:

1. An Extension Coordination Group is established to review ideas and to monitor progress (Coordination/Collaboration)

2. Extension providers continue to share information to ensure services do not overlap, and to address gaps in services (Networking, some coordination).
3. They support each other in promoting each other's services and events (Cooperation).
4. Professional development opportunities are shared across extension service providers (Cooperation)
5. They start working toward a grazier-led professional development program, and seek funding.

### ***Purpose of this Strategy***

The key objective of this strategy is to recommend actions to facilitate the stated goal of: **“improved effectiveness and efficiency of extension service delivery through improved collaboration and coordination”** to augment the development of the Regional Extension Plan for Burdekin Grazing. The strategy has been designed to address challenges identified through a consultative review and the series of regional workshops on how to build the capacity to collaborate in the delivery of extension services in the regions of Burnett-Mary, Fitzroy Basin, Mackay-Whitsundays, Lower Burdekin, Upper Burdekin, Wet Tropics, and Cape York (Hardy, 2019). These regional workshops investigated what factors may be impeding further adoption of improved land practices over a greater area of the catchments and look to enhance coordination and collaboration within these networks and for collaborative solutions to identified barriers.

This strategy is based on the collective learnings across the GBR regions, but focuses on the specific issues identified at the Burdekin Grazing Collaboration workshop held in Charters Towers on the 10- 11 March 2019 and through consulting with the Regional Extension Coordinator- Burdekin Grazing. The strategy recognises the challenges extension services face trying to engage landholders in Reef water quality programs and how these contribute to challenges around coordination and collaborating in providing extension services.

## **Recommendations**

### **Step 1: Cultivate a ‘Community of Practice’**

In each region the Regional Extension Coordinators have engaged and support a network of stakeholders to meet and share experiences and build working relationships. Each region has approached this differently based on the history of the extension networks and pre-existing working groups. There are also differences in the industries being supported by extension and associated geographic distribution of people and services. Despite regional differences, the networks of stakeholders, supported by the Regional Extension Coordinator, are essentially the ‘Community of Practice’ for extension in each region and collectively across regions through the Enhanced Extension Coordination project. Some regions have specifically referred to their networks as a ‘Community of Practice’ and it is useful to treat them as such to plan how to

support and develop these networks so that they can promote more coordinated and collaborative extension service delivery amongst its members.

A Community of Practice is a social learning system that provides an environment for people to interact together in which they can share their experiences and knowledge, develop and discuss areas of interest and build a sense of community. They are usually voluntary and consist of groups of people that have an ongoing shared concern and consists of three key elements:

*The Domain* – this is the shared need or motivation for coming together.

*The Community* – this is about providing the environment to enable interactions and activities to build relationships and allow the group to deepen their knowledge and expertise by interacting on an ongoing basis.

*The Practice* – where the interactions between members produce resources (e.g. tools, concepts, documents) that members develop over time and affects their practice.

A Communities of Practice is collaborative in nature with advantages including: letting members know what each other's interests are and what they do; sharing knowledge across individuals and organisations that may cross previous knowledge boundaries; providing accessible information and other resources for members to share and draw from; generating new ideas and innovations; and promoting improved and new standards of practices.

In the case of the Enhanced Extension Coordination project and the regional extension networks the elements could be described as follows:

*The Domain* – is the need to coordinate extension service delivery to more efficiently delivery extension projects and accelerate the adoption of improved practices.

*The Community* – is the environment facilitated by the Regional Extension Coordinator to support the Regional Extension Coordination Group and wider extension network in their region.

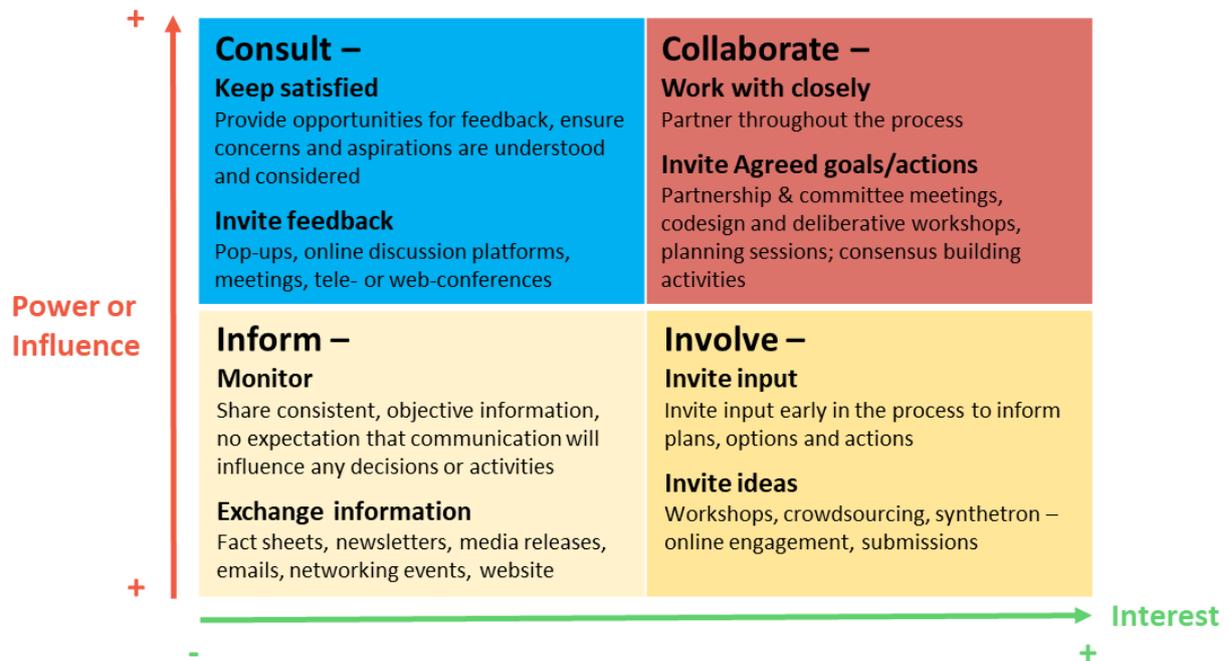
*The Practice* – is the development of the Regional Extension Plan, workplan and other outputs and project work.

## **1.1 Stakeholder Analysis**

The first stage of cultivating a Community of Practice is knowing who the relevant stakeholders are and enabling and encouraging them to interact. Each Regional Extension Coordinator will have completed a Stakeholder Identification (regional/industry analysis) recently when they completed their respective regional *Communication and Engagement Plans* and implementing this plan will be crucial to enabling a Community of Practice. This has identified relevant stakeholders and determined their level of effect relative to their "power" or influence over on the project and the level of "interest" they have in their respective Regional Extension Plans

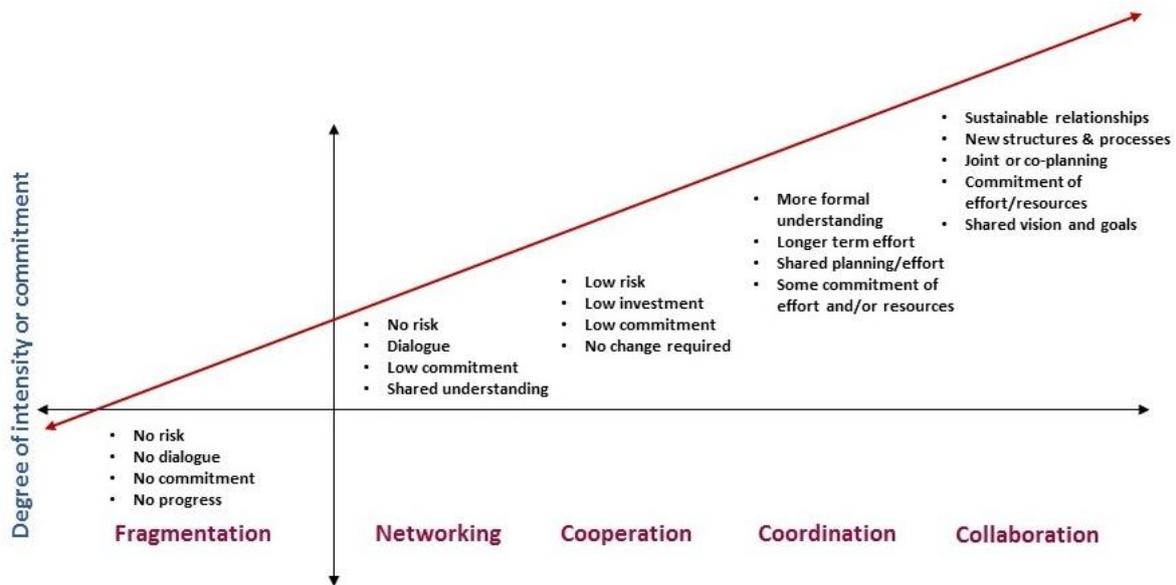
and its delivery and to structure the delivery of appropriate communications to these stakeholders (Figure 1).

**Figure 1.** Classifying stakeholders according to their Power and Interest in your project (modified from Sargent, 2019)



As described in the *Collaboration Continuum* (Figure 3), there are lots of different ways of working together and this also applies in a Community of Practice, including; participating in meetings (networking), cooperating in a shared task or goal of mutual benefit coordination which requires participants to be organised and/or delegated responsibilities/functions and collaboration – where the partners are contributing solutions (such as projects, activities or relationships) that didn’t exist before and share the responsibilities, risks and benefits of these activities. In a large and complex program, like the Reef program, participants in a Community of Practice will not only have different communication needs, but will also have different roles requiring them to interact with each other in different ways. So to develop your Community of Practice to improve the effectiveness and efficiency of extension service delivery through improved collaboration and coordination it is also useful to recognise where participating stakeholders might sit on the Collaboration Continuum to target, not only communications, but other activities to support the different ways for these stakeholders to work together.

**Figure 3.** The Collaboration Continuum [Adapted from: Success Works, Putting Partnerships into Practice, final report (Department of Human Resources, 2004)].



Communications between stakeholders is integral to how people interact and work together and so you expect alignment between the *Communications and Engagement Plan* and this *Collaboration Strategy*. Perhaps the simplest groupings that can align stakeholders described in the *Communications and Engagement Plan* groups (Figure 1) with the categories in the *Collaboration Continuum* (Figure 3) would be to group the 'Inform' and 'Consult' stakeholders with the 'Networking' and 'Cooperation' categories; and the 'Involve' and 'Collaborate' stakeholders groups with the 'Coordination' and 'Collaboration' categories.

However, these two frameworks were not designed to be analogous and the categories in the *Collaboration Continuum* are not meant to be independent, with fluidity in how stakeholders cross between these categories as they participate across different activities. For example, it is likely that most, if not all, of the 'Coordinators' and 'Collaborators' will still need to network and cooperate as well; and others will move from networking and cooperating to coordinate their activities and even collaborate over time. But, generally this will be a useful starting point to align communications and develop the Community of Practice to operate across the *Collaboration Continuum* and should not alter the initial set of activities you implement to develop these working relationships.

So for the purpose of this *Collaboration Strategy* it will be useful to utilise the stakeholder analysis completed in the Burdekin Grazing *Communication and Engagement Plan* to help identify those more active participants, the 'Involve' and 'Collaborate' stakeholders, and consider how to design and target actions to encourage them to improve coordination and collaboration in the extension activities that they are delivering (Table1).

**Table 1:** Stakeholders that *deliver* grazing extension services in the Burdekin dry tropics region and an indication of how actively they are currently participating to work together. \* indicates stakeholders that are members of the RExN. The number of ✓ indicates the level of current participation in activities *facilitated through the Enhanced Extension Coordination project*: ✓ = some; ✓✓ = moderate, and ✓✓✓ = high.

Stakeholder	Location	Primary Funding	Stakeholder role	Number of Staff	Inform-monitor	Network-Cooperate	Coordinate - Collaborate
Department of Agriculture and Fishers (DAF)*	Townsville Charters Towers	Govt	<ul style="list-style-type: none"> <li>• Research, development, adoption</li> <li>• Provision of technical advice grazing land management.</li> <li>• Manage the Enhanced Extension Coordination Program</li> </ul>	2	✓✓✓	✓✓✓	✓✓
NQ Dry Tropics*	Townsville, Bowen	Grants	<ul style="list-style-type: none"> <li>• Regional NRM delivering State and Federal funded projects</li> <li>• Extension, training, planning support</li> <li>• Working with grower and producer groups.</li> <li>• Promotion and Funding incentives to facilitate adoption of best management practices</li> </ul>	42	✓✓✓	✓✓✓	✓✓✓
Greening Australia	Townsville	Grants, donations, sponsorship	<ul style="list-style-type: none"> <li>• Education and training (cert and non--cert)</li> <li>• Environmental restoration services eg gully restoration</li> </ul>	5	✓✓	✓✓	

CSIRO	Townsville	Govt, grants, fee for service	<ul style="list-style-type: none"> <li>• Testing and Analytical services eg water testing</li> <li>• Gully and stream bank Toolbox</li> <li>• Sediment, Nutrient, pesticide research, modelling, monitoring</li> </ul>		✓		
James Cook University	Townsville	Govt	<ul style="list-style-type: none"> <li>• Research and consultancy services</li> </ul>		✓		
Central Highlands Regional Resources Use and Planning (CHRRUP)*	Emerald	Grants, fee for service	<ul style="list-style-type: none"> <li>• Field days, workshops, conferences</li> <li>• Workplace health and safety</li> <li>• Project management</li> <li>• Property planning and mapping</li> <li>• Capacity building and training</li> <li>• Connectivity hub (tech and meeting space)</li> </ul>	4	✓✓✓	✓✓✓	✓
Dalrymple Landcare Committee (DLC)*	Charters Towers	Grants	<ul style="list-style-type: none"> <li>• Landcare coordinator responds to local needs and interests via field days and workshops eg. Wild dog control</li> <li>• Grazing and Biodiversity management property planning</li> <li>• Fodder budgeting service</li> </ul>	10?	✓✓✓	✓✓	✓

Desert Uplands Committee aka Desert Uplands Build UP and Development Committee (DUC)	Barcaldine	Grants	Grazing management, habitat	5?	✓		
Bowen Collinsville Landcare	Collinsville area	Grants	Pasture renovation, land management, gully and soil erosion control, pasture trials	7?	✓		
Lower Burdekin Landcare (and Nursery)	Ayr	Grants	Focus on weed management, small holding land management, habitat.	5?	✓		
Woodstock Landcare	Woodstock	Grants	Focus on weed management, small holding land management, habitat.	5?	✓		
Meat and Livestock Australia (MLA)	Brisbane	Levy, Govt, grants	Red meat industry Research, development and adoptions, extension and training.		✓		
Agforce	Brisbane	membership	Represents graziers, lobby group		✓		
Queensland Farmers Federation	Brisbane	membership	Represents farmers		✓		
Resource Consulting Services (RCS)	Yeppoon	Course and service fees		10?	✓		

## Step 2: Actions to address the Challenges identified in the region workshop

Hardy (2019) sets out a number of challenges to delivering coordinated and collaborative extension services in the Reef catchments and makes recommendations around the following six topics.

- *Building a greater understanding of how to work together*
- *Develop indicators and measures of ‘working together’*
- *Build buy-in by all sectors and program co-design*

- *Reframing programs beyond water quality and co-defining the dilemma*
- *Providing consistent and effective ‘backbone support’ to encourage and support coordination and collaboration*
- *Coordinating funding programs with regional implementation plans*

These are generally high-level systemic issues that need to be solved by collaborating across all levels in the Reef program and are largely beyond the scope of individual regional *Collaboration Strategies*. The Enhanced Extension Coordination project and the Regional Extension Coordinators can play a role in finding solutions to these issues, but this *Collaboration Strategy* will focus on regional challenges in this first instance.

Table 2 describes challenges to delivering coordinated and collaborative extension services in the Burdekin Dry Tropics that were identified at the Burdekin Grazing Collaboration and Communication workshop held in Charters Towers on the 10 - 11 March 2019 and subsequently through the 2019/20 revision of the Regional Extension Plan for Grazing in the Burdekin Dry Tropics.

**Table 2.** Table 2 describes challenges to delivering coordinated and collaborative extension services in the Burdekin Dry Tropics that were identified at the Burdekin Grazing Collaboration and Communication workshop held in Charters Towers on the 10 - 11 March 2019. The suggested solutions are indicative and will be reviewed and prioritised with actionable dates at the next Regional Extension Network meeting.

Challenge	Suggested solutions and actions
<p>Outside of a specific project, collaboration is difficult due to organisational structures and funding</p> <p>Silos and misalignment between organisations at a high level results in no shared goals</p>	<ol style="list-style-type: none"> <li>1. Develop an agreed cross-organisational strategy to implement extension services and seek to influence how investment is made in the entire region.</li> <li>2. Actively seek more partnerships when delivering in the same area/region</li> <li>3. Program leaders and managers to communicate more frequently and discuss high level organisational structures which facilitate improved grazing extension and collaboration across the region.</li> <li>4. Program leaders and managers invited to identify shared extension goals.</li> <li>5. Plan ahead and prepare ‘shovel ready’ co-designed collaborative projects that deliver ecosystem services support, with co-branding when funding opportunities arise.</li> </ol>

	<p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>NQDT to host a meeting of managers to discuss and develop ideas which address these challenges by November 2019</b></li> <li>• <b>RExN meeting to identify a potential collaborative project and a working group formed to progress project concept in readiness for next funding round.</b></li> </ul>
<p>There is no central method to keep track of projects/ programs or to share high level client information for tailored extension</p>	<ul style="list-style-type: none"> <li>• High level property based extension and engagement plan to be developed and updated quarterly by RExN members via a platform such as Basecamp or at the very least via distributed word document.</li> </ul> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>NQDT to host a meeting to discuss the merit of this idea by November 2019</b></li> </ul>
<p>Not a grazier-centred approach to extension</p>	<ol style="list-style-type: none"> <li>1. Develop an agreed cross-organisational strategy to implement extension services and seek to influence how investment is made in the entire region ensuring that it is addressing needs by graziers.</li> <li>2. High level property based extension and engagement plan to be developed and updated quarterly by RExN members via a platform such as Basecamp or at the very least via distributed word document.</li> <li>3. Greater consultation with grazier groups during project planning and development stages. Adopt a MIP approach.</li> </ol> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>Similar to above in that NQDT to host a meeting to discuss the merit of this idea by November 2019</b></li> </ul>

<p>Not enough utilisation of each organisation and individual extension staff's strengths</p>	<ol style="list-style-type: none"> <li>1. REC and RexN to undertake a staff skills, expertise and organisational services audit and develop a register of information. Regularly up-date the details. Make this available to all stakeholders, including graziers.</li> <li>2. The register may allow organisations to fill service delivery 'gaps', help identify strengths in staff who then develop training/ mentoring for others and facilitate co-designed collaborative projects.</li> <li>3. Undertake a stocktake of all extension, research and investment in the region. Identify expected outcomes, identify gaps, potential coordination and cooperation. Can be done as part of the skills audit.</li> <li>4. Burdekin match – Facilitated and organised relationship building activities between service providers in the Burdekin. This would include scheduled on-property visits/done with someone you don't know well from another organisation. Staff matched strategically. This would allow knowledge of each other and complementary skills.</li> </ol> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>Undertake stock take of extension, research and investment in the Burdekin by March 2020.</b></li> <li>• <b>Undertake skills/ services audit by November 2019. Develop register document by March 2020</b></li> <li>• <b>Burdekin match concept incorporated into the collaborative project and based on skills/ service audit.</b></li> </ul>
<p>Over supply of project/ events risk dilution of messaging or confusion</p>	<ol style="list-style-type: none"> <li>1. Implementation of the Communication and Engagement Strategy for Burdekin Grazing with participation and involvement by all stakeholders.</li> <li>2. Better use of grazing calendar of events by all stakeholders to prevent over supply.</li> <li>3. Grazing calendar to also include community and social events and activities that can be value added/ avoided for events.</li> <li>4. All stakeholders to identify own organisational grazing land management messages (eg. what differentiates our approach from others) as well as those 'rules of thumb'</li> </ol>

	<p>messages that need to be communicated consistently across the region. These to be included in the Communications and Engagement Strategy</p> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>RExN meeting facilitated to identify priority actions and to progress the action re grazing messages, October 2019 (TBC).</b></li> <li>• <b>Review of Communication and Engagement Strategy by RExN members and implementation once completed, Dec 2019 2019.</b></li> <li>• <b>Monthly participation in updating grazing calendar of events</b></li> </ul>
<p>Working more collaboratively together</p>	<ol style="list-style-type: none"> <li>1. Formalise communication and networking through set meetings or shared activities.</li> <li>2. A business case to review the policy of subsidised training packages may assist greater cooperation.</li> <li>3. Staff skills and organisational services register may assist in identifying opportunities to cooperate or where service delivery/ skills gaps can be supported or capacity to be built.</li> </ol> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>CHRRUP and DAF to look for opportunities to work on collaborative projects.</b></li> <li>• <b>DAF and CHRRUP to build on existing arrangements and opportunities (eg current DAF support for forage budgeting, new collaborations in delivering State GRASS project, DAF to participate in Safe Station Program where funds are available)</b></li> </ul>
<p>Funding priorities, sediment modelling</p>	<ol style="list-style-type: none"> <li>1. RExN to discuss the merits of a high level review of sediment modelling to incorporate surface erosional processes in addition to gullyng. This modelling may allow</li> </ol>

<p>favours some but excludes other geographic areas</p>	<p>for greater inclusion of subcatchments not currently identified as sediment priorities.</p> <ol style="list-style-type: none"> <li>2. CHRRUP to develop a 'business case' for funding bodies and NRMs to explain the sediment benefits of engaging with extensive grazing properties outside the priority sediment areas.</li> </ol> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>RExN to discuss the merits of these proposed actions at the next meeting, October 2019.</b></li> <li>• <b>RExN members to discuss the value of this approach or more achievable alternatives at meeting, October 2019 (TBC).</b></li> </ul>
<p>Gap in funding subsidies for a range of training packages eg. EDGE products</p>	<ol style="list-style-type: none"> <li>1. Requires high level organisational review of subsidy policies.</li> <li>2. Develop a 'business case' for equality in distribution of subsidies eg based on scale of practice change.</li> </ol> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>RExN members to discuss the value of this approach or more achievable alternatives at meeting, October 2019 (TBC).</b></li> </ul>
<p>Graziers confused by use of some providers and the information they supply</p>	<ol style="list-style-type: none"> <li>1. RExN members to identify own organisational grazing messages (ie what differentiates us from others) as well as Burdekin-wide key grazing messages for all organisations (ie what we all agree are fundamental grazing land management messages).</li> <li>2. These messages to be incorporated by the REC into the Communication and Engagement Plan.</li> </ol> <p><b>ACTION:</b></p>

	<ul style="list-style-type: none"> <li>• <b>RExN members to workshop this action at the next meeting, October 2019.</b></li> </ul>
<p>Lack of follow up, one on one support post workshops and events</p>	<ol style="list-style-type: none"> <li>1. Organisations to build additional extension support into their project budgets</li> <li>2. Staff skills and organisational services register to identify opportunities to ‘tap into’ existing projects/ skills/ services.</li> <li>3. Organisations to develop own fee for service skills and services to address extension gaps.</li> </ol> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>RExN members to discuss whether this is a systemic issue and methods to address shortfall eg. Using P2P funding at next meeting, Oct 2019.</b></li> </ul>
<p>Gap in extension services for mixed farming and irrigated enterprises</p>	<ol style="list-style-type: none"> <li>1. Tap into extension/ training opportunities offered by neighbouring service providers or projects.</li> <li>2. Develop own projects to fill gaps or collaborate with neighbouring service providers in a joint projects eg. Using P2P/ Flexible funds or larger grants.</li> <li>3. Organisations to recruit the skills in or develop own capacity to offer fee for service extension.</li> </ol> <p><b>ACTION:</b></p> <ul style="list-style-type: none"> <li>• <b>Address extension delivery gaps through short term P2P grant applications August 2019.</b></li> <li>• <b>Investigate coordinating with neighbouring NRMs to access existing services and collaborate to co-design and deliver new longer term projects.</b></li> <li>• <b>Service providers to build own capacity to provide fee for service or recruit skilled staff.</b></li> </ul>

From the information in Tables 1 and 2 activities can be designed to encouraging networking and cooperation that are general and inclusive of all stakeholders and coordination and collaboration in the more actively participating stakeholders (Table 3).

**Table 3.** Recommended actions to guide how to cultivate a Community of Practice and develop networking/cooperation and coordination/collaboration in the Burdekin Dry Tropics Region grazing space.

Networking	
Activity 1	Continue updating and promoting the Burdekin Grazing Calendar of Events to ensure that organisations and staff are aware of what activities planned. Effective use of the calendar will result in improved networking, cooperation and efficiencies.
Activity 2	Holder quarterly Regional Extension Group meetings which include an innovative networking or social activity into each.
Activity 3	Encourage organisations to build into conferences, seminars and forums the opportunity for RExN members to network with each other and with the grazing community.
Activity 4	Program managers, executive officers (ie decision makers) who are members of the RExN to network at a quarterly/biannual meeting.
Cooperation	
Activity 1	Hold quarterly RExN meetings where members provide updates and information sharing on current projects and other activities such as trials, workshops, lessons learned etc.
Activity 2	Sharing field days to collectively promote extension services, and to present consistent messaging around key topics.
Activity 3	Using shared platform to map all extension activities or at the very least update the Regional Extension Plans annually to include this information.
Activity 4	All working group members to contribute annually to the updating of the Regional Extension Plan including content, project details, producer group activities, staff changes, new barriers to adoption etc. May need to utilise a platform such as Basecamp for this, or at the very least use information arising from meetings to update plan.
Activity 5	Final RExN meeting in 2020 to include presentations by proponents on EEC funded projects and recommendations on what is required to maintain or build the Network and EEC program.
Coordination	
Activity 1	Continue to update and distribute the Grazing Calendar of Events.
Activity 2	Promote the EEC program and the Peer to Peer and Flexible Funded projects at EEC funded events and other events.

Activity 3	Using shared platform to map all extension activities, or annually update the Regional Extension Plan with this information.
Activity 4	REC and RExN to develop a register of all grazing extension services, organisational services, staff contact details, staff skills and expertise, geographic reach for services/ projects.
Activity 5	Use the register to develop an information package that highlights the all the extension providers' expertise, resources, projects etc how graziers and other stakeholders can access these organisations/ services/ programs.
<b>Collaboration</b>	
Activity 1	Support the development of a larger collaborative proposal with regional stakeholders around key areas such as soil health/ ecosystem services/ landscape repair including the establishment of demonstration sites and extension / capacity building activities. Utilising the co-design processes and targeting funding that is available now or into the future (eg GBRF).
Activity 2	Program managers, executive officers (ie decision makers) who are members of the RExN to discuss organisations structures and collaborative opportunities at quarterly/biannual meeting and report outcomes to other RExN members (mainly extension staff) at quarterly meetings regarding progress towards co-designing a collaborative project.
Activity 3	By May 2020 develop a larger collaborative proposal with all partners and submit to the GBRR foundation.
Activity 4	Collaborate to establish consistent messaging for key grazing land management practices that every organisation can incorporate into communications.

### Step 3: Monitoring and evaluation on the Collaboration Continuum

To monitor and evaluate progress towards more coordinated and collaborative working relationships it is important to monitor how the network is operating currently and use this to set objectives and plan for how they could operate in the future. This will require you to benchmark where you network currently sits on the *Collaboration Continuum* using the rubric matrix developed in Hardy (2019), which describes examples and indicators for the different levels of working together in a collaboration continuum (Table 4). This can be done for the entire network, in term of how they are currently interacting and cooperating, and separately for the more active participants that you want to encourage to coordinate their activities and collaborate (Coordinators & Collaborators).

A simple qualitative way to do this is to consider which of these indicators best describes how the stakeholders in your extension network are working together and colour code this matrix accordingly. It is likely that a number of the indicators might apply but some are occurring more often than others or amongst more of the stakeholders. So you can use graded colour coding to represent the level of intensity that you consider most accurate (see mocked-up examples in Table 5). You could also provide an indication of how the network, or Community of Practice, have operated through time by using this approach to indicate how they were operating at the

commencement of the Enhanced Extension Coordination project, how they are operating currently and how they could aspire to operate in the future (Figure 5).

Through this exercise of benchmarking and setting goals for how your Community of Practice could operate on the *Collaboration Continuum*, and using the examples and indicators of how people can work together described in Table 4, interactions and forums can be designed to maintain and enhance these working relationships and implemented through the Regional Extension Plan for grazing in the Burdekin Dry Tropics as part of the workplan of activities. The agenda for meetings and project work will come from the priorities set in the Regional Extension Plan and from actions to address the challenges identified in the collaboration workshop (see Step 2), but the indicators in Table 4 can provide guidance on how the stakeholders can work together in a coordinated and collaborative way as a Community of Practice to address these challenges and should be incorporated into recommendations in Table 3.

**Table 4.** Examples and indicators for the different levels of working together in a collaboration continuum (adapted from Hardy, 2019).

	<b>Fragmentation</b>	<b>Networking</b>	<b>Cooperation</b>	<b>Coordination</b>	<b>Collaboration</b>
<b>Level 1</b>	Participants do not liaise or meet Participants may view other organisations as competitors Participants do not share resources or events	Participants come together socially or informally Participants exchange or are happy to exchange information or contact details	Participants attend a Regional Extension Coordination Network Meeting Participants attend a flexible funding or peer-to-peer learning event	Participants assist with the delivery of a network activity or event (organise catering, venue, take minutes etc) Participation in a shared planning activity Responsibility for meeting action list is shared by 2 or more partners	Participants are taking a lead or contributing to new activities (outside the meetings or funded activities) 2 or more partners that previously didn't work together are now working together on new projects or activities
Lead Indicators <b>Level 2</b>		Participants happy to attend network meetings Participants interact with each other	Participants come along to meeting with a shared agenda Participation in the meeting	Participants share in a joint planning process (development of agenda or approval of projects for example) Participants contribute resources to planning meetings	Participants are working towards a shared goal Participants are volunteering suggestions Participants are offering to lead new activities
Intermediate indicators <b>Level 3</b>		Participants happy to come along to a second meeting Participants tell others about the benefits Participants invite others to the network	Follow up phone calls or emails from participants after meeting	Participants agree on a decision (or with the decision made) Participant(s) other than the REC take a lead on an action	Participants commit resources (time and/or funding) for joint activities Participants are starting to work with other network members on other initiatives
Possible longer-term indicators (outcomes/ impacts) <b>Level 4</b>		A higher level of trust is reported among networkers. Evidence of networkers being willing to actively explore working at higher levels (ie, cooperation, coordination and collaboration). Evidence of organisations being more willing to share information about achieving practice improvements, or lessons learned.	Evidence of producers being referred to other extension services where more appropriate. Evidence of sharing resources between organisations providing extension services. Messaging about practice improvement is more consistent between different providers.	Feedback from producers of significantly less duplication of surveys and events. Feedback from producers of improved scheduling. Greater clarity about which services organisations are providing	Applications for funding jointly prepared by multiple organisations. Extension events jointly organised by multiple organisations. Producers express greater confidence in the relevance and effectiveness of the extension system. Evidence of more attempts at innovating through joint planning and delivery.

**Table 6** Benchmarking of how stakeholders in the Regional Extension Network (RExN) for grazing in the Burdekin Dry Tropics are working together relative to the Collaboration Continuum.

2018	Fragmentation	Networking	Cooperation	Coordination	Collaboration
Level 1					
Level 2					
Level 3					
Level 4					

2019	Fragmentation	Networking	Cooperation	Coordination	Collaboration
Level 1					
Level 2					
Level 3					
Level 4					

2020	Fragmentation	Networking	Cooperation	Coordination	Collaboration
Level 1					
Level 2					
Level 3					
Level 4					

**Colour Code:**

2018	2019	2020	Extent of interaction
			Does not occur
			Occurs but infrequently
			Occurs more often
			Occurs frequently and regularly

