Enhanced extension and education in Reef catchments 2017-2020

The Queensland Government is investing in more effective, targeted and coordinated extension and large scale practice change programs as part of its response to Recommendation 3: Extension and Education of the Great Barrier Reef Water Science Taskforce (Taskforce) Report.

In response substantial investment is being made to support farmers through extension, education and support services, industry led Best Management Practice (BMP) programs and many on ground management projects.

The Queensland Reef Water Quality Program funds numerous projects supporting agricultural practice change. The Australian and Queensland Governments also work together to fund and deliver extension for improved outcomes for Reef water quality.

Some projects funded by the Queensland Reef Water Quality Program supporting agricultural practice change in Reef catchments

- Two Major Integrated Projects have been initiated in two cane farming districts in the Wet Tropics, and in the grazing region of the Bowen, Broken and Bogie Rivers. These projects support the development of programs in collaboration with producers, empowering them to be the leaders of change. ($33M)
- Project Cane Changer has been implemented in partnership with CANEGROWERS organisation to engage growers to take ownership of change processes in a supportive environment. ($2.3M)
- Innovation funding has been made available to increase and improve water quality monitoring at a local level as well as trial water treatment options. ($2.76M)
- Innovative gully remediation on grazing lands projects are being delivered in partnership with Greening Australia in the Burdekin grazing regions. ($2M)
- Engaging non-engaged graziers through the Burnett Mary Regional Group Project ‘Better beef for the Reef” ($620K)
- In the Russell Mulgrave area cane farmers are being assisted through an agreement with a local agronomic company to develop holistic farm management plan with a focus on nutrient management ($268K)
- Additional innovation funding is directed at supporting the Reef Trust enhanced fertiliser efficiency projects in the Wet Tropics, Burdekin, Mackay Whitsunday and Burnett Mary NRM regions. ($2M)
- Additionally, the Queensland Government provides financial support for industry led best management practice (BMP) programs in the cane, grazing, banana, grains and horticultural industries in all Reef catchments.

Extension and Education (E&E) Review

An independent review of existing provision of extension and education services and support was undertaken by specialist extension consultants, Coutts J&R Pty Ltd in 2017. This report has provided coordinated priorities and direction for investment to ensure efficient and effective extension and education in Reef catchments.

Summary of E&E Review:
The 65 recommendations of the review provide direction and priorities to develop and build on extension capacity in Reef catchments, while reviewing existing education and extensions systems, and providing access to services for producers to enable accelerated practice change. The report recommendations are intended to encourage collaboration across reef stakeholders and investment programs.

Six focus areas respond to the identified priorities in the review report. These areas are:

1. Overseeing the implementation
2. Coordination and collaboration
3. Extension personnel and expertise
4. Training and capacity building
5. Extension approaches and methods
6. Monitoring and evaluation

The key recommendations are illustrated in Figure 1.

Figure 1. Key components of Enhanced education and extension review implementation 2017-2020

An investment of $6M has been allocated from 2017 to 2020 to reflect the review recommendations. Some aligned projects were identified as high priority and have been initiated with funding previously allocated, bringing the total investment under Taskforce recommendation 3 for extension to $10.11 M. (Table 1).

Table 1. Distribution of taskforce investment for enhanced education and extension 2017-2020
The Government will lead the implementation of the response to the review with the involvement and contribution of many stakeholders. The review outlines that some elements will need to be led by external parties, such as industry and other partners working to achieve enhanced extension and education.

The full response to the E&E Review is outlined in the document, **Response to Review – Practice change, Education and Extension in Reef Catchments Project (Final Report June 2017)**.

### R1 Implementing the review

**Key Recommendations Summarised:**
- Establish Reference Group and annual review with expert input on progress
- Extension delivery survey to assess gains in extension capacity and functioning

**Response:**

Use existing groups where possible to oversee project delivery to integrate management of new initiatives and wider Queensland Government initiatives.

A reference group will oversee implementation bringing in expert review as required. The Queensland Reef Water Quality Program (QRWQP) partnership committee or similar will support integration and alignment with wider initiatives. Stakeholder oversight and engagement can also occur through existing groups.

An annual skills survey will be undertaken to assess extension capacity and inform training and development.

### R2 Coordination and Collaboration

**Key Recommendations Summarised:**
- Appoint/extend Regional extension coordinators and a cross-region coordinator
- Develop Regional Extension Plans to guide the allocation of flexible funding at the regional level
- Establish or continue Regional Extension Coordination Groups

**Response:**

Improved regional coordination and collaboration as a high priority, ensuring opportunities for coordination, collaboration and feedback on projects are identified and utilised.

A Reef Extension Coordination project (TF3.5) has been initiated with flexible funding to support regional networks to work together to achieve agile, focused responses to local needs. The extension effort will be enhanced through a reef extension network.
R3 Personnel and expertise

Key Recommendations Summarised:

**TF3.5 Enhanced extension coordination in Great Barrier Reef**
This project supports more targeted and coordinated extension to encourage large scale land management practice change to improve water quality of the Great Barrier Reef (GBR). The project will facilitate improved coordination, collaboration, networking and outcomes of activities and projects located in GBR catchments, through a network of extension coordinators supported by some funds for priority collaborative extension activities. This will deliver better on-ground services for producers.

The project extends the current successful approach to extension coordination in the reef and will enhance the collaborative arrangements between extension providers and build networks that support action in GBR catchments. This program will work with private and public extension suppliers to better meet producer needs, improve the quality of extension services, support whole of farm outcomes and make greater use of smarter and more innovative extension approaches.

- Augment existing services by providing additional support in areas where technical expertise is limited, such as soil/conservation/health/hydrology, mixed crop farming, business management and economics where gaps are identified
- Plan on a rolling 5-10 year basis
- Develop a focussed website for Reef extension staff information sharing
- Recognise the role of public sector, industry, regional NRM organisations and Landcare
- Increase role of private sector and industry engagement and involvement
- Recognise the role of Best Management Practice programs in providing increased returns for producers and in meeting regulatory requirements
- Extend Pilot Capacity Building and Graduate Program

**Response:** The Queensland Government will continue to engage with industry and relevant stakeholders to identify and address gaps in the provision of specialist advice for producers.

- Investigate mechanisms to fill high priority skills gaps in discussion with stakeholders
- Refine and confirm the scope and delivery needs of other skills gaps, including through the development of Regional Extension Plans
- Investigate options for a Reef Extension Network website
- Ongoing funding for industry and the public sector for BMP programs will be provided through the QRWQP
- The Queensland Government is investing in programs to investigate and validate the economics of best management practices

R4 Training and capacity

Key Recommendations Summarised:

- Recruit Training Development Manager
- Promote, use and develop the extension best practice framework
- Develop training framework and develop and source training material for core reef extension skills
- Provide professional development for program managers and funders
- Develop a mentoring framework
- Establish and use a formalised network of Reef Extension delivery
- Support opportunities for career development of extension officers
Response:
Support ongoing capacity building through formal and informal training, education and mentoring opportunities.

- A Training Development Manager will be recruited and will:
  - lead development of the best practice framework
  - build capacity
  - finalise and implement the training development framework
  - develop a mentoring framework.
- The training framework and core materials will be leveraged through existing provisions for vocational education and training (VET) in agriculture to access additional funding.
- The Pilot capacity building project (TF3.4) (training, mentoring and graduate program), including the mentoring framework will be extended based on evaluation of the pilot project.
- Employers are responsible for supporting their extension staff in terms of further professional development and training.

TF3.4 Pilot capacity development project
A pilot capacity building and training project with QFF commenced early 2017 to address identified current extension gaps.

- Component 1: Pilot building capacity in extension training delivers a training program during 2017/18 that addresses the skills and knowledge gaps identified by extension officers as critical to delivering extension services.
- Component 2: Pilot agricultural extension graduate work placement program for six early career extension officers placed in organisations across GBR catchments, supported by mentor(s), to share their on-ground experience.
- Component 3: Assessment, evaluation and recommendations of the two components of the project and will make recommendations for future development in the area of capacity building and training.

R5 Approaches and methods

Key Recommendations Summarised:

- Landcare groups should be encouraged to apply for funding for extension projects in their areas.
- Long-term peer-to-peer learning funding directly to producer groups focusing on producers who have not previously been engaged through other mechanisms.
- Greater use of extension technologies, including distance engagement technologies.
- Broker/leverage enhanced services through existing funding programs to encourage private sector delivery and on-ground practice change (eg RP161) (See below).
- Support communication initiatives, including develop ‘rules of thumb’.

Response:
Support for innovative and agile extension approaches to be identified and implemented where possible for best outcome in on ground practice change.

- The Enhanced Extension and Education Coordination project (TF3.5) will provide information and networks to engage with all relevant stakeholders, including Landcare groups.
- Funding is committed over 3 years to implement peer-to-peer learning opportunities and other successful mechanisms that are practical and assist producers to change practices on the ground.
- Previously successful projects, such as RP161 (see below), that encourage private investment will provide a basis for further investment in similar projects.
- The use of appropriate technologies to enhance information exchange and access to expertise will complement face-to-face extension methods and will be implemented.
- Easy to follow and understand key messages for across regions and industries will be developed.
RP161 Complete nutrient management planning for cane farming

In the project Complete nutrient management planning for cane farming (RP161), over 100 Burdekin farmers are working with a locally trusted private agronomy firm to create tailored nutrient management plans for their farms.

After initial soil tests personalised one-on-one support is provided for whole-of-farm nutrient management planning, tailoring the fertiliser rate and blend to each part of the farm based on its past performance. Once the rates and blends are worked out the agronomist recommends the products for the farmer to purchase and apply. The agronomists also assist with fertiliser box calibrations to adjust rates as required. Farm decision support is provided throughout the year by experienced agronomists. Irrigation and weed management are addressed, if necessary. Each grower undertakes SIX EASY STEPS training to understand how to calculate optimal nutrient rates for their farm.

Growers on this project agree they have learnt the optimum fertiliser application rates and they can save money when accompanied by good farm management.

R6 Monitoring Evaluation Reporting and improvement (MERI)

Key Recommendations Summarised:

- Reef Monitoring, evaluation, reporting and improvement (MERI) Framework (RP150 2016) should be adopted as the ‘higher level’ guide for Reef E&E.
- All Reef E&E programs should report against this framework.
- Efforts should continue in benchmarking practice levels related to the water quality risk framework.
- The Extension Coordination Manager should provide leadership and support in partnership with the Paddock to Reef program.
- Greater use of qualitative data methods to show the role of different programs in building capacity and influencing management practice change.
- A Synergy Matrix should be used to demonstrate where each new program adds value.
- A Client Management System (CMS) for Grazing BMP/FutureBeef should be explored.

Response:

A monitoring and evaluation framework is required for all QRWQP funded projects to ensure that the value of the project and potential to contribute to reef water quality outcomes can be measured.

Ensure a consistent and meaningful MERI process is undertaken by all projects funded through QRWQP that will complement the Paddock to Reef monitoring and reporting program.

- The findings of RP150 will be incorporated into a MERI Framework and support resources, which will be developed in association with the QRWQP evaluation consultancy.
- New Reef project contracts will require a MERI plan.
- A common reporting platform is being investigated.
- A MERI Reef E&E and practice change focus group will engage with industry in developing sample instruments.
- Continue working with industry BMP programs in collection of data for the Paddock to Reef program.
- Regional benchmarking of practice levels and change over time will continue.
- A synergy matrix approach will be investigated.
- A CMS will be explored, in conjunction with other data management programs.

Queensland Reef Water Quality Program MERI guideline

An evaluation of QRWQ projects will measure and report on outcomes and impacts across projects and provide consistent information to OGBR for return on investment and monitor progress toward Reef 2050 Water Quality Improvement Plan (WQIP) actions and targets for agricultural practice change.

Guidelines, templates and tools will be designed to assist projects with their MERI plans based on minimum evaluation requirements that align to Reef 2050 WQIP targets. This process will result in more accessible data from projects for guiding future work.