

MONITORING & EVALUATION ANNUAL REPORT

Drought and Climate Adaptation
Program (DCAP) Phase 2

Coutts J&R / July 2018



Queensland
Government

ACKNOWLEDGEMENTS

This M&E annual report draws on the milestone data from projects and interviews with stakeholders, project teams, the Steering Committee and project management. Without people willing to participate in this process, the richness of the data collected and the emerging stories of the projects from different points of view would not be possible. The time given has been much appreciated and valued.

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SUMMARY

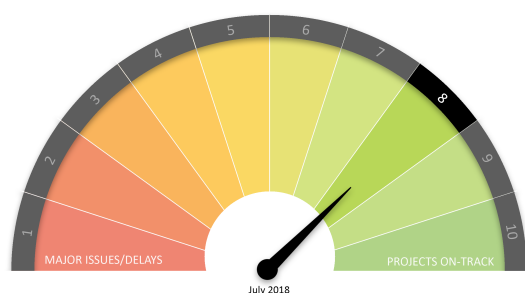
About this report

This M&E annual progress report provides a program and project level update of The Drought and Climate Adaptation Program (DCAP) Phase Two M&E activities.

About DCAP

DCAP is the Queensland Government's \$17.5 million initiative to improve drought preparedness and resilience for Queensland producers. The program began in 2016 with Phase One ending June 2017. Phase Two runs to June 2021 and at this stage consists of nine projects *managed and funded through a series of partnerships with government and industry partners.*

Project status



Projects are on mostly on track delivering planned milestones - apart from some contract related delays. Project teams / Steering Committee members / program management were generally happy with the projects' and DCAP's overall delivery on planned activities, outputs and outcomes.

Overall statements

All interviewees were supportive of DCAP's direction, its potential on-ground impact and were comfortable with the progress to date. It was commonly felt that the issues being addressed were very important and had bottom line implications. There was a strong level of agreement around the need for focused and effective communication and extension activities to share project outcomes / findings / outputs at the producer and industry levels as projects progressed.

There is credible evidence that DCAP projects are addressing industry needs and involving stakeholders in product development and research design. Stakeholders have noted their appreciation at being involved with projects from the beginning. It is important that DCAP projects remain end user focused while continuing to develop research and outputs.

Some early impacts and indications of potential benefits are starting to emerge. Good evidence is being collected and recorded (particularly through narratives and feedback sheets) by some project teams of changes in understanding, skills and on ground practices as a result of people using their product/s and/or participating in activities. These include:

- A grower modifying their planned planting and production program for late summer after attending a DAF 7 (February 2018) climate forecast industry update.
- A rural property valuer stated that he found FORAGE reports very useful for his business – reports are used to assist with the apportionment of value for rural property (DES 1).
- Extension officers already incorporating key messages into extension material and presentations (DAF 6).

Summary of findings



END OF PROGRAM OBJECTIVES

- One year into DCAP's second phase, stakeholders were optimistic about the program's potential impact on more effective management and landholders' capacity to be more productive and profitable in a variable climate context. The DCAP research/tools being developed were thought to be relevant and gaining traction. The need for the extension and communication of findings/tools/outputs as they become available was highlighted.
- Opportunities were being identified for collaborations and partnerships within the DCAP projects and with external organisations.
- Project issues at this stage were relatively minor and mostly revolved around delayed timelines due to contracting issues, team recruitment and workloads.



COMMUNICATION AND EXTENSION ACTIVITIES

- Based on their observations to date, project team members and program management / Steering Committee members thought that there was a moderate level of awareness of DCAP related projects and activities. General indications were that project teams are doing a fair job at keeping relevant stakeholders up to date with what is happening on their project. It was noted by a few project team members that awareness would start to rise once products are rolled out to end users.
- Word of mouth and social media were the most mentioned ways stakeholders interviewed had heard about DCAP, with Beef Week also mentioned by a couple of respondents. This indicates some success in these communication approaches which could be further built on by the DCAP communication and project teams as communication of findings becomes more of a focus.
- Interviewed stakeholders who had participated in DCAP activities indicated that they found the engagement to be very effective. This suggests that despite it being early days for a number of projects, the engagement that is happening so far is viewed as valuable and relevant for those involved.
- There is a good level of satisfaction with the cross-collaborative opportunities between DCAP projects. There is scope for more as projects develop and can take advantage of the opportunities available.

PROJECT OUTPUTS

- Projects have already released outputs that are being used by end users (e.g. DES 1, USQ 4, DAF 6) or are making progress in their development (e.g. USQ 5, DAF 7). User feedback has been positive, and demand has been reported by the projects to be out there and in some cases increasing. For example:
 - FORAGE property reports are said to have more users than ever with 1,000 property reports for over 100 properties ordered during Beef Australia 2018;
 - DAF 6 has released a report which is being used by regional extension teams in their extension activities; and
 - DAF 5 is investigating high demand cyclone insurance products for the sugar industry (as evidenced in case studies).
- The level of consultation with stakeholders and industry, end users already using the products and the reported demand, are all indicators that DCAP outputs are on track to be appropriate and user friendly as per performance measures outlined in the M&E framework.

RESEARCH AND DEVELOPMENT ACTIVITIES

- Overall, stakeholders who had contributed to research planning activities indicated they were very satisfied with the process. Those involved were pleased to have been invited to participate early on and were happy that their input was being taken on board by the project teams (where relevant).
- Despite some indicated contract related delays (USQ 4), R&D activities have generally been reported by the projects to be on track and making good progress. Challenges have been identified and worked through (e.g. social research question design for DES 3) and there is solid evidence that stakeholders are being involved and closely consulted (e.g. USQ 5 engagement with relevant farming businesses and key stakeholders service providers).

STRUCTURES, PROCESSES AND MANAGEMENT

- There was strong support for and satisfaction with the DCAP Phase Two management process to date. It was described as being run responsively and in an open and transparent manner. Steering Committee members have been happy with their opportunities for input and said that the project presentations at their meetings had improved their understanding. YourDATA was also felt to be an effective reporting platform after two quarters of use for milestone data entry. Steering Committee members were keen to reinforce the importance of continued evaluation and reviewing projects to ensure successful outcomes and demonstrate value.
- The internal communication process was rated well with project leader meetings generally viewed as quite useful and providing opportunities for collaboration and cross project synergies. Team members were interested in further sharing of program level information (e.g. outcomes from Steering Committee meetings) and more awareness of other project activities/reporting. It was suggested that there was scope for an internal bi-monthly or quarterly newsletter for distribution amongst all project team members (not just team leads). There was also felt to be scope to explore more opportunities for the external communication of project outcomes and benefits.

Recommendations

- 1** **Cross collaborative and synergistic opportunities between DCAP projects are valued and should continue to be promoted through internal communication channels particularly project leader meetings.** As part of the agenda, project leaders could be encouraged to talk about potential upcoming opportunities for collaboration / participation on their project or where they might be looking for input from others.
- 2** **There is scope to explore an internal DCAP e-newsletter (bi-monthly or quarterly) to keep members of the (expanding) project teams updated on program and project level activities.** This could include external communication activities and reactions (e.g. media releases, social media posts, any media reactions/publications etc), a diary of upcoming project activities (e.g. workshops, field days etc), Steering Committee notes and sharing emerging project impacts (e.g. narratives, anecdotal feedback, relevant workshop feedback). Project teams should be encouraged to proactively share information to include as they are most aware of what is happening at the project level.
- 3** The effective communication and extension of project findings and outputs at the on-ground and industry level is viewed as important by stakeholders and project team members / Steering Committee members and project management. **Extension strategies and planning should continue to be developed as a matter of course as more information and products / tools become available. Additionally, continuing to develop effective program / project communication strategies promoting a broader industry awareness of DCAP and its potential impact, should be considered a vital and growing focus for all project team / program management / communication team members.** Wider application of tools / products / knowledge developed will (to some extent) depend on industry understanding what DCAP is trying to achieve through its projects and how producers will benefit. Part of this should include utilising the list of stakeholders who participated in the DCAP Phase One benchmarking survey and gave their permission for ongoing contact about DCAP activities. While DCAP updates are included in the Queensland Agriculture newsletter, they are less likely to have impact than an exclusive communication about DCAP. Quarterly updates to this list particularly focusing on benefits to end users of tools and knowledge should be considered. Effective use of the LongPaddock website should also be considered for its high communication potential.
- 4** **There is scope for the DCAP communications program to be reviewed to ensure emerging project achievements are promoted and possibilities scheduled for the future.** While regular contact between the program communications team and project team members is important for the exchange of relevant information, project team members are best placed to proactively share emerging opportunities around research findings and outputs on which the communications team can capitalise. This has already been happening to some extent with the communications specialist attending project team meetings and project teams asking for help with promotional activities. **Sharing of the reactions to the communication activities is also very valuable and should be prioritised (e.g. feedback from social media posts, where media releases have been published etc).**

CONTENTS

Acknowledgements	2
Summary	3
Overall statements.....	3
Summary of findings.....	4
Recommendations.....	6
Contents	7
1. Introduction	8
1.1 Purpose of this report.....	8
1.2 Background.....	8
1.3 About the evaluation.....	10
1.4 M&E activities.....	11
2. Findings	14
2.1 Long term goal.....	14
2.2 End of program objectives.....	15
2.3 Communication and extension projects and activities.....	23
2.4 Products and tools.....	31
2.5 Research and development projects and activities.....	34
2.6 Underpinning structures, processes and management.....	39
3. Looking forward	42
3.1 Considerations moving into year two.....	42
Appendix 1: DCAP logframe	44
Appendix 2: Project Milestone Updates	49
Appendix 3: Feedback Sheet Summaries	56

1. INTRODUCTION

1.1 Purpose of this report

This is the annual monitoring and evaluation report for Phase Two of the Drought and Climate Adaptation Program (DCAP). It provides a summary of project and program level activities, outputs and outcomes to date as well as identifying any emerging issues that may need addressing moving forward.

1.2 Background

DCAP is the Queensland Government's \$17.5 million initiative to improve drought preparedness and resilience for Queensland producers. It aims to do this *by delivering a range of research, development and extension projects, improve seasonal forecasting and provide tools and systems that will support producers in their decision-making*¹.

The program began in 2016 with Phase One ending June 2017. The first phase included 18 projects managed between the University of Southern Queensland (USQ) and the Department of Environment and Science (DES). Phase two runs to June 2021 and consists of nine projects *managed and funded through a series of partnerships with government and industry partners*¹. The establishment of the Queensland Drought Mitigation Centre (QDMC) is the program's largest partnership (with USQ and DSITI) which aims to *improve seasonal forecasts for northern Australia, provide decision support tools for farm managers, and provide advice on climate change projections at regional level and how to adapt to the changing climate*¹.

Other partnerships including Meat and Livestock Australia (MLA) and the Bureau of Meteorology (BoM) will lead research into drought resilience, weather and seasonal forecasts, and mentoring programs. The GrazingFutures project is another major element of DCAP which aims to help Western Queensland graziers build resilience in their businesses and recover from drought as quickly as possible.

1.2.1 DCAP round two projects

DES 1

The inside edge for graziers to master Qld's drought prone climate (Dr Ramona Dalla-Pozza)

- Innovative research will be converted into information systems and processes to support Queensland graziers to manage drought and climate challenges more effectively.
- DSITI's research will give Queensland graziers the "inside edge" to master our drought-prone climate, enabling proactive climate responsive business decisions. This project will yield climate-savvy graziers that will continuously adapt to Queensland's variable and changing climate.

¹ <https://www.daf.qld.gov.au/environment/drought/dcap/about-dcap>

DES 2

Do we really know our baseline climate? Using palaeoclimate data to plan and prepare for extreme events and floods in Qld (Dr Ramona Dalla-Pozza)

- The project will use palaeoclimate data to produce a 1000 year rainfall record for Queensland which better describes the risk of extreme droughts and floods.
- The Queensland agriculture sector will be supported in better understanding and preparing for extreme climate events with the extended short instrumental climate record going back over 1000 years.

DES 3

Enabling drought resilience and adaptation: A program of social research and knowledge support (Dr Jeanette Durante)

- Better understanding of the barriers to managing climate risk and preparing for drought will be used to improve information products and tools to support better decision making in the grazing industry.
- This applied research project will engage directly with Queensland graziers, extension officers and scientists to identify barriers to drought preparedness, and strategies to assist the grazing industry to improve business resilience and adaptation to drought.

USQ 4

Northern Australia Climate Program (Mr David Cobon)

- Rainfall forecasts will be improved across northern Australia to help graziers make more informed management decisions. New forecasts will be introduced into grazer networks to allow ease of use and application of the information into management of grazing businesses.
- Queensland graziers will be directly supported through improved seasonal climate forecasts, development of information products for grazer decision making and integration of this information into existing and new extension activities.

USQ 5

Producing enhanced crop insurance systems and associated financial decision support tools – Phase 2 (Dr Shahbaz Mushtaq)

- Improving climate risk insurance products for agriculture will support Queensland primary producers to independently manage climate risk more effectively.
- Recommendations will be developed for agricultural industries and the insurance industry on how more affordable insurance products and viable markets for agricultural insurance products can be established and maintained for Queensland rural industries.

DAF 6

Delivering integrated production and economic knowledge and skills to improve drought management outcomes for grazing systems (Dr Maree Bowen)

- The economic impacts of grazing management decisions will be analysed to improve the capacity of businesses to manage the productivity and profitability challenges of droughts in Queensland.

- The skills and knowledge of managers of Queensland grazing businesses will then be developed and supported to assess the economic implications of on-farm drought management decisions.

DAF 7

Use of BoM multi-week and seasonal forecasts to facilitate improved management decisions in Qld's vegetable industry (Mr David Carey)

- Improved temperature forecasts will be developed and customised to enhance farm management decision making in the Queensland vegetable industry and improve the capacity of the horticulture industry to manage climate variability and adapt to a changing climate.

DAF 8

GrazingFutures: Promoting a resilient grazing industry (Dr David Phelps)

- Supporting western Queensland grazing businesses to prosper and grow based on best management practice, science and industry experience.
- Grazing businesses across western Queensland will identify and implement changes on-farm which improve business resilience to drought and climate extremes and deliver enhanced community and economic development outcomes.

DAF 9

Forewarned is forearmed: Equipping farmers and agricultural value chains to proactively manage the impacts of extreme climate events (Mr Neil Cliffe)

- Improving and customising forecasts of extreme rainfall and temperature events will be developed to help primary producers to make more informed short and medium-term management decisions to improve farm profitability in Queensland's grazing and sugar industries.

1.3 About the evaluation

The ongoing evaluation process over the life of DCAP's second phase includes the following:

1. Managing the monitoring and evaluation process in conjunction with the DCAP Program Manager;
2. Providing ongoing YourDATA management;
3. Developing feedback sheets and survey instruments/questionnaires and supporting training of project leaders at the sub project level;
4. Undertaking annual interviews with project staff and project leaders, including sub project level;
5. Undertaking surveys of informed persons including producers and industry personnel engaged with DCAP projects;
6. Facilitating independent expert panel/critical friends bi-annual review of program impact; and
7. Assisting the Program Manager in annual reporting requirements, including regular progress reports on M&E; activities and summaries of data available on YourDATA; and an annual report against the DCAP logframe and objectives.

1.4 M&E activities

The following M&E activities have been undertaken since the beginning of DCAP Phase Two.

1.4.1 Report writing

This 2017/2018 annual report is based on the annual surveys undertaken with project stakeholders and the project team and aligns with the DCAP M&E log frame developed at the beginning of Phase Two (Appendix 1). It also includes data from team milestone reporting, steering committee/team leader meeting feedback and other ad hoc information (e.g. emails, online sources). An interim report was produced January 2018 with a mid-year update on DCAP's progress.

1.4.2 Annual stakeholder survey

In March 2018, project team leaders were asked to nominate stakeholders associated with their project who would be willing to provide feedback on their experience in relation to DCAP activities to date. These stakeholders included project team leaders as a few projects were yet to involve outside stakeholders. Twenty-seven surveys were completed with the following types of respondents.

Table 1: Annual stakeholder survey respondents

No. of respondents	Respondent type
5	DCAP Project Leader*
3	No activity participation - Service Provider
2	No activity participation - End-user
2	No activity participation - Government
1	No activity participation - Research
6	Participant - End-user
4	Participant - Government
2	Participant - Researcher
1	Participant - Service provider
1	Participant - Other

** One Project leader completed two responses accounting for the participation in different projects (Response 1: DES 1 & DAF 6, Response 2: DES 3)*

All projects had stakeholders represented apart from DAF 8 which is running its own comprehensive evaluation program. To avoid over surveying participants, Coutts J&R will be working with the evaluation consultants and project leader to allow for the sensitive collection of relevant data.

1.4.3 Annual project team survey

Twenty-one surveys were completed across project team members, the Steering Committee and DCAP management. Respondent roles included:

Table 2: Annual project team survey respondents

No. of respondents	Respondent role
1	DCAP management
7	Steering Committee member
11	Team leader
2	Team member

1.4.4 YourDATA development and management

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 feedback sheet responses, quarterly reporting data, milestones, and narratives.

A custom YourDATA site was developed for DCAP 1 and overhauled for DCAP 2 to facilitate the capture of quarterly reporting and milestone data. The updated database was launched in early 2018 in time for first quarter reporting data (March 2018). A few tweaks were made to the database following user feedback during the next quarter. **Key points for 2017-18 include:**

- Database redeveloped and launched for first quarter 2018 reporting.
- All projects successfully inputted their first quarterly reporting data – project leader queries were answered, and some tweaks made to fields based on feedback received.
- Most projects utilised the milestone section to record updates and milestone achievements
- Four projects have added narratives – DAF 8 uploading seven and DAF 6, DAF 7, and DES 1 each adding a narrative.
- Three projects (DAF 6, DAF 7, DAF9) have utilised the feedback sheet functionality (i.e. converting a paper-based feedback form to an online survey to collate and summarise responses)
- Thirty-nine files have been uploaded – including narratives, case studies, journal articles, reports, and presentations.

1.4.5 Supporting project leaders, participating in team webinars/meetings

Over 2017/2018, Coutts J&R has been available to support project leaders in the finalisation of the project M&E frameworks, the development of workshop feedback sheets/questions, and application of a synergy matrix. Evaluation team members have also participated in the three team webinars to date (January, March, May 2018) and developed feedback sheets for these (January/March only to avoid survey fatigue for those who had participated in the annual surveys during May). Feedback sheets have been developed for each of the Steering Committee meetings. See Appendix 3 for summaries of the responses.

Coutts J&R also participated in the project leaders' workshop (2nd and 3rd November 2017) and presented on DCAP's M&E approach. The presentation was designed to help project leaders develop their M&E thoughts and approach and provide an understanding of the program level M&E. As a

result, workshop participants indicated that they were comfortable undertaking the required M&E activities (based on the evaluation sessions). Coutts J&R followed up post workshop with an email to participants which included the DCAP logframe and other M&E planning tools as well as a template to help project teams fill out their own M&E logframe details.

1.4.6 Technical Reference Panel (TRP)

To date the TRP has been involved with reviewing projects for DCAP Phase Two (July/August 2017). They provided expert input through assessing proposals and contributing to their selection and suggested strengthening. Their on-going role will be to follow project progress through milestone reports in their specific areas of expertise and provide feedback and suggestions where needed. They will also provide input when new projects enter the program.

Its panel members are:

- Facilitator – Jeff Coutts (Coutts J&R, Toowoomba) (DCAP M&E service provider)
- Member – Mark Howden (ANU, Canberra)
- Member – Scott Power (BoM, Melbourne)
- Member – Graeme Anderson (DEDJTR, Geelong)

Technical Reference Panel support staff

- Land Management Unit Director – Vern Rudwick (DAF, Brisbane)
- DCAP program management – Neil Cliffe (DAF, Mackay)
- DCAP program support – Damien O’Sullivan (DAF, Kingaroy)

1.4.7 M&E feedback

A couple of stakeholders felt they were not in a position to provide the detail asked in the interview questions at this stage of the project. As a result of their feedback, there will be a few changes for the 2018/2019 interview process.

2. FINDINGS

2.1 Long term goal

More resilient and productive primary production able to better plan, adapt and manage drought and climate variability.

Performance measures:

Trends in rural industry performance over time in relation to previous performance – especially in the face of extended challenging conditions:

- Numbers of enterprises
- Productivity
- Profitability
- Social indicators
- Environmental indicators

2.1.1 Overall

While it is too early to comment much about the program's contribution to the long-term goal (as one of a number of initiatives), DCAP team members/program management/Steering Committee members were happy and comfortable with the current stage of the program and its processes. Opportunities were being noted for DCAP to link/collaborate with other similar/relevant/aligned projects including: Livestock Aust co-innovation project about grazing and drought resilience; reef policy groups; and linking with some southern projects. A member of the Steering Committee noted the need for the program to remain focused on end user outcomes/benefits.

Stakeholders were very supportive and generally quite positive about DCAP's potential impact on landholders. They also felt the program was on the right track and were positive about the potential of individual projects. *This is a unique opportunity and it's going to provide some excellent opportunities for West QLD (DES 3).* As it is still early days, there was a recognition of the need for stakeholders and end users to continue their involvement to ensure the relevance of the research and outputs. *We really want to make it work for the farmers, but they need to work with us... (USQ 5).* On ground communication of project learnings was also noted as important. *We need to reintegrate the communication and get it out to the producer. The most effective way is on ground (DAF 6).*

2.2 End of program objectives

1. *Increased scientific capacity and tools to monitor, predict, advise and plan for climate variability.*
2. *Increased awareness, understanding, skills and capacity of industries and producers to make most effective use of tools and information supporting their management of drought and climate variability.*
3. *Increased uptake and application by industry, producers and their advisors of available tools, information, practices and strategies to more effectively manage and be productive and profitable in a variable climate context.*
4. *Benefits arising from use and practice changes made by industries and producers.*

Performance measures:

- Extent of increased scientific capacity and tools available for purpose across the projects – numbers, types, access, reliability, gains in skills and knowledge by researchers.
- Extent of gains in awareness, understanding, skills, confidence, access and the extent of use of tools and knowledge, actions within the target industries and producer communities (type, size, locations affected).
- Actual or indicative costs and benefits arising from use of information and tools
- Barriers and issues emerging through program and projects.

2.2.1 Overall

One year into DCAP's second phase, stakeholders were optimistic about the program's potential impact on more effective management and landholders' capacity to be more productive and profitable in a variable climate context (average rating 7.5/10, n=24). DCAP project leaders (average rating 8.8/10 n=4) and stakeholders participating in project activities (average rating 8.1/10 n=12) rated the potential much higher than those who were had not participated (yet) (average rating 5.9/10 n=8). It was commonly thought that the issues being addressed were very important and had bottom line implications. The DCAP projects/tools being developed were thought to be relevant and moving forward with stakeholders highlighting the need for extension/communication of findings/tools/outputs as they became available.

2.2.2 Progress to date

Overall

At this stage, project teams/Steering Committee members were generally happy (average rating 8.1/10, n=21) with the projects and DCAP's overall delivery on planned activities, outputs and outcomes. Respondents felt there was a good degree of scrutiny from the Steering Committee and that *the overall framework was there*. While it is early days, it was thought that things were on track. USQ 5 and DAF 7 respondents in particular felt their projects were tracking very well. The effective management of the project was noted by one respondent in terms of delivering on milestones.

Milestone delivery

Appendix 2 summarises the delivery status of each of the project milestones (available on YourDATA 11 July 2018). Apart from DES 1 (two delayed milestones to date) and DES 2 (delayed milestone and funding issues), all projects have indicated that their milestones are either on track or completed.

Project M&E plans

Each project completed an M&E plan as part of its establishment phase.

Program highlights

At the program level, DCAP is felt by Steering Committee members to have established a portfolio of varied projects that are 'on board' and have been developing MERI and communication plans. It was thought that traction had been gained by projects which had to quickly deliver on outputs. Collaboration with the main funding partners was noted by one Steering Committee member to have been a highlight, while another mentioned the Long Paddock website.

Stakeholders interviewed primarily indicated that as a result of being involved in DCAP they had increased their understanding of various climate related topics.

Potential issues flagged at the program level

Project team and survey respondents generally felt that DCAP has had few issues outside of contract related project delays. Other issues raised included:

- Project impacts (e.g. a question raised around the academic impact of the research)
- Lack of industry input into some projects
- Project challenges relating to complex science and behaviour change
- The challenges around effectively communicating the scientific outputs and outcomes from the projects.

Issues and barriers encountered so far at the project level are summarised in Table 4 below.

Emerging program level opportunities

Members of the Steering Committee/program management responding to the survey raised the following as opportunities resulting from planned project activities.

- **Value of cross-organisational collaborative approach** (e.g. best value for money is to connect with the sciences; uni and the extension officers to the DAF networks)
- **Catalyst for new collaborations/partnerships** (e.g. lead to some further partners and parties coming into the collaboration looking for further projects that we can fund)
- **Emerging engagement opportunities** (e.g. Southern gulf body invited us to go speak; they're keen to see all DCAP project with relevance to grazing)
- **Opportunity for steering committee to be more directive with feedback to projects** (e.g. projects more likely to take heed of advice about how to improve from steering committee representatives and investors)
- **Need to ensure legacy of project outputs** (e.g. other projects don't have platforms to support beyond life of project)
- **Emerging funding opportunities** (e.g. opportunity to fund new initiatives; direct funding to plug gaps or support innovation or do something extra)

- **Awareness raising opportunities** (e.g. opportunity to launch the drought GMDC; farmer decision making video)
- **Improvement/update to 'The Long Paddock' website**
- **DCAP data tool**

It was noted that to help take advantage of these, the Steering Committee needed to keep asking questions of the projects/monitor the program's progress to address any concerns; have flexibility to fund new opportunities; ensure projects are embedded in relevant industries; and understand how other projects relate. One interviewee commented that not every DCAP project was under the same level of scrutiny by the Steering Committee which could have an impact. Continuing the *great job* of program management was also noted by one interviewee to be a factor in building on DCAP's ongoing success.

Project level opportunities

Project team members identified opportunities that were emerging for them after year one of DCAP. These included:

Table 3: Opportunities identified by project team members

DES 1	More field work to be undertaken due to additional funding (e.g. more comprehensive field work to underpin our modelling; which we would not have been able to do without Reef program funding)
DES 2	Too early – waiting on further funding opportunities before more activities can be planned.
DES 3	<ul style="list-style-type: none"> • Opportunity to do more reading about decision support tools • Catalyst for new collaborations/partnerships (e.g. Grazing Futures workshop - opportunity to meet a lot of people who have become instrumental in designing my research instrument; in early stages of building collaboration with North QLD Dry Tropics body)
USQ 4	Positive engagement and awareness raising activities (e.g. seminar at Beef Week with 150 participants well received; produced some media releases about the project)
USQ 5	<ul style="list-style-type: none"> • Catalyst for new collaborations/partnerships (e.g. building up a relationship on the project we are working on - CSIRO, DAFF, QFC) • Emerging funding opportunities (e.g. meetings to discuss future industry interest - looking at sub projects for additional funding to deliver additional outputs)
DAF 6	<ul style="list-style-type: none"> • Improvement/update to 'The Long Paddock' website (e.g. great opportunity and flexible system providing information to producers - much more responsive than before) • Engagement opportunities (e.g. regional groups)
DAF 7	<ul style="list-style-type: none"> • Impact/benefit of DCAP funding on project leverage on BoM access system • Positive engagement and awareness raising activities (e.g. growers attending initial workshop more aware of the weather forecasting and operational products available)
DAF 8	Catalyst for new collaborations/partnerships (e.g. new NRM partnership resulted in a new program to collaborate with landholders to restore land condition)
DAF 9	Too early – contract issues meant a late start, but the project is now starting to progress

2.2.3 Project summaries

The following table summarises the progress of the projects after the first year of DCAP Phase Two by capturing indications of potential impacts and any emerging issues. It is based on 2018 quarterly reporting data inputted to YourDATA (including milestones, narratives, feedback sheets), the May/June 2018 annual DCAP stakeholder surveys and ad hoc information (e.g. through email communications, social media sites etc.).

Table 4: Summary of key project progress towards end of program objectives

	Increased scientific capacity and tools	Impacts and benefits (Indicative/potential)	Issues and barriers
DES 1	<ul style="list-style-type: none"> • Increased interest/use of support tools (e.g. <i>FORAGE Decision Tool has more users than ever – attributable to workshops and promotion at Beef Australia 2018</i>) • Improved models (e.g. <i>good progress towards improving the modelling that underpins the FORAGE online property reports by using a more quantitative and objective approach</i>) • Improved mapping accuracy (e.g. <i>significant improvements to the accuracy of the Land Type mapping across Queensland</i>) 	<p>Early indications of FORAGE reports being useful for businesses (e.g. <i>rural property valuer stated that he found FORAGE reports very useful for his business – reports are used to assist with the apportionment of value for rural property and says that most of the data is accurate when ground truthed in the field</i>)</p>	<ul style="list-style-type: none"> • Resource/recruiting issues (e.g. <i>trouble with government process - had to look at collaborations with other organisations</i>) • Complexity of a large project (e.g. <i>things that need to be worked out once you start engaging and getting feedback</i>) • Late delivery of pasture growth alert (e.g. <i>better that all are behind the product before release and understand the science</i>)
DES 2	Too early - delayed start	Too early - delayed start	<p>Delayed start - Issues with securing funding (e.g. <i>project delayed due to a seven-month application process - unsuccessful in securing additional ARC funding; approval granted by the DCAP steering committee to commence main project aims with modified delivery dates and only one case study</i>)</p>
DES 3	<p>[Planned] Improved understanding of drought-affected graziers (e.g. <i>insights into their values, perceptions of drought, and the ways they assess and respond to drought risk</i>)</p>	<p>Positive about potential impact (e.g. <i>great potential, insights already - deeper insight into the psyche of industry to improve engagement, potential is high</i>)</p>	<ul style="list-style-type: none"> • No/minimal issues (e.g. <i>extension work a bit behind - but finishing now; nothing that's threatened milestones</i>) • Barriers to adoption/ industry change: <ul style="list-style-type: none"> ○ Complexity of the science - how to simplify/ communicate complex scientific ideas (e.g. <i>have conversations one-on-one with providers, keep talking and understanding, better communication scientifically</i>)

	Increased scientific capacity and tools	Impacts and benefits (Indicative/potential)	Issues and barriers
			<ul style="list-style-type: none"> ○ Issues with drought support/relief schemes
USQ 4	<p>[Planned] Improved rainfall and seasonal climate forecasts for Qld and northern Australia (to help graziers make more informed management decisions)</p>	<ul style="list-style-type: none"> • Positive about potential impact (e.g. DCAP is a quantum leap) • Reported stakeholder insights: <ul style="list-style-type: none"> ○ Surprise at USQ's climate expertise ○ Climate research and information ○ Breadth and scope of DCAP 	<ul style="list-style-type: none"> • Delay signing contract (e.g. launched mid-January - took another month for the university to counter sign) • Cautious of previous projects' failures (e.g. have seen programs in the past not achieve their impact, only one of many tools, possibility of not being successful) • Barriers to adoption/ industry change: <ul style="list-style-type: none"> ○ Unable to test tools (e.g. they don't exist yet) ○ Lack of locally relevant forecasting tools (e.g. what works in Queensland doesn't work in the NT) ○ Lack of confidence in existing climate model
USQ 5	<p>New insurance products for the agricultural industry (e.g. project has developed cyclone insurance products for the agricultural industry – highly in demanded as evident through case studies)</p>	<ul style="list-style-type: none"> • Positive response from stakeholders/end-users (e.g. impact very positive - now they want to see the product available; appetite for products was there - farmers like it and would be willing to purchase) • Positive about potential impact (e.g. anything to assist agriculture overcome climate change a good thing, focusing on critical issues for producers) • Reported stakeholder insights: <ul style="list-style-type: none"> ○ Vulnerability of climate change ○ Need for tailored insurance products ○ New ways of looking at resilience options ○ New models of risk transfer 	<ul style="list-style-type: none"> • Minor issue - unable to accommodate all interested industries (e.g. cannot accommodate many industries based on set budget and mandate) • Difficulty obtaining feedback (e.g. hard to get the feedback as we are guests at these workshops) • Barriers to adoption/ industry change: <ul style="list-style-type: none"> ○ Issues with government policies (e.g. stamp duty on products, government assistance for natural catastrophes negates personal incentive to limit risk, need for government to underwrite policies) ○ Lack of understanding of the issue/need/value (e.g. has to be seen as value for money, misunderstanding of past products, need to get message out for improved management options)
DAF 6	<p>[Planned] Improved management strategies designed to prepare for, respond to, and recover from drought</p>	<ul style="list-style-type: none"> • Positive about potential impact (e.g. designed to have a very good impact - a more profitable and productive way for people and sustainability for producers, it is a complete 	<ul style="list-style-type: none"> • Delayed start and resulting budget issues (e.g. budget not carried over to next financial year - might impact later years and our ability to travel to outer regions)

	Increased scientific capacity and tools	Impacts and benefits (Indicative/potential)	Issues and barriers
		<p><i>no brainer - people need to know this information)</i></p> <ul style="list-style-type: none"> • Early anecdotes highlighting project benefits to service providers (e.g. banker who attended two workshops indicated that he was using the results and learnings from our Fitzroy DCAP report to guide his recommendations to clients on appropriate investment decisions) • Extension officers already incorporating key messages into extension material and presentations (e.g. working with the local economist team to schedule follow-up visits to producers who have indicated that they would like assistance with using the models and tools to assess their own options) • Reported stakeholder insights: <ul style="list-style-type: none"> ○ Learned a lot ○ Assessment of different scenarios ○ Profitability of specific options ○ Insights come every time we have a discussion 	<ul style="list-style-type: none"> • Greater than expected workload due to high interest/engagement from regions (e.g. will have to incorporate this level of interest into planned activities) • Barriers to adoption/ industry change: <ul style="list-style-type: none"> ○ Difficulty communicating the message (e.g. producer attitudes/mindset - don't like doing uneconomical things, difficulty understanding how to implement our messages, challenge communicating these findings to a broader audience, info has to be precise and accurate enough at a property level for landholder to believe and engage with it)
DAF 7	<p>[Planned] Improved temperature forecasts (e.g. to enhance farm management decision making in the Qld vegetable industry and improve the capacity of the horticulture industry to manage climate variability and adapt to a changing climate)</p>	<ul style="list-style-type: none"> • Positive of potential impact (e.g. if it works will be [life] changing for producers and end-users, highly influential and important project and would affect the bottom line, projects are good and relevant, if they can make it work it is a big one - it is going to help a lot and make life a bit easier) • Improved forecasts already being utilised by stakeholders (e.g. completed the development of bespoke regionally specific climate model portals for the Lockyer Valley and Granite Belt vegetable regions) • Early anecdotes of end users changing decision based on forecast data (e.g. a local grower 'took a gamble' and after attending our initial Lockyer Valley 	<ul style="list-style-type: none"> • No/minimal issues (e.g. BoM had to get access to new computer system - still able to meet modelling deadlines) • Barriers to adoption/ industry change: <ul style="list-style-type: none"> ○ Financial barriers (e.g. have money to implement it, has to be price or cost effective) ○ Lack of long-term forecast range (e.g. doesn't give us a long enough range) ○ Trust/credibility of the information/source ○ Needs to be convenient ○ Producer attitudes/unwilling to change

	Increased scientific capacity and tools	Impacts and benefits (Indicative/potential)	Issues and barriers
		<p><i>DCAP2 Climate Forecast update to industry in February decided to modify their planned planting and production program for late summer)</i></p> <ul style="list-style-type: none"> • Increased staff understanding (e.g. as a result of a meeting, the BoM R&D team has increased its understanding of the impacts high temperature on produce) • Importance of improved forecasts highlighted through narrative (e.g. better forecasts of extreme weather (including heat) will help prepare for and minimise impact on supermarket supply and costs. Also influence when growers plant certain crops) • Reported stakeholder insights: <ul style="list-style-type: none"> ○ <i>How to read forecasts and weather data</i> ○ <i>High resolution of satellites</i> ○ <i>Learnt how current reporting works</i> ○ <i>People's commitment</i> ○ <i>The availability of Government collected information</i> 	
DAF 8	[Planned] Improved drought resilience	<ul style="list-style-type: none"> • Producers already making (planning to make) changes as a result of their engagement with the project (e.g. 29% of producers indicating they will make a change over the coming 12 months; 24 producers made a change in the January-March 2018; For those people we have engaged with there is either evidence of practice change or improvements in knowledge and skills.) • Types of changes made included implementation of forage budgeting and wet season spelling and adoption of NIRS and phosphorous testing (e.g. total changes will improve business and drought resilience across 2,935,317ha of land, 216,533 cattle and 6,000 sheep) 	<ul style="list-style-type: none"> • Workshop participation (e.g. challenge getting enough people at a workshop - particularly those still in areas of drought) • Uncertainty around some partners' funding (e.g. broader funding to retain staff by our partners - at this time of year this becomes more uncertain)

	Increased scientific capacity and tools	Impacts and benefits (Indicative/potential)	Issues and barriers
		<ul style="list-style-type: none"> • 1 case study published, and 7 Narratives written detailing practice changes (e.g. producer improved their reproductive practices; producer improved his self-assessment of pasture management; producer improved their property map; 15 businesses engaged with Tim Emery to purchase bulls using EBVs) 	
DAF 9	Too early - delayed start	<ul style="list-style-type: none"> • Too early - delayed start • Reported stakeholder insights: <ul style="list-style-type: none"> ○ If people could hear the scientists in project meetings they would be concerned [about climate change] 	<ul style="list-style-type: none"> • Issues finalising contracts (e.g. not finalised for some time - signed now and happy with progress) • Mindful of the need to get the message out (e.g. have to get the message out there, as long we can the data and delivery of information nailed) • Lag in producing outputs due to challenging nature of project (e.g. better forecasts for extreme events cannot be produced overnight) • Barriers to adoption/ industry change: <ul style="list-style-type: none"> ○ Trust/credibility of the information/source (e.g. must be seen to be trusted, too many sceptics and right winged loonies)

2.3 Communication and extension projects and activities

Performance measures:

- Appropriateness, quality, reach, engagement, access and reactions from participants engaged in extension and communication activities across projects
- Value that underpinning support provided in the extension and communication process.

2.3.1 Overall

Stakeholder awareness

Based on their observations to date, project team members and program management / Steering Committee members thought that there was a moderate level of awareness of DCAP related projects and activities (average rating 6.1/10). Unsurprisingly, it was noted that there was more awareness amongst those who had direct involvement (e.g. extension and NRM officers (DES3); project partners) but less amongst the broader community and wider industry (*e.g. those [grazing industry stakeholders who] have come to an activity and knew about DCAP involvement to make it happen but may not recall that it was a DCAP program (DAF 8)*). It was noted by a few project team members that awareness would start to rise once products are rolled out to end users.

Ways in which DCAP and its activities were being promoted were noted by project team members to include the DCAP updates in the DAF newsletter (*e.g. a useful way of getting the message out*); the Long Paddock website; and project materials including the DCAP logo.

Suggestions for where more could be done included:

- Engaging better with stakeholders who participated in the first benchmarking survey; and
- Use of the LongPaddock website in disseminating information (*e.g. the Long Paddock is a broader pick up point of the visibility of the project and it has really gotten out*)

DCAP Communication program

DCAP is supported by a communication specialist who operates at a program level while also providing support to projects. A separate report is produced by the communications team detailing the activities undertaken to date and their results. Examples of the types of activities undertaken include:

- Social media posts on the Queensland Agriculture Facebook page (*e.g. sunburnt capsicums*)
- DCAP updates in the Queensland Agriculture e-newsletter
- Media releases for projects (e.g. DAF 6)

Program management has also promoted DCAP through participation and attendance at various industry activities and events around the state. Recent activities captured on YourDATA include:

- 5 April – GLM workshop Darwin (13 participants)

- 27 April - Climate risk and DCAP presentations at Pasture Productivity and Pest Forum at Julia Ck
- 3 May – South East Qld Beef Research committee (12 participants)
- 8-11 May – Beef Australia 2018
- 14-15 May (and 14 March) - Climate adaptation and DCAP presentation to Longreach, Richmond and McKinlay Regional Councils
- 13 June – Brian Pastures via Gayndah Stocktake workshop (22 participants)
- 14 June – Gaeta via Gin Gin Stocktake workshop (12 participants)
- 26 June – GLM Rockhampton (10 participants)

The following table summarises how surveyed stakeholders have heard about the DCAP program. Just under half of those interviewed (12) indicated that they had heard about DCAP outside of their involvement in the project. Word of mouth and social media were most mentioned with Beef Week also mentioned by a couple of respondents. This indicates some success in these communication approaches, which could be further built on by the communication and project teams as communication of findings becomes more of a focus over the coming years.

Table 5: Stakeholder's awareness of DCAP outside of project involvement

Communication type	Mentions	Example comments
Word of mouth	6	<ul style="list-style-type: none"> • Direct involvement and colleagues in the dept in Queensland • Word of mouth through projects about getting involved in a project with Roger Stone to produce some timing predictions. • Had heard something basically from David Cobon and the BOM regarding monitoring • Email from David Cobon • Involved in projects • Western Queensland drought project
Other social media accounts	3	
Other	3	<ul style="list-style-type: none"> • Beef Australia (x2)- few 1000 people Social media; workshops run through Marie • Emails • Online ag force web site, the ag section
Queensland Agriculture e-newsletter	2	
Queensland Agriculture Facebook / Twitter	1	<ul style="list-style-type: none"> • The DCAP agreement was promoted heavily on social media
Newspaper	1	
Radio	1	
Television	1	

Stakeholder understanding

There were few surprises in the levels of understanding indicated by stakeholders when asked about DCAP and its activities. General indications were that project teams are doing a fair job at keeping relevant stakeholder's up to date with what is happening on their project. Those who had not (yet) participated in any DCAP project activities indicated a relatively low level of understanding of the program (average rating 4.4/10, n=8) compared to those who had (average rating 7.9/10, n=14). Project leaders participating in the survey had a high awareness of the overall program (average rating 8.2/10, n=5). Those indicating lower levels of understanding generally commented that they would be increasingly involved (USQ 4) or had not had a chance to participate yet (DAF 9).

Stakeholder engagement

Overall, stakeholders indicated that DCAP had been quite good at engaging them to date with experiences being generally positive (average rating 7.4/10, n=24). Those who had been participants in project activities indicated that they had found the engagement very effective (average rating 8.6/10, n=13). This suggests that despite it being early days for a number of projects, the engagement that is happening so far is viewed as valuable and relevant for those involved. Ideas on what could make it even more effective included:

- **(USQ 5) Getting people to see the products** (e.g. once they get closer to a product and they need to get it out, extended to people on the ground and communicate with them to see what they need)
- **(USQ 5) Address farmer knowledge gaps and cynicism**
- **(DAF 6) Increased involvement from workshop participants**
- **(DAF 6) Increased investment in on ground delivery of messages**
- **(DAF 9) Improve sugar industry awareness of the project and its activities** (e.g. not enough noise in the sugar industry, do some case studies and get it out there)

Project specific details are included in the table below.

2.3.2 Project summaries

The following table is based on 2018 quarterly reporting data inputted to YourDATA (including milestones, narratives, feedback sheets), the May/June 2018 annual DCAP stakeholder surveys and ad hoc information (e.g. through email communications, social media sites etc.).

Table 6: Summary of key project extension and communication activities

	Type of communication / extension activities	Engagement (e.g. participation, reach, feedback)
DCAP Program	<p>Various awareness raising activities and explanation of DCAP as part of other presentations:</p> <ul style="list-style-type: none"> ○ 6 events during Apr-Jun 18 (e.g. GLM workshop Darwin; South East Qld Beef Research committee; Beef Australia 2018; Stocktake workshops; GLM Rockhampton) ○ 4 events during Jan-Mar 18 (e.g. Smalls Creek Landcare; Disaster information seminars; South Burnett Grazing Network) 	<p>212 combined participants at activities (excluding Beef Australia 2018)</p>

	Type of communication / extension activities	Engagement (e.g. participation, reach, feedback)
DES 1	<ul style="list-style-type: none"> • Key activities: <ul style="list-style-type: none"> ○ Creation of special science extension position (e.g. to re-establish our position in the community and give a better backing to the science) ○ Attended Beef Australia 2018 – presented seminar on Long Paddock and FORAGE, spoke to producers, ordered FORAGE reports and handed out posters ○ Extensive one-on-one engagements internally and externally to improve and finalise the Pasture Growth Alert report ○ Number of workshops, presentations and product demonstrations ○ Wet/Dry poster sent to Prime Minister's office • Reported Activity Numbers: <ul style="list-style-type: none"> ○ 4 workshops ○ 3 field days/farm walks ○ 5 forums/seminars ○ 128 one-on-ones • Reported Information Materials: <ul style="list-style-type: none"> ○ 6 articles (including 1 journal article) ○ 204 technical fact sheets • Reported PR/Media activities: <ul style="list-style-type: none"> ○ 1 media release ○ 1 social media post 	<ul style="list-style-type: none"> • Positive participant feedback (e.g. strong levels of interest reported from grazing industry workshop/field day attendees about available products and services) • Good progress on knowledge support (e.g. engagement with extension people in terms of understanding producer decision making) • Over 100 properties engaged at Beef Australia 2018 (e.g. ordered 1,000 FORAGE property reports for over 100 properties amounting to an area greater than 4 million hectares) • 1,500 multi-year rainfall and pasture growth analyses posters distributed during and after Beef Australia 2018 (e.g. posters have a long-lasting extension capacity; they are a constant reminder to graziers of past seasonal fluctuations under which they managed their enterprises)
DES 3	<ul style="list-style-type: none"> • Key activities: <ul style="list-style-type: none"> ○ Links to DAF 8: Behavioural Insights presentation at Grazing Futures BMP review workshop in Charleville in February 2018 ○ Links to DES 1: Animation for use on the Long Paddock website (e.g. understanding percentiles and making the context specific to the grazing industry) 	<ul style="list-style-type: none"> • Positive response from workshop participants (e.g. strong message growers really enjoyed the social sciences aspect) • Surveyed stakeholder involvement: <ul style="list-style-type: none"> ○ Provision of feedback ○ Setting up the project to have access to social science research ○ Providing guidance on interview instruments and sampling
USQ 4	<ul style="list-style-type: none"> • Key Activities: <ul style="list-style-type: none"> ○ 7 Climate Mates appointed in June 2018 - 1 position re-advertised due to lack of applicants ○ 3 staff attended Beef Australia 2018 – 2 presenting • Reported Information Materials: <ul style="list-style-type: none"> ○ 1 newsletter article ○ 4 magazine articles 	<ul style="list-style-type: none"> • Too early to assess engagement with producers • NCAP Article reach (~33,300 total): <ul style="list-style-type: none"> ○ Qantas link article ~32,500 ○ Rangelands memo ~ 100 ○ Katherine rural review ~ 232 ○ Barkly Beef ~172 • Surveyed stakeholder involvement: <ul style="list-style-type: none"> ○ Member of a working group research project ○ Project planning meetings ○ Recruitment process

	Type of communication / extension activities	Engagement (e.g. participation, reach, feedback)
USQ 5	<p>Key Activities:</p> <ul style="list-style-type: none"> • Presented project outcomes at various forums • Engaged with sugar, cotton and horticulture representatives extensively • Presentation for the World Bank Nepalese Mission on 'Innovative risk transfer and risk management solutions for primary producers' • Case studies of the cyclone insurance product for sugar cane farmers developed - will be used as communication tool as the project progresses <p>Reported Activity Numbers:</p> <ul style="list-style-type: none"> ○ 10 Workshops ○ 13 Other capacity building and engagement activities <p>Reported information materials:</p> <ul style="list-style-type: none"> ○ 7 journal articles ○ 5 newsletter articles ○ 1 technical fact sheet <p>Reported PR/Media activities:</p> <ul style="list-style-type: none"> ○ 1 media release 	<ul style="list-style-type: none"> • Positive participant and stakeholder feedback (e.g. presentation was received incredibly positively and generated considerable interests and discussions on the potential of indexed-based insurance product) • Positive engagement with stakeholders (e.g. ability to have conversation with different farming enterprise, different parties worked extremely well, skilled people on the job, talking to interested people, something tangible that can be easily explained) • Value of data/assistance provided by project partners (e.g. USQ and QFF providing great assistance for the data we need) <p>Reported participant numbers:</p> <ul style="list-style-type: none"> ○ 67 producers/growers ○ 17 non-producers <p>Surveyed stakeholder involvement:</p> <ul style="list-style-type: none"> ○ Discussions about what works and doesn't Project planning meetings ○ Analysis of enterprise performance and drought resilience ○ Input into what farmers think and what insurance would work ○ Active interest in topic
DAF 6	<ul style="list-style-type: none"> • Key Activities: <ul style="list-style-type: none"> ○ 3 successful full-day workshops held across the Fitzroy region with 79 attendees (56 producers with a combined total of 344,419 ha and 81,900 head of cattle) ○ Sold out seminar session at Beef Australia 2018 (160 attendees) ○ Leucaena results presented at Leucaena Network seminar at Beef Australia 2018 (90 attendees - 27 took USB stick with DCAP report) ○ Project leader spoke at Callide Dawson Carcase Competition Field Day (60 attendees and 50 copies of the full reports provided) • Reported Activity Numbers: <ul style="list-style-type: none"> ○ 3 workshops ○ 1 field day/farm walk ○ 2 forums/seminars ○ 3 project meetings with DAF and other industry colleagues • Reported PR/Media activities: <ul style="list-style-type: none"> ○ 1 media release ○ 3 social media posts 	<ul style="list-style-type: none"> • Positive workshop feedback: <ul style="list-style-type: none"> ○ Positive response from workshop participants (e.g. Very positive and good feedback - a lot of producer engagement and interest; economic analysis and profitability analysis is hard to get so producers were very keen; Overall positive response - participants felt they were being listened to; from the workshops we had people volunteer to be part of reference groups.) ○ Workshops rated as very useful (6.3/10) with participants likely to make a change as a result (5.6/7). A banker who attended indicated he was using the report to guide his recommendations for client investments. ○ Increased understanding of the need for thorough and appropriate economic evaluation of business options • Positive engagement with stakeholders (e.g. lot of interest in workshops and people very engaged, doing what farmers finds as a priority, partnership approach working well, focus on next users e.g. extension staff/agribusiness etc, Conferences and Beef Australia, leverage Grazing Future project) • Reported participant numbers: <ul style="list-style-type: none"> ○ 276 producers/growers ○ 136 non-producers ○ 72% intending change ○ 319,403 head of cattle

	Type of communication / extension activities	Engagement (e.g. participation, reach, feedback)
		<ul style="list-style-type: none"> ○ 1,695,939 ha ● Surveyed stakeholder involvement: <ul style="list-style-type: none"> ○ Workshops ○ Forage product feedback ○ contribution to reports and research
DAF 7	<ul style="list-style-type: none"> ● Key Activities: <ul style="list-style-type: none"> ○ Engaged in business impact discussions with major stakeholders ○ Successful Lockyer Valley Vegetable Industry Climate Forecasting interactive forum ○ 2 webinar calls with BoM R&D staff in Melbourne to clarify ACCESS S information and discuss experimental forecast products. ○ Meeting with BOM R&D in Melbourne ● Reported Activity Numbers: <ul style="list-style-type: none"> ○ 16 workshops ○ 15 one-on-ones 	<ul style="list-style-type: none"> ● Increased stakeholder awareness of project work and potential impact (e.g. really increased their awareness of the possibilities; initial discussions with key industry collaborators have been well received) ● Positive workshop feedback: <ul style="list-style-type: none"> ○ Workshop participants increased knowledge and awareness (e.g. 85 % who attended said they had increased understanding considerably and 100% want to be involved further - demonstrated a willingness to engage and that attendees learnt something by coming along) ○ Feedback from Lockyer valley participants about importance of rainfall forecasts will impact on future workshop content ○ Surprising only a few Lockyer Valley Forum attendees were aware of Heatwave Service ● Positive engagement with stakeholders (e.g. engagement with growers has good rhythm, chasing the things that more relevant to growers, emails and updates provide knowledge of project progress, information sharing working well) ● Significant increase in awareness and understanding of weather forecasting tools and capability within BoM and project team (indication from forum survey) ● Stakeholders surveyed (6 end users) indicated a reasonable to high level of understanding of the project (e.g. exciting opportunity, aware of most of it, communication is key workshop message) ● Reported participant numbers: <ul style="list-style-type: none"> ○ 27 producers/growers (22 businesses) ○ 7,000 hectares ○ 6 non-producers ● Surveyed stakeholder involvement: <ul style="list-style-type: none"> ○ Weather modelling ○ Forecasting ○ Information night and experimental log in to BOM website
DAF 8	<ul style="list-style-type: none"> ● Key Activities: <ul style="list-style-type: none"> ○ SWNRM very active in running 7 events in the space of 3 weeks (e.g. erosion control, farmmap4D and mulga nutrition) 	<ul style="list-style-type: none"> ● Positive workshop feedback: <ul style="list-style-type: none"> ○ Positive feedback from Dirran Grazing BMP leading to future follow up work with producers

	Type of communication / extension activities	Engagement (e.g. participation, reach, feedback)
	<ul style="list-style-type: none"> ○ Numerous workshops and field days held across the northern region during April-June (e.g. Basalt Bash women's weekend, Mitchell grass field day and paddock walk, Armraynald Station Field Day) ○ 15 grazing industry training events and activities were led or partnered through the GrazingFutures project (Jan-Mar 2018) ○ DAF staff were invited speakers at a DCQ and Landcare led field day at Barcardine (attended by 70 people) ○ Several property mapping workshops run across the region facilitated by Northern Gulf NRM and AgForce ● Reported Activity Numbers: <ul style="list-style-type: none"> ○ 20 Workshops ○ 11 field days/farm walks ○ 2 forums/seminars ○ 21 one-on-ones ○ 1 presentation dinner ● Reported information materials: <ul style="list-style-type: none"> ○ 72 newsletter articles ○ 7 web pages ○ 5 technical fact sheets ○ 2 case studies ○ 1 flyer ● Reported PR/Media activities: <ul style="list-style-type: none"> ○ 3 interviews ○ 2 media releases ○ 24 social media posts 	<ul style="list-style-type: none"> ○ Increased project awareness from well attended lemon squash events in Longreach (relocated from wash out of 4 small planned events). ○ Reported KASA outcomes for some attendees. Well-illustrated through narratives including an attitude change from a producer as a result of attending a BMP workshop; better farm mapping skills; and pasture management skills ○ Well attended events in the north despite busy time of year and some climatic conditions impacting the Undara Grazing Forum ● Issues impacting activity timing and attendance numbers: <ul style="list-style-type: none"> ○ Late organisations of some events limited promotion time impacting attendance ○ Weather/seasonal conditions requiring some events to be rescheduled ○ Events avoided during show season ● Practice change demonstrated through case studies/narratives (e.g. case studies produced giving examples of how landholders have altered feeding regimes to achieve the greatest return in production for feed provided to livestock) ● Reported participant numbers: <ul style="list-style-type: none"> ○ 308 producers/growers (219 businesses) ○ Average 43% intending change ○ 581,500 cattle and 65,000 sheep ○ 7,149,155 ha ○ 251 non-producers
DAF 9	<ul style="list-style-type: none"> ● Key Activities: <ul style="list-style-type: none"> ○ Four climate workshops (1 sugar & 3 beef) run during Oct/Nov 2017 – Townsville (26/10), Charters Towers (27/10), Longreach (7/11), Rockhampton (8/11) ○ Meeting with Felice Driver SRDC, to discuss Sugar Industry, outputs of FWFA and the role of reference groups ○ FWFA teleconference organised by Dr Christa Pudmenny. 	<ul style="list-style-type: none"> ● Climate beef workshops feedback (41 responses): Workshops were seen as very useful in terms of updates on the current seasonal outlook (8.4 avg. n=22) and in better understanding the 'Forewarned is forearmed' project (8.4 avg. n=37). The project's modules were seen to have high potential benefits to the industry (8.7 avg. n=39). ● Climate sugar workshop feedback (18 responses): Workshops was seen as very useful in terms of better understanding the 'Forewarned is forearmed' project (8.5 avg. n=18). The project's modules were seen to have high potential benefits to the industry (8.4 avg. n=16) ● Rik Maatman from Maryborough Sugar invited to join the sugar industry reference panel for Forewarned is Forearmed (FWFA). ● FWFA members notified that they can join the Forewarned is Forearmed community of practice (CoP) which has been running for three years under the R&D for Profit 'Seasonal Climate Forecasting' project.

2.3.3 Cross collaboration opportunities

Cross collaboration opportunities are available and being taken advantage of

Generally, team members and Steering Committee members were quite satisfied (average rating 7.6/10) with the cross-collaborative opportunities between DCAP projects to date. At the program level, Steering Committee members noted a fairly strong emphasis on and encouragement of this type of engagement across projects. While commenting that more advantage could be taken of the opportunities available to them, the project manager pointed out collaborations between the following projects: DES 3 with DAF 8; DAF 6 with DAF 8; NACP with DAF 8; DAF 9 with DAF 8; DES 1 and DAF 8. *These are all important linkages. There are critical collaborations between R&D and Extension projects.*

Project teams noticed the effort for cross project collaboration with some taking advantage and others commenting that it was not relevant/ needed yet. *Plenty of opportunity just don't have the scope to do it (DAF 6).* Only one team member noted they were unaware of other project activities/outputs. *For example, there was some workshops delivered around decision support tools, but I only found afterwards - could have put some of my stuff in there.* They said they would also like to know more about the day-to-day of different projects. A number of projects commented they would like to do more.

2.4 Products and tools

Performance measures:

- Number, type, purpose, appropriateness, accuracy, rigour, quality, user-friendliness and accessibility of products and tools developed.

2.4.1 Overall

Projects have already released outputs that are being used by end users (e.g. DES 1, USQ 4, DAF 6) or are making progress in their development (e.g. USQ 5, DAF 7). User feedback has been positive, and demand has been reported by the projects to be out there and in some cases increasing.

For example: FORAGE property reports are said to have more users than ever with 1,000 property reports for over 100 properties ordered during Beef Australia 2018; DAF 6 has released a report which is being used by regional extension teams in their extension activities; and DAF 5 is investigating high demand cyclone insurance products for the sugar industry (as evidenced in case studies).

The consultation with stakeholders and industry as per the activities outlined below, end users using products already and the reported demand, are all indicators that DCAP Phase Two outputs are on track to be appropriate and user friendly, as per performance measures outlined in the M&E framework.

2.4.2 Project summaries

The following table is based on 2018 quarterly reporting data inputted to YourDATA (including milestones, narratives, feedback sheets), the May/June 2018 annual DCAP stakeholder surveys and ad hoc information (e.g. through email communications, social media sites etc.).

Table 7: Summary of key product and tool development progress

	Number and type of tools	Development process and stage	Usage and user feedback
DES 1	Long Paddock website (e.g. modern, interactive platform for the new and improved delivery of climate and decision support information to the grazing industry)	New website released February 2018 (e.g. officially released in February 2018 through a joint DES and DAF ministerial press release, a social media post by Minister Enoch and an article in the Qld Agriculture e-newsletter)	
	FORAGE property reports (hosted on Long Paddock website)	<ul style="list-style-type: none"> • Continued work to road-test and refine the Pasture Growth Alert (e.g. continued work with extension staff road-testing and refining Pasture Growth Alert in preparation for public release) 	<ul style="list-style-type: none"> • More users than ever (e.g. substantial increase in demand and currently over 1,200 reports requested monthly – a six-fold increase since 2015; 1,000 property reports for over 100 properties ordered during Beef Australia 2018 -

	Number and type of tools	Development process and stage	Usage and user feedback
		<ul style="list-style-type: none"> • Good progress towards improving underpinning modelling (e.g. improvements to the pasture model (GRASP) using new innovative techniques including green cover analysis) • Development of extension package commenced (e.g. will include a number of short webinars, simple videos accessed through the User Guide, professional videos and promotion through the FutureBeef Update eBulletin and social media) 	<p>equivalent to 4 x total weekly requests)</p> <ul style="list-style-type: none"> • Increased stakeholder interest (e.g. generated a lot of interest from extension officers and rural consultants; considerable increase in requests is in response to a major focus on promotion and by the Grazing Land Systems group)
USQ 4	Climate Outlook	<ul style="list-style-type: none"> • Regional communication network development via Climate Mates started • Climate Outlook framework completed (e.g. will be posted monthly on website and revised by Climate Mates in August and communicated to advisers and partners) 	Increased views/interest in forecasts/outlooks (e.g. climate forecasts have been viewed widely in last few months and there has been some good enquiry about the seasonal outlook)
	Drought Indices	Drought Indices currently running as a prototype (e.g. on track to be fully operational on web in September 2018)	
	Drought Monitor	Drought Monitor is being developed with drought indices (e.g. web development will be completed on ICACS website and ready for testing in September 2018)	
USQ 5	New insurance products	<ul style="list-style-type: none"> • Completed development of cyclone index insurance for sugarcane • Completed development of index-based products (drought for cotton) • Completed development of extreme precipitation products (for wet harvest for sugar) 	Cyclone insurance product for sugar cane farmers highly demanded – evident through case studies

	Number and type of tools	Development process and stage	Usage and user feedback
	Climate risk decision support system for informing insurance	<ul style="list-style-type: none"> Designed and applied to the Macadamia industry in Bundaberg (e.g. will underpin future work and is a critical step towards moving towards a system that will allow farmers and the insurance industry to work together to develop insurance products collaborative so that the needs of both parties are served) 	
DAF 6	Fitzroy region final report	<p>Completed in April 2018</p> <ul style="list-style-type: none"> Northern Gulf report currently in preparation 	<ul style="list-style-type: none"> Extension teams in region incorporated project findings into their extension activities (e.g. process is important to us because we don't have time to extend program into the region so rely on extension teams to do this process - a key outcome) DAF principal economist keen to adopt methodology improvements to economic modelling framework Resulting report said to be of great value for central Qld producers (e.g. for understanding business options for different management strategies)
DAF 7	ACCESS-S based experimental forecasts	<p>Issued 2 long term ACCESS-S based experimental forecasts for the Lockyer Valley</p> <ul style="list-style-type: none"> Developing (on request) a Bowen experimental ACCESS-S based forecast issue in late May 2018. 	
	Application to search official weather station records	Project member developed an application that allows the vegetable industry to easily search official weather station records and easily review all historic records, by month – for all years	

2.5 Research and development projects and activities

Performance measures:

- Type, purpose and extent of R&D as per plans – completion of trials, demos, and reports results.
- Rigour and reliability
- Extent of involvement of end-users in research planning.
- Issues, barriers and learning emerging from the process

2.5.1 Overall

Overall, stakeholders who had contributed to research planning activities indicated they were very satisfied with the process (average rating 8.9/10, n=16). The general feeling was that those involved were pleased to have been invited to be involved early on and were happy that their input was being taken on board by the project teams (where relevant). *It is good to have been asked early on in the program for input rather than in the end when it is too late (Stakeholder - USQ 4).*

Despite some contract delays (USQ 4) R&D activities have generally been reported by the projects to be on track and making good progress. Challenges have been identified and worked through (e.g. social research question design for DES 3) and there is solid evidence that stakeholders are being involved and closely consulted (e.g. USQ 5 engagement with relevant farming businesses and key stakeholders service providers).

2.5.2 Project summaries

The following table is based on 2018 quarterly reporting data inputted to YourDATA (including milestones, narratives, feedback sheets), the May/June 2018 annual DCAP stakeholder surveys and ad hoc information (e.g. through email communications, social media sites etc.).

Table 8: Summary of key research and development activities

	Type/rigour of research being undertaken	End user involvement in research	Other Details (e.g. outcomes, feedback, issues, learnings)
DES 1	FORAGE reports (e.g. to improve and finalise the report)	Consultation with stakeholders/end-users to develop simple rules of thumb (e.g. extension providers and staff in DAF were informally consulted at beginning; working with beef extension officers and consultants to learn from the successful approaches)	Paper on FORAGE published (e.g. published in the international journal for Computers and Electronics in Agriculture)
	Improvements to the GRASP model (e.g. a) undertaking a	Working group review (e.g. DAF regional staff participation in a	• Good progress (e.g. good progress towards improving

	Type/rigour of research being undertaken	End user involvement in research	Other Details (e.g. outcomes, feedback, issues, learnings)
	<p>comprehensive review of Queensland Land Type parameterisation; b) implementing new functions to represent changes to land condition in the GRASP model; and c) reducing the uncertainty around safe pasture utilisation estimates)</p> <ul style="list-style-type: none"> • Reported research outputs: <ul style="list-style-type: none"> ○ 2 Benchmarking ○ 3 Bioeconomic and system modelling ○ 1 spatial analysis 	<p>working group review and provision of regular feedback resulted in a high level of confidence (around 90%) of the RE to land type associations which were at 30-50% levels prior)</p>	<p>the modelling that underpins the FORAGE reports; major improvement to the model by improving the way safe utilisation is estimated)</p>
DES 3	<p>Design of social research questions (e.g. refinement of the research question, the finalisation of the interview runsheet, and the commencement of recruitment)</p> <ul style="list-style-type: none"> • Reported research outputs: <ul style="list-style-type: none"> ○ 6 research interviews ○ 1 interview runsheet 	<p>Research design consultation:</p> <ul style="list-style-type: none"> • Process has overall enhanced the rigour, relevance and applicability of research • Good relationship building with knowledge support scientists • Consultation with stakeholders/end-users (e.g. Ag consultants and DAF staff on the design of research instrument) • Stakeholder contribution to research planning activities (e.g. planning meetings, catch up with team leader) • Stakeholders generally satisfied with level of engagement (e.g. appropriate for where the project is at, one-on-one approach working) 	<ul style="list-style-type: none"> • Two issues identified and addressed through consultation process (e.g. concern over a potential too narrow focus on 'vulnerable' producers for interviews and use of outcomes. Potential to expand focus) • Some challenges encountered recruiting (e.g. sought assistance from DAF to find alternative means of obtaining contacts to directly recruit vulnerable grazier participants). • Learnings on social science theory (e.g. learnings around the use of jargon in social science theory and how it meshes with extension) • Positive interest in research (e.g. early impact has been in getting people interested in the research)
	<p>In-kind knowledge support (for other DCAP projects)</p> <ul style="list-style-type: none"> • Reported research outputs: <ul style="list-style-type: none"> ○ 4 knowledge support 		<ul style="list-style-type: none"> • First draft of Behavioural Insight Concepts database completed (e.g. most relevant to the DCAP Grazing Futures and DST, to be used throughout the DCAP project) • Finalising spreadsheet to identify behavioural concepts (e.g. for the DAF Grazing Futures team) • Feedback to DES 1 (e.g. Provided detailed feedback on the Pasture Growth Alert Report prototype to the DES Grazing Land Systems (GLS) team.)

	Type/rigour of research being undertaken	End user involvement in research	Other Details (e.g. outcomes, feedback, issues, learnings)
USQ 4	Climate outlook, drought indices and drought monitor	<ul style="list-style-type: none"> • Consultation with stakeholders/end-users (e.g. prior to project we surveyed widely across the north and interviewed producers about their needs in relation to climate; effective engagement between us, the bureau, and bringing together people who are spanning the fundamental engagement right to the end to prospective user) • Surveyed stakeholder contribution to research planning activities <ul style="list-style-type: none"> ○ Meetings/discussions (e.g. attended extension meeting, support meetings and discussion to plot end-user needs) ○ Provided feedback/input (e.g. types of products that would be of use in our industry) ○ Happy with opportunities to provide input (e.g. so far so good, good to have been asked early on) 	<ul style="list-style-type: none"> • Progress despite contract delays <ul style="list-style-type: none"> ○ 20% of Milestone 3 Research goals are complete
USQ 5	<p>Research and development of experimental insurance products</p> <ul style="list-style-type: none"> • Reported research outputs: <ul style="list-style-type: none"> ○ 30 research interviews ○ 3 case studies ○ 1 decision support system ○ 6 reports 	<ul style="list-style-type: none"> • Survey of 30 Macadamia growers (e.g. report identifies several insurance options that could be used to assist Macadamia growers protect themselves against these risks) • Engagement with relevant farming businesses and key stakeholders service providers (e.g. 8 informational meetings and 2 one-on-one visits - successful in capturing farmer feedback on the experimental products and the need for case studies was highlighted; research is guided by the end users; conducting surveys to guide us on type of products they want to see) • Surveyed stakeholder contribution to research planning activities: <ul style="list-style-type: none"> ○ Meetings/discussions (e.g. few meetings in the beginning, industry data) ○ Provided feedback / input / trialling (e.g. provided technical/background 	<ul style="list-style-type: none"> • Developed strong industry links through the QFF • Demonstrated demand for cyclone insurance through case studies

	Type/rigour of research being undertaken	End user involvement in research	Other Details (e.g. outcomes, feedback, issues, learnings)
		<p><i>information, trialling insurance products)</i></p> <ul style="list-style-type: none"> ○ Happy with opportunities to provide input (e.g. <i>satisfied, haven't had any issues providing input, loved being involved, good to work with and doing a good job)</i> 	
DAF 6	<p>Regional reports detailing synthesis of scientific knowledge and accompanying economic analysis of the effect of management strategies designed to prepare for, respond to, and recover from drought</p> <ul style="list-style-type: none"> • Reported research outputs: <ul style="list-style-type: none"> ○ 2 bioeconomic and system modelling ○ 1 options analysis 	<ul style="list-style-type: none"> • Consultation with stakeholders/end-users (e.g. <i>end users are extension teams and they have been intimately involved - going to regions to develop scenarios - they check back on results and we fine tune to their local knowledge; plan to engage producers and advisors from the get go)</i> • Surveyed stakeholder contribution to research planning activities <ul style="list-style-type: none"> ○ Provided feedback / input / trialling (e.g. <i>feedback and ground truthing products)</i> ○ Happy with opportunities to provide input (e.g. <i>vital to continue that interaction - keep it going, happy to take on information and very adaptable)</i> 	<p>Results and learnings from Fitzroy report already being used by extension officers and end users</p>
DAF 7	<p>Bespoke regionally specific (ACCESS-S based) climate model portals</p> <ul style="list-style-type: none"> • Reported research outputs: <ul style="list-style-type: none"> ○ 2 research interviews 	<ul style="list-style-type: none"> • Good engagement with stakeholders and producers in horticulture industries in the Lockyer Valley (e.g. <i>comprehensive one on one meeting with two nationally important, Qld based vegetable business - meetings allowed feedback on experimental forecasts provided "real life" business impacts)</i> • Currently in the process of consulting with stakeholders/end-users (e.g. <i>ground truthing the forecasting tools now - looking at what the models produce for our production regions then asking users whether it was accurate; followed up multiple Lockyer Industry members seeking feedback on outputs to-date - implemented some suggested small changes to the way forecast data is presented)</i> 	<ul style="list-style-type: none"> • Suggested several important changes to the way BoM display experimental forecast data (e.g. <i>through meetings, experimental forecast analysis and discussions with the BoM ACCESS-S team - will make forecast information more easily understood and useful to the horticultural industry)</i> • Potential issues of Missing forecasts due to ACCESS S running in operational mode (e.g. <i>occasionally a break in the delivery of forecasts to the Project. Currently this has not been a major problem, but an issue we may need to follow up with BoM staff)</i>

	Type/rigour of research being undertaken	End user involvement in research	Other Details (e.g. outcomes, feedback, issues, learnings)
		<ul style="list-style-type: none"> • Surveyed stakeholder contribution to research planning activities <ul style="list-style-type: none"> ○ Provided feedback / input / trialling (e.g. made suggestions to different areas) ○ Happy with opportunities to provide input (e.g. very approachable and open to suggestions - taken everything onboard) 	
DAF 8	<p>Extension project</p> <ul style="list-style-type: none"> • Reported research outputs: <ul style="list-style-type: none"> ○ 1 bioeconomic and system modelling ○ 8 business analysis ○ 5 options analysis ○ 1 spatial analysis 	<p>Project is more extension than research – however:</p> <ul style="list-style-type: none"> • Consultation with stakeholders/end-users (e.g. project partners are intimately involved in planning of workshops; run a style of BMP grazing workshop which allows us to benchmark how producers in West QLD are travelling - helps us to target improvements and skills) • Producer surveys, business analysis and financial & herd data collection was performed on 18 grazing businesses across the region (for use in the update to the Rangelands Journal paper published in 2016) 	
DAF 9	<p>Too early – delayed start</p>	<p>Early in project though stakeholders already providing feedback and input (e.g. through the Farmers for Climate Action committee)</p>	

2.6 Underpinning structures, processes and management

Performance measures:

- Extent of partner and project leader satisfaction with the management processes and support
- Extent of satisfaction by management and advisory group members of their role and input
- The meeting of program reporting requirements and budget management
- Issues and barriers impacting on program management

2.6.1 Overall

There was strong support for and satisfaction with the DCAP Phase Two management process to date. It was described as being run responsively and in an open and transparent manner. Steering Committee members have been happy with the opportunities for input and have appreciated the project presentations for improving their understanding. YourDATA was also felt to be an effective reporting platform after two quarters of use for milestone data entry.

Project team members have a high level of satisfaction with the program manager, their availability, approachability and response to feedback. The internal communication process was rated well with project leader meetings generally viewed as quite useful and providing opportunities for collaboration and cross project synergies. Team members were interested in further sharing of program level information (e.g. outcomes from Steering Committee meetings) and more awareness of other project activities/reporting. It was suggested that there was scope for an internal bi-monthly or quarterly newsletter for distribution amongst all project team members (not just team leads).

There was also a feeling that more opportunities for the external communication of project outcomes and benefits could be explored. This should be seen as the responsibility of all those involved in DCAP from program management and communication team members to project teams.

2.6.2 Management process and support

A high level of support for program management and Steering Committee

Overall there was a high level of support from project teams and management / Steering Committee members for the DCAP management process (average rating 8.2/10). The general opinion was that DCAP is well set up and managed in a timely and thorough way. The openness of its approach and level of discussion was appreciated. *The steering committee is working really well. It is a good process set up and operating quite efficiently.* Another interviewee commented that they also liked the way the Steering Committee was run but would be interested to see how it would work if any problems came along.

Project team members were very happy with the program manager's availability, response to feedback and approachability. *Always there for interaction between different groups and projects and helping us be informed about other projects.* The project leader catch-ups were overall felt to be beneficial. *Had a couple of meetings where all in the room were able to gain a good knowledge of each project*

What could be improved at the program level

The DCAP program manager commented that more time (for themselves and the Steering Committee) would be beneficial in terms of being able to think about critical program management issues and be more deliberate about guiding projects. *My manager is very busy, and I would like more time with him to discuss issues and the Steering Committee chair.*

What could be improved at the project level

Project team members raised the following as potential areas for improvement/challenges:

- Would like to see feedback from Steering Committee from evaluations
- Scope for looking at people outside the core project for future projects (e.g. people outside of the core project could bring in innovative ideas)
- Difficulty balancing M&E reporting with project work (e.g. M&E takes up our time compared to other funded projects - need to carefully manage time and expectations regarding collection and reporting)
- Concern with large amount of DCAP funding going to BoM (e.g. large amount of DCAP funding going into BoM - are we maximising our level of influence)

Internal communication

DCAP project teams and project management / Steering Committee members were quite satisfied with internal DCAP communication (average rating 7.9/10). The program manager was viewed as big part of what is working well and there was positive feedback about the project leader meetings. These have been rated as quite useful by project leaders to help them understand other projects (average rating 7.3/10 March 2018, 7.8/10 January 2018) and provide opportunities for collaboration and synergies (average rating 8.8/10 March 2018, 7.2/10 January 2018). See Appendix 4 for full summaries of meeting feedback sheets.

Project papers and project presentations at Steering Committee meetings were also noted as a positive. *...I like it when the projects come and do their presentations at the meetings. I find that very useful.* Steering Committee members in the April 2018 meeting rated the presentations as very useful in improving their understanding of the projects (average rating 8.1/10).

Suggestions for improvements/challenges noted by those participating in the annual survey included:

- Challenge in effectively communicating information/outcomes from meetings (e.g. volume of information comes out for each meeting and a challenge to go through them fully)
- Limited knowledge on how projects are connected in a reporting sense
- Scope for steering committee communication/information to be shared with projects
- Scope for better awareness of other projects' activities to assist cross promotional/collaborative opportunities (e.g. no idea which ones are going - no updates given or opportunities to send through factsheets)

- Scope for some partners to operate better together
- Scope for an internal bi-monthly/quarterly newsletter (e.g. an internal newsletter so that there is that regular interaction not just at a project leader level)

2.6.3 Role and input of management and advisory group members

Steering Committee satisfied with input opportunities

Steering Committee members interviewed had a high level of satisfaction with the opportunities that had been provided for input (average rating 8.4/10). It was said that the process was run in an open and transparent manner, consensus was always looked for and there were chances to contribute around areas of expertise. Feedback was felt to have been listened to and acted on. The relationship with the Queensland government was noted by one member to have been *very helpful and beneficial in implementing the program as we designed*.

2.6.4 Reporting and budget management

YourDATA reporting is working well

It was noted by program management when interviewed, that it was important for quarterly reporting to continue through YourDATA. The first quarter of reporting using the online reporting system was viewed by project leaders as quite successful and they were *reasonably happy with the way it worked*. Reporting this way has also been endorsed by the Steering Committee with the program manager commenting that they were *very impressed with the format that we could produce*. A Steering Committee member agreed that the reporting has been working well with the program outcomes being measured from the start.

2.6.5 Issues and barriers

Project external communication

While noting strong processes between projects and their clients, program management pointed out that there could be improvements with communicating relevant information more broadly. This should be seen as the responsibility of all those involved in DCAP from program management and communication team members to project teams. While the communication specialist who has been employed by DCAP should continue to proactively engage with team members about potential stories, equally, team members need to be proactive in sharing with the communication specialist emerging findings and outputs of interest to the broader community/industry.

Project team members made the following suggestions around external communications:

- Scope for more interaction/mediation from DCAP (e.g. DCAP mediating and asking us to put together one page media releases to promote our research)
- Scope to better promote outcomes/benefits externally (e.g. need to look at the comms plan again on how to promote what has been achieved)

3. LOOKING FORWARD

3.1 Considerations moving into year two

3.1.1 The importance of evaluation

At the program level, Steering Committee members interviewed wanted to reinforce the importance of continued evaluation and reviewing projects to ensure successful outcomes and demonstrate value. One respondent said that *evaluation is critical to demonstrate impact otherwise government won't fund again*, while another noted the need to keep posing the *so what* question in terms of project impact on industries. The need for increased engagement with MERI plans at the project level/program perspective was raised by a couple of interviewees. *From our program perspective, we would like to see more cross program discussion on how the DCAP and MERI framework applies.*

3.1.2 Priorities for DCAP management moving forward

The key immediate priorities for DCAP management moving forward were noted by program management / Steering Committee members to be:

- **Monitor progress and ensure projects remain focused on delivering outcomes/benefits focused on industry/end-user needs** (e.g. keep focused on delivery and ensuring that the research is something that the industry can use; monitor progress and ensure they are delivering what they have intended too; focus on delivering the outcomes and products useful to our stakeholders)
- **Ensure projects are progressing unhindered** (e.g. making sure progress is established and not being held back by recruitment and administrative type processes; sort and finalise the process to progress with the funding available)
- **Continue to improve/streamline/make adjustments based on monitoring/feedback** (e.g. need to get the informed research streamlined; take account of monitoring and adjustments and improvements)
- **Consider new project ideas to allocate funding towards** (e.g. eye open to other project ideas going forward with the retained funds)

3.1.3 Projects looking forward

Project team members provided the following feedback around considerations that needed to be taken in to account moving forward.

Table 9: Future project considerations

DES 1/2	<p>Ensuring capture of relevant data and meeting milestones</p> <p>The team was keen to ensure that relevant data would continue to be captured via the DCAP reporting systems. <i>There will be evidence of people using tools and we need to be able to capture that feedback and practice change.</i> Maintaining internal communication and retaining staff were also noted as important looking forward and for the delivery of milestones. A comment was made about the importance of project leaders being at Steering Committee meetings to be available to answer questions about their project.</p>
DES 3	<p>Clarity around terms and definitions and more extension involvement</p> <p>Team members are looking for more clarity and consensus around the terms and definitions being used in their project (e.g. resilience and adaptation). <i>Another one is drought preparedness...but what does it mean to a grazier - no one really knows. These are the complexities we are facing - not shared terms. Need to define these with the people we are talking to.</i> It was also noted that over the next six months it was time to be more actively involved with extension staff and working directly on their questions. <i>Been thinking about the best way to convey insights without bombarding people with a 30 page document...</i></p>
USQ 4	<p>Improving the skill of the forecast</p> <p>Looking forward this project is focused on <i>improving the skill of the forecast.</i> While climatologists have been recruited to improve forecasts for the north, a longer-term view was noted to be needed before improvements are seen. <i>The climate advisors we are putting into the regions, will hopefully hit the ground running in terms of contact with industry. Need to get them to help producers understand forecasts better.</i></p>
USQ 5	<p>Developing the product and opportunities to produce additional unplanned reports</p> <p>The project team is focused on continuing the development of the product and educating the farmer about its benefits as a risk management tool. Opportunities to produce additional unplanned reports were also noted including standalone products for sugar and cotton. It was felt that these could <i>allow us to create massive impact and practice change to achieve project impacts overall for DCAP.</i> Policy and concept papers around adopting these options in the insurance space were also in development. A comment as also made around potential international opportunities.</p>
DAF 6	<p>No election disruption and focus on budget</p> <p>The team was focusing on its budget areas looking forward while a Steering Committee member commented that projects will have the benefit of not being disrupted by elections over the coming year. <i>It will increase the performance and delivery of products to producers and they can start testing them...</i></p>
DAF 7	<p>Continued communication with R&D partners</p> <p>Successful communication with the BOM to date was noted by the team to have resulted in the BOM <i>changing some of pie and histogram charts so they are more useable to us and industry.</i> A key project learning has been to communicate with end users and project partners to ensure information is relevant, the best it can be and easily understood.</p>
DAF 8	<p>DAF 8 – Increasing farmer understanding of the benefits of being involved</p> <p>This project has an extensive MERI approach which has included the commission of GR Roberts to undertake <i>interviews with beef producers involved in our program.</i> Feedback has been that graziers are not that clear on how being involved in the project would help them. The team is looking to more clearly explain the industry information they have, and the types of training being offered over the next six to twelve months. <i>In the past we have provided information about how we can assist, but it seems we could have more structure in how we explain it and what we are offering in terms of workshops.</i></p>

APPENDIX 1: DCAP LOGFRAME

Program Level M&E Log Frame

NB: This logframe will be further updated as project level M&E logframes are finalised

Program levels	Program Projects, Activities & levels	Performance Measures	M&E Methods
Long Term Goal	More resilient and productive primary production able to better plan, adapt and manage drought and climate variability.	<p>Trends in rural industry performance over time in relation to previous performance – especially in the face of extended challenging conditions:</p> <ul style="list-style-type: none"> • Numbers of enterprises • Productivity • Profitability • Social indicators • Environmental indicators 	<ul style="list-style-type: none"> • ABARES • Other industry statistics • Case studies
End of program Objectives	<ul style="list-style-type: none"> • Increased scientific capacity and tools to monitor, predict, advise and plan for climate variability. • Increased awareness, understanding, skills and capacity of industries and producers to make most effective use of tools and information supporting their management of drought and climate variability. • Increased uptake and application by industry, producers and their advisors of available tools, information, practices and strategies to more effectively manage and be productive and profitable in a variable climate context. • Benefits arising from use and practice changes made by industries and producers. 	<ul style="list-style-type: none"> • Extent of increased scientific capacity and tools available for purpose across the projects – numbers, types, access, reliability, gains in skills and knowledge by researchers. • Extent of gains in awareness, understanding, skills, confidence, access and the extent of use of tools and knowledge, actions within the target industries and producer communities (type, size, locations affected). • Actual or indicative costs and benefits arising from use of information and tools. • Barriers and issues emerging through program and projects. 	<ul style="list-style-type: none"> • Collated M&E impact data from across participating projects provided in a consistent format and metrics. • Survey/interviews with informed persons and industry representatives re project engagement and impact. • Selected narratives and case studies showing impact of tools, information, training and/or extension on changes made and their benefits. • Benchmarking promoted web-survey of producers in the program/project target zone in relation to their awareness and use of tools and practices – at commencement of project and at intervals/completion.]

Program levels	Program Projects, Activities & levels	Performance Measures	M&E Methods
<p>Communication & extension projects and activities</p>	<p>Overall Program Communication Activities:</p> <ul style="list-style-type: none"> • Website • Newsletter <p>Specific Project Extension Activities:</p> <p><u>Proactive engagement with end-users</u></p> <p>DAF 6:</p> <ul style="list-style-type: none"> • 7 x 2-day workshop in each region with a 1-day follow up <p>DES 2:</p> <ul style="list-style-type: none"> • Electronic quarterly update Newsletter, • Bi-annual workshops for the investigators • An annual forum for partners and regional stakeholders • A national workshop in Year 3 <p><u>On-going industry engagement</u></p> <p>USQ 5:</p> <ul style="list-style-type: none"> • Facilitated discussions (workshops) between farm businesses and insurance industry <p>DAF 7:</p> <ul style="list-style-type: none"> • Active engagement and two-way communication with supply chain participants through targeted workshops • Recommend to BoM the development of Operational Products from these experimental forecasts, which will improve the capacity of primary producers to manage climate variability <p><u>Underpinning support for all projects</u></p> <p>DES 3:</p> <ul style="list-style-type: none"> • Provide on-going social scientific knowledge and expertise to support the responsive, user-friendly design and implementation of drought-related decision support tools, and increase their adoption in targeted groups <p>USQ 4:</p> <ul style="list-style-type: none"> • Integrate and embed climate forecast information into northern Australia grazing industry - Grazing BMP, 	<ul style="list-style-type: none"> • Appropriateness, quality, reach, engagement, access and reactions from participants engaged in extension and communication activities across projects. • Value that underpinning support provided in the extension and communication process. 	<ul style="list-style-type: none"> • Collated M&E engagement and feedback data from across participating projects provided in a consistent format and metrics. • Questions in other survey/interview cross-project activities. • [Annual] Interviews/surveys with project leaders •

Program levels	Program Projects, Activities & levels	Performance Measures	M&E Methods
	Business Mentoring for the Australian Meat and Livestock Sector, GLM Edge, and PGS.		
Products and Tools	<p>Products for understanding underlying science:</p> <p>DES 2:</p> <ul style="list-style-type: none"> • A time series application-ready online database • High-resolution long-term datasets from selected sites • Identification of new or improved flood management <p>DES 3:</p> <ul style="list-style-type: none"> • report for consultation containing recommendations regarding the policy drivers that can best enable stakeholders to work together to negotiate the 'cultural' transition to drought resilience and adaptiveness • [Potential] literature reviews, research syntheses, and extension material <p>USQ 4:</p> <ul style="list-style-type: none"> • 'flash drought' prototype forecast • improved seasonal forecast prototype products <p>USQ 5:</p> <ul style="list-style-type: none"> • Matured 'market ready' insurance products for sugarcane and cotton industries – • Tailored climate information systems and seasonal forecasting systems • Detailed affordability analysis with farmers/farmers' organisations • Clear recommendations on maintaining sustainable insurance • Policy documents indicating success of different government support options. • User friendly decision support tool <p>Tools for extension and training:</p> <p>DAF 6:</p> <ul style="list-style-type: none"> • Herd/flock models and case studies; Synthesis report <p>DAF 7:</p> <ul style="list-style-type: none"> • Documented management decisions 	<ul style="list-style-type: none"> • Number, type, purpose, appropriateness, accuracy, rigour, quality, user-friendliness and accessibility of products and tools developed. 	<ul style="list-style-type: none"> • Reports from projects. • Evidence of peer and user review and testing • Feedback from questions on surveys, interviews or feedback forms • [Annual] Interviews/surveys with project leaders

Program levels	Program Projects, Activities & levels	Performance Measures	M&E Methods
	<ul style="list-style-type: none"> Enhancement of the POAMA Experimental product <p>General project and program products and outputs:</p> <ul style="list-style-type: none"> Milestone and final reports Papers, chapters and books 		
<p>Research & Development projects and activities</p>	<p>DES1: The Inside Edge for graziers to master Qld's drought prone climate</p> <p>DES 2: Baseline – using paleoclimatic data to plan and prepare for extreme events and floods in Qld</p> <ul style="list-style-type: none"> Analysis of 2-3000 yr data in 3 regions. <p>DES3: Enabling drought resilience and adaptation: A program of social research and knowledge support</p> <ul style="list-style-type: none"> Engage directly with drought-affected graziers through social research exploring the cultural contexts of drought vulnerability and resilience, and the socially acceptable changes that can be made <p>USQ 4: Northern Australia Climate Program – seasonal forecasts</p> <ul style="list-style-type: none"> Fundamental climate research and deliver major advances in multi-week, seasonal and longer-term climate forecasting. New and advanced products for use in drought monitoring, planning and prediction for producers and policy makers. <p>USQ 5: Producing enhanced crop insurance systems and associated financial decision support tools – Phase 2</p> <ul style="list-style-type: none"> investigate how re/insurance companies, agricultural industries and government can establish and maintain a liquid and viable market for agricultural insurance in Queensland, and Australia. <p>DAF 6: Delivering integrated production and economic knowledge and skills to improve drought management outcomes for grazing systems</p> <ul style="list-style-type: none"> Synthesis of scientific knowledge on the effect of drought management strategies on pasture resilience and quality, animal nutrition and productivity. 	<ul style="list-style-type: none"> Type, purpose and extent of R&D as per plans – completion of trials, demos, and reports results. Rigour and reliability Extent of involvement of end-users in research planning. Issues, barriers and learning emerging from the process 	<ul style="list-style-type: none"> Collated data from across the projects Evidence of peer review of results [annual] Interviews/surveys with project leaders

Program levels	Program Projects, Activities & levels	Performance Measures	M&E Methods
	<p>DAF 7: Use of BOM multi-week and seasonal forecasts to facilitate improved management decisions in Qld's vegetable industry</p> <ul style="list-style-type: none"> • Ground-truth ACCESS-S1 multi-week and seasonal forecasts • Document management decisions which can be significantly improved <p>DAF 8: GrazingFutures: Promoting a resilient grazing industry – BMP</p> <p>DAF 9: Forewarned is Forearmed: Equipping Farmers and agricultural value chains to proactively manage impacts of extreme climate events</p>		
<p>Underpinning structures, processes and management</p>	<ul style="list-style-type: none"> • Organisational involvement • Overall Management and coordination. • Advisory and management committees • Budget • External factors impacting on program and projects 	<ul style="list-style-type: none"> • Extent of partner and project leader satisfaction with the management processes and support • Extent of satisfaction by management and advisory group members of their role and input • The meeting of program reporting requirements and budget management • Issues and barriers impacting on program management 	

APPENDIX 2: PROJECT MILESTONE UPDATES

Milestone Updates

Note: Milestone updates were downloaded from the YourDATA M&E database on the 7th July 2018

#	Details	Due	Status	Comments
DES 1 - The inside edge for graziers to master Qld's drought prone climate				
1	Collaborative agreement signed	31/08/2017	Achieved (29/03/2018)	All collaborative research agreements signed
2	Deliver training on science products and applications to extension officers	31/12/2017	Achieved (26/03/2018)	Delivered workshops in Longreach, Brisbane and Quilpie in August and October 2017
3	Develop an extension training package for DSITI's FORAGE Pasture Growth Alert report and deliver it through the DAF extension network and promote through the Long Paddock and Future Beef websites to complement existing extension training packages for FORAGE reports	30/04/2018	Delayed (28/06/2018)	<ul style="list-style-type: none"> Continued work with extension staff road-testing and refining Pasture Growth Alert in preparation for public release. Planned first stage release at DAF beef and sheep staff extension workshop (17-18 July 2018) Instructional videos and a webinar for extension staff to follow Development of the extension package commenced (with DAF Future Beef)
			Delayed (25/03/2018)	Training package delayed – preparations on track though with a user guide, instructional videos and webinar planned.
4	Work with both DAF sorghum cropping and beef extension officers, producers and consultants to learn from the successful approaches used in cropping to develop simple rules of thumb in response to seasonal forecasts	31/12/2018	On track (26/03/2018)	Principal Extension Scientist is working with beef extension officers and consultants
5	FORAGE Pasture Growth Alert report available for general users to subscribe to on the Long Paddock website	31/05/2018	Delayed (25/03/2018)	<ul style="list-style-type: none"> Generated lots of interest from extension officers and rural consultants Engagement process taking longer than anticipated Unlikely to be released in May - accessible to DAF extension officers and rural consultants by request

#	Details	Due	Status	Comments
6	Complete the first stage of quality control and quality assurance of GRASP calculator with enhanced parameterisation and validation from grazing trials and satellite-derived data	30/11/2018	On track (26/03/2018)	<ul style="list-style-type: none"> GRASP modelling team assembled and working together well. Innovative improvement to GRASP Qld land type parameters is "green cover analysis" - comparing the satellite-derived green cover to modelled green cover.
DES 2 - Do we really know our baseline climate? Using palaeoclimate data to plan and prepare for extreme events and floods in Qld				
1	Collaborative agreement signed	31/08/2017	Delayed (25/03/2018)	<ul style="list-style-type: none"> Unsuccessful in securing additional funding through the Australian Research Council (ARC). Co-funders Seqwater have increased funding to match the DCAP contribution of \$100,000 per year. Approval granted by DCAP steering committee to: <ul style="list-style-type: none"> Commence project to achieve main aims – only one case study example and dataset no longer available online Variations to milestones delivery dates due to delayed start - completion date to remain as June 2021
DES 3 - Enabling drought resilience and adaptation: A program of social research and knowledge support				
1	Development of contracts and initial payment – DCAP2 Round 1 agreements signed	04/08/2017	Achieved (21/03/2018)	<ul style="list-style-type: none"> Recruitment process completed in November 2017 and Dr Paxton joined the team. Delays establishing contracts and approvals for DCAP2 delaying recruitment of the Social Scientist to deliver the social research component – milestone dates adjusted
2	On-going program of in-kind knowledge support commenced. Initial plans of knowledge support activities developed for a) the effective design and adoption of science-based drought decision support tools and b) DAF extension activities are complete	04/10/2017	On track (06/04/2018)	<ul style="list-style-type: none"> Collating comprehensive database of relevant Behavioural Insight Concepts Provided detailed feedback on the Pasture Growth Alert Report prototype to the DES Grazing Land Systems (GLS) team. Behavioural Insights presentation at Grazing Futures Best Management Practice review workshop in Charleville in February 2018 Finalising spreadsheet for the DAF Grazing Futures team to identify behavioural concepts
3	Social research design agreed. Consultation regarding interview questions and pilot interviews complete, preliminary learnings from discourse analysis integrated into knowledge support activities.	13/07/2018	On track (25/06/2018)	<ul style="list-style-type: none"> Discourse analysis ongoing and on track - key narratives becoming evident Research design finalised and revised based on stakeholder feedback Interview recruitment commenced Pilot interviews planned for 9-13 July - 4 interviews scheduled and fifth to be confirmed Next field trip to the Charleville/Mitchell region likely in late July.
			On track (27/03/2018)	<ul style="list-style-type: none"> Research design confirmed Consultation with interested parties commenced Exploring potential alignment to NQ Dry Tropics Major Integrated Project (MIP)
4	Interviews and discourse analysis conducted.	13/01/2019	On track (25/06/2018)	<ul style="list-style-type: none"> Write-up of discourse analysis results commenced.

#	Details	Due	Status	Comments
				<ul style="list-style-type: none"> Research design finalised - 20 potential interviewees obtained, and recruitment process commenced. 4-5 pilot interviews scheduled for the week ending 13 July 2018, and follow-up interviews will commence in late July.
			On track (27/03/2018)	<ul style="list-style-type: none"> Research scoping commenced, including reviewing current literature Discourse analysis commenced - delay in commencing due to difficulties with purchasing and installing NVivo but back on track. Draft data collection process designed, and run-sheet drafted for grazier interviews/kitchen table discussions Consultation commenced with DAF policy, DES science and DAF extension staff. Continued discussions with Scott Crawford (CEO NQ Dry Tropics) regarding potential collaboration. Some challenges encountered recruiting - sought assistance from DAF to find alternative means of obtaining contacts to directly recruit vulnerable graziers participants.
USQ 4 - Northern Australia Climate Program				
1	Contract signed, appoint project staff. Report outlining agreed work program on model development developed with USQ/BoM/UKMO.	31/08/2017	Achieved (19/03/2018)	<ul style="list-style-type: none"> Contract signed Staff PDs confirmed
2	Research Project: Report of detailed gap analysis of the current knowledge and data regarding the influence of different climate drivers on northern Australia climate	01/05/2018	Achieved (21/06/2018)	<ul style="list-style-type: none"> Literature review completed and sent to BoM on 1 May 2018.
			On track (26/03/2018)	Report of gap analysis written and being revised with latest information. On track to be completed by 1 May 2018.
	Development Project: A detailed plan of decision tool development aligned with research and extension project plans. The framework of a targeted Climate Outlook is developed and tested with advisers and key stakeholders. A desktop exercise shows how well drought indices identified the development of historical major droughts.	01/05/2018	Achieved (21/06/2018)	Development Project Milestone achieved by 1 May 2018 deadline
Extension Project: Project partnerships formalised. Project staff and 'climate mates' appointed. Regional operational plans, including extension activities, communications	01/05/2018	Achieved (21/06/2018)	<ul style="list-style-type: none"> Project partnerships formalised 7 Climate Mates appointed in June 2018 - 1 position re-advertised due to lack of applicants Operational plans all sent out for review with final version incorporating feedback completed. 	

#	Details	Due	Status	Comments
	and MERI, developed between project partners.			
3	Research Project: Report identifying existing and/or potential suitable climate indices and forecast/hindcast data sources	01/09/2018	On track (26/03/2018)	<ul style="list-style-type: none"> 20% of Milestone 3 Research goals are complete and on track to be finished by 1 September Drought indices research underway and on track to be reported at the end of June Products work concentrated on developing and/or identifying a suitable climate index for monitoring flash drought in northern Australia Recruitment of Dr Nguyen at BoM to work under the supervision of Dr Wheeler on products development. Interviews completed, and recommendations made for the two USQ postdoc positions
	Development Project: Regional communication network is developed, and Climate Outlook is communicated to advisers and producers. Drought Indices fully operational on web and updated fortnightly. Prototype of Drought Monitor on restricted web and available for testing by advisers.	01/09/2018	On track (21/06/2018)	<ul style="list-style-type: none"> Regional communication network development via Climate Mates started Climate Outlook framework completed and will be posted monthly on website. It will be revised by Climate Mates in August and communicated to advisers and partners Drought Indices currently running as a prototype and are on track to be fully operational on web in September 2018 Drought Monitor is being developed with drought indices and web development will be completed on ICACS website and ready for testing in September 2018.
	Extension Project: Industry consultation for regionally specific forecast, tool and product needs completed and reported through to BoM and UKMO teams. Mid-year progress review completed and reported against MERI plan-	01/09/2018	On track (21/06/2018)	<ul style="list-style-type: none"> Currently consulting with partners and industry develop regionally-specific forecasts and tools - on track for September 2018 roll-out Progress review against MERI plan on track to be reported mid-year Product development and Research on track with extension activities to be on track once Climate Mates have received training in August and implement regional programs
USQ 5 - Producing enhanced crop insurance systems and associated financial decision support tools – Phase 2				
1	For comparative purposes, basic overview of Multi-Peril Crop Insurance (MPCI) and Named Peril products with potential pricing and coverage differences	31/12/2017	Achieved (11/04/2018)	<ul style="list-style-type: none"> Researched local cotton insurance markets for pricing and coverage comparisons between Multi- MPCI, Named Perils and IBI – finding MPCI not offer by insurance market and Named Perils Average rate \$110 per hectare depending on location Detailed summary uploaded to DCAP YourDATA
1a	A report on facilitated discussions between farm businesses and insurance industries to test the financial viability and appetite of potential insurance products for sugar and cotton industries.	31/12/2017	Achieved (11/04/2018)	<ul style="list-style-type: none"> Completion of draft paper on an excessive precipitation index for the sugar industry Results suggest that precipitation index insurance for the growing season could be a financially beneficial and efficient way for sugar-cane producers to deal with extreme precipitation production losses. Detailed summary uploaded to DCAP YourDATA

#	Details	Due	Status	Comments
2a	Farmer feedback recorded on the financial viability and suitability of experimental insurance products. Detailed case study report with 'focus farm' to test out experimental insurance products for sugarcane and cotton producers.	31/03/2018	On track (29/03/2018)	<ul style="list-style-type: none"> Engagement with relevant farming businesses, key stakeholders service providers undertaken – 8 informational meetings and 2 one-on-one visits were successful in capturing farmer feedback on the experimental products and the need for case studies was highlighted Case Studies development is underway across the cotton and sugar industries on five farms Detailed summary uploaded to DCAP YourDATA
2b	Experimental insurance products matured (market ready) after incorporating farmers' preference and appropriateness.	31/03/2018	Achieved (29/03/2018)	<ul style="list-style-type: none"> Detailed summary uploaded to DCAP YourDATA
3a	Tailored climate data and information systems and integrated crop modelling datasets for new commodity completed, that can be used in the financial sector for risk and premium assessment.	30/06/2018	Achieved (28/06/2018)	<ul style="list-style-type: none"> Reports uploaded to DCAP YourDATA
DAF 6 - Delivering integrated production and economic knowledge and skills to improve drought management outcomes for grazing systems				
2	2 reports detailing synthesis of scientific knowledge and accompanying economic analysis of the effect of management strategies for an initial 2 regions (Fitzroy and Northern Gulf).	30/07/2018	On track (27/03/2018)	<ul style="list-style-type: none"> Partially achieved – on track to meet revised milestone date
3	3 reports as above for an additional 3 regions (Central West Mitchel Grasslands, Southern Downs and Northern Downs).	30/06/2019	On track (27/03/2018)	<ul style="list-style-type: none"> Partially achieved – on track to meet revised milestone date Requested an amendment which would see 7 regional reports delivered over the first 2 1/2 years of the project
4a	2 reports as above for the final 2 regions (Goldfields and Mulga lands).	31/12/2019	On track (27/03/2018)	<ul style="list-style-type: none"> Partially achieved Economic herd and business models developed for Fitzroy and in progress for Northern Gulf and Western Downs
4b	Decision support tools, incorporating property level, regionally relevant herd/flock, business models and case studies, provided on relevant websites for download.	31/12/2019	On track (27/03/2018)	<ul style="list-style-type: none"> Fitzroy regional report almost complete and Northern Gulf report underway Requested change to reporting structure - results economic analyses results for each region will be presented in conjunction with the scientific background data in region-specific reports according to the revised milestone schedule
5a	Completion of workshops for producers, advisors and agribusiness representatives in each of the 7 target regions.	30/07/2020	On track (27/03/2018)	<ul style="list-style-type: none"> Committed to conduct producer workshops in each of the 7 target regions First workshops will be held in the Fitzroy region in April 2018

#	Details	Due	Status	Comments
DAF 7 - Use of BoM multi-week and seasonal forecasts to facilitate improved management decisions in Qld's vegetable industry				
1	Contracts established with project collaborators	31/08/2017	Achieved (31/08/2017)	
2	Quarterly Report	30/09/2017	Achieved (30/09/2017)	
3	A comprehensive work program and M&E developed. Collaborative supply chain participants and vegetable industries identified and engaged for ground-truthing appropriate ACCESS-S1 multi-week and seasonal forecasts and hindcasts over the first two years of the project. Additional two Queensland horticulture regions and hind-cast cases added to the BoM VG13092 experimental forecast products. Engage with DCAP M&E project to develop a Monitoring and Evaluation program. Quarterly Report on project activities, outcomes and outputs submitted.	31/12/2017	Achieved (19/12/2017)	<ul style="list-style-type: none"> Industry participants identified and engaged in one on one fashion to explain concept and content of proposed work 50-80% of growers and packers indicated willingness to be involved in project activities. All growers place high importance on accurate forward temperature forecast as a tool to enhance business management and potential profitability. Two major Qld vegetable processors (national suppliers) engaged in work plans. Aldi, Coles, Woolworth's supply co-ordinators indicated interest in information and being kept involved and informed.
4	Lockyer Valley Vegetable Industry Engagement and Communication of work program for the Winter 2018 season. Workshop with growers and supply chain participants conducted; multi-week and seasonal forecasts; and improved management decisions discussed. Quarterly Report on project activities, outcomes and outputs submitted.	30/03/2018	Achieved (30/03/2018)	<ul style="list-style-type: none"> Very successful Lockyer vegetable supply chain and industry forum completed, and survey data entered into DCAP YourDATA
DAF 9 - Forewarned is forearmed: Equipping farmers and agricultural value chains to proactively manage the impacts of extreme climate events				
	Delay in signing contract			<ul style="list-style-type: none">

APPENDIX 3: FEEDBACK SHEET SUMMARIES

The following tables provide summaries of feedback sheet responses uploaded to the YourDATA M&E database during the 2017-18.

Steering Committee and Project Leaders average ratings

Activity	Respondents	Overall usefulness updating on progress and issues	Satisfaction with progress to date	Satisfaction with roles and opportunities to provide input	Usefulness of presentations in improving understanding of the projects	Ongoing opportunities for collaboration/ synergies between projects	Usefulness of M&E update
SC Meeting (19 April 2018)	8	8.4	7.3	8.3	8.1	-	-
Project Leaders Webinar (19 March 2018)	4	7.3	8.8	-	-	8.8	7.8
Project Leaders Webinar (31 January 2018)	9	7.8	7.3	-	-	7.2	7.0
SC Meeting (12 December 2017)	5	7.8	7.2	-	7.4	-	-
SC Meeting (17 August 2017)	9	-	-	9.0	-	-	-

(Note: all steering committee and project leader feedback sheet averages are on a 0-10 scale)

Steering Committee Meeting Feedback Summary

Activity	Feedback Summary
Project Steering Committee Meeting (19 April 2018)	<p>8 respondents</p> <p>Overall usefulness in terms of updating on DCAP progress and issues</p> <ul style="list-style-type: none"> • 8.4 avg. (n=8) • Comments: <i>detailed projects updates were good</i> <p>Satisfaction with program progress to date</p> <ul style="list-style-type: none"> • 7.3 avg. (n=8) <p>Usefulness of presentations in terms of improving understanding of the projects</p> <ul style="list-style-type: none"> • 8.1 avg. (n=8) • Comments: <i>generated useful discussion</i> <p>Usefulness of discussion around the DCAP emergent issues funding guidance</p> <ul style="list-style-type: none"> • 7.6 avg. (n=8) • Comments: <i>appreciate working through the ID issues in future.</i> <p>Satisfaction with roles and opportunities to provide input to the DCAP program overall</p> <ul style="list-style-type: none"> • 8.3 avg. (n=8) • Comments: <i>My time limitations reduce my capacity to contribute as fully as I would like; SC are very open to discussion and take on feedback.</i> <p>New insights/understanding</p> <ul style="list-style-type: none"> • Comments: <i>Understanding of the M&E program; Progress of projects; Evaluation linked into overall program; What DCAP is all about.</i> <p>Other comments:</p> <ul style="list-style-type: none"> • Comments: <i>'Quantification' of cost/benefit under the M&E is poetry I would like to discuss; Very good DCAP summary paper. Good meeting papers. Well done.</i>
Project Steering Committee Meeting (12 December 2017)	<p>5 respondents</p> <p>Overall usefulness in terms of updating on DCAP progress and issues</p> <ul style="list-style-type: none"> • 7.8 avg. (n=5) • Comments: <i>detailed projects updates were good</i> <p>Satisfaction with program progress to date</p>

	<ul style="list-style-type: none"> • 7.2 avg. (n=5) • Comments: <i>setting up period – but seem to be on track; progress consistent with early stage – project teams still forming; additional focus on practice change rather than holding workshops;</i>
	<p>Usefulness of presentations in terms of improving understanding of the projects</p> <ul style="list-style-type: none"> • 7.4 avg. (n=5)
	<p>General/specific feedback on projects</p> <ul style="list-style-type: none"> • Comments: <i>interested to USQ project progress; good to get briefing on the Long Paddock release – important tool/product; Long Paddock looked more user directed/friendly; concern grazing futures project is straying from core direction</i>
	<p>Usefulness of the Emergent Issues Funding Discussion paper/discussions</p> <ul style="list-style-type: none"> • 7.2 avg. (n=5) • Comments: <i>agreed with approach – thought required on larger sums in later years and election commitments of the new government</i>
	<p>New insights/understanding</p> <ul style="list-style-type: none"> • Comments: <i>steering committee and funding process working well; interesting to hear what other stakeholders say; useful discussion on other funding opportunities including change to CMA funding for aligned work</i>
	<p>Other comments:</p> <ul style="list-style-type: none"> • Comments: <i>clarification if non-partner external bodies with relevant expertise are gaining adequate consideration by the project partners in putting forward any high-quality collaborative projects</i>
<p>Project Steering Committee Meeting (17 August 2017)</p>	<p>9 respondents</p>
	<p>Usefulness of the meeting in terms of finalising the list of projects for DCAP 2</p> <ul style="list-style-type: none"> • 8.8 avg. (n=9) • Comments: <i>good process; no official final vote</i>
	<p>Satisfaction with the mix of projects and potential for cross-project collaboration</p> <ul style="list-style-type: none"> • 8.6 avg. (n=9) • Comments: <i>need to ensure is it implemented; collaboration across grazing industry will be a challenge; project leaders very focussed on collaboration and reducing duplication</i>
	<p>Satisfaction with role and opportunity to provide input into the projects</p> <ul style="list-style-type: none"> • 9.0 avg. (n=9)
	<p>Comfort with outputs/outcomes/learning that will come out of projects</p> <ul style="list-style-type: none"> • 8.3 avg. (n=9) • Comments: <i>if delivered as described... the results will be worthwhile</i>
	<p>New insights/understanding</p>

	<ul style="list-style-type: none"> Comments: <i>better understanding of DAF's investments in NRM; better understanding of full range of projects; significant amount of other government investment in aligned areas; willingness of departments/agencies to collaborate/determine project linkages</i>
	<p>Issues/opportunities to maximise success</p> <ul style="list-style-type: none"> Comments: <i>Focus on improved integration, coordination and cross collaboration (7 mentions – e.g. focus on integrating projects so there is a uniting picture and story to build through DCAP; communication of project outputs broadly; integration particularly across the extension/workshop processes; ensure coordination of extension/workshop initiatives)</i>
	<p>Other comments</p> <ul style="list-style-type: none"> Comments: <i>very comfortable with outcomes; good process – opportunity to understand variety of perspectives across agencies; well chaired</i>

Project Leaders Webinars Feedback Summary

Activity	Feedback Summary
Project Leaders Webinar (19 March 2018)	4 respondents
	Overall usefulness in terms of updating on DCAP progress and issues <ul style="list-style-type: none"> 7.3 avg. (n=4)
	Satisfaction with project progress to date <ul style="list-style-type: none"> 8.8 avg. (n=4) Comments: <i>Given contract only fully signed 8 Mar 2018 a lot of work has been done in good faith</i>
	Ongoing opportunities for collaboration/synergies between projects <ul style="list-style-type: none"> 8.8 avg. (n=4)
	Usefulness of M&E update in terms of understanding what is need for quarterly reporting and capturing M&E <ul style="list-style-type: none"> 7.8 avg. (n=4) Comments: <i>Need to go and access site and start to enter data to get a feel for it; Need to use first to make better judgement</i>
	New insights/understanding <ul style="list-style-type: none"> Comments: <i>Linkages into future extension and adoption activities in other projects</i>
	Other comments <ul style="list-style-type: none"> Comments: <i>Zoom works well</i>

Project Leaders Webinar
(31 January 2018)

9 respondents

Overall usefulness in terms of updating on DCAP progress and issues

- 7.8 avg. (n=9)
- Comments:
 - *A lot of it was over my head*
 - *Good to hear what other projects have planned*
 - *Shared a lot of useful information about what projects are up to and what some of their challenges are too*
 - *The meeting was way too long. I don't think all the detail from each project was relevant to and essential for all other participants - we are all busy trying to get the work done and the more time we spend in meetings like this the less time we have to do the actual project work.*

Satisfaction with project progress to date

- 7.3 avg. (n=9)
- Comments: *The delay to the project start date has delayed progress. Additionally, the time taken with M&E, comms plans, project updates, project leader meetings, and all the project management communications takes significant time away from making real progress on the project. I can see the value in having all that 'project admin' stuff incorporated but it needs to be in kept in balance, so it doesn't detract from efficiency of the project delivery.*

Ongoing opportunities for collaboration/synergies between projects

- 7.2 avg. (n=9)
- Comments:
 - *More opportunities for synergies where projects are working in the same industries. Collaboration on understanding different RD&E perspectives might support collaboration between projects working in different industries*
 - *There is value in knowing what other groups are doing and in what other projects are achieving as it may be of use in our project. However, we do not have sufficient time or budget to build in additional work or activities to our own project at this point.*
 - *An events calendar and/or discussion at PLG about up-coming events would help*
 - *There is a need to ensure the large projects funding BoM ACCESS S Qld weather forecast development share information effectively with our small project. ACCESS S temperature forecasting is a vital component of our work program.*
 - *I think all of the project leads are very open to collaborating where there are opportunities*

Usefulness of M&E update in terms of understanding M&E and project level activities

- 7.0 avg. (n=9)
- Comments:
 - *Great to hear the level of support that is being offered by Coutts J&R. Projects now need to take on the support and work closely with Coutts J&R to make best use of the service they provide. This will ensure that the program is well reviewed and evaluated across its projects.*
 - *I find it all rather confusing and waffly and there seems to be a lot of duplication in the M&E log frame. It would be desirable to simplify the process.*
 - *Based on the report - I had to leave before Amy's update*
 - *A common repository for relevant industry workshop questionnaires and survey responses. Should make reporting more uniform and accessible*

	<p>New insights/understanding</p> <ul style="list-style-type: none"> • Comments: <ul style="list-style-type: none"> ○ Budgetary deferral issues for one project. Use of Zoom as a webinar platform worked well. Provided a range of actions for many of us to work on so the time was well invested. ○ Some clarification of process and expectations. ○ Cynicism of climate forecasts is widespread Insurance industry seems willing to develop new risk-based products ○ USQ project has a large funding input to BoM ACCESS S developments and is funding staff to work with and inside BoM and UK met office ○ A good overview of what everyone is doing
	<p>Other comments</p> <ul style="list-style-type: none"> • Project engagement with M&E is key to demonstrating project value to the DCAP investors and our project stakeholders. • I suggest reducing to 3/4h max as 1.5h is too long. I would like to see shorter, more targeted project leader up-dates and more time spent on clarifying process requirements over the next period. • Updates are useful but better ground can be made by knowing the calendar going forward and using this to link together better. • Zoom worked much better than Skype- it was seamless, simple and could easily see everyone, and easy to modify what I was seeing, chat etc • The webinar tool performed a lot better than Go To Meeting webinar tool I have used before. Effective and easy to use. • There is a lot riding on the new Access S model delivering better forecasting outcomes. • I thought zoom was excellent

Project Planning Workshop Feedback Summary

Activity	Feedback Summary
<p>Program Project Collaboration/ Evaluation Planning Workshop (2-3 November 2017)</p>	<p>19 respondents completed post-workshop feedback sheets</p> <p>Overall usefulness in (better) understanding different elements of DCAP and your role</p> <ul style="list-style-type: none"> • 8.3 avg. (n=19) • Comments: <i>great to get a richer idea of the projects; excellent to have an overview of projects; great to see projects could be integrated into other projects; very useful to hear about other projects and discover many more opportunities and reasons for collaboration</i> <p>Opportunity for collaboration/synergies between projects (based on project presentations)</p> <ul style="list-style-type: none"> • 8.2 avg. (n=19) • Comments: <i>high degree of overlap/potential for close collaboration; many commonalities; specific grazing projects can assist/collaborate in extension and engagement to lead to adoption</i>

	<p>Comfort undertaking required M&E activities (based on evaluation sessions)</p> <ul style="list-style-type: none"> • 7.5 avg. (n=17) • Comments: <i>better than previously; common platform should be beneficial; excited to see the willingness of people to give good evaluation a go; Jeff's input very good; have done it before – need to become better; looks promising</i>
	<p>Comfort in contributing effectively to the program's/project's communication needs (based on presentation/discussion on program communications)</p> <ul style="list-style-type: none"> • 7.8 avg. (n=17) • Comments: <i>assistance highlighting interesting/stories issues would be good; not as enthusiastic about comms other than for general awareness and credibility</i>
	<p>Critical management requirements/support to ensure smooth/effective running of DCAP</p> <ul style="list-style-type: none"> • Comments: <ul style="list-style-type: none"> ○ Regular/effective communication/meetings (4 mentions – e.g. <i>Regular communication/Project leaders group sounds great; Regular meetings may be useful for sharing project plans and updates</i>) ○ Strategic identification of objectives/milestones/outcomes (3 mentions – e.g. <i>Strategic identification of shared objectives and outcomes; workplans</i>) ○ Stakeholder relationships/partnerships (3 mentions – e.g. <i>Coordinate project relationships with BOM and ACCESS-S updates etc.</i>) ○ Partnerships/collaboration (2 mentions – e.g. <i>project linkages and opportunities for collaboration</i>) ○ Efficiency (2 mentions – e.g. <i>Efficiencies. No distractions. Minimise extra work/time required for M&E, communications and reporting.</i>) ○ Support/Assistance (2 mentions – e.g. <i>M&E support. Reporting support.</i>)
	<p>Other Comments</p> <ul style="list-style-type: none"> • Comments: <i>all good; great workshop, well run; very beneficial; some sessions too long; good foundation to shape the project; well run and informative; great communication and feels like a support collaborative approach; three projects very reliant on ACCESS-S outputs – need to maximise return for dollars spent with BOM</i>

Project Activities Feedback Summary

Activity	Feedback Summary
<p>DAF 7 - Lockyer Valley Vegetable Industry Climate Forecasting Meeting (February 2018)</p>	<p>15 respondents</p> <p>Improved knowledge of temperature forecasting as a result of meeting</p> <ul style="list-style-type: none"> • 27% A little • 33% A moderate amount

	<ul style="list-style-type: none"> • 40% A lot
	<p>Value of meeting information</p> <ul style="list-style-type: none"> • 7% Low-Moderate • 27% Moderate • 47% Moderate to High • 20% High value
	<p>Knowledge and understanding of temperature forecasting after meeting</p> <ul style="list-style-type: none"> • 13% Slightly improved • 60% Moderately improved • 27% Greatly improved
	<p>Interest in attending follow up meeting to review temperature forecasts results</p> <ul style="list-style-type: none"> • 87% Yes
	<p>Interest in being informed or involved as the local forecast system is further developed and tested this season</p> <ul style="list-style-type: none"> • 100% Yes
<p>DAF 6 - Optimising profit and resilience of beef businesses workshops (April 2018)</p>	<p>55 respondents - 24 Emerald, 15 Moura, 16 Gracemere (Note: all ratings on a 1-7 scale)</p>
	<p>Usefulness of presentation to business</p> <ul style="list-style-type: none"> • 6.3 avg. (n=52)
	<p>Gain in understanding on topics presented</p> <ul style="list-style-type: none"> • 5.7 avg. overall • 5.5 avg. (n=55) - How to assess the effect of alternative management strategies on the profitability of a beef business. • 5.7 avg. (n=55) - The relative profitability of a range of strategies and technologies that could be implemented for a beef business in CQ. • 5.9 avg. (n=55) - The most profitable way to allocate high quality perennial legume pastures amongst different age groups of steers within the herd. • 5.8 avg. (n=55) - How to establish and manage perennial legume pastures effectively to achieve profitable results. • 5.4 avg. (n=54) - How to assess strategies that can be used to respond to drought and to re-build the business after drought.
	<p>Likeliness to follow up and make a change as a result of information presented</p> <ul style="list-style-type: none"> • 5.6 avg. (n=49) • Examples of changes: <i>More legumes; P supplement; Planting Leucaena</i> • 77% of those likely to make the change indicated it might happen in the next 6-12 months
	<p>General comments</p>

	<ul style="list-style-type: none"> • Example positive comments: <i>Very good; Great day of learning; worthwhile investment of time; good workshop; very useful day; excellent presentation; well presented low cost to attendees; pleasure to take part; a lot of great information</i>
<p>DAF 9 - Climate Workshops (Oct-Nov 2017)</p>	<p>Four climate workshops run during Oct/Nov 2017 – Townsville (26/10), Charters Towers (27/10), Longreach (7/11), Rockhampton (8/11)</p> <p>Beef workshops feedback:</p> <ul style="list-style-type: none"> • 41 total response – 23 Charters Towers, 9 Longreach, 9 Rockhampton • 66% producers • Workshops were seen as very useful in terms of updates on the current seasonal outlook (8.4 avg. n=22) and in better understanding the 'Forewarned is forearmed' project (8.4 avg. n=37) • The project's modules were seen to have high potential benefits to the industry (8.7 avg. n=39) with comments including: <i>potential to be of huge economic benefit and great potential if more accuracy can be developed.</i> • The case study/industry scenarios were also seen to have very well reflected a significant issue for which a new forecast tool would be very useful (8.4 avg. n=38) with comments including: <i>excellent exercises; good discussion on a variety of scenarios; and practical components very useful.</i> • The majority of final/general comments were positive with respondents describing the workshop as: <i>excellent; extremely valuable; good producer participation; very interesting; good to way flow of information; very good mix of presenters; learnt a great deal; looking forward to being involved in the project</i> <p>Sugar workshop feedback (Townsville):</p> <ul style="list-style-type: none"> • 18 total responses • Workshops was seen as very useful in terms of better understanding the 'Forewarned is forearmed' project (8.5 avg. n=18) • The project's modules were seen to have high potential benefits to the industry (8.4 avg. n=16) • The case study was also seen to have well reflected a significant issue for which a new forecast tool would be very useful (7.1 avg. n=14) • General comments relating to the workshop/project included: <i>facilitation was excellent; good cross section of people on reference group; well done; run again when new products available to showcase; don't ignore previous work in this area</i>