



Final report

Adoption of Best Practice Vertebrate Pest Control in Northern Queensland

Project code: P.PSH.1038
Prepared by: Michael Allpass
AgForce Queensland Farmers Ltd
Date published: 20 May 2022

PUBLISHED BY
Meat & Livestock Australia Limited
PO Box 1961
NORTH SYDNEY NSW 2059

This is an MLA Donor Company funded project.

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

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Abstract

The Adoption of Best Practice Vertebrate Pest Control in Northern Queensland project (the Project) commenced in late 2017 as part of a joint-funded arrangement between the Queensland State Government's Department of Agriculture and Fisheries (QDAF), Meat & Livestock Australia (MLA), Australian Wool Innovation (AWI), and the western Queensland regional bodies of Remote Area Planning and Development Board (RAPAD) and South West Regional Economic Development Association (SWRED).

The Project, in its entirety, encompassed three (3) regional areas of Queensland (refer Appendix B "Wild Dog Control Coordinators Map" pg. 28), providing on-ground advisory, coordination and monitoring framework development to assist Queensland landholders and Local Government personnel to manage the issue of pest animals, particularly wild dogs, in a strategic and coordinated manner as outlined in the Queensland Wild Dog Management Strategy 2011-16 and the National Wild Dog Action Plan 2020-2030 .

The Adoption of Best Practice Vertebrate Pest Control in Northern Queensland project has been successful in providing producers of all three regions with the skills and knowledge to control wild dogs in a local and regionally coordinated manner to help reduce the negative impacts on livestock, facilitating a more coordinated and regional approach to wild dog management.

A key learning to be considered for the Northern Queensland region is the producers' need for data and information on cost/ benefit and control success to base their decision making on.

Establishment of Producer Demonstration Sites would assist in demonstrating to producers that control needs to be multi-faceted and can reduce the effects of predation on calves and damage to young cattle. Such data presented from demonstration sites would increase uptake of more integrated control, and therefore reduce negative impacts.

Executive summary

Background

The Project supported primary producers in the adoption of best practice vertebrate pest control with an emphasis on wild dog management, through the provision of a Wild Dog/ Vertebrate Pest Coordinator for the Northern Queensland area; with additional funds used to support the delivery of extension, adoption and capacity building activities across the broader Project areas of Central-western and South-western Queensland.

The Project allowed for three (3) Wild Dog Coordinators, based in North/ North-west, Central-west and South-west Queensland regions to assist all livestock producers and key stakeholders to work together in implementing a nil tenure approach and improve the adoption of best practice vertebrate pest control to reduce the impact of wild dog predation on all livestock industries, in accordance with the Queensland Wild Dog Management Strategy and National Wild Dog Action Plan.

The Queensland Wild Dog Coordinators have undertaken activities ranging from work with Local Councils to develop Biosecurity Plans that incorporated Pest Management Plans and assisted with individual shires' annual budgets for wild dog control; through to one-on-one negotiations with landholders to design Property Pest Management Plans as well as promoting an increased understanding of best practice vertebrate pest control.

Objectives

The Project supported livestock producers in the adoption of best practice vertebrate pest control with an emphasis on wild dog management, through the provision of a Wild Dog/Vertebrate Pest Coordinator for the Northern Queensland area. Additional funds were used to support the delivery of extension, adoption and capacity building activities across the Project's broader areas of Central-western and South-western Queensland.

Specifically, the Project included the following objectives:

1. Facilitate and establish eleven (11) Wild Dog Committees across North and North-west Queensland.
2. Provide ongoing support to the existing Wild Dog Committees in Central-west (7) and South-west (6) Queensland regions.
3. The Central-west and South-west Queensland Coordinators to assist cluster groups and individuals with wild dog management plans.
4. Ongoing collection and collation of the Wild Dog Impact Data Collection System (WDIDCS) across all three Project areas.
5. Measuring the effectiveness of Project activities in terms of reducing the impact of wild dogs by using WDIDCS data collected.

Methodology

Through the provision of activities ranging from community engagement and group extension to one-on-one training, the Coordinator(s) were to build the capacity of communities, industry groups and individual producers to plan and manage the control of vertebrate pests.

The appointed North/North-west Queensland Coordinator (CNW) brought significant experience to the Project, including 6 years in the role as Central-west Queensland Coordinator (CCW), and was appointed to act as Team Leader as part of a team of three Coordinators.

Results/key findings

Across all regions, the Coordinator role was well accepted by producers and stakeholder groups.

In the central and southern Queensland regions, the Coordinators built upon the previous successful wild dog coordination project work, helping to progress these areas, and where positive outcomes in landholder adoption was realised.

A reduction in annual scalp bounties paid in the Murweh Shire from greater than 3,000 scalps per annum at \$50.00 per scalp to less than 500 scalps was one example. This was achieved by positively influencing a landholder group managing approximately 300,000 acres to adopt control measures, in particular 1080 baiting. The Coordinator's engagement resulted in a more successful, strategic baiting campaign covering key geographical gaps, which in turn has seen significant results for the Murweh Shire Council with thousands of dollars in budget saved, allowing resources to be re-directed to improve support in other initiatives such as additional funding for bait material and improved access to council trappers.

In North-west Queensland, producers have improved their skills and knowledge in the most up to date and effective wild dog control tools. Many northern producers had previously only carried out baiting programs once and sometimes twice per year, with mixed and at most times, unmeasurable results. The CNW provided opportunities for producers to learn about control strategies and the effectiveness of new tools such as Canid Pest Ejectors (CPE). CPEs were of great interest to the larger stations of the Gulf and Southern Cape regions of Queensland due to their ability to set the CPE knowing that the toxin cannot be shifted, as well as knowing how target specific the CPE is.

The Key Performance Indicators that have not been achieved are documented within, where the major contributing factor that affected performance was the out of the ordinary conditions that were experienced across Queensland during the Project term including the 2019 extensive flooding of the Gulf country, the ongoing drought across the central and south west, issues with engaging and retaining a Coordinator for Central-west Queensland and COVID-19 (CV19).

Benefits to industry

The Coordinator(s) provided a conduit to feed information from the grass-roots producer up, through Vertebrate Pest Committees and capacity building events through to forums such as the Queensland Dog Offensive Group (QDOG), Queensland State Government's Agriculture Minister's Advisory Group on matters relating to control and management of wild dogs, allowing the landholders' voice to be heard at the state level.

The Wild Dog Coordinators also played a key role in supporting the strategic planning of the exclusion, cluster fence work that has been funded through various rounds of grant funding through the Queensland and Commonwealth Governments. The CNW was a member of the assessment committee established to assess applications for funding support for exclusion fencing for the Central-west Queensland region which has eventuated in more than 25,000 kilometres of exclusion fencing being erected, potentially protecting 8 million Dry Sheep Equivalents from wild dog protection and adding a further biosecurity barrier to protect landholders from animal disease. Coordinators provided support, technical knowledge and a regional focus to this process, working closely with wild dog committees on a day-to-day basis.

Future research and recommendations

Establishment of Producer Demonstration Sites with an element of data collection on negative impacts to livestock and benefits of wild dog management will assist in demonstrating to producers that control needs to be multi-faceted and can reduce the effects of predation on calves and damage to young cattle. Such data presented from demonstration sites would increase uptake of more integrated control, and therefore reduce negative impacts.

A limiting factor to the adoption of the CPE is the inability of producers to access the chemical safety and handling training that is required under Queensland Legislation to purchase the toxin capsules, a schedule 7 chemical.

Ongoing training needs for producers include completion of the national competencies AHCCHM304 – Transport and store chemicals, and AHCCHM307 - Prepare and apply chemicals to control pest, weeds and diseases.

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1. Background

The National Wild Dog Action Plan states that wild dog attacks on livestock conservatively cost the Australian economy upwards of \$89 million a year in lost production and control costs.

In addition to the financial impact however, wild dogs also negatively impact on the primary producers' ability to choose their enterprise type, that is, small livestock production is unsustainable in areas where wild dog numbers are excessive; and wild dogs are the cause of prolonged stress to the producer because of the inability to protect their livestock from predation.

Furthermore, in western Queensland alone, the region has seen a 75% drop in sheep numbers, which has affected the social and economic fabric of rural communities. Reduced employment means reduced population which affects vital basic services such as education and health.

It is vital that coordination for biosecurity activities, such as wild dog and feral animal control, is improved through more consistent communication, planning and capacity building. This will ensure the ability of all stakeholders to enhance and contribute to broad scale, cross regional programs that deliver best practice, coordinated management.

Coordination of wild dog and feral animal control programs within and between local governments and adjoining regions needs to be improved in order to manage the impacts of feral animals within the State.

The Project sought to deliver long term management outcomes to assist stakeholders located in the North/North-west, Central-west and South-west Queensland regions, through the development of sustainable, community led, local government wild dog/ feral animal control groups that are better informed regarding current best practice management techniques and have the ability to deliver improved, coordinated and more effective control programs.

The Project allowed for three (3) Wild Dog Coordinators to assist livestock producers and key stakeholders to work together in implementing a nil tenure approach. The nil tenure approach allows local communities, in collaboration with government land managers, to cooperatively address wild dog/fox issues across all land tenures by collectively identifying the scope of the issue, the management technique required and the level of resources required.¹ The Project sought to improve the adoption of best practice vertebrate pest control to reduce the impact of wild dog predation on all livestock industries in accordance with the Queensland Wild Dog Management Strategy and National Wild Dog Action Plan.

The Central and Southern Queensland based Coordinator positions continued to support and assist existing local, landholder led wild dog management groups; while in North Queensland, no local wild dog committees previously existed, with the northern Coordinator responsible for establishing, facilitating and supporting wild dog or vertebrate pest management groups to assist with coordination and local ownership of wild dog and feral animal problems.

The Queensland Wild Dog Coordinators undertook activities ranging from one-on-one negotiations with landholders to design Property Pest Management Plans as well as promoting an increased understanding of best practice vertebrate pest control, to working with Local Councils to develop Biosecurity Plans that incorporated Pest Management Plans, and assisting individual shires' to develop annual budgets for wild dog control.

¹ Hunt, R. et al 2005 "The nil tenure approach to a landscape issue (Wild Dogs)"

2. Objectives

The Project supported livestock producers in the adoption of best practice vertebrate pest control with an emphasis on wild dog management, through the provision of a Wild Dog/Vertebrate Pest Coordinator for the Northern Queensland area. Additional funds were used to support the delivery of extension, adoption and capacity building activities across the Project's broader areas of Central-western and South-western Queensland.

Specifically, the Project included the following objectives:

1. Facilitate and establish eleven (11) Wild Dog Committees across North and North-west Queensland.
2. Provide ongoing support to the existing Wild Dog Committees in Central-west (7) and South-west (6) Queensland regions.
3. The Central-west and South-west Queensland Coordinators to assist cluster groups and individuals with wild dog management plans.
4. Ongoing collection and collation of the Wild Dog Impact Data Collection System (WDIDCS) across all three Project areas.
5. Measuring the effectiveness of Project activities in terms of reducing the impact of wild dogs by using WDIDCS data collected.

Objectives 2, 3, 4 and 5 were achieved through coordination of meetings of Shire Wild Dog Advisory Committees; facilitation and attendance of capacity building workshops; and one-on-one discussion and negotiation with landholders and Councils to develop Biosecurity Plans and Property Pest Management Plans.

Objective 1 was not achieved. Establishment of local government wild dog committees in North Queensland was difficult to achieve because northern Queensland councils have not historically provided any significant budget to support vertebrate pest control programs. This issue was identified early in the Project term, with all funding providers advised via Milestone Reports, and where agreement was reached to shift the focus to smaller individual producer groups to improve coordination and allow for the delivery of best practice information to occur at smaller group levels. This approach was labour intensive, because it targeted smaller geographical areas, but it became more engaging for producers. Additionally, partnerships were developed with natural resource management (NRM) groups, Landcare and landholder groups, and Local and State Government, while also tapping into the network of producers through organisations such North Australia Beef Research Council (NABRC).

3. Methodology

The Project supported primary producers in the adoption of best practice vertebrate pest control with an emphasis on wild dog management, through the provision of a Wild Dog/ Vertebrate Pest Coordinator for the Northern Queensland area; with additional funds used to support the delivery of extension, adoption and capacity building activities across the broader project areas of Central-western and South-western Queensland.

The Project allowed for three (3) Wild Dog Coordinators, based in North/ North-west, Central-west and South-west Queensland regions to assist all livestock producers and key stakeholders to work together in implementing a nil tenure approach and improve the adoption of best practice vertebrate pest control to reduce the impact of wild dog predation on all livestock industries, in accordance with the Queensland Wild Dog Management Strategy and National Wild Dog Action Plan.

Through the provision of activities ranging from community engagement and group extension to one-on-one training, the Coordinator(s) were to build the capacity of communities, industry groups and individual producers to plan and manage the control of vertebrate pests.

The Queensland Wild Dog Coordinators undertook activities ranging from work with Local Councils to develop Pest Management Plans to assist with annual budgets for wild dog control, through to one-on-one negotiations with landholders to design Property Pest Management Plans.

As detailed in previous Milestone Reports, the Coordinators were challenged by COVID-19 restrictions, where stakeholder communications relied upon telephone and online meeting platforms to continue stakeholder engagement in pest management extension and adoption; continued drought; and the 2019 flooding of the northern Gulf region.

4. Results

The final results of the Project are best described in table form to recognise the level of success each Coordinator position achieved against each Activity area that was to be undertaken as a Project deliverable.

Table 1 within Appendix A (pgs. 17-27) describes the Activity area, how each Coordinator went about meeting the Activity area, and the level of completeness of each deliverable. Some Activity areas are described as being “complete”, while others use a percentage to show how much of the Activity area was completed by the Coordinator, or a number is used as a comparison to what was needed to be achieved. For example, the North/North-west Queensland Coordinator completed 17 property visits out of a total requirement of 24.

Within the table, the Coordinators are abbreviated as follows:

- North/North-west Queensland Coordinator - **CNW** (Coordinator, North-west)
- South-west Queensland Coordinator - **CSW** (Coordinator, South-west)
- Central-west Queensland Coordinator – **CCW** (Coordinator, Central-west)

There were a number of extraordinary factors outside the control of the Coordinators that created some challenges in meeting some of the Activity areas namely, the extensive flooding of the Gulf region in 2019 that eventuated in a significant response and recovery effort where more than 500,000 cattle perished; the ongoing drought across the central-west and south-west areas of Queensland; issues with engaging and retaining a Coordinator for Central-west Queensland and COVID 19.

Additionally, during the Project application phase, it was proposed that the **CNW** would follow process that had been previously implemented in the central-west and south-west Queensland regions and form a regional wild dog committee based off the Western Queensland DogWatch Committee (DogWatch) model. This committee has led the way in southern regions due to the commitment from this landholder committee and the ownership of the problem that they have taken.

The initial formation of the DogWatch Committee occurred in 2013, with its membership consisting of the chairs of the landholder-led shire wild dog advisory groups. These groups were established under the "[Paroo Model](#)"² of nil tenure wild dog management as advocated by the National Wild Dog Action Plan. Local landholders lead and facilitate a local wild dog management advisory group which provides advice to their local government on key issues regarding the implementation of their wild dog management program. In the central-west and south-west regions, local government, through a levy or general rate, allocate a significant budget towards assisting landholders with control of wild dogs. Assistance can be in several forms such as providing baits, costs of aircraft, subsidised use of trappers and any other costs associated with a coordinated program. This has been a positive step for these regions as it puts the emphasis on landholders to make key decisions on where, when and how to control wild dogs on their land and assisting local government by allowing local government staff to concentrate on delivering a reliable, consistent service.

The above-mentioned process has been a huge success in the central-west and south-west regions and therefore, under this Project, the Project Team sought to implement a similar system in North Queensland.

As the Project progressed however, it became evident that the regional committee structure and Paroo Model approach would not be feasible in the northern regions, this being due to a variety of factors. Firstly, the formation of shire-wide committees/advisory groups led by landholders was not considered feasible because local governments do not have wild dog budgets that require landholder input into allocation and expenditure. Due to this, landholders did not have a reason to form management groups as there are no management decisions to be made on program delivery other than the date they would conduct their baiting programs. It was considered that this did not warrant a committee structure, which could be done by the local government's Rural Lands Officer over email and phone, which had been the case for many years.

This was an unexpected outcome for the Project, where the Project Team re-evaluated the deliverable, and, through the Project Advisory Group, it was agreed that the **CNW** would focus efforts on smaller groups of landholders who expressed a desire to form smaller wild dog management groups with neighbouring properties. Project funding providers were advised early in the Project term of the concern in meeting this milestone and accepted the Project Team's and Project Advisory Group's advice that the milestone deliverable would not be met.

² https://pestsmart.org.au/case_studies/paroo-model-of-wild-dog-control-western-qld/

In response to this change, the **CNW** set out to identify, through established networks, groups of landholders who would be interested in undertaking group planning processes and implementation of a coordinated control program. The **CNW** established smaller groups and commenced the facilitation of this change of management.

This approach also relied on the flexibility of councils to change their baiting dates if a group were to try something different as part of their planned approach. It was found that in some council areas there was a lack of interest in having flexible dates and the council would set the dates regardless of landholders' input. These dates were often based around other programs of work and given the limited resources of these northern shires, the **CNW** chose to work with the local council rather than cause any friction with existing staff.

The smaller, landholder wild dog management groups the **CNW** helped form, and that form the potential to create Producer Demonstration Sites, is listed below:

- Wrotham Park Group (including 4 properties)
- West Dimbulah/Eureka Creek Group (including 4 properties)
- North Mareeba/Cook Shire Group (including 5 properties)
- Stanbroke Pastoral Company (including 4 properties) – these groups have been engaged to commence data collection around stock damage at processing e.g. bite marks and ear and tail damage
- Palmerston Valley Group – assisted with initial planning to improve effectiveness of control and to engage local government into the program. Also provided input into the Cassowary Coast Regional Council Wild Dog Management Policy

The above-mentioned groups also started discussions about collecting wild dog DNA samples to contribute to a research project facilitated through NSW DPI³; and these groups have also expressed an interest in undertaking improved monitoring and evaluation and recording more in-depth information around their impacts from wild dogs through Producer Demonstration Sites for future project work.

The **CNW** also experienced good success in engagement with the Carpentaria Land Council Indigenous Rangers, with this group working across a large part of the Western Cape, Wellesley Islands and Gulf Country on behalf of the local governments of Carpentaria and Burke Shires. Their levels of expertise in land management is extensive and these groups are always looking to engage in further training and learn more in regard to vertebrate pest management. The initial engagement from the **CNW** with these indigenous groups offer the opportunity for follow-on program work such as Producer Demonstration Sites for this region.

Property Pest Management Plans (PPMP) are a key component of best practice management of wild dogs and invasive species and many producers have a plan for management, even though in many cases the plan is not written down or recorded. Assisting landholders to develop PPMPs was a key Activity area of the Project.

Under Queensland's *Biosecurity Act 2014*, implemented in 2016, it was found that most producers had already drafted property Biosecurity Plans, which in some cases included wild dog management. It was not considered reasonable to expect landholders to draft an additional PPMP, that mirrored

³ Fleming, P. and Freney, S. – “Wild Dog GeneFlow – using DNA for management”

their current Biosecurity Plans, so Coordinators diverted their assistance to initiating discussions around property biosecurity plans and assisting to ensure the pest management component of those plans was included in the landholders' property Biosecurity Plan. Coordinators discussed PPMP's and/or Biosecurity Plans at field days and events, with information and knowledge delivered in a way that producers were able to fulfill their Biosecurity Plan obligations. In some cases the Coordinator helped the producer to fully complete plans; and where in other cases the producer had the contact details of the Coordinators to obtain further advice on developing their plans at a later date more suitable to the producer.

The Coordinators also worked in partnership with other organisations to deliver pest management planning to landholders and ensured that the level of detail within the plans was consistent with the agreed standards that will in turn deliver best practice management.

Additionally, the Project Team worked with local governments in their respective regions to ensure the local government area's Biosecurity Plan was well developed and endorsed by the relevant Council. Coordinators attended planning meetings across the three regions in partnership with the local wild dog committees to provide input and advice and ensure best practice was being implemented.

All plans in the project areas of North, Central-west and South-west Queensland have placed wild dogs and their control in their top three (3) priority pests, with a large percentage of shires rating it as number one (1). This further highlights how significant wild dogs and the effect they have on livestock impacts and general biosecurity are across Queensland. Across the breadth of biosecurity issues and risks, the number of invasive species and potential impacts are extensive, yet the risk of predation by wild dogs continues to rate highly across western and northern regions.

The Wild Dog Impact Data Collection System (WDIDCS) has been an integral part of monitoring and evaluation across western Queensland for seven years. The system was initially established by Queensland's Senior Wild Dog Coordinator in partnership with the DogWatch Committee. The system was created as a way for local committees to measure and evaluate their effectiveness and impacts that local programs were having on the wild dog populations. It also allowed Wild Dog Committees to evaluate shire participation rates in control programs and the ability to set milestones and targets in order to achieve an increase in participation.

There are two elements to the Project's data collection. Firstly, to obtain data on participation rates and volumes of bait material, a data collection request is sent to all local government Rural Lands Officers every 6 months. The Rural Lands Officer provides information relevant to a) the number of producers attending baiting campaigns each month; b) the volume of bait material they provided landholders with; c) whether the baits were distributed aerially or by ground; and d) the number of scalps council paid a bounty on. Appendices C "Landholder participation in coordinated 1080 baiting"; D "Controlled zones"; and E "Regional Scalp Payment Data" demonstrates these traits for each engaged shire from 2015 to 2020, allowing comparisons to be made from one year to the next, and providing local wild dog committees with information to make informed decisions.

Secondly, landholders are surveyed every three months and asked to provide data on a) whether they were perceived to have a wild dog problem; b) if they carried out control measures and what type of control (Bait, Trap, Shoot or Guardian Animals); c) how many stock they had found damaged or bitten; and d) how many stock they had lost or had to destroy.

Both levels of information are entered into a database and represented in a spreadsheet to allow groups and committees to see what was occurring around their shire, whether things were

improving or not, and allowing Wild Dog Committees to make management decisions to account for identified changes/challenges.

It is envisaged that the WDIDCS will form the basis of a system that can continue collecting data into the future and build on the current data set, and this has been discussed at the state level. Data recorded by the WDIDCS has shown trends and highlighted several issues over the years of operation. In saying this it is to be noted that submission of data into the system has been a voluntary process and at times, data continuity has been sporadic.

Participation rates provided through local government record keeping was a more reliable metric and it has demonstrated that certain physical and environmental conditions effected landholders' ability and need to participate in wild dog control through baiting programs. Early in the Project term, the onset of drought conditions saw the level of participation reduce. As landholders destocked and reduced flock/herd numbers, they also in some cases ceased baiting altogether. In cases it was a highlighted concern to the Coordinators, and an approach was taken to engage one-on-one with those landholders and attempt to shift their mindset and educate them to see the drought as a key opportunity to increase targeted control due to reduced water sources, reduced livestock, and therefore a reduced need for working dogs in the paddock.

Appendix C on page 29 documents the data obtained on landholder baiting participation rates. This data highlights the fluctuations in participation levels from year to year, where irregularities can be put down to several reasons, such as:

- Varied and extreme weather conditions e.g. Drought and flooding.
- Councils providing less budgetary assistance.
- Additional funding providing a free baiting service to landholders creating a spike in participation.
- Areas enclosed by exclusion fencing not requiring regular baiting controls and potentially utilising trapping instead of a baiting campaign.

Additionally, as cluster/exclusion fencing began to roll out across central-west and south-west Queensland regions, participation levels also reduced as some producers did not see the need to bait their properties any further given they were protected by wire. Again, Coordinators, with the assistance of their local wild dog committees, worked at educating these producers to recognise that exclusion fencing still requires a level of control to be completed to manage existing dogs inside the fence while reducing the pressure on the outside by strategically placed control tools. In response to the expanding cluster fence program, the Coordinators commenced focusing on capacity building field days to increase landholder skill sets in the use of traps and new and emerging control tools such as the Canid Pest Ejectors. The Coordinators recognised the need for more targeted forms of wild dog control as the fences had now ceased population migration and landholders were looking to better target the remaining dogs inside fences rather than use broadscale techniques. This was evident when assistance was provided by the Coordinators to develop property and cluster fence pest management plans across the central-west and south-west areas of Queensland.

A strong interest was also shown by some producers in learning more about the genetic make-up of wild dogs in certain areas of the north. The Coordinators acted upon an opportunity raised by the National Wild Dog Management Coordinator of research the New South Wales Department of Primary Industries were undertaking to assess wild dog DNA samples from across Australia. The project, being delivered by NSW DPI, was part of a larger National Wild Dog Action Plan project to

better inform all stakeholders of the purity of the animals being controlled. DNA sample kits were supplied to the **CNW** and then forwarded on to landholders across the northern region. This provided researchers with samples to complement their research. This research has been ongoing for several years looking into the genetic diversity of the wild dog/dingo population across Australia through DNA analysis. Through the DNA signature the sampling can now also trace relatedness data between individuals, so producers could also see if the dogs taken for sampling were also related to each other. A significant gap in this data was identified in the North and Gulf regions of Queensland, where the Coordinators offered access to northern producers to collect samples.

Overall, a legacy has been established across western Queensland and the wild dog committees are well engrained in their local governments' policies and procedures and should continue to lead the way in planning and facilitating programs that are strategic and effective.

5. Conclusion

This Project has raised awareness of the overall impacts that wild dogs have on large scale beef operations in the northern region, with producers much more aware of the financial and animal welfare impacts that wild dogs place on livestock and businesses; and through capacity building and training, many producers are now better informed and skilled to add additional control tools and strategies to existing control programs.

This Project, in its entirety, encompassed three (3) regional areas of Queensland providing on-ground advisory, coordination and monitoring framework development to assist Queensland landholders and Local Government personnel to manage the issue of pest animals, particularly wild dogs, in a strategic and coordinated manner as outlined in the Queensland Wild Dog Management Strategy 2011-16 and the National Wild Dog Action Plan 2020-2030 .

Beef producers in North Queensland have anecdotally reported significant impacts from wild dogs on their herds, whether it be dog bites, noticeable calf loss or welfare impacts such as stress, highlighting an issue for northern beef producers; and where levels of participation in control are reasonable and most carry out baiting programs once a year as a minimum. But this seems too insufficient to have any noticeable impact on reducing the damage wild dogs are causing.

Currently, some producers are not fully recognising the economic impact that wild dogs are having on their herd; and it has been identified at a state and national level that demonstration sites are needed to produce some hard data on the effects of control, the affect wild dogs have on livestock health and survival, plus some cost/benefit analysis into what level of control needs to be reached before significant reduction in impacts is seen. Use of this type of data through established producer demonstration sites will increase and improve engagement in wild dog management.

In conclusion, the Adoption of Best Practice Vertebrate Pest Control in Northern Queensland Project has been a sound success and has increased the skills and knowledge of producers across western and northern Queensland. It is evident the there is more work needed to bring northern producers up to the level of their southern counterparts, but there is a willingness for producers to learn more and be more effective. As the cost of impacts increases, producers will look for the skills and knowledge to allow them to take effective action.

5.1 Key findings

- Producer Demonstration Sites in north Queensland, with an element of data collection on negative impacts to livestock from wild dogs, will assist in demonstrating to producers that control needs to be multi-faceted.
- Canid Pest Ejectors (CPE) were of great interest to the larger stations of the Gulf and Southern Cape regions of Queensland.
- A limiting factor to the adoption of the CPE is the inability of producers to access chemical safety and handling training.

5.2 Benefits to industry

The Coordinator(s) provided a conduit to feed information from the grass-roots producer up, through Vertebrate Pest Committees and capacity building events through to forums such as the Queensland Dog Offensive Group (QDOG), Queensland State Government's Agriculture Minister's Advisory Group on matters relating to control and management of wild dogs, allowing the landholders' voice to be heard at the state level.

The Wild Dog Coordinators also played a key role in supporting the strategic planning of the exclusion, cluster fence work that has been funded through various rounds of grant funding through the Queensland and Commonwealth Governments. The CNW was a member of the assessment committee established to assess applications for funding support for exclusion fencing for the Central-west Queensland region which has eventuated in more than 25,000 kilometres of exclusion fencing being erected, potentially protecting 8 million Dry Sheep Equivalents from wild dog protection and adding a further biosecurity barrier to protect landholders from animal disease. Coordinators provided support, technical knowledge and a regional focus to this process, working closely with wild dog committees on a day-to-day basis.

6. Future research and recommendations

Establishment of Producer Demonstration Sites with an element of data collection on negative impacts to livestock and benefits of wild dog management will assist in demonstrating to producers that control needs to be multi-faceted and can reduce the effects of predation on calves and damage to young cattle. Such data presented from demonstration sites would increase uptake of more integrated control, and therefore reduce negative impacts.

A limiting factor to the adoption of the CPE is the inability of producers to access the chemical safety and handling training that is required under Queensland Legislation to purchase the toxin capsules, a scheduled 7 chemical.

Ongoing training needs for producers include completion of the national competencies AHCCHM304 – Transport and store chemicals, and AHCCHM307 - Prepare and apply chemicals to control pest, weeds and diseases.

7. References

Hunt, R. et al 2005 “The nil tenure approach to a landscape issue (Wild Dogs)”
(<https://pestsmart.org.au/wp-content/uploads/sites/3/2020/06/Hunt2005b.pdf>)

https://pestsmart.org.au/case_studies/paroo-model-of-wild-dog-control-western-qld/

Fleming, P. and Freney, S. – “Wild Dog Geneflow – using DNA for management”

8. Appendix

- Appendix A Progress Towards Achieving Agreed Milestone Outcomes (Feb 2018 – Oct 2021)
- Appendix B Qld Wild Dog Control Coordinators Map
- Appendix C Landholder participation in coordinated 1080 baiting programs 2015 – 2020
- Appendix D Controlled zones
- Appendix E Regional Scalp Payment Data

Appendix A

Table 1: Progress Towards Achieving Agreed Milestone Outcomes (February 2018 – October 2021)

	Activity area	Progress	Completed
1.	<p>Two PAG meetings facilitated via teleconference</p>	<p>The Project Advisory Committee (PAG) held teleconferences across the entire project duration to ensure all members remained up to date with project progress and feedback was taken by the Project Management Team.</p> <p>Regarding the CCW role, a greater consultation process was undertaken, including the PAG, involving local Central-west Queensland landholders and local councils to determine the most appropriate direction in assisting central-west stakeholders.</p>	<p>Complete</p>
2.	<p>Ongoing support provided to existing Wild Dog Committees in the South-west and Central-west Project areas:</p> <p>Coordinator, South West (CSW):</p>	<p>Throughout the Project term, the majority of shire committee meetings were attended either in person or via videoconference by the Coordinator staff.</p> <p>During the time the CSW was absent on maternity leave (10/2020 – 03/2021), the CNW attended south-west committee meetings, when required, via videoconference.</p> <p>The CSW shire committees included:</p> <ul style="list-style-type: none"> • Maranoa • Balonne • Murweh • Bulloo • Paroo • Quilpie <p>The CSW also coordinated monthly meetings of the landholder WQ DogWatch Committee, which provided a forum to pass on shire related issues to the individual Shire Wild Dog Committees for both the</p>	<p>Complete</p>

Activity area	Progress	Completed
<p>Coordinator, Central West (CCW): <i>Attend meetings, including existing Regional Pest Management Sub-committees</i></p>	<p>south-west and central-west regions.</p> <p>The CCW shire committees included:</p> <ul style="list-style-type: none"> • Winton • Longreach • Barcaldine • Blackall-Tambo • Barcoo • Boulia • Diamantina <p>All central-west shire committee meetings were attended by the CCW when the position was active; with the CNW attending central-west committee meetings due to the vacancies of the CCW, when required, via videoconference.</p> <p>Both the CCW and CNW attended RAPAD’s Central West Region Pest Management Group along with AgForce’s Northern Queensland Regional Manager.</p>	
<p>Coordinator, North West (CNW): <i>Attend Wild Dog Committee meetings</i></p> <p>Increased participation and area controlled in wild dog control activities across the project area – aim over the Project term is an annual increase by 5-10% for both SW and CW regions</p>	<p>CNW attended all Wild Dog Committee Meetings when held either face to face or via video or teleconference.</p> <p>Participation rates for the 2015 – 2020 years for South-west and Central-west Queensland areas are represented in Appendix A on pg. 32. Figures for Northern Queensland have been included from 2018.</p> <p>Coordinators have always remained focussed on increasing landholder participation in wild dog control, where Coordinators engaged with landholders to improve</p>	<p>Percentage change in participation from 2018 to 2020 (calendar year)</p> <p>CSW 0.67% Annual change 2020 -1.70% 2019 2.00% 2018 1.72%</p>

	Activity area	Progress	Completed
		<p>participation in 1080 baiting campaigns. Whilst it is encouraging that some individual shire areas have shown an increase in new baiting participants (refer page 32), on a year-on-year basis, the Coordinators failed to achieve the 5-10% annual increase in participation as noted in the Activity area.</p> <p>In the “Completed” column to the right, an average percentage figure over three (3) years of the Project has been provided for each Coordinator plus the percentage change on a per annum basis. As noted, the northern Queensland region demonstrates a higher change overall because this region was new to coordinated help and coordinated baiting, noting however, that participation can wane with years 2019 and 2020 showing significant fluctuations.</p> <p>Failure in the south-west and central-west regions could be attributed to a landholder population well versed in coordinated baiting, but also, the deterioration can be attributed to the continuing drought over the Project term, the increased cost in bait meat because suitable meat supplies are low and given many landholders in central-west and south-west areas have exclusion fenced their properties, where a certain level of protection is assumed and therefore, landholder perception suggests a lesser need to participate in coordinated baiting.</p> <p>It should also be noted that not all shires provide the required participation data, which may skew some of the analysis.</p>	<p>CCW -1.98% <u>Annual change</u> 2020 -2.98% 2019 -1.79% 2018 -1.18%</p> <p>CNW 3.01% <u>Annual change</u> 2020 3.25% 2019 1.06% 2018 4.72%</p>

	Activity area	Progress	Completed
	<p>Undertake 10 property visits/ inspections per region under advice from the Local Government Wild Dog Committee and in conjunction with Local Government staff</p> <p>Project Totals: 60 property visits/ inspections for both the CSW and CCW each, over original Project term; plus 10 for CSW and 24 for CNW based on Project term extension: CSW – 70 CCW – 60 CNW – 24</p>	<p>Despite these issues, the results demonstrate a sound achievement.</p> <p>Wild Dog Coordinators conducted property visits, maintaining a physical presence with producers and allowing a one-on-one approach in providing assistance and advice on trapping and strategic baiting: CSW undertook 59 property visits throughout the Project term.</p> <p>CCW undertook 36 property visits, with numbers reflective of the role being vacant for a large part of the Project duration.</p> <p>CNW conducted 17 property visits through-out the Project term.</p> <p>However, it should be noted that individual property visits were not a core focus of the Project deliverables because a one-on-one approach with individual landholders is not considered an effective use of the Coordinators time, with preference being to the Coordinators educating producers and other relevant stakeholders at forums and group coordinated events. Hence, a greater relevance should be placed on the Capacity Building/ Events deliverable on page 15.</p> <p>NOTE: Due to landholders' reservations regarding COVID-19, property visits were minimal from March 2020. Contact was made with producers to discuss wild dog issues via phone and email, with planning undertaken to provide assistance once restrictions were lifted.</p>	<p>Property visit numbers per reporting period: Jan - Nov 2021 CSW 5 CNW 10</p> <p>Jun - Nov 2020 CSW 2 CCW 0 CNW 2</p> <p>Jan - Jun 2020 CSW 3 CCW 9 CNW 0</p> <p>Jul - Dec 2019 CSW 15 CCW 19 CNW 5</p> <p>Jan - Jun 2019 CSW 16 CCW 4</p> <p>Jul - Dec 2018 CSW 17 CCW 4</p> <p>Feb - Jun 2018 CSW 1 CCW 0</p>

	Activity area	Progress	Completed
3.	<p>Northern Coordinator to initiate and implement a Regional Coordinated Baiting Calendar area including the North/North West areas of Qld</p>	<p>The Regional Coordinated Baiting Calendar was drafted and implemented for the entire duration of the Project, in full consultation with the Wild Dog Committees across North, Central-west and South-west Queensland.</p> <p>At Project commencement, the coordinated baiting calendar included participation from 14 shires from the central-west and south-west regions. Whilst all twelve (12) Northern Queensland Shires have been engaged in this approach, the 2021 baiting calendar only included four (4) of these shires being Charters Towers, Mt Isa, Carpentaria and Cloncurry.</p> <p>The twice per year baiting calendars are a legacy piece of this latest Wild Dog Coordinator Project and from those earlier Coordinator projects from 2012 to 2018, which have been well adopted by landholders in these shires. It will be to industry’s benefit to continue this coordinated approach and up to industry to ensure this work continues into the future.</p>	<p>Complete</p>
4.	<p>Coordinators will assist and/ or coordinate three (3) capacity building/ training events per Coordinator region per year, with an aim of 60 Rural Lands Officers (RLOs)/ landholders/ stakeholders to attend/ or assist per year</p> <p>Project Totals: 18 capacity building/ training events, with</p>	<p>CSW provided assistance at twelve (12) capacity building/ training events throughout the Project term, speaking and providing advice and support to 274 stakeholders.</p> <p>In the “Completed” column to the right, the results are broken down as per the six (6) monthly reporting cycles over the term of the Project.</p>	<p>CSW Project total 12 events/274 stakeholders</p> <p>Jan - Nov 2021 1 event/30 landholders</p> <p>Jul - Nov 2020 2 events/45 stakeholders</p> <p>Jan - Jun 2020 2 events/34 stakeholders</p>

Activity area	Progress	Completed
<p>an aim of 180 stakeholders attending over original Project term; plus 10 for CNW based on Project term extension: CSW – 9 CCW – 9 CNW – 19</p>	<p>CCW provided assistance at seven (7) capacity building/training events throughout the project term, speaking and providing advice and support to 62 stakeholders.</p> <p>NOTE: Previous comments regarding recruitment issues and vacancy of the CCW during a large part of the project duration reflects the failure to meet this particular deliverable.</p> <p>CNW provided assistance at fourteen (14) capacity building/training events throughout the project term, speaking and providing advice and support to 234 stakeholders.</p>	<p>Jul - Dec 2019 2 event/ 30 stakeholders</p> <p>Jan - Jun 2019 2 events/ 40 stakeholders</p> <p>Jul - Dec 2018 3 events/ 95 stakeholders</p> <p>CCW Project total 7 events/ 62 stakeholders</p> <p>Jan - Nov 2021 0 events</p> <p>Jul - Nov 2020 0 events</p> <p>Jan - Jun 2020 1 event/11 stakeholders</p> <p>Jul - Dec 2019 1 event/2 stakeholders</p> <p>Jan - Jun 2019 2 events/ 22 stakeholders</p> <p>July - Dec 2018 3 events/ 27 stakeholders</p> <p>CNW Project total 14 events/234 stakeholders</p> <p>Jan - Nov 2021 5 events – 92 stakeholders</p>

	Activity area	Progress	Completed
			<p><i>Jul - Nov 2020</i> <i>1 event/ 15 stakeholders</i></p> <p><i>Jan - Jun 2020</i> <i>1 event/ 4 stakeholders</i></p> <p><i>Jul - Dec 2019</i> <i>1 event/ 6 stakeholders</i></p> <p><i>Jan - Jun 2019</i> <i>2 events/ 40 stakeholders</i></p> <p><i>Jul - Dec 2018</i> <i>4 events/ 77 stakeholders</i></p>

	Activity area	Progress	Completed
5.	<p>Northern Coordinator provide ongoing support and facilitation to the regional wild dog committee</p>	<p>As identified early in the Project term and as previously reported on in earlier Project Progress Reports, the formation of a regional wild dog committee in North/ North-west Queensland was not considered achievable due to a variety of factors.</p> <p>This particular matter was noted and accepted by all Funding Providers early in the Project term, accepting that the formation of shire wide committees/advisory groups led by landholders was not possible due to local governments not having significant wild dog budgets that required landholder input into allocation and expenditure.</p> <p>Due to this, landholders did not see a reason to form shire-based committees as there were no management decisions to be made on their programs other than the date they will be conducting their control programs. This did not warrant a committee structure, with an understanding that control and management can be completed by the Shire Rural Lands Officer (RLO) by email and phone.</p> <p>Project Funding Providers agreed with this theory and accepted that the Project Team would not be required to report on this particular deliverable.</p>	
6.	<p>Each Coordinator to assist 10 new landholders/ groups to draft and Commence implementation of Property Pest Management Plans (PPMP)</p>	<p>CSW provided assistance to develop 65 individual PPMPs throughout the project term.</p>	<p>CSW Project Total 65 PPMPs</p> <p>Jan - Nov 2021 5 PPMPs</p> <p>Jul - Nov 2020 2 PPMP's</p>

	Activity area	Progress	Completed
	<p>Project Totals: 50 PPMPs per Coordinator over original Project term, plus 10 for CSW and 20 for CNW based on Project term extension: CSW – 60 CCW – 50 CNW – 70</p>	<p>CCW provided assistance to develop 12 individual PPMPs throughout the project term.</p> <p>NOTE: Previous comments regarding recruitment issues and vacancy of the CCW during a large part of the project duration reflects the failure to meet this particular deliverable.</p> <p>CNW provided assistance to develop 51 individual PPMPs throughout the project term.</p>	<p>Jan – Jun 2020 0 PPMPs</p> <p>Jul - Dec 2019 10 PPMPs</p> <p>Jan - Jun 2019 33 PPMPs</p> <p>Jul - Dec 2018 15 PPMPs</p> <p>CCW Project Total 12 PPMPs</p> <p>Jan - Nov 2021 0 PPMPs</p> <p>Jul - Nov 2020 0 PPMPs</p> <p>Jan - Jun 2020 0 PPMPs</p> <p>Jul - Dec 2019 2 PPMPs</p> <p>Jan - Jun 2019 0 PPMPs</p> <p>Jul - Dec 2018 10 PPMPs</p> <p>CNW Project Total 51 PPMPs</p> <p>Jan - Nov 2021 9 PPMPs</p> <p>Jul - Nov 2020 2 PPMPs</p> <p>Jan - Jun 2020 0 PPMPs</p>

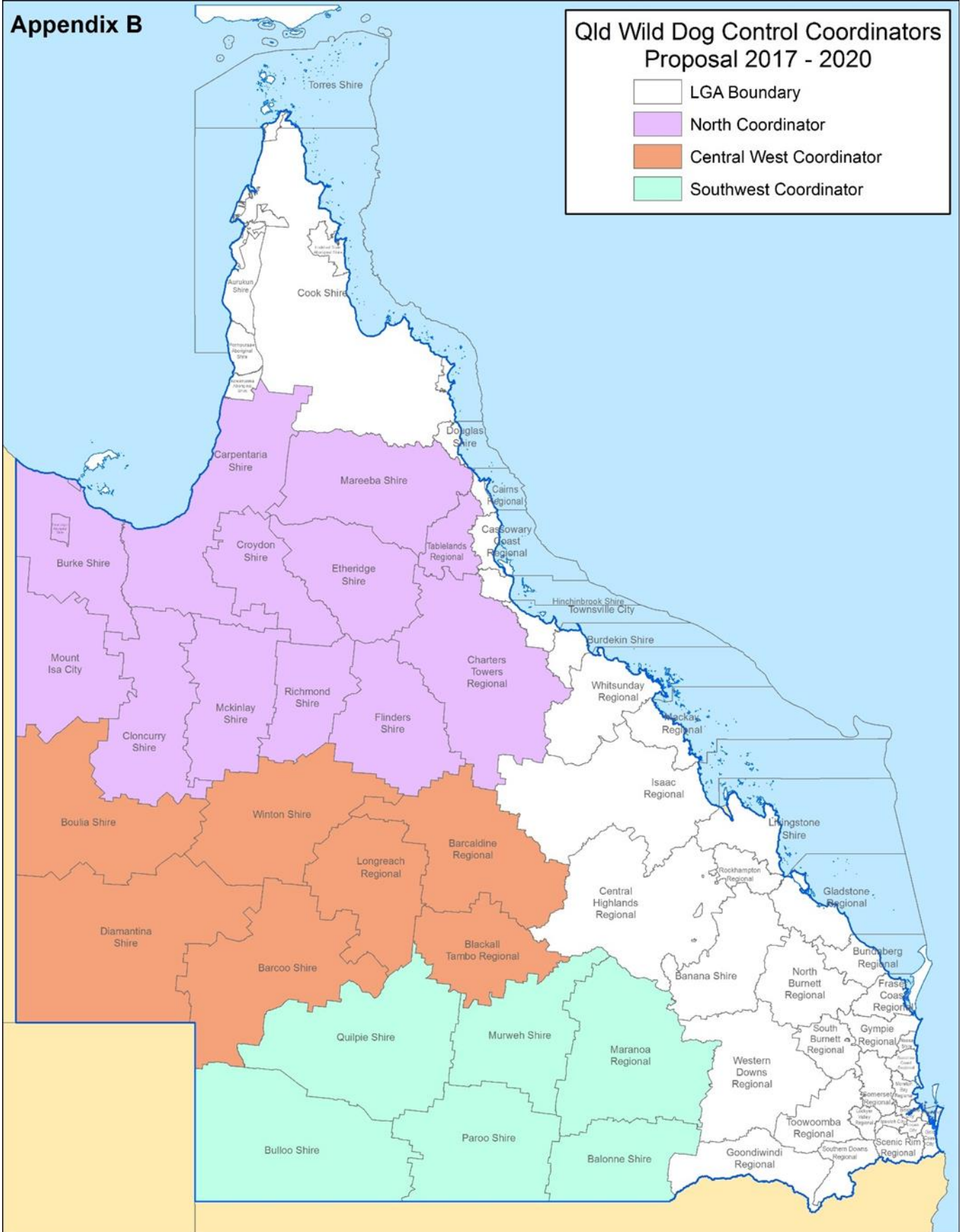
	Activity area	Progress	Completed
			<p>Jul - Dec 2019 8 PPMPs</p> <p>Jan - Jun 2019 18 PPMPs</p> <p>Jul - Dec 2018 14 PPMPs</p>
7.	<p>North, CW and SW Coordinators to ensure local government wild dog management plans are reviewed, reported on and remain up to date.</p>	<p>All local governments in South-west Queensland have drafted and implemented their Wild Dog/Pest Management Plans as per their <i>Biosecurity Act 2014</i> obligations.</p> <p>All local governments in Central-west Queensland have drafted and implemented their Wild Dog/Pest Management Plans as per their <i>Biosecurity Act 2014</i> obligations. Additionally, all central-west shires are now covered by a Regional Biosecurity Plan written and endorsed by the RAPAD Group.</p> <p>All local governments in North-west Queensland have drafted and implemented their Wild Dog/Pest Management Plans as per their <i>Biosecurity Act 2014</i> obligations.</p>	
8.	<p>Ongoing collection and collation of the WDIDCS information across all three project areas. Coordinators to establish a baseline of all wild dog control activities and area covered (ha) per shire for each Coordinator area, to include use of trapping, CPEs and guardian animals.</p>	<p>CNW continued to work with the data manager to further develop, expand and refine the system.</p> <p>The system will now sit with AgForce Queensland to ensure data collection is maintained.</p> <p>AgForce has prepared a written request to the Queensland Agriculture Minister's Wild Dog Advisory Committee (QDOG) to discuss appropriate methods to collect data, and ownership and responsibility of any data collection system.</p>	

	Activity area	Progress	Completed
9.	<p><i>Evaluate the effectiveness of project activities in terms of reducing the impact of wild dogs and determine the level of producer satisfaction by using WDIDCS data to calculate change against base line indicators and performance against targets agreed upon by local area producers and local government representatives. Review strategy and outline changes to be made. Update tools and resources in line with these findings.</i></p>	<p>WDIDCS data and results are attached below in the Appendices.</p> <p>During the Project term, it was identified that the WDIDCS system needed to be upgraded and managed in a more efficient and effective manor into the future to allow it to be utilised to its maximum potential.</p> <p>In its current format, the WDIDCS is a great database to measure impacts, effectiveness and monitor participation at a local level for which it was designed; however, due to the number of organisations interested in what this information can provide, the system needs to be upgraded to allow for ease of input, consistent data input across local, state and national levels, accuracy and to address information security and privacy issues.</p> <p>Furthermore, analysis of data collected could be interpreted differently because drought during the term of the Project saw many landholders totally destocked and therefore, no stock loss capable of being reported on. Once the seasons improve and landholders across drought declared shires restock, data will be more reliable, and indicative of the problems encountered on a regular basis.</p>	

Appendix B

Qld Wild Dog Control Coordinators Proposal 2017 - 2020

-  LGA Boundary
-  North Coordinator
-  Central West Coordinator
-  Southwest Coordinator



Appendix C

**LANDHOLDER PARTICIPATION IN COORDINATED 1080 BAITING PROGRAMS
2015 – 2020**

SHIRE	TOTAL PROPERTIES	AVERAGE PERCENTAGE PARTICIPATED 2015	AVERAGE PERCENTAGE PARTICIPATED 2016	AVERAGE PERCENTAGE PARTICIPATED 2017	AVERAGE PERCENTAGE PARTICIPATED 2018	AVERAGE PERCENTAGE PARTICIPATED 2019	AVERAGE PERCENTAGE PARTICIPATED 2020
BALONNE	683	11	14	11.7	12.5	11	11
BARCALDINE	556	22.5	12	26.61	32	26.4	17.5
BARCOO	59	33	76	22.88	22.03	16	11
BLACKALL-TAMBO	238	35	25	30.04	26	29.5	25
BOULIA	48				12	16	21
BULLOO	35	49.5	40	32.38	27.5	46.5	31
CHARTERS TOWERS	260	-	-	-	24	33	32
CLONCURRY					15	19	37.5
ETHERIDGE	94				23	28	25
FLINDERS	240	20	22.5	24.21	24	19.5	25
LONGREACH	292	35.5	37.5	35.75	35.8	31	29.5
MARANOA	1529	22.5	17.52	18.96	28.6	Not available	Not Available
MAREEBA	-	-	-	-	6	5	8
McKINLAY	94	-	-	-	46	40	49
Mt ISA	18	-	-	-	30	33	25
MURWEH	242	33	30	19.05	19.5	16	20
PAROO	181	38	35	37.02	38.1	49	40.5
QUILPIE	147	35.5	18	32.17	35.37	20.5	32
RICHMOND	163				17	16	18
WINTON	157	50	55	60.52	52.87	Not Available	Not Available

EXPLANATION OF DATA:

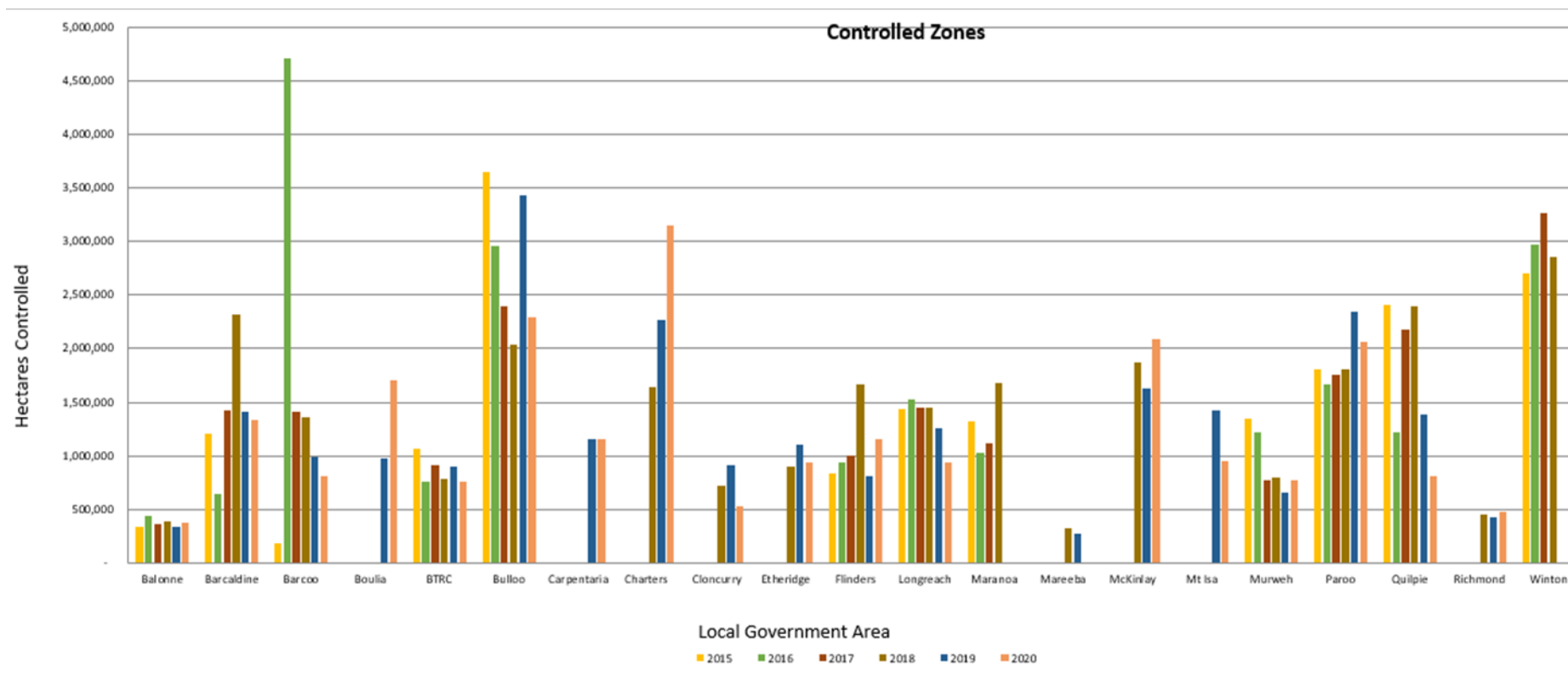
Please note that the data represented above has been submitted by local government 1080 operators and collated by the Industry Funded Qld Wild Dog Coordinator. At no point has any other organisation/department contributed to the collection or collation of the data.

This data is a percentage average across the two (2) coordinated programs currently undertaken by local governments across Queensland. It is NOT a representation of the total number of baiting campaigns that occur throughout the year.

The "Total Properties" value in the table represents the total number or rural ratepayers in the respective local government/shire area. It should be noted that some landholdings are not permitted to use 1080 baiting, where these landholdings have not been excluded from the total number of properties within any particular shire. However these numbers are minimal and does not influence the data in any significant way.

The Qld Wild Dog Coordinator has not had access to historical data prior to 2015 from all shires.

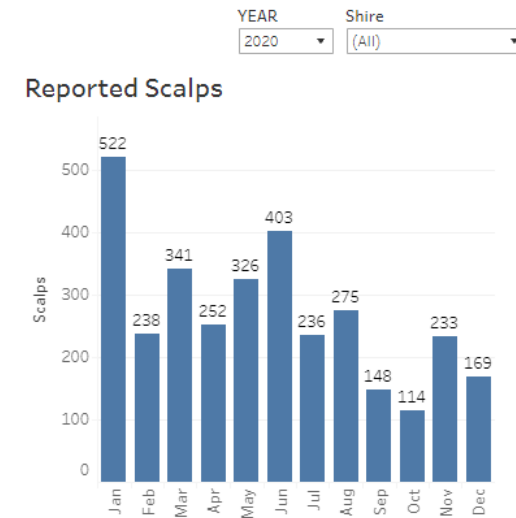
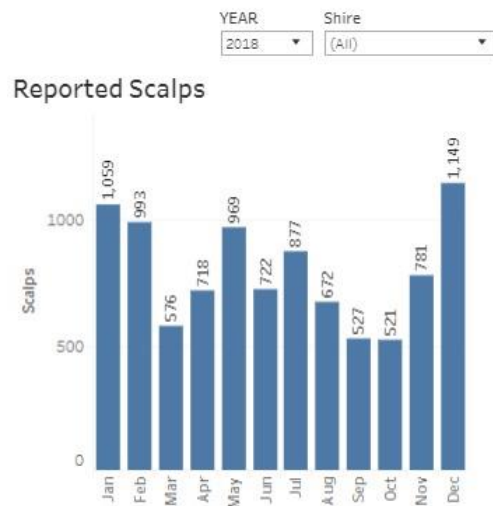
Appendix D Controlled Zones



The data represented above is calculated through the **Wild Dog Impact Data Collection System (WDIDCS)** and is based on the annual percentage of shire participation related to the total area of the shire. It is used as a representation to show a trend and is not an accurate area calculation.

Appendix E

Regional Scalp Payment Data



The data above is a representation of the total number of wild dog scalps presented to local governments for bounty payment across the three Project regions in the 2018, 2019 and 2020 years.

In 2018, there were 9,564 scalps submitted compared to a significant reduction of 3,523 in 2019, with the total number dropping to 6,041. In 2020 there has been another significant drop of nearly 50% to 3,257 scalps. Equating this to a financial savings across western Queensland Shires could be expressed as approximately \$160,000 based on a per scalp bounty of \$50.

It could be interpreted that the increases in baiting participation in the South-west Queensland region, especially Murweh Shire, has contributed to reducing overall scalp numbers. Anecdotally, information received from producers across the central-west and south-west regions, there has been a reduction in wild dog activity as a result of the increased coordination and collaboration facilitated by the Coordinators. This has also coincided with an increase in producers participating in the coordinated baiting programs and also the large volume of exclusion fencing carried out in the western regions. In some regions, contract trappers being engaged by groups have struggled to find dogs in the landscape. This can only be put down to improved programs, coordinated regional baiting and increased awareness of the problem.