Objective 1

Create the conditions for successful agribusinesses and supply chains which encourage innovation and productivity

Attractive conditions for agribusinesses drive investment and innovation and provide benefits along the supply chain. Establishing the correct conditions promotes economic sustainability to deliver jobs and prosperity for the future.

The department worked with industry and other government agencies to maintain and open markets, and to generate benefits from free trade agreements and the Queensland Government’s Advance Queensland initiative. DAF also engaged with industry and rural communities and maximised opportunities to add value to primary production and grow rural exports, to ensure sustainability and drive jobs growth.

Through partnerships with industry and universities and investment in vital research and development, DAF encouraged diversification into new and emerging products and supported traditional agriculture sectors. Policy and regulatory instruments provided certainty around regulatory requirements, assisted industries to access markets, increased productivity and ensured sector sustainability. As an example, DAF regulated the sustainable development of intensive animal farming operations to deliver future growth and certainty of supply for pork, beef and poultry (eggs and meat) for domestic value chains and export markets.

The Queensland agriculture and food research, development and extension 10-year roadmap and action plan, released on 24 May 2018, reaffirmed Queensland’s leadership in tropical and subtropical agricultural research by supporting innovative collaboration, partnerships and world-class facilities.

By promoting sustainability and innovation throughout the agricultural supply chain, DAF helped realise the value of the sector and rural businesses to the economy and the community.

Strategic risks and opportunities

- **Global demand for food and fibre**—the growing global population and affluence in emerging economies results in demand for protein foods, niche primary products and agricultural scientific expertise that can provide expanded and new markets for Queensland producers and new sources of investment for the sector.

- **New technologies**—new technologies to detect threats and improved modelling supported by increased processing power and big data can help DAF prevent the spread of biosecurity diseases and pests, improve fisheries management, and assist producers to improve decision-making leading to increased productivity and better predict climatic change.

- **Strategic partnerships**—strengthening partnerships with research organisations, industry bodies and other government agencies enables DAF to leverage expertise and share resources aimed at increasing innovation and promoting rural economic development.
• **Organisational agility**—the diverse and unpredictable nature of conditions affecting the sector challenges DAF’s ability to adapt and renew its business model, skills base and services to better meet the changing needs of customers and grow rural economies.

• **Competition for resources**—resources used for agriculture, fisheries and forestry are increasingly subject to demands for competing access from other economic, environmental and social interests that are not always possible to fully resolve.

### Key performance indicators
- Market and investment opportunities facilitated by DAF
- Percentage return on RD&E investment
- Regulatory frameworks continually improved

### Cross-government commitments
The following intergovernmental agreements and whole-of-government strategies influenced the way DAF delivered these services.

#### Advance Queensland initiative
Advance Queensland is a Queensland Government initiative designed to create the knowledge-based jobs of the future, drive productivity improvements and build on Queensland’s natural advantages. DAF’s actions align with Advance Queensland priorities for developing innovative industries and businesses. DAF worked closely with the *Advancing trade and investment: Queensland trade and investment strategy 2017–2022* to promote export and investment opportunities in the agriculture, fisheries and forestry sector. DAF was represented on the Advance Queensland Interdepartmental Committee. Advance Queensland programs supported Queensland’s agriculture and food sector to innovate, apply new ideas, conduct original research, deploy new technologies and create new market opportunities.

#### National RD&E framework
The National Primary Industries Research, Development and Extension Framework provides a forum giving guidance to leaders in agriculture and food RD&E on how to make the best use of available expertise across the nation and thereby maximise the outcomes from agriscience investment in Queensland. Queensland co-led the beef and sugarcane strategies in partnership with the relevant industry organisations. Leadership was also delegated to Queensland for specific sector and cross-sector areas within the grains, horticulture, intensive livestock, animal welfare, soils and biosecurity strategies.

#### Regulation of agricultural chemicals and veterinary medicines
An intergovernmental agreement for a single national regulatory framework for regulation of agricultural chemicals and veterinary medicines was signed by the Queensland Government in 2013. DAF was represented on the national working groups developing implementation plans for the framework.
Results and work program

Strategy
Grow markets and investment to support the flow of trade and capital

Contributing impact areas

- Strategic policy and planning
- Animal science
- Rural economic development
- Crop and food science
- Horticulture and forestry science
- Animal biosecurity and welfare
- Plant biosecurity and product integrity

KPI
Market and investment opportunities facilitated by DAF
Performance monitored by a number of DAF business measures

Investment showcases: 1
Incoming trade delegations: 35

Note: Support to overseas trade missions is driven by the nature, scope and focus of the mission. During the year we provided indirect mission support through a range of mechanisms including expert advice and connecting delegates. With a substantial number of incoming trade delegations, in 2017–18 we focused on maximising the benefits from these events.

Hosting and supporting inbound international trade delegations

International trade delegations provide a valuable opportunity to build better international trade. They also provide unique occasions to establish contacts in-market for export or investment opportunities, to build international connections and collaborations, and to gain an improved understanding of markets, including regulatory requirements. They help leverage free trade agreements and showcase new, niche and emerging products.

In 2017–18, DAF hosted and supported 35 international trade delegations. Our role included:

- hosting delegations from Japan’s Ministry of Agriculture, Forestry and Fisheries and the Nomura Research Institute to investigate collaborative research and investment opportunities following the signing of a memorandum of cooperation
- hosting delegates from South Africa’s Parliamentary Select Committee on Land and Mineral Resources who were investigating the aquaculture industry and attended an Agri-Science Queensland information session and tour of facilities at the Bribie Island Research Centre
• participating in a research and market development mission to Hong Kong and Indonesia with Queensland strawberry growers to establish business relationships with importers and retail buyers (funded through the Queensland Government’s Growing Queensland’s Food Exports program and supported by the Queensland Strawberry Growers Association and Trade and Investment Queensland)

• engaging with Chinese delegations, such as from the Chinese Ministry of Agriculture under the Australia–China Agricultural Cooperation Agreement, at the Australia–China Business Forum in Canberra in September 2017, and with China Construction Bank representatives regarding Queensland agriculture investment opportunities (with Trade and Investment Queensland)

• hosting an incoming trade delegation from the Guangxi Zhuang Autonomous Region of China on 26–28 March 2018 (funded by the United Nations Development Program), which led to the first shipment of live cattle destined for China departing from Townsville, breaking into a lucrative market for northern Australian beef exporters

• hosting a reverse-trade mission at the Gatton Research Facility involving more than 52 international fruit and vegetable buyers, retailers, wholesalers and importers to highlight Queensland’s vegetable farmers’ ‘clean, green and safe’ credentials

• engaging with the Pacific Alliance Forum to further increased trade with Chile, Colombia, Mexico and Peru.

The Commonwealth Games

The Commonwealth Games held on the Gold Coast in April 2018 was the biggest sporting and tourism event to be hosted by Queensland to date. The Games were hugely successful and brought international and domestic visitors to Queensland; they also provided the opportunity to showcase Queensland’s produce and investment opportunities. DAF participated in the Trade 2018 program and presented on Queensland’s endless opportunities in food and agribusiness. Trade 2018 events we participated in included:

• Investing in Queensland Agribusiness

• Food and Agribusiness Buyers Program

• Queensland and Commonwealth Collaboration and Showcase

• Food Tech Innovation Forum

• site visits to the Health and Food Sciences Precinct

• Papua New Guinea international activation (in-market business reception and engagement, run concurrently with the Queen’s Baton Relay).

Growing Queensland’s Food Exports

The Growing Queensland’s Food Exports pilot program supported Queensland’s food businesses by providing grants of matched funding (up to $100 000 over 2 years) to build business capability to take advantage of export opportunities. Six applications were approved in 2017–18 (for more information, see page 51). The second round of the grants program opened for applications on 1 July 2018.
The Queensland Government was a principal partner of Beef Australia 2018 as part of its commitment to work with the sector to build a sustainable beef industry in Queensland. Beef Australia, held in Rockhampton from 6 to 12 May 2018, was attended by more than 100,000 visitors, including more than 1200 international delegates and investors.

Participation in Beef Australia provided the opportunity to celebrate local industry, facilitate new export and trade opportunities and explore the latest research and development from across the globe.

DAF was the lead agency coordinating the whole-of-government presence with Beef Australia Limited, particularly through the support of regionally based staff. The department had staff membership on all committees and subcommittees for the organisation of the event. Queensland Government agencies attended to highlight key services around trade and investment, business development, natural resource management and transport. The Queensland Government provided 27 speakers and 5 session chairs across the seminars series, with the majority of the sessions being sold out.

The next Beef Australia is scheduled for 2021.

Highlights included:

- engagement with over 1200 international delegates and matching investment interest with business opportunities
- monitoring and biosecurity management for the movement of over 5000 head of cattle, displaying to the world the robust biosecurity protocols in Queensland that underpin our international trade credentials
- presentation of DAF’s world-class RD&E in the beef sector to sold-out seminars
- coordination of the property tour program across 11 sites with more than 800 delegates
- attendance by the Premier, various ministers and director-generals, senior executives and staff from across the state to help showcase Queensland’s beef industry to the world.

Export distribution centre for regional Queensland

The government’s Driving Queensland Agriculture and Rural Jobs Growth policy has committed $10 million from the Jobs and Regional Growth Fund to fund a business case and capital works for an export distribution centre pilot in regional Queensland. DAF continues to work with its agency partners on this pilot to capitalise on the export opportunities offered by airfreight from regional centres. The Department of State Development, Manufacturing, Infrastructure and Planning has responsibility for leading this commitment, with DAF to provide significant input.
Strategy
Support the discovery, application and commercialisation of new ideas and technologies

Contributing impact areas

- Research infrastructure, strategy and business
- Horticulture and forestry science
- Animal science
- Crop and food science

KPI
Percentage return on RD&E investment

Performance monitored by a number of DAF service standards

Table 2: RD&E investment performance indicator and complementary service standards

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic plan and service standard</td>
<td>Percentage return on RD&amp;E investment through royalty returns</td>
<td>4%</td>
</tr>
<tr>
<td>Service standard (effectiveness)</td>
<td>Level of funding partner satisfaction that research outcomes contribute to industry productivity growth</td>
<td>Not measured</td>
</tr>
</tbody>
</table>

Note: The royalty return in 2017–18 is above trend due to favourable winter seasonal growing conditions for wheat, barley and chickpeas. In addition, royalties for Rhinogard relating to 2016–17 were received in 2017–18. The royalty return in 2016–17 was well above trend, largely due to accumulated chickpea royalties being received in one financial year and favourable seasonal conditions for grains and mangoes. DAF-bred strawberry varieties were also starting to take market share from overseas varieties, increasing runner sales that generate royalties.

Supporting the discovery and practical application of new ideas and technologies provides benefits across the whole sector. Collaborative efforts, where possible, ensure that research undertaken is in line with industry needs, and lessens the barriers to realising innovation. Key achievements in 2017–18 are outlined on the following pages.
Queensland agriculture and food research, development and extension 10-year roadmap and action plan

This roadmap was launched on 24 May 2018 as part of the Queensland Government’s $650 million Advance Queensland initiative to create knowledge-based jobs of the future for Queenslanders. It presents a comprehensive whole-of-government overview of Queensland’s agriculture and food sector’s RD&E priorities and will support Queensland’s agri-industries to remain at the forefront nationally and internationally and continue to attract investment funding.

The roadmap outlines a set of 14 actions organised around the goals of boosting innovation and commercialisation, identifying agriculture and food RD&E opportunities and supporting the sector to grow and develop new businesses. Over the past 18 months, DAF worked closely with industry stakeholders, the research sector and other government agencies to develop the plan.

RD&E investment prioritisation

Agri-Science Queensland spent $126.6 million in agricultural RD&E in 2017–18 to build Queensland’s competitive advantage. In addition, funding was provided to university alliances to deliver the department’s RD&E priorities where expertise was required. During 2017–18, DAF’s investment in RD&E partnerships with the university sector and Sugar Research Australia included:

• $7.724 million with UQ in the Queensland Alliance for Agriculture and Food Innovation (QAAFI), which is a research collaboration between UQ and the Queensland Government to work on key agricultural industry challenges

• $0.922 million with the University of Southern Queensland for research on wheat and summer grain pathology, agricultural systems modelling, agricultural engineering and winter crop nematology

• $0.179 million with the University of the Sunshine Coast in pre-harvest forestry research

• $0.231 million with Central Queensland University to co-fund research positions in vegetable crop protection and farming systems research

• $0.260 million with UQ for the Centre for Future Timber Structures, to provide solutions to issues inhibiting the widespread adoption of massive timber construction in medium- to high-rise construction

• $2.85 million with Sugar Research Australia in sugarcane RD&E projects.

Discovery and application

An example of RD&E highlighting how DAF addressed challenges facing agricultural, fishing and forestry producers follows; other examples are outlined later in this report.
New phone/tablet app ready to help in natural disasters

A new DAF app was implemented last wet season to quickly establish where and what damage occurred after a natural disaster. The Rapid Damage Assessment Tool uses an app called Survey123 that can operate in remote areas. It allows staff to upload damage assessment information to the app using a phone or tablet. The tool gives a clear indication of the situation on the ground, informing preparedness and response plans, and assists field staff and natural disaster response teams. The app enables local disaster management teams to instantly upload impact data for viewing and assessment from any location in the state. Impact data is viewed via an online map that updates automatically as the disaster response progresses.

In the implementation, maps and photographs of damage established a visual representation of impacts, which resulted in more efficient and targeted response and recovery activities. The app had the added advantage of working even if disconnected from the internet. Around 75 staff participated in training for disaster assessment and use of the app in preparation for the end of the wet season.

Return on investment

We received approximately $4.168 million in royalty revenue, which equated to a return on investment of 6.78%, as noted in Table 2.

The Technology Commercialisation Fund

Formation of the Technology Commercialisation Fund (TCF) project was announced as part of the Advance Queensland initiative in 2016–17. Consequently, DAF established a pilot project with the intent to grow jobs and create new economic activity for Queensland and its regions from the commercialisation of intellectual property owned by DAF and its research partners.

During 2017–18, the TCF project moved to detailed commercialisation analysis and developing business cases. Six technologies have been identified for potential development to commercialisation, with one business case now completed. A potential investor indicated interest in this first business case and has made an initial anchor offer, subject to due diligence processes. Specialist advisors were appointed to assist the project and PwC has agreed to review each business case as part of the government’s audit process. Funding for additional research (close-out funding) has been provided to several technologies to advance the research to make the technology more attractive to potential investors.

This pilot project was initially based on the concept of a portfolio of technologies being incorporated into an external legal entity with significant external venture capital investment to fund commercialisation through the early high-risk stage of commercialisation (the ‘valley of death’). As the technologies were evaluated, it became evident this was not achievable and the concept was deemed non-viable, as the suite of proposed technologies did not have sufficient value to attract the size of investment originally anticipated. The TCF project is now focusing on commercialising individual technologies rather than a portfolio of projects. If this approach is successful, the individual projects will attract new investment into Queensland and potentially a small number of high-technology jobs. DAF will share the learnings with the other agencies so they can be applied in future endeavours.
Strategy
Continue to build Queensland’s biosecurity capability to protect the economy, the environment and the community from biosecurity risks

Contributing impact areas

- Biosecurity strategy and business
- Plant biosecurity and product integrity
- Animal biosecurity and welfare
- Invasive plants and animals
- Fisheries

Each year Queensland combats more biosecurity incursions than any other state, due to our extensive coastline, proximity to other countries and number of ports. This places us on the front line for biosecurity in Australia. The number, scale and scope of recent pest and disease incursions highlights the pressure Queensland’s biosecurity system is under, presenting ever greater challenges to response capability and capacity.

Biosecurity strategy and action plan
The *Queensland biosecurity strategy: our next five years 2018–2023* was released on 27 March 2018.

*Figure 12: Queensland’s biosecurity strategy*
Co-developing the biosecurity strategy

The Queensland Biosecurity Capability Review indicated that shared decision-making arrangements should be the centrepiece of the future administration of the Queensland biosecurity system. A strategy and action plan was the flagship work to lead and guide these new arrangements. Further, to facilitate true shared decision-making, the review was adamant that the strategy should be co-developed with industry and stakeholders and be a guide to all players in the biosecurity system, not just government.

A series of broad engagement processes involving more than 30 organisations informed an industry-led writing group in the development of the six strategic themes that combine to form the strategy.

The impact of the biosecurity strategy

Queensland’s biosecurity system faces increasing challenges from growth in global trade and movement of people. Maintaining the integrity of that system requires the consolidated efforts of every Queenslander. The biosecurity strategy was developed collaboratively with industry and the community to deliver shared ownership and management of biosecurity risks and decision-making.

Since the strategy’s release, action planning has commenced using the same co-development philosophy. DAF conducted action planning workshops for two of the six themes of the strategy. Participants included CSIRO, the Australian Bureau of Agricultural and Resource Economics and Sciences and the Centre for Biosecurity Risk Analysis. Expert group recommendations are now the basis for negotiation with industry and community groups to develop new partnership plans under the two themes.

Minimising the impacts of white spot disease

White spot disease was detected in December 2016. To maintain market access to overseas countries, DAF launched the national proof-of-freedom program on 28 August 2017, demonstrating that Queensland does not have white spot disease outside of the known restriction area. Since then, 7500 surveillance samples have been taken from Moreton Bay, Logan River, Brisbane River and the extended east coast of Queensland (Caloundra to Cairns).

DAF worked with industry to minimise the impacts of white spot disease on Queensland’s seafood industry; this included an extensive communication and engagement program, which involved:

- social media engagement reaching 650 000 recreational fishers
- information packs delivered to 3300 commercial fishers, 332 aquaculture operators and 100 bait and tackle shops
- signage at 100 boat ramps in the Moreton Bay region
• weekly engagement activities
• a behaviour change campaign (featuring retired cricketer Andrew Symonds and reaching 1.2 million people) designed to reduce the prevalence of prawns purchased from supermarkets being used as bait
• a seafood confidence campaign featuring football star Sam Thaiday, delivered in collaboration with the Queensland Seafood Industry Association and the Moreton Bay Seafood Industry Association.

We also conducted research in collaboration with industry and the Fisheries Research and Development Corporation, such as:

• investigating options for treating bait prawns with gamma irradiation to identify the minimal effective dose to prevent white spot disease in prawns
• conducting soil sediment analysis to obtain information on the efficacy of white spot disease destruction and decontamination activities
• investigating the effectiveness of the industry-led initiative to introduce more stringent biosecurity measures on farms.

Direct financial support has also been made available to Logan River prawn farmers:

• The Destruction (early phase) Scheme was focused on reimbursing certain costs associated with on-farm activities to improve biosecurity and minimise the risk of disease. It delivered over $594,000 in direct financial assistance to affected prawn farmers. Payments to farms under this scheme are now complete.
• The Reimbursement Scheme is focused on certain costs associated with the disposal and decontamination phase. Payments under this scheme to 30 June 2018 were over $133,000.

Concessional loans totalling $10 million had previously been made available to prawn farmers through the Primary Industries Productivity Enhancement Scheme, and a further $20 million was made available in 2017–18. Through this scheme, each farmer is able to access up to $3 million, enabling significant capital investments such as filtration plants, bird netting and other essential infrastructure to strengthen their biosecurity protection.
Strategy
Ensure department activity/regulation provides the foundations for a strong business environment, balancing economic, ecological, social and biosecurity imperatives

Contributing impact areas

- Animal biosecurity and welfare
- Biosecurity strategy and business
- Invasive plants and animals
- Plant biosecurity and product integrity
- Strategic policy and planning
- Fisheries
- Forestry

KPI
Regulatory frameworks continually improved

Performance monitored by a business measure (see Appendix 1) together with a DAF service standard (Table 3)

DAF had extensive responsibilities maintaining and managing portfolio legislation (see Appendix 5) with regulatory frameworks principally encompassing four areas:

1. agricultural chemicals and veterinary medicines
2. animal welfare and management
3. biosecurity
4. fisheries management.

Table 3: Service standard—average cost to conduct regulatory policy and reform activities

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service standard (efficiency)</td>
<td>Average cost per hour to conduct regulatory policy and reform activities</td>
<td>Not measured</td>
</tr>
</tbody>
</table>

Note: The cost for this efficiency measure is based on employee expenses for staff responsible for regulatory policy and reform.

Industry, enterprises and individuals benefit from stable regulatory frameworks, as they provide certainty around legislative requirements and clarity on the obligations of individuals and businesses.
Key improvements to the regulatory framework for 2017–18 are outlined in the following sections.

**Agricultural chemicals and veterinary medicines**

Progression of a range of amendments to the Chemical Usage (Agricultural and Veterinary) Control Regulation 2017 gave effect to the intergovernmental agreement for the single national regulatory framework for agricultural chemicals and veterinary medicines. These will be consistent with other nationally harmonised recordkeeping and training requirements for the use of restricted chemical products, and will be implemented over the next 4 years as agreed at the Agriculture Ministers’ Forum on 28 April 2018. Further reform is proposed through consolidation of the Chemical Usage (Agricultural and Veterinary) Control Act 1988 and the Agricultural Chemicals Distribution Control Act 1966 into one statute.

**Animal welfare and management**

The Animal Care and Protection (Code of Practice for Breeding of Dogs) and Other Legislation Amendment Regulation 2017 established a mandatory code of practice for the breeding of dogs in Queensland; it will commence on 1 October 2018. This completed legislative amendments to support the government’s election commitment to shut down cruel ‘puppy farms’. The Regulation also prescribed the Queensland Racing Integrity Commission as an approved entity to accredit breeders under the Act.

**Biosecurity**

Following major reforms to biosecurity legislation that commenced on 1 July 2016, the Biosecurity and Other Legislation Amendment Regulation 2018 amended the Biosecurity Regulation 2016 to change the way biosecurity zone maps are referred to, and to allow for the Chief Executive to establish areas with lesser restrictions within electric ant biosecurity zones. Restrictions in white spot biosecurity zones were reviewed to ensure they reflected actual risks associated with certain fishing activities; they now allow all fishing except line fishing.

**Fisheries management**

During 2017–18, DAF initiated a package of amendments to the Fisheries Act 1994 to support implementation of the Queensland sustainable fisheries strategy 2017–2027. The amendments will modernise the objectives of the Fisheries Act 1994, recognise the interests of key stakeholder groups, clarify roles in the management of the state’s fisheries, strengthen enforcement powers to address serious fisheries offences such as black-marketing and reduce the complexity of provisions, and remove redundant provisions. Stakeholder responses to a discussion paper outlining the proposed changes (released for public consultation in March 2018) indicated widespread support for the proposed Fisheries Act amendments. The Fisheries Regulation 2008 will also be reviewed in line with the strategy, and it is proposed to incorporate the provisions of the Fisheries (East Coast Trawl) Management Plan 2010 into the Fisheries Regulation.

Declarations were made by the Chief Executive to define the catch quotas that will apply in the Queensland Coral Reef Fin Fish Fishery and the Queensland Spanner Crab Fishery for the 2018–19 fishing seasons. The allowable take of coral trout in the Coral Reef Fin Fish Fishery was increased from 963 tonnes to 1163 tonnes in response to improved catch rates in the fishery over the preceding year. The allowable take of spanner crabs in the Queensland Spanner Crab Fishery was reduced from 1631 tonnes to 847 tonnes in response to declining catch rates for this species in recent years.
Other improvements to the regulatory framework

There were also regulatory reforms during 2017–18 to legislation outside these four main areas of activity.

- Amendments to the *Drugs Misuse Act 1986*, Part 5B (made through the Hospital Foundations Bill in March 2018) allowed the production, processing and marketing of low-tetrahydrocannabinol hemp seed (industrial cannabis) for human consumption, in line with changes to the Australia New Zealand Food Standards Code. Amendments to licensing arrangements for growers and researchers also provided a more balanced approach to managing risk.

- Amendments made to the Rural and Regional Adjustment Regulation 2011 provide for financial assistance schemes administered by QRIDA. These include the Solar PV and Battery Energy Storage Assistance Scheme (under the government’s Affordable Energy Plan), and a scheme to assist commercial fishers with the purchase and installation costs of vessel-tracking equipment.

- Further to a consultation regulatory impact statement released in August 2016, the government increased fees under the Veterinary Surgeons Regulation 2016 to achieve full cost recovery and better service delivery by the Veterinary Surgeons Board. Changes were also made to fee structures for specialist veterinarians, retired veterinarians and new graduates.

Regulatory performance monitoring

The Red Tape Reduction Advisory Council (now the Better Regulation Task Force) was established in August 2015 to provide the Queensland Government with advice on regulatory issues impacting on small business. In response to recommendations in the council’s report tabled in November 2016, the government committed to developing an enhanced regulatory framework.

For the 2017–18 financial year, the department again scored regulator performance in each of its four main areas of regulatory activity against the six key performance indicators (KPIs) in the Australian Government’s framework for regulator performance (see Appendix 1). Future regulator performance reporting will align with any regulatory framework implemented by the Queensland Government.
DAF is responsible for managing fisheries and state-owned forest products in a way that optimises benefits for Queenslanders, while ensuring future generations can continue to profit from these community resources. The provision of planning and monitoring services to industry helped maximise opportunities for the sustainable growth of aquaculture. DAF also provided technical advice to government and industry to minimise the impacts of proposed development on fisheries resources and productivity. Also, graziers and apiarists were authorised to operate in some state forests to secure food-production opportunities.

**Charter fishing action plan**

One means through which DAF is optimising benefits from fisheries is by developing a charter fishing action plan. An action plan discussion paper released in June 2017 for public consultation received 134 submissions from stakeholders including recreational fishers, commercial fishers and charter operators.

In response to feedback, the action plan will address:

- better recognition of charter fishing
- improved engagement and consultation
- enhanced industry standards and stewardship
- development of charter fishing as a regional tourism opportunity.

Since the public consultation, the *Queensland sustainable fisheries strategy 2017–2027* has been released (see page 77). A number of actions from the strategy will complement the action plan, particularly around more resilient fish stocks and harvest strategies based on sustainable catch limits.

Release of the final charter fishing action plan is expected in late 2018.

**Forest materials management**

DAF continued to meet all sales permit/contract obligations for the supply of state-owned forest products, worked with industry to implement agreed programs to help develop the industry, and oversaw the 99-year licence with HQPlantations. The department met contracted supply commitments for native forest log timber, other forest products and quarry material, and delivered expected financial returns while also meeting environmental and community expectations.
Native forest log timber sales in 2017–18 saw around 256 000 cubic metres of log timber sold, including about 7000 cubic metres to provide hardwood timber poles and girders for railway, bridge and electricity infrastructure. These native log timber sales contributed around 9% to the total log timber domestically produced in Queensland.

The department’s quarry material sales are the source of some 16% of the quarry material used in Queensland each year, and these sales played a key role in supplying quarry material to supporting infrastructure, mining, industry, residential and commercial development across Queensland. Quarry material sales for 2017–18 were about 4.43 million cubic metres.

Funding of $2.7 million was allocated to implement a range of actions to help develop the industry; this included $1.4 million towards industry research priorities. These actions aligned with the priorities of job creation, growing existing economic strengths, value-adding, innovation and supporting regional and rural Queensland. Significant progress has been made in implementing the actions, including:

- supporting industry to promote the forest and timber industry to jobseekers and the broader community as a long-term career by funding the Timber and Building Materials Association Queensland forest & timber workforce development plan 2016–2020
- progressing an extension project to support private landholders to better manage their forests for both environmental and timber production outcomes.

Queensland forest and timber industry plan

The plan’s RD&E program achieved several milestones in 2017–18, including the completion of five significant projects. Targeted research has enhanced the early detection of and response to post-border pest and disease incursions on Queensland’s pine plantations. Additional research delivered key information to assist with the management of Sirex woodwasp. Development of QTimber, the web-based version of the pivotal publication Construction timbers in Queensland, aided the building industry. Also, a project on characterisation of softwood plantation resources developed innovative methods of estimating wood quality in standing trees, an approach that is attracting significant attention from both growers and processors. Another project tested the impact resistance of wood products to windborne debris from cyclones. These projects had strong industry partners and were overseen by an industry-led steering committee.
Priorities for 2018–19

• Lead the implementation of the government’s Driving Queensland Agriculture and Rural Jobs Growth policy to grow agriculture export capacity and enhance innovation throughout the agricultural supply chain, by increasing export opportunities for agribusiness in international markets to enhance economic growth.

• Work with industry to investigate the feasibility of abolishing stamp duty on agricultural insurance products and reducing the reliance of primary producers on government assistance during natural disasters.

• Continue to implement the Queensland agriculture and food research, development and extension 10-year roadmap and action plan, which aligns with the Advance Queensland agenda and drives innovation in Queensland’s agricultural and food industries.

• Provide $500,000 in 2018–19 for RD&E to address knowledge gaps in pulse storage to support the rapidly expanding chickpea and pulses industry.

• Invest $390,000 in 2018–19 to:
  – tackle fruit flies in Bundaberg
  – trial regional agriculture data collection with Bundaberg Fruit and Vegetable Growers.

• Implement the Queensland biosecurity strategy and action plan.

• Commission the Animal Welfare Advisory Board to conduct a review regarding the welfare of companion animals and provide recommendations to government.

• Develop a Queensland Government policy on the future of timber production in state-owned native forests.

• Continue to oversee the plantation licence held by HQPlantations Pty Ltd, as well as the related agreements, on behalf of the state.
Objective 2

Assist people in agriculture, fisheries, forestry and rural businesses to respond to challenges and protect environmental values

Weather, climate change and biosecurity events pose regular risks to production for agribusinesses in Queensland, impacting along the supply chain. Disruptive technologies and technological change are further challenges. Our programs and initiatives assisted agricultural, fisheries, forestry and rural businesses to be better equipped to mitigate and manage risks, and prepare for and respond to these events. This helped to maintain business continuity and ensure their sustainability.

DAF supported industry capacity to prepare for, manage and recover from drought, through new climate forecasting information and decision-support tools and climate risk management practices. This work underpinned the ability of rural communities to adapt to changes in climate and continue to supply fresh food and value-added products. Identifying economic development opportunities and attracting investment strengthens existing businesses, opens up new business opportunities, and creates jobs in rural and regional Queensland.

Through effective leadership of biosecurity responses, delivery of drought assistance and extension services, DAF promoted sustainability, supported the physical and mental wellbeing of individuals, and built community resilience. Efforts were enabled through strong and inclusive partnerships that built shared ownership and more effective intervention strategies.

Strategic risks and opportunities

- **Climate**—the frequency and duration of extreme weather events impacts on the ability of the sector and the department to direct resources to growth opportunities.

- **Biosecurity threats**—greater global movement of goods and people increases the transmission of exotic pests and diseases, which may have a significant impact on the agricultural and broader economy, compromise Queensland’s disease-free reputation and restrict market access.

- **New technologies**—new technologies to detect threats and improved modelling supported by increased processing power and big data can help DAF prevent the spread of biosecurity diseases and pests, improve fisheries management, and assist producers to improve decision-making leading to increased productivity and better predict climatic change.

- **Strategic partnerships**—strengthening partnerships with research organisations, industry bodies and other government agencies enables DAF to leverage expertise and share resources aimed at increasing innovation and promoting rural economic development.
Key performance indicators

- Business improvement attributed to DAF’s products and services
- Significant biosecurity response programs deliver agreed outcomes

Cross-government commitments

The following intergovernmental agreements influenced the way DAF delivered these services.

**Intergovernmental Agreement on National Drought Program Reform**

Under this intergovernmental agreement, the states and territories deliver in-drought business support such as farm business training, coordinated and collaborative social services, and tools and technologies to inform farm decision-making, with the aim of increasing producer drought preparedness and providing in-drought family health and community support. The range of measures introduced during this drought as part of the Drought Assistance Package supported objectives under the intergovernmental agreement.

**Intergovernmental Agreement on Implementing Water Reform in the Murray–Darling Basin**

The Queensland Murray–Darling Basin Regional Economic Diversification Program was established as part of the structural adjustment program resulting from the Murray–Darling Basin Plan. It is designed to stimulate economic activity and jobs in areas affected by reductions in irrigation water allocations that have occurred as part of the Murray–Darling Basin Plan 2012. DAF administered two projects under this program—High Value Horticulture Value Chains and Improved Economic Productivity from Irrigated Agriculture. Both projects were completed as scheduled in 2017. However, the reallocation of unspent funds from other projects has allowed the High Value Horticulture Value Chains project to extend through to 2020. It will continue to develop new export-oriented horticulture value chains in the region to maximise economic return from the available irrigation water.

**Intergovernmental Agreement on Biosecurity**

The Intergovernmental Agreement on Biosecurity establishes nationally agreed approaches to mitigate risks across the biosecurity continuum and identifies national priorities for action. The agreement helps the federal, state and territory governments avoid unnecessary duplication of biosecurity activities, improve the efficiency of resource use and clarify their respective roles and responsibilities. National cost-sharing arrangements were outlined in subsidiary response deeds and agreements. The Intergovernmental Agreement on Biosecurity is linked to international agreements.
Results and work program

Strategy
Support development of a modern and capable workforce to meet agribusiness labour needs

Contributing impact area

Queensland’s agricultural sector has an ongoing demand for skilled workers. DAF continued to support the Rural Jobs Skills Alliance and the Queensland Agriculture Workforce Network. This enabled industry to identify and address their labour market challenges, assisted workforce development and supported rural agribusinesses in their efforts to attract and retain skilled workers and seasonal labour.

The industry-led Rural Jobs and Skills Alliance continued to collect industry intelligence and provide market performance feedback and advice to state and federal agencies on employment, training and skills. The alliance is recognised by both levels of government as a significant, united voice on Queensland’s agribusiness workforce needs.

The Queensland Agriculture Workforce Network provided agribusinesses and farming communities with tailored support. The network involved six officers based with agribusiness bodies throughout the state, from Far North Queensland, through Central Queensland to South East Queensland. Since the network commenced in January 2016, support and advice has been provided to over 8000 farm business owners and employees and over 6500 potential new employees, influencing over 1300 positive employment and training outcomes.

The year also saw continued support to the AgForce-managed School to Industry Partnership Program and the Agribusiness Gateway to Industry Schools program, which promote agribusiness career options and training.
Strategy
Engage and partner with agribusinesses to capitalise on opportunities for innovation, growth and export development

Contributing impact areas
- Animal science
- Crop and food science
- Horticulture and forestry science
- Plant biosecurity and product integrity
- Rural economic development

KPI
Business improvement attributed to DAF’s products and services
Performance monitored by a DAF service standard, together with qualitative case studies of the work in innovation, growth, exports, production risks and changes in climate

Table 4: Service standard—Improvements due to RD&E

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54–60%</td>
<td>60–73%</td>
</tr>
</tbody>
</table>

Note: Over 4500 participants completed the survey with 82.46% indicating they would make business improvements as a result of participating in the RD&E activity. Approximately 2500 more participants were surveyed in 2017–18 than in 2016–17.

Research and technology innovations underpin a sustainable, profitable and productive agriculture and food sector, with benefits across the supply chain, generating jobs in rural communities and strengthening the economy. The department’s RD&E effort integrated with industry needs, addressed challenges and helped to increase opportunities for innovation, growth and export development.

Queensland producers are looking to reap the benefits of RD&E by assessing or using new food and crop varieties, technologies and tools. DAF provided support for this through field days, workshops and forums and increased its social media presence.

The Queensland agriculture and food research, development and extension 10-year roadmap (see page 34), developed as part of the Queensland Government’s Advance Queensland initiative, provided a blueprint and direction for the RD&E effort, to support innovation and increase growth and export opportunities.

The following examples showcase how innovations from DAF’s breeding programs and other initiatives provided benefits to the sector. More examples are provided in other sections of this report.
Transforming the Central Queensland cotton industry

Research funded by DAF and the Cotton Research and Development Corporation has identified a better way to grow cotton in Central Queensland. The tactic of sowing in late winter (August) has in four out of five seasons increased commercial yields by 20–30%, improved lint quality and substantially reduced climatic risk factors.

With the wider planting window afforded by the new cotton variety Bollgard 3, DAF scientists explored tactics to have cotton crops mature outside the main rainfall events around Emerald. Cotton rots and discolouration caused by rain just before harvest can lead to major financial penalties for many growers following the more traditional 'standard' mid-September planting window.

Crops were planted in August, and agronomy practices promoted early crop growth in the slightly cooler weather encountered at crop establishment. The benefit of increased crop biomass from Bollgard 3, and light interception during spring and early summer, culminated in crop yields of just over 14 bales per hectare. These results are outstanding when compared with the district standard September planting of 9 bales per hectare. The benefits are even greater when price discounts for poor colour as a result of being caught in rain are considered.

Total funding for the project was approximately $1.18 million. The value of total benefits has been estimated at $20.24 million. This result generated an estimated net present value of $19.06 million, and a benefit–cost ratio of approximately 17.1 to 1, which is a great return on investment for the research expenditure.
Virus cocktails improving food safety

The Campylobacter bacteria is one of the most common causes of foodborne illness in Australia. Queensland Health states that there are an estimated 230,000 cases of campylobacteriosis each year in Australia, costing an estimated $1.25 billion to society. Infections of Campylobacter cause a range of intestinal illnesses including gastroenteritis and diarrhoea. Campylobacter infection is often related to eating raw or undercooked poultry or food that has been cross-contaminated. Anyone can be affected by Campylobacter.

Campylobacter occurs naturally in the intestines of chickens and causes the birds no harm. Current detection technologies for the bacteria in poultry processing plants are slow and expensive and require a well-equipped laboratory, meaning results may be too late to allow intervention. One way to control Campylobacter is to manage the bacteria on the farm. This strategy has been adopted by the Australian poultry industry and a thousand-fold decrease in Campylobacter numbers in the intestines of infected birds at slaughter is associated with a 90% reduction in public health risks (Food Control, 2017).

Bacteriophages are naturally occurring viruses that kill bacteria and specific bacteriophages attack Campylobacter. A proof-of-concept trial led by DAF researchers used a cocktail of bacteriophages to control Campylobacter in commercial birds (on farm) in a recently completed study co-funded by the Poultry Cooperative Research Centre. The work has now progressed to an AgriFutures co-funded project to further expand the outcomes of the original study. This collaborative study by DAF, the University of Nottingham and the Institute of Environmental Science and Research (ESR NZ) aims to significantly reduce Campylobacter numbers in the bird gut, leading to a safe, marketable product. Work is now in progress to broaden, refine and optimise the activity of the original cocktail of bacteriophages by screening it against Campylobacter sourced from commercial farms. Our collaborators at the University of Nottingham have identified select bacteriophages to demonstrate that they do not encode any known genes that would be of concern for efficacy and safety, a key requirement for both the acceptance and regulatory approval of the treatment.

Agricultural Ministerial Advisory Council

The department supported the Minister to establish the Agricultural Ministerial Advisory Council (AgMAC) to help identify future opportunities and challenges across Queensland’s agricultural sector. AgMAC’s members are from the Queensland Farmers’ Federation and AgForce, with other relevant organisations invited to attend meetings as advisors on particular issues. The inaugural meeting is to be held in July 2018 to discuss key themes and priorities for 2018–19 in order to drive positive outcomes for the agricultural sector.
Strategy

Work with rural communities to identify regional economic opportunities and improve rural business competitiveness

Contributing impact area

Rural economic development

Rural communities are the backbone of Queensland’s food and fibre sector, making significant contributions to our economic growth and employment (see ‘Snapshot of performance’, page 4). DAF advocated for the rural sector across government to ensure policy that would drive prosperity and support community sustainability and resilience. Through our extensive regional network, DAF worked with rural communities to identify community priorities and to build stronger, more diverse economies, aiming to broaden the range and quality of economic and social opportunities available within them.

Rural Economies Centre of Excellence

DAF established the Rural Economies Centre of Excellence, providing $3 million in funding over 3 years. The centre is a collaborative partnership with the University of Southern Queensland, Central Queensland University, James Cook University and The University of Queensland. It has a significant regional presence, providing benefits to rural and regional Queensland, and is co-located in seven rural centres: Toowoomba, Gatton, Rockhampton, Emerald, Townsville, Cairns and the Atherton Tableland, and Brisbane. It has brought together economic analysts, rural business development specialists, policy developers and regional economic development practitioners.

The centre is focused on identifying policies, strategies and outreach programs to drive innovation in Queensland’s rural and regional economies to optimise economic prosperity for rural Queensland.

Growing Queensland’s Food Exports

DAF progressed the Growing Queensland’s Food Exports (GQFE) initiative, establishing a pilot program to encourage sustainable economic development in regional communities by supporting food producers to build their export capability. The program focused on food value chains with strong market opportunities that will benefit from improved capability through market development support, supply chain facilitation, post-harvest quality, and market research. The $1.3 million funding for the program matches funding of up to $100 000 over 2 years per eligible project by an export-ready or currently exporting business in the food supply chain.

Six projects throughout the state were funded in the first year of the GQFE pilot:

- Bundaberg’s Macadamias Australia, to develop exports for retail-ready macadamia products
- Manbulloo Ltd, to expand its mango exports from North Queensland to Japan, Hong Kong, New Zealand and Singapore
- The Lockyer’s Mulgowie Fresh Pty Ltd, to capitalise on packaged sweet corn consumer traceability
• SunPork Fresh Foods Pty Ltd, to develop pork products at its Kingaroy and Murrarie plants for the high-end Asian market

• Burdekin’s VFPlus Pty Ltd, to develop exports of high-quality melons out of North Queensland to Japan and Singapore

• E & A Coco and Sons Pty Ltd (based at Elimbah near Caboolture), to export Queensland strawberries to Hong Kong and Indonesia involving collaboration with other Sunshine Coast strawberry businesses (Ashbern Farms and Berry Patch), as well as the Queensland Strawberry Grower Association.

One-stop service

The one-stop service was initiated by DAF in 2016 to assist northern Queensland agricultural development proponents with processes of government. In 2017–18, initial funding of $300 000 per year over 3 years was allocated to extend the service statewide. The one-stop service comprised a web information portal and a project facilitation service that helped clients navigate government processes, and linked them with allied government services for agriculture and supply chain projects, including those for planning and development and trade and investment. It was tailored around case management principles to respond to specific characteristics of a given project. The service supported new projects or the expansion or diversification of existing businesses.

For further information on DAF’s achievements, see ‘Strategy: Support development of a modern and capable workforce to meet agribusiness labour needs (page 47) and ‘North Queensland’ (page 69).

Strategy

Increase the capacity of agribusinesses to respond to production risks and adapt to changes in climate

Contributing impact areas

Agribusinesses in Queensland are regularly challenged by and face risks to production from climate change, extreme weather and biosecurity events. DAF’s support to producers and communities involved collaboration across all levels of government and industry. Services to build community and producer capacity and resilience include, among others, provision of drought assistance, development and introduction of new technologies and work to increase disease resistance of plants and animals.
Climate impacts

In 2017–18 there were four natural disaster activations—including primary producer assistance in Wide Bay Burnett, North Queensland, North West Queensland and Central Queensland—following severe weather and flooding events including Tropical Cyclones Debbie and Nora.

The recovery effort in the wake of Severe Tropical Cyclone Debbie in the previous financial year has continued to impact the agriculture and fisheries industries, with lost crops, lost stock and damage to infrastructure still being resolved. In late March 2018, Tropical Cyclone Nora brought heavy rainfall, winds and flooding to the coast of Tropical North Queensland, isolated some communities and caused extensive damage to local businesses and infrastructure.

DAF provided assistance for weather events through the joint federal–state Natural Disaster Relief and Recovery Arrangements (categories B and C). Applications for this assistance are managed through QRIDA and included:

- securing category B and category C assistance for producers in the Bundaberg and North Burnett areas, and a 3-month extension to the closing date for assistance for the category C assistance activated in response to the Central Coast weather event in October 2017
- securing activation for category B assistance for primary producers impacted by heavy rainfall and flooding in northern Queensland during February and March 2018
- securing category B assistance for the heavy rainfall and flooding that impacted northern Queensland during March 2018, causing extensive damage to primary production enterprises, principally sugarcane
- securing activation for category B assistance for primary producers impacted by Tropical Cyclone Nora in North West Queensland in March 2018.

DAF continued to support the ability of primary producers to manage climate risks and:

- oversaw the $21 million 6-year Drought and Climate Adaptation Program (including the initiation and implementation of nine RD&E projects), while collaborating with partners from other agencies, universities and research and development corporations enabled the program to leverage additional funding of $16.6 million, as well as in-kind support of $24.5 million over the next 4 years
- delivered drought relief arrangements to farmers impacted by drought, with 95% of customer applications to DAF for business assistance as a result of natural disaster or drought being processed within 21 days
- ensured expenditure on the management of the Drought Relief Assistance Scheme (DRAS) as a proportion of the total amount paid on claims did not exceed 10%.
Drought Relief Assistance Scheme

In 2017–18, DAF provided $9.8 million in drought relief under DRAS, processing 2628 claims.

DRAS is the largest component of the multi-agency Drought Assistance Package. The Drought Assistance Package has also provided relief from electricity charges, land rent and water licence fees, as well as rural financial counselling and mental health support, and community and educational assistance. It has also assisted charities to deliver fodder and other services to drought-affected communities.

DRAS provided freight subsidies ($7.4 million in 2017–18) and emergency water infrastructure rebates ($2.5 million in 2017–18), as well as charity payments and rural financial counselling services. Table 5 gives an overview of DRAS responsiveness.

The DRAS program, like all subsidy programs, is subject to regular scrutiny and audit. Producers who have received ineligible payments have been required to repay the subsidy, and in some cases, claims have been referred to the police for consideration. In 2017–18, repayments of $0.83 million were made and two fraudulent cases were successfully prosecuted in the courts.

Between April 2013, when the drought commenced, and 30 June 2018, the Queensland Government has spent approximately $162 million across agencies to support farm businesses, families and communities through the Drought Assistance Package.

Table 5: DRAS performance

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition</td>
<td>Percentage of state drought-declared</td>
<td>79%</td>
</tr>
<tr>
<td>Service standard (quantity)</td>
<td>Number of applications received</td>
<td>6165</td>
</tr>
<tr>
<td>Service standard (effectiveness)</td>
<td>Percentage of customers whose application for business assistance as a result of natural disaster or drought is processed within 21 days</td>
<td>36%</td>
</tr>
<tr>
<td>Service standard (effectiveness)</td>
<td>Investment in the management of the Drought Relief Assistance Scheme program as a proportion of the total claims paid under the scheme</td>
<td>Not measured</td>
</tr>
</tbody>
</table>

Note: The drought declarations figure is at 8 June 2018 (Source: Queensland Government, www.longpaddock.qld.gov.au). The investment assessment methodology is cost of claims paid to eligible producers divided by administration costs. Administration costs include salary, IT and phone costs of temporary staff and percentage of salary and IT costs of permanent staff based on time spent processing claims. Also included are audit costs and Information and Technology Partners maintenance of the Drought and Disaster Assistance Management System (DDAMS) database.
Rural Assistance Package

Despite recent changes in drought conditions across Queensland and a drop in drought-affected areas, there is still a great deal of financial stress and high debt within farming communities. DAF is committed to assisting drought-affected communities, implementing the Rural Assistance Package to reduce their financial stress and improve their financial sustainability. The Rural Assistance Package provided total funding of $77.96 million over 5 years from 2015–16.

Amendments to the Rural and Regional Adjustment Act 2011 commenced on 1 July 2017, with QRAA becoming the Queensland Rural and Industry Development Authority (QRIDA), to expand the functions and role of the old authority. These amendments included:

- the establishment of the Farm Business Debt Mediation service
- an increase in the maximum amount of Primary Industries Productivity Enhancement Scheme from $650 000 to $1.3 million, or $2 million for first start loans
- the establishment of the Farm Debt Restructure Office within QRIDA, which commenced on 23 January 2018.

There were also ongoing pest and weed management programs under the Feral Pest Initiative, including wild dog exclusion and cluster fencing funding of $19.74 million over 3 years, complemented by a $13 million investment by the federal government. More than $24 million funded nearly 9000 kilometres of cluster fencing. Initial data from completed cluster fence projects indicates that lambing rates have increased from 40% to upwards of 80% and sheep numbers have almost doubled, increasing from 269 000 to 497 000 head.

Drought and Climate Adaption Program

The Drought and Climate Adaptation Program is a partnership between DAF, the Department of Environment and Science, Meat and Livestock Australia and the University of Southern Queensland. It provides for RD&E to address climate risk and drought. The program receives $3.5 million annually, with funding for 6 years from 2016–17 totalling $21 million.

The Queensland Drought Mitigation Centre, a collaboration between DAF, the Department of Environment and Science and the University of Southern Queensland, is the largest component of the program. It brought together national and international climate modelling expertise to develop tools and systems to improve seasonal forecasting and provide the tools and training to support producers in their decision-making.

After a pilot year in 2016–17, the program initiated nine major projects in 2017–18, including the Northern Australian Climate Program and Grazing Futures.

The $8 million Northern Australian Climate Program was launched in January 2018 to improve the quality and reliability of regional forecasts in northern Australia. It provides the tools (and training to use them) that will be part of a producer’s climate risk management and business planning.

Grazing Futures offers graziers in western Queensland training and extension services to help them with drought recovery and to better plan and manage for climate variability. It is the main extension component of the program. In 2017–18, it assisted 727 producers by providing 54 training, skill development and mentoring activities. These activities involved 490 grazing businesses that managed over 1.2 million cattle and over 344 200 sheep across 13.1 million hectares of Queensland’s pastoral regions. The impact of Grazing Futures was extended through networks of landholder client groups and the supply chain through the involvement of over 391 agribusiness professionals in the activities. Grazing Futures was linked to the Grazing BMP initiative (see page 73).
Strategy
Build capability to adjust to market disruptions driven by technological innovation

Contributing impact areas

Agriculture is experiencing a new technology boom, from precision agriculture (involving remotely operated sensors, vehicles and robots) to data mining. Such innovations have the potential to disrupt or radically change farming practices as well as boost productivity.

During 2017–18, DAF offered forums, workshops and technology displays often with partner organisations to increase the sector’s understanding and awareness of emerging trends, and to give participants the opportunity to discuss advances and possible areas of investment.

DAF contributed $30 000 (including GST) in sponsorship to TropAg2017, in 2016–17, and later 0.5 full-time equivalent in-kind support for the event. TropAg2017, held in November 2017, was hosted by the Queensland Alliance for Agriculture and Food Innovation at the Brisbane Convention and Exhibition Centre. The theme for TropAg2017 was ‘High impact science to nourish the world’, with the program developed by an international advisory committee representing over ten different countries. The conference attracted both Australian and international delegates and showcased Queensland agriculture and food innovation, technologies and applications of science that were close to or ready for commercialisation.

The AgFutures forum encouraged participants to examine the integration of agritechnologies, innovation and investment across various industries, focusing on support for the research and development community, and small to medium enterprises. DAF staff presented their research, including projects relating to tree crop productivity, plant breeding in the mandarin industry, natural variation in sorghum, tomato breeding, custard apple breeding and the chickpea industry rising to meet global demand.
Improving the quality of Australian fresh produce into Asian markets

DAF scientists help growers, exporters and importers ensure their produce is transported in a way that minimises loss of quality and freshness, reduces waste and improves reliability into Asian markets.

Approximately 16% of Queensland's fruit and vegetable output is exported (Queensland agriculture snapshot 2018). The main factors influencing arrival quality are harvest quality and transport duration and conditions, especially temperature. Produce needs to meet consumer expectations for quality and value to maintain and expand these markets. Regular temperature monitoring of export consignments is essential to identify where improvements are needed to prevent quality loss.

As part of a 4-year study that commenced in 2016, DAF researchers have monitored the key transport and holding conditions that significantly influence quality loss during movement through the supply chain from farm to consumer.

The scientists used new wireless temperature-monitoring technologies on approximately 50 export consignments of mangoes, citrus, table grapes and summer fruit. The produce was monitored to help highlight areas for improvement such as consistent forced air cooling, re-cooling at the freight forwarder, better temperature management in the refrigerated sea freight container, reduced total time in the container, and temperature and time management at the importer.

Preliminary industry outcomes are very promising. Adoption of the research recommendations in a mango export chain contributed to a significant increase in shelf life for fruit transported to China during the 2017–18 season. DAF scientists are also working with the stone fruit and citrus industries to improve the quality of fruit that arrives in export markets. To date, the research findings have been significant in helping the industry learn and move forward to provide better produce to Asia.
Reducing the impact of cyclones on farms

Cyclones are a major issue for many working in horticulture production, particularly in northern Queensland. In 2017, Cyclone Debbie left 63 000 people without power and cost farmers more than $1 billion.

The Queensland Government is committed to ensuring the state, its industries and its people are protected from natural disasters. DAF scientists have been working on practices such as trellising, windbreaks and pruning to develop a holistic solution to help farmers grow a more productive and economically sustainable tropical fruit industry in cyclone-prone areas of northern Queensland.

A recently completed 5-year study found that the vast majority of high-value tropical fruit tree species, including guava, mango, durian, jackfruit and avocado, could be grown on trellises, potentially providing greater resilience to strong winds.

The practice developed following the devastation left by Cyclone Yasi, when it was found that trellising reduced damage and sped recovery. This is important, considering that growing many tropical fruit species is labour-intensive and it can take many years for farms to produce a commercial yield. While trellising is expensive, the long-term benefits make it cost-effective, with trees of many species producing higher yields and better quality fruit. There are further economic benefits in trellis use as a protective netting support. However, trellising will not suit every farming operation, so a range of chemicals with potential to rapidly defoliate trees and so lower wind resistance were trialled. High-density orchards and the use of on-farm mechanical pruning equipment and emergency defoliation were similarly assessed as means to speed recovery.

The project also examined the production of new tree stock using ‘rooted cutting’ technology as a means of rapidly producing replacement stock relative to traditionally used air layering or grafting techniques. The technology leads the way to faster recovery post-cyclone and the production of cheaper planting material.

This successful work was co-funded by the Australian Government through AgriFutures Australia.
Strategy
Lead Queensland’s biosecurity preparedness and responses

Contributing impact areas

Animal biosecurity and welfare
Invasive plants and animals
Biosecurity strategy and business
Plant biosecurity and product integrity

KPI
Significant biosecurity response programs deliver agreed outcomes

Performance monitored by a range of DAF service standards

Table 6: Performance indicator and complementary service standards—significant biosecurity responses

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business measure (activity)</td>
<td>Number of significant response programs</td>
<td>Not measured</td>
</tr>
<tr>
<td>Service standard (effectiveness)</td>
<td>Percentage of significant response programs on track to deliver nationally agreed outcomes (on time and on budget)</td>
<td>100%</td>
</tr>
<tr>
<td>Service standard (efficiency)</td>
<td>Average cost per hour to deliver biosecurity services for Queensland</td>
<td>Not measured</td>
</tr>
</tbody>
</table>

Note: The number of significant response programs is based on the type and nature of detections made. Agreed cost-sharing responses vary as they are subject to review and negotiation. Agreed outcomes are monitored by outcomes defined in funding agreements. The increase in cost per hour to deliver biosecurity services for Queensland between 2015–16 and 2016–17 reflects an increase in overtime and higher duties as a result of the white spot disease response and program.

Queensland is the frontline state for biosecurity responses. A collaborative approach to the management of animal and plant pests and diseases—as a shared responsibility between federal and local government, industry and members of the community—brings recognised benefits.

National cost-sharing agreements clarify management and funding arrangements between the federal, state and territory governments and industry groups to allow efficient and effective responses to biosecurity incidents.
In 2017–18, under national cost-sharing arrangements, Biosecurity Queensland managed the following programs:

- Varroa Mite
- Exotic Fruit Fly
- Red Imported Fire Ant—South East Queensland
- Red Imported Fire Ant—Brisbane Airport
- Red Witchweed
- Four Tropical Weeds.

A new era in fire ant eradication begins

The National Red Imported Fire Ant Eradication Program in South East Queensland is a 10-year, $411.4 million program. It is now moving into its second year since funding was announced in July 2017. The 10-year eradication strategy plans to reduce the size of the red imported fire ant infestation through a staged, rolling planned treatment program starting from the west and progressively moving to the east.

Its first priority in 2017–18 was undertaking the broadcast bait treatment season; this was completed in June 2018. The second treatment season is set to resume from September 2018. An expanded broadscale bait treatment program is being conducted in the western outer infestation areas of the Lockyer Valley, Scenic Rim, Somerset and Ipswich and throughout areas of high-density infestation on the east in Logan and the Gold Coast. Multiple rounds of bait treatment are planned in these areas over consecutive years to eradicate fire ants from this region.

The 2017–18 plan also included targeted surveillance, supported by community engagement, to search for and locate any fire ant nests, particularly around the outer extents of the operational area.

While the national program focused on a broadscale bait treatment plan, it also responded to public reports of suspected fire ant sightings. On confirmed sites, a direct injection method was used to destroy fire ant infestations to reduce risks to public safety and commercial product movement and to achieve the eradication aim.

Community and industry partnerships are critical to the success of eradication. In 2018–19 the program will seek opportunities to implement pilot programs by which industry and the community can play their part in minimising the impact of fire ants and help achieve eradication of this invasive pest.

DAF has established contractual arrangements for 13 national cost-sharing agreements, 6 of which Queensland led, under the Emergency Animal Disease Response Agreement, the Emergency Plant Pest Response Deed and the National Environmental Biosecurity Response Agreement. These agreements bring together the state and territory governments and industry groups to collectively and significantly increase Queensland’s capacity to prepare for and respond to emergency animal disease incursions, and emergency pest disease incursions.
Biosecurity Queensland works closely with its stakeholders and the community to maintain a strong biosecurity system. During 2017–18, DAF demonstrated its capacity to meet all service requirements by effectively responding to 47 biosecurity incidents. Biosecurity Queensland’s main non-national cost-sharing responses during 2017–18 included:

- anthrax in cattle
- Hendra virus in horses
- white spot disease
- Panama disease tropical race 4
- West Indian drywood termite
- cucumber green mottle mosaic virus
- electric ants
- Asian green mussels
- Mozambique tilapia and spotted tilapia.

Queensland’s plant pest surveillance programs also delivered strong results in providing evidence of freedom from pests and diseases to safeguard national and international trade from the state for a wide range of commodities. This included participation in a national program, facilitated and funded by the Australian Government, to undertake surveillance for 57 high-priority pests and diseases, including a range of exotic fruit fly and gypsy moth species. This surveillance enhances early detection for these serious biosecurity threats and supports international trade from Australia in host commodities.

The department further enhanced Queensland’s biosecurity prevention and response capability through several actions under the Queensland Biosecurity Capability Implementation Program.

DAF increased plant pathology and molecular diagnostic services provided by the Plant Biosecurity Laboratory at the Ecosciences Precinct in Brisbane. Improvements included the introduction of specialist staff to boost the diagnostic capacity for plant virology. Also, the Laboratory Information Management System’s Sample Manager now provides an integrated system that improves productivity, reduces sample transcription errors, ensures sample traceability and provides for the generation of comprehensive and accurate reports to meet client needs.

The Laboratory Quality Management System was progressed to obtain NATA accreditation, which, once achieved, will provide increased confidence in diagnostic test results. It will also assist in decision-making and management of biosecurity risks.

The department boosted marine pest prevention and preparedness by moving from responsive management towards proactive protection. This will reduce the impact from invasive marine pests on industry, other users of Queensland’s marine resources and the environment, including World Heritage–listed ecosystems such as the Great Barrier Reef. Actions included:

- developing a Queensland ports marine pest surveillance pilot program, in conjunction with Queensland port authorities and experts in Western Australia, to improve early detection, control and eradication (to be implemented at five key Queensland ports over the next 18 months—Brisbane, Gladstone, Mackay, Townsville and Cairns)
- initiating a targeted marine pest education and awareness campaign, with supporting guidelines and training for frontline sectors (such as port authorities and marina and slipway operators).
Exercise Border Bridge was a fantastic opportunity for two jurisdictions—Queensland and New South Wales—to work collaboratively on a response that crosses a shared border. There were some challenges, but in true response style, we worked through them.

Allison Crook, Chief Veterinary Officer

**Figure 14:** The operations team in the Brisbane State Coordination Centre responding to simulated biosecurity emergencies as part of Exercise Border Bridge

### Exercise Border Bridge

Exercise Border Bridge (5–9 March 2018) was a cross-border simulated biosecurity emergency readiness exercise undertaken by teams from Biosecurity Queensland and the New South Wales Department of Primary Industries. The exercise, which included responding to ‘lumpy skin disease’ and the ‘giant African snail’, effectively assessed how teams from Queensland and New South Wales responded to a biosecurity incident occurring across both jurisdictions. DAF’s emergency preparation and response capability is vital for the protection of our $15.33 billion primary industries production value, our environment and our community. As biosecurity emergencies are complex and volatile and do not necessarily stop at borders, it is critical that DAF’s emergency response preparation and response capability is strong across all jurisdictions to ensure adequate protection for Queensland.

The planning for Exercise Border Bridge involved more than 100 people over 8 months of full-time preparation. There were approximately 500 days of work and two lead-in exercise activities (Border Law and Order, and Digital Bridge) in the planning stage. The exercise employed 260 participants from DAF, the New South Wales Department of Primary Industries, Animal Health Australia, Plant Health Australia, industry and other jurisdictions. It was the biggest biosecurity readiness exercise undertaken in Australia in the past 10 years.

The exercise demonstrated DAF’s emergency preparation and response capability as well as providing insights for improvements.

**Figure 15:** Participants in the Brisbane State Coordination Centre reviewing maps of the simulated outbreak
Priorities for 2018–19

• Support the Agricultural Ministerial Advisory Council in defining key objectives, priorities and a forward work agenda to drive agricultural industry development and overall sector growth and sustainability.

• Continue supporting and promoting agriculture technology, innovation and investment through AgFutures 2018.

• Lead the implementation of the government’s Driving Queensland Agriculture and Rural Jobs Growth policy to grow agricultural export capacity and enhance innovation throughout the agricultural supply chain by:
  – promoting agricultural industry development and jobs in rural communities through $3.3 million for the Rural Economic Development Grants program package
  – enhancing rural job skills with a further $1 million for the successful Rural Jobs and Skills Alliance and to extend the Queensland Agricultural Workforce Network.

• Provide existing drought relief arrangements to drought-affected communities and invest in the Queensland Drought and Climate Adaptation Program to improve farm business capacity, seasonal forecasting and decision-support tools that enable producers to better manage climate risk.

• Lead the implementation of existing national agreements and partnerships, and negotiations associated with proposed new project agreements, to ensure adequate funding contributions for:
  – pest animal and weed management in drought-affected areas
  – established pest animal and weed management
  – pest and disease preparedness and response programs.

• Continue nationally significant biosecurity responses and eradication programs including programs for red imported fire ants, white spot disease in prawns, and Panama disease tropical race 4.

• Provide a further $2.5 million in grants for the Queensland Feral Pest Initiative for wild dog exclusion cluster fencing in western and southern Queensland in drought-affected communities.
Objective 3

Ensure the sustainable management of natural resources to underpin productivity and protect the environment

Even the most abundant natural resources are limited. Sustainable use of our natural resources will ensure long-term vibrancy of the food and fibre sector. A balanced approach—between economic, social and environmental factors—gives current and sustainable benefits while ensuring the fundamental natural resources of land, water, fish and forests are available for future generations.

DAF focused on the research and development of improved farm management practices, decision-making tools for producers, and effective weed control to support sustainable resource use and minimise the impact of agriculture on the Great Barrier Reef. The department partnered with industry, natural resource management groups and local governments to increase uptake of improved management practices. DAF’s Reef program played a significant role in delivering on improved Reef water quality targets. Reforms associated with improved fisheries management further ensured that resources were sustainably used and provided ongoing economic and social value.

DAF also advocated to preserve and protect agricultural land and water, and worked with other government agencies to encourage a focus on an improved provision of water, energy, communications and transport to rural communities to support sustainable resource use and strong economies.

With responsibility for regulating access to fisheries resources and allocating native forest resources, the department maintained specific accreditations to ensure the ongoing viability of management practices, including certification of forest management practices under internationally recognised standards.

DAF’s continuing role in community education and safety—through boating and fishing awareness programs and the shark control program—allowed Queenslanders to enjoy safe, sustainable recreation opportunities.

Strategic risks and opportunities

- **New technologies**—new technologies to detect threats and improved modelling supported by increased processing power and big data can help DAF prevent the spread of biosecurity diseases and pests, improve fisheries management, and assist producers to improve decision-making leading to increased productivity and better predict climatic change.

- **Climate**—the frequency and duration of extreme weather events impacts on ability of the sector and the department to direct resources to growth opportunities.
• **Biosecurity threats**—greater global movement of goods and people increases the transmission of exotic pests and diseases, which may have a significant impact on the agricultural and broader economy, compromise our disease-free reputation and restrict market access.

• **Competition for resources**—resources used for agriculture, fisheries and forestry are increasingly subject to demands for competing access from other economic, environmental and social interests that are not always possible to fully resolve.

**Key performance indicators**

• DAF’s effectiveness in influencing planning and development

• Adoption levels of best management practice in Reef catchments

• Status of key Australian fish stocks

• Accreditation of our fishery and forest management systems

**Cross-government commitments**

The following intergovernmental agreements influenced the way DAF delivered these services.

**Reef 2050 Plan**

The *Reef 2050 long-term sustainability plan* (Reef 2050 Plan) provides the framework for the actions of the Australian and Queensland governments to protect and manage the Great Barrier Reef. DAF contributed to 38 of the 51 actions in the Reef 2050 Plan. Many initiatives under the sustainable fisheries strategy have been completed, and a charter fishing action plan is being progressed. DAF’s continued efforts contribute directly to the plan. DAF works directly with producers with the aim of improving Reef water quality and to implement ecologically sustainable fishing policy.

**Accreditation of aquaculture discharge adjacent to the Great Barrier Reef Marine Park**

Queensland law is accredited under the federal Great Barrier Reef Marine Park (Aquaculture) Regulations 2000. Based on this agreement, permission from the Great Barrier Reef Marine Park Authority is not required to operate any land-based aquaculture facility that discharges aquaculture waste to a waterway leading to the Great Barrier Reef Marine Park.

**Great Barrier Reef Marine Park Authority Intergovernmental Agreement**

Schedule E of the agreement recognises Australia’s international responsibilities for the Great Barrier Reef World Heritage Area under the World Heritage Convention, Offshore Constitutional Settlement arrangements, the intergovernmental agreement, associated Australian and Queensland government legislative provisions and the role of the Ministerial Forum to ensure both governments apply the guiding principles established in the intergovernmental agreement relating to fishing and collection of fisheries resources in the Great Barrier Reef World Heritage Area.
Conservation agreement for assessment of applications under the Great Sandy regional marine aquaculture plan

The conservation agreement between Queensland and Australian government ministers for the Great Sandy regional marine aquaculture plan means that applications for aquaculture that comply with the plan do not require a separate assessment or approval under the Environment Protection and Biodiversity Conservation Act 1999. Instead, matters under the Act are covered through the issue and conditions of the development approval (under the Planning Act 2016) and resource allocation authority (under the Fisheries Act 1994), which are assessed under the plan.

Shared waters

Management arrangements for commercial fisheries are established under the Offshore Constitutional Settlement 1995 agreement and resulting memorandum of understanding between the Queensland, Northern Territory and Australian governments to manage shared waters.

The Queensland Fisheries Joint Authority (established in 1995) manages some northern finfish stocks within offshore waters in the Gulf of Carpentaria.

The Torres Strait Protected Zone Joint Authority (established in 1984) manages all commercial fisheries in the Torres Strait Protected Zone.

There are no joint authorities operating in the Queensland East Coast.

Results and work program

Strategy
Advocate for agriculturally important land, energy and water

Contributing impact areas

Rural economic development
Strategic policy and planning
Forestry
Fisheries

KPI
DAF’s effectiveness in influencing planning and development

Performance monitored by two DAF service standards
Table 7: DAF’s effectiveness in influencing planning and development—various indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
</table>

Note: This measure covers a range of dimensions of stakeholder satisfaction including quality, satisfaction with the tools and methods of engagement and the level of opportunity to contribute to policy direction to determine overall stakeholder satisfaction. Both quantitative and qualitative responses are sought.

Table 8: Regional agricultural advocacy

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
</table>

Note: The decrease for 2017–18 is mainly due to activities being less complex and shorter than anticipated, resulting in a lower cost per activity.

Queensland’s land use and management practices have potential long-lasting impacts on natural resources, agricultural producers and the environment. A collaborative approach from state and federal governments to promoting effective practices and programs is essential for rural economic development and sustainable planning activities.

Only 2.5% of Queensland’s land is suitable for a wide range of current and potential crops with minor or no limitations to production. DAF advocated for agriculturally important land and the resources needed to sustain agricultural production by:

- providing $1.18 million for two Central Queensland agricultural technology projects aimed at reducing weeds and boosting yields, through the Strategic Cropping Land Mitigation Fund
- supporting private-sector initiatives to develop land and water resources in North Queensland, including progressing the one-stop service and obtaining funding to expand the service’s scope ($0.9 million over 3 years).

DAF’s network of regional officers ensures that the interests of agriculture are considered in statutory planning processes, water allocation and energy policy, including those processes administered by other state and federal agencies.
The Department of Natural Resources, Mines and Energy (DNRME) is responsible for the policy, planning and management of Queensland’s water resources. It also has a role in water infrastructure and water pricing as well as energy policy and legislation. DAF actively participates with DNRME in the interagency consultation process on matters such as the Murray–Darling Basin (MDB) Plan, the MDB Regional Economic Diversification Program, the Condamine Alluvium water tender and the proposed Rookwood Weir, as well as advocating for the release of unallocated water for irrigators where there is demand for additional water. DAF continues to participate in discussions regarding ongoing water reforms to ensure the consideration of agricultural water users as reforms are progressed.

DAF activity also includes working closely with the State Assessment and Referral Agency to ensure developments that may have an impact on marine habitats are assessed. Through the provision of advice and timely assessment of applications and plans, DAF helps to ensure that infrastructure impacts on fish habitats are minimised. The department successfully transitioned to all additional new provisions under the Planning Act 2016, which commenced on 3 July 2017.

### Strategy
Leverage changes in water and land use to develop new agricultural and aquaculture opportunities

#### Contributing impact areas

- **Strategic policy and planning**
- **Animal science**
- **Rural economic development**
- **Crop and food science**
- **Horticulture and forestry science**
- **Fisheries**
- **Forestry**

The one-stop service, first established in 2016, was expanded in 2017 to assist clients with government processes for agriculture and supply chain development and investment projects. The service includes a web information portal as a single entry point to a broad range of information such as on planning and development, trade and investment, mapping and industry support. Also, an agribusiness project facilitation service helps clients navigate the various stages of projects, including through referrals to other agencies or by linking people with investment or funding options. The expanded service supports new projects or the expansion or diversification of existing businesses, including initiatives to develop land and water resources in North Queensland.
North Queensland

Queensland is one of the most significant advanced economies in the tropics; it also has the benefit of extensive experience in tropical and subtropical agriculture. A quarter of Queensland’s agricultural output is produced in Tropical North Queensland, with this region of the sector dominated by cattle, sugarcane, bananas and vegetables. The region has significant land and water resource opportunities that are still to be fully assessed and utilised.

Figure 16: Agricultural output produced in Tropical North Queensland as proportions of state totals (Sources: Queensland agriculture and food research, development and extension 10-year roadmap and action plan; ABS 7503.0, Value of agricultural commodities produced, Australia)

In relation to the federal government’s Our north, our future: white paper on developing northern Australia, in March 2018, DAF entered into a partnership funding deed with the Cooperative Research Centre for Developing Northern Australia and committed $600 000 over 3 years. DAF is a research partner in five projects:

- Developing sustainable cropping systems for cotton, grains and fodder (lead organisation Ord River District Cooperative Limited on behalf of the Northern Australia Crop Research Alliance)
- New pastures to increase livestock productivity across the north (lead organisation Agrimix Pastures Pty Ltd)
- Transforming mango orchards—high-density systems for industry growth (lead organisation Manbulloo Ltd)
- Exporting perishable commodities to Asia—developing a stakeholder collaboration model (lead organisation Central Queensland University)
- Science leadership for cotton development in northern Australia (lead organisation Cotton Research and Development Corporation).

DAF has continued to contribute to building resilience of individuals, businesses and communities by delivering technical advisory and compliance services to farmers, fishers, landholders and the community to help achieve biosecurity and natural resource management priorities.
Implementation of the Queensland aquaculture policy statement

With growing demand for seafood globally, there is significant scope to grow aquaculture in Queensland to strengthen the economy and create jobs.

<table>
<thead>
<tr>
<th>Production (tonnes)</th>
<th>2015–16</th>
<th>2016–17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prawns</td>
<td>4302</td>
<td>4264</td>
</tr>
<tr>
<td>Red claw</td>
<td>51</td>
<td>65</td>
</tr>
<tr>
<td>Barramundi</td>
<td>3051</td>
<td>2987</td>
</tr>
<tr>
<td>Freshwater fish</td>
<td>223</td>
<td>269</td>
</tr>
<tr>
<td>Other</td>
<td>155</td>
<td>284</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7782</strong></td>
<td><strong>7869</strong></td>
</tr>
</tbody>
</table>

Potential land-based marine aquaculture development area (ADA) sites are being identified across Queensland. This addresses a recommendation from the Queensland Competition Authority in 2016. Implementation of the recommendation supports the Queensland aquaculture policy statement and is an important initiative to grow the aquaculture industry in Queensland, which in 2017–18 was worth approximately $105 million.

In 2017–18, targeted consultation was undertaken with industry and local governments to refine suitable sites. Additional stakeholder consultation later in 2018 may further refine the list of sites ahead of formally recognising these through the appropriate planning mechanism. The identification of ADAs helps protect areas with potential for land-based marine aquaculture development, and provides investors with areas that will be supported by the state and relevant local governments. While potential ADAs are being identified, it does not prohibit investors exploring other areas for aquaculture development in Queensland.
Scallop sustainability

In 2016, a scallop stock assessment showed the biomass of scallop was potentially as low as 6% of its original biomass. To address this decline, DAF reduced fishing effort on the stock by closing all scallop replenishment areas and introducing a winter no-take closure for scallops between 1 May and 31 October each year.

The Queensland Government committed $200 000 per year over the next 3 years to support monitoring and assessment of scallop stocks. This was a collaborative effort between DAF, James Cook University, The University of Queensland and the Fisheries Research and Development Corporation. It includes an independent scallop survey, improving mortality estimates and stock modelling, incorporating physical oceanographic processes.

Catch information from commercial fishing logbooks has shown that the 2017–18 scallop catch has increased, although more information is required before conclusions about the state of the resource can be assessed with confidence.

KPI
Adoption levels of best management practice in Reef catchments

Performance monitored by DAF service standard

Table 9: Service delivery standard—best management practice

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service standard (effectiveness)</td>
<td>Percentage of primary producers in Reef catchments who adopt best management practices after participation in DAF extension programs</td>
<td>20% 74% 58% 68% 47%</td>
</tr>
</tbody>
</table>

Note: The target for this measure was 40% in 2017–18 to acknowledge that persistent dry conditions may affect producers’ ability to implement and timing of desired changes. The result of 47% is considered to be a sound achievement for the year under the current conditions.
Protecting the Great Barrier Reef

The diverse range of habitat types and extraordinary biodiversity make the Great Barrier Reef one of the richest and most complex natural systems on earth. The area has significant environmental as well as social, economic and cultural value and plays an important role in the local, regional and national economies.

In 2017–18, DAF leveraged $8.671 million from Great Barrier Reef funding programs, and committed over $5 million to lead and support actions of the Reef water quality protection plan 2013. To further support protecting the Great Barrier Reef, DAF delivered key milestones from the Reef 2050 Plan. During the year DAF:

- commenced development of an online tool (to be released for general use in August 2018) that enables estimation of water quality benefits derived from improving farm management practices in Reef catchments (funding secured and proof-of-concept work completed)
- led the implementation of enhanced and coordinated extension and education programs for Reef water quality
- delivered on-ground practice change, improved agribusiness profitability and improved the health of the Reef through economic evaluation of profitable practices and delivery of best management practice (BMP) and associated programs
- finalised project agreements for the delivery of BMP workshops in Reef catchments.

DAF continued to contribute to the whole-of-government response to the Great Barrier Reef Water Science Taskforce final report (May 2016), supporting our partner agency, the Department of Environment and Science, to achieve the Queensland Government’s ambitious water quality targets (reduce nitrogen run-off by up to 80% and sediment run-off by up to 50%). DAF took leadership in improving the use of pesticides in Reef catchments through the Reef Pesticides Working Group. This group of government, industry and community stakeholders developed action plans to address ongoing cases that exceed pesticide water quality guidelines. The plans included new training, extension support, communications and research initiatives.

StoolZippa

The department’s BMP development and extension activities, undertaken in collaboration with industry, have resulted in the development of an implement known as the ‘StoolZippa’. This piece of equipment bolts to existing machinery to close an implement channel in the soil following the application of imidacloprid, a pesticide used to control cane grubs. Early studies have revealed a 65% reduction in imidacloprid losses. This significant innovation will reduce the agricultural impact on the Great Barrier Reef by contributing to achieving the pesticide target of protecting 99% of aquatic species.
Bioreactors improve the health of our rivers and the Reef

Improving the quality of water in our rivers and oceans is a high priority for the Queensland Government. Poor water quality has adverse effects on aquatic plants and animals. In response to the government’s commitment to protect Queensland's waterways and the Great Barrier Reef, DAF researchers have been working with the horticulture and cane industries and local governments to reduce the concentration of dissolved nitrogen in run-off from agricultural land. This is being done through a nutrient management strategy that uses ‘bioreactors’ to remove nitrate through denitrification.

Nitrogen is an essential fertiliser for farming, critical to crop production and crop yields. However, what is good for a crop can be negative for waterways, which is why bioreactors were developed.

This affordable, natural and effective solution involves filling shallow trenches in the ground with carbon-rich materials such as woodchip to form porous walls. These intercept the flow of water before it leaves the farm and moves into waterways. Through a natural process, organisms living on the woodchips take the nitrogen out of the water and release it into the air as nitrogen gas. This gas makes up 78% of the atmosphere we breathe and is completely safe.

The ongoing study by DAF scientists has produced positive results with almost complete removal of nitrate from agricultural run-off, proving that bioreactors can play a significant role in improving water quality. The strategy could be one solution to improving the quality of water in catchments flowing into the Great Barrier Reef.

Three bioreactors have been built. Two are in south-eastern Queensland on horticultural farms and one is on a cane farm in Giru. Farmers in northern Queensland are supportive and are interested in taking the simple concept further, using it as part of their efforts to improve the quality of water flowing to the Reef. In addition to those already built, more bioreactors will be installed in 2018–19.

As a result of the interest in bioreactors, DAF has developed an interim guideline to assist industry and catchment managers implement and monitor bioreactors. This will be available through the Queensland government publications portal (www.publications.qld.gov.au).

Grazing extension

As part of a collaboration between AgForce, regional natural resource management bodies and private organisations, the ReefPlan Grazing Extension project team delivered activities that complement the industry-led Grazing BMP benchmarking program. As part of this collaboration over the 2017–18 financial year, DAF delivered 295 training and extension events, and worked with 2442 beef producers from 344 unique properties representing 692 businesses in the Burdekin, Fitzroy, Burnett–Mary and Mackay–Whitsunday regions.
Cane BMP program

To minimise the impact of sugarcane production on the Great Barrier Reef, DAF continued to undertake crucial development and extension activities enhancing the impact of the industry-led Smartcane BMP program. The department worked in collaboration with CANEGROWERS, Sugar Research Australia and the broader cane industry to support the adoption of BMP in key production areas between Mackay and Mossman.

From July 2017 to June 2018, DAF engaged 1127 participants in extension processes, representing a total cane land area of approximately 164,260 hectares. Extension activities included nutrient management plans, chemical applications promoting soil health, controlled traffic systems, use of agricultural technology such as drones, and increased regional knowledge of agronomic practices associated with alternative crops for diversity.

The impact of Smartcane BMP on business and the environment in the Wet Tropics

The economic and environmental impacts of adopting Smartcane BMP have been considered for six sugarcane farms in the Wet Tropics (located near Ingham, Tully, Innisfail, Cairns and Mossman, and ranging in size from 90 to 830 hectares). Each of the farms made a number of practice changes over time in the areas of soil health, nutrient management and pesticide management (and drainage improvements at some farms). The profitability and environmental performance of the farms before and after BMP adoption were evaluated using the Farm Economic Analysis Tool and the CaneLCA eco-efficiency calculator, based on farm management data provided by the growers. The economic benefit after BMP adoption was found to be positive for each farm, ranging between $25 and $220 per hectare per year. The economic benefits can be sensitive to changes in cane yields and some growers managed such risks through progressive implementation of the changes or co-investment to reduce capital costs.

The environmental results showed that BMP adoption can decrease the potential for water quality impacts and reduce greenhouse gas emissions. For one of the farms investigated, the avoided greenhouse gas emission was equivalent to taking 86 cars off the road each year. The project findings indicate that BMP changes in the Wet Tropics can provide both better farm profitability and better environmental performance.

The project fact sheet and six case studies have been compiled into a single document for ease of reading and distribution. This and other project resources can be found on the Queensland Government publications portal (www.publications.qld.gov.au).
Control of weeds and pest animals

Agricultural production can be severely impacted by invasive weeds and pest animals as they constrain the use of land and other resources. To limit this impact on agriculture, and the current and ongoing effects of pests and weeds on the environment, during 2017–18 DAF:

- undertook research to improve control options for feral pigs, such as trapping and baiting methods, and assisted local governments and landholders in meeting their obligations for control by providing technical advice
- continued the National Four Tropical Weeds Eradication Program
- monitored the effectiveness of the wild dog exclusion cluster fencing
- developed new methods and strategies for the management of pest animals including wild dogs, feral deer and rabbits
- improved control strategies and methods including biological control for weeds such as prickly acacia, mother-of-millions, giant rat’s tail grass and cabomba
- completed the ‘War on Western Weeds’, a 5-year $1.88 million project managed by DAF with a focus on tackling prickly acacia, with research assessing the effectiveness of several innovative forms of herbicide application suggested by local graziers, such as a pressurised ‘scatter-gun’ that spreads herbicide pellets from a tractor, a helicopter-mounted herbicide pellet dispenser and a modified spray-misting machine
- undertook ecological research to improve understanding of how the seeds of prickly acacia are spread in flowing water along creeks, which will help landholders to better understand and manage the spread of seeds from their properties
- in a project partnership with Southern Gulf Natural Resource Management and local governments, assessed the effectiveness and cost of keeping property boundaries free from prickly acacia bushes, thereby avoiding spread by cattle onto neighbouring properties; this ‘good neighbour’ initiative has destroyed prickly acacia along more than 1000 kilometres of property boundaries on multiple properties in north-western Queensland.
KPI Accreditation of our fishery management systems

Performance monitored by a business measure

Table 10: Sustainability of Queensland fish stocks

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>94%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>93%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>91%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>82%</td>
</tr>
</tbody>
</table>

Note: The statuses of key fish stocks in Queensland are assessed using nationally agreed standards and protocols. Each full cycle of the assessment process takes 24 months to complete. The number of stocks assessed fluctuates annually, which in turn influences the result of the formula applied to derive the measure. In 2017–18, 28/34 (82%) of stocks that were assessed had no sustainability concerns; the remaining 6 stocks did have sustainability concerns (i.e. were classified as depleting, overfished or recovering stocks). Significantly, these were all stocks where sustainability concerns had already been identified in previous assessments. No new stocks with sustainability concerns were identified in 2017–18.

Status of fish stocks

Queensland reports annually on the status of fish stocks. The monitoring and evaluation process constantly evolves to ensure adequacy and reliability of data collection and assessment techniques.

The national status of Australian fish stocks reports are coordinated by the Fisheries Research and Development Corporation with guidance from an experienced national advisory group, including a delegate from Queensland. The assessments are conducted and published every 2 years. The next status of Australian fish stocks assessment will be completed and published in December 2018.

Every other year, DAF conducts stock status assessments on any important Queensland fish stocks that are not included in the national process. This ensures that the status of all key Queensland fish stocks are assessed against nationally agreed criteria at least once in every 2-year period. Stock status assessments combine catch, effort and biological data to assign a status to each fish stock, using a weight-of-evidence approach against clearly defined criteria. In Queensland, the majority of fish stocks are classified as ‘sustainable’ or ‘undefined’. Undefined means that there is insufficient information to confidently assign a status, but no immediate sustainability concerns are evident.

The 2017 stock status process identified sustainability concerns for six Queensland fish stocks and the following actions are being undertaken:

1. **Snapper**—east coast stock classified as ‘depleted’ in 2009; quantitative stock assessment is due for release in 2018.
2. **Pearl perch**—east coast stock classified as ‘transitional depleting’ in 2016 and 2017; no evidence was found to suggest the stock was increasing.
3. **King threadfin**—Gulf of Carpentaria stock classified as ‘transitional depleting’ in 2017 for the third year running; additional biological monitoring commenced in late 2015 to feed into more detailed quantitative assessment post 2018.
4. **Saucer scallop**—stocks classified as overfished in 2017 for the second year; urgent management measures were implemented in 2017 and additional monitoring commenced, with a more detailed assessment planned for 2018.

5. **Mangrove jack**—Gulf of Carpentaria stock classified as ‘transitional recovering’ in 2017; new management arrangements including species-specific quotas and independent validation of catch were implemented, with monitoring for signs of recovery.

6. **Barramundi**—southern Gulf of Carpentaria stock classified as ‘transitional depleting’ in 2017; a quantitative stock assessment was undertaken and identified low recruitment over the last few years, indicating the stock is not increasing.

All species with sustainability concerns will be reassessed as part of the 2018 stock status process, with results due to be released in December 2018.

**Table 11: Accreditation of our fishery management systems**

<table>
<thead>
<tr>
<th>Indicator (effectiveness)</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
</table>

Note: There has been no change in fisheries export accreditations since 2012–13, when the department withdrew the Rocky Reef Fin Fish Fishery from the accreditation process as there had been no export from that fishery. In the same year, the Coral Reef and Deepwater Fin Fish fisheries were combined. Accreditation to export is granted by the Australian Government’s Department of Environment and Energy.

**Sustainable fisheries strategy—first year’s progress**

The Queensland government has invested $20.8 million over 3 years to implement the *Queensland sustainable fisheries strategy 2017–2027*. The strategy sets out the reform agenda over 10 years; it outlines 33 actions across 10 reform areas and sets up 12 targets to be achieved by 2020 or 2027. The strategy is the largest reform of the sector in Queensland’s history and paves the way for Queensland to have a world-class fisheries management system that also supports thousands of jobs.

Overall, progress has been good in the first 12 months, with one-third of all the actions in the strategy delivered. There has been particularly strong effort in compliance, engagement and rolling out of new monitoring. All of the actions due to be delivered in 2017–18 were completed. This includes employing 20 new compliance officers, reopening the Gladstone Boating and Fisheries Patrol office, establishing new fishery working groups and an expert panel, rolling out additional biological monitoring, and publishing policies, plans and guidelines.

Discussion papers outlining management reform options for the trawl, crab, east coast inshore, coral reef finfish and harvest fisheries and proposed amendments to the *Fisheries Act 1994* were released in March 2018 for public comment. Proposed reforms to modernise Queensland’s fisheries laws include stronger compliance powers and penalties for serious offences such as black-marketing. A report on the legislation consultation has been published; this indicated overwhelmingly positive support for these changes, which will be progressed in 2018–19.

The strategy also commits to having vessel-tracking units installed on all commercial boats by 2020 with a priority to install them on net, line and crab boats by the end of 2018. Work has also commenced on the development of some exciting new digital solutions to support the reforms and the use of more novel engagement techniques.
As with any major reform program, there are challenges in communicating with stakeholders, understanding the change process and dealing with uncertainty. A strong focus has been put on better engagement, but relationships need to be further built between government, commercial fishers, recreational fishers and other community groups as the reform process progresses.

The next 12 months will focus on reviewing fishing rules, amending legislation and developing harvest strategies. This will culminate in an amended Act and new Regulation proposed to commence in July 2019. There will be a continued focus on improving engagement, collecting better data to underpin decisions and rolling out of new technologies.

![Figure 18: Sustainable fisheries strategy—key achievements in the first 12 months](image)
Digital solutions to support fisheries reforms

The Queensland sustainable fisheries strategy 2017–2027 identifies the need for accurate, reliable and timely data as a foundation for sustainable fisheries management. One of the strategy actions to solve this problem is the trialling of novel technologies for fisheries monitoring, such as apps, robotic vision and citizen science.

DAF has partnered with Advance Queensland through their Small Business Innovation Research (SBIR) and Testing Within Government (TWiG) programs to develop novel technologies to meet fisheries monitoring needs.

Through SBIR, DAF launched an innovation challenge to automate the collection of catch and effort data for the commercial fishing fleet. This process awarded funding to two companies to develop cameras, sensors and artificial intelligence technologies to automatically capture fishing data from Queensland’s fisheries. Both companies are currently working through the feasibility stage, looking at the trawl, net and crab fisheries to show that the technology works.

Round 3 of TWiG has recently launched, and DAF is using this opportunity to find better ways of collecting fisheries biological monitoring data using software-as-a-service solutions. Current programs for collecting fish lengths and age data are time-consuming, but this information is vital to the ongoing management of fish stocks. Two problems have been put to the market: find ways of using technology to determine the age of fish from their ear bones (otoliths) automatically using microscope images; also, determine and quickly record the lengths of fish when performing field sampling. It is hoped that these initiatives will result in better and more timely data, and will also allow the programs to expand to more species using the existing resources.

To support the strategy in collecting citizen science and better quality data, DAF is also developing new recreational and commercial fishing apps. The recreational fishing app supports the strategy by encouraging users to provide citizen science data that can be used to support fisheries management. The commercial fishing app promotes the use of electronic transactions and catch reporting, which can be validated prior to submission, improving the quality of data. DAF undertook a ‘hackathon’ as part of the procurement of these apps. This is a new approach for DAF and the five vendors shortlisted developed some amazing prototypes.

These initiatives are underpinning a digital transformation in the toolset available for fisheries in Queensland. These tools are crucial in supporting the sustainable fisheries strategy; they will improve the quality and timeliness of data and give stakeholders more confidence in the data used for decision-making.
Department of Agriculture and Fisheries

**Strategy**

Balance economic fisheries resource use with environmental and social values

**Contributing impact areas**

- Fisheries
- Animal science

To ensure sustainable fisheries resources, DAF managed access to and monitored:

- wild capture commercial fisheries, in which 1383 commercial fishing boat licence holders may operate in a variety of fisheries (including trawl, net, crab, line and lobster fisheries)
- harvest fisheries, in which 316 licence holders may operate in a variety of fisheries (including aquarium, bait, shell, sea cucumber and trochus fisheries).

In recent years, the Stocked Impoundment Permit Scheme (SIPS) has generated over $1 million a year in revenue, with at least 75% of all revenue going directly to community-based volunteer stocking groups for maintaining and improving freshwater fisheries. There are currently 68 active stocking groups—these release more than 3 million juvenile fish or fingerlings annually into 150 waterways across Queensland. Through the scheme, DAF provided recreational fishing opportunities in areas where they would otherwise be lacking, supporting regional communities and related jobs (via freshwater recreational fishing, fishing-related business and tourism opportunities).

During 2017–18, the department launched a new SIPS website to better promote the stocked impoundments and linked them to regional tourism to encourage participation in the scheme. It also continued online promotion of SIPS through social media channels, and modified the sales system to phase out iPads at small businesses, saving approximately $90 000 per year in administration costs, which can then be reinvested in other service delivery, monitoring and marketing improvements.

**Improving engagement with Aboriginal and Torres Strait Islander communities**

Fishing is a significant traditional and cultural activity for many Aboriginal peoples and Torres Strait Islanders living in Queensland and native title fishing rights are protected under federal legislation. The *Fisheries Act 1994* also recognises Indigenous fishing as a distinct class of fishing.

The sustainable fisheries strategy outlined two key actions related to Aboriginal peoples and Torres Strait Islanders:

- Work with Indigenous groups and communities through various forums to provide advice on fisheries management issues.
- Develop a traditional fishing policy to clarify arrangements and an Indigenous commercial fishing development policy to support Indigenous economic development in a way that supports sustainable fishing.

Under the strategy, the department has introduced a cultural liaison officer role for
five officers in the Queensland Boating and Fisheries Patrol. Officers in these roles are working with Aboriginal and Torres Strait Islander communities and Traditional Owners to understand and address issues around fishing. The officers have made significant progress building relationships with communities since January 2018, including working with Indigenous land and sea rangers to undertake cross-decking patrols.

Other initiatives to improve engagement include:

- a round-table meeting with Aboriginal peoples and Torres Strait Islanders held by the fisheries monitoring team to seek expert advice on how to best engage with Aboriginal and Torres Strait Islander communities to collect social and economic fishing information
- presentations to the Great Barrier Reef Marine Park Authority Indigenous Reef Advisory Committee in September 2017 and to an Aboriginal peoples and Torres Strait Islanders ranger workshop in March 2018 to strengthen relationships and explore ways of working together.

DAF is committed to improving engagement with Aboriginal and Torres Strait Islander communities and Traditional Owners on fisheries management and how the strategy is implemented.

Our programs—balancing economic fisheries and forestry resources

In 2017–18, the Queensland Government invested approximately $16.4 million into the state’s fisheries and maritime safety compliance programs, including the Shark Control Program.

The Queensland Boating and Fisheries Patrol (QBFP) monitors boating and fishing activities and investigates alleged illegal activity along 7000 kilometres of coastline and hundreds of freshwater rivers and impoundments.

QBFP has 111 authorised officers stationed across the state. These officers achieved over 62 000 patrol hours in 2017–18 and are located in Far North Queensland (20 officers), North Queensland (25 officers), Central Queensland (24 officers) and South East Queensland (42 officers).

QBFP continues to move towards more intelligence-based activities, specifically targeting non-compliance. This may affect compliance target numbers in coming years, because percentage compliance will likely reduce as more offenders are apprehended. Compliance with fisheries laws remains high and is evidenced by the service standards results (see Table 12).

Patrol officers are authorised to deliver compliance services on behalf of the Department of Environment and Science, the Department of Transport and Main Roads, Maritime Safety Queensland, the Australian Fisheries Management Authority, the Great Barrier Reef Marine Park Authority, the Torres Strait Protected Zone Joint Authority and the Australian Maritime Safety Authority.
Table 12: Service standards for QBFP

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Service standard (effectiveness)</td>
<td>Fisheries inspections that are compliant with fisheries laws</td>
<td>Not measured</td>
<td>93%</td>
<td>92%</td>
<td>92%</td>
<td>91%</td>
</tr>
<tr>
<td>Service standard (efficiency)</td>
<td>Average cost of inspections</td>
<td>Not measured</td>
<td>Not measured</td>
<td>$456</td>
<td>$487</td>
<td>$469</td>
</tr>
<tr>
<td>Service standard (efficiency)</td>
<td>Average number of inspections per full-time equivalent</td>
<td>Not measured</td>
<td>Not measured</td>
<td>295</td>
<td>586</td>
<td>245</td>
</tr>
</tbody>
</table>

Note: The cost of inspection is determined by the number of inspections undertaken by authorised officers of the QBFP and the annual cost of the QBFP. The QBFP conducts both fisheries inspections for DAF and boating safety inspections on behalf of other agencies such as the Department of Transport and Main Roads. The average number of inspections shows a decrease due to the adoption of a targeted intelligence-driven patrol compliance model, which targets non-compliant activities rather than random on-water inspections.

Shark Control Program

The Shark Control Program protects 85 patrolled beaches from 10 centres across Queensland’s east coast. Each year the government invests $3.5 million into this important program.

During 2017–18, the program removed 473 sharks, including 3 great whites, 194 tiger sharks, 63 bull sharks and 107 other potentially dangerous sharks.

The department continues to monitor the progress of alternative shark-deterrent technology trials being conducted by other states. If new technologies are shown to be effective in preventing non-target marine life fatalities and are practical for use, they will be considered for future use in the program.

Figure 19: Non-target species catch by the Shark Control Program (Source: DAF Open Data and 2017–18 Shark Control Program statistics)
Strategy
Balance economic forestry resource use with environmental and social values

Contributing impact areas

Forestry
Horticulture and forestry science

KPI
Accreditation of our forestry management systems
Performance monitored by a DAF service standard

Table 13: Service standard—accreditation of our forestry management systems

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service standard (effectiveness)</td>
<td>Percentage of findings from the previous third-party audit confirmed as satisfactorily addressed in order to maintain certification to the Australian standard: sustainable forest management (AS4708:2013)</td>
<td>Not measured</td>
</tr>
</tbody>
</table>

Table 14: Service standard—forest product sales

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Measure</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service standard (efficiency)</td>
<td>Total of forest product sales, quantities per total forest product full-time equivalent (FTE):</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>native forest timber (m²/FTE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>quarry material (m²/FTE)</td>
</tr>
</tbody>
</table>

Note: The measures illustrate the efficiency of management and administration of state-owned forest and related resources. The results reflect DAF’s success in meeting industry demand for both log timber and quarry material, combined with the effective management of staffing levels.
Forestry management system

DAF’s forest certification ensures that state-owned forests continue to deliver a range of benefits to the community—including conservation, recreational opportunities and protection of cultural heritage—as well as the production of timber and other forest products.

DAF’s forest management system is independently audited and certified as compliant with the requirements of the internationally recognised Australian standard: sustainable forest management (AS4708:2013). Certification allows customers to be certified under an associated chain-of-custody program, permitting them to promote, market and sell their timber products as being sourced from sustainably managed native forests.

A comprehensive, independent recertification audit of the forest management system, conducted in November 2017, resulted in some improvements to management systems and the renewal of the certification to the Australian standard (AS4708:2013) for another 3 years. Independent surveillance audits will continue being conducted approximately every 9 months.

Sales of state-owned forest products are continuing at relatively high levels, reflecting the strength of Queensland’s economy. The department’s log timber and quarry material customers continue to provide good employment and support business opportunities across the state, particularly in regional and rural Queensland.
Priorities for 2018–19

• Continue to support agricultural industries in Reef catchments to improve Reef water quality outcomes through adoption of improved practices by:
  – ensuring coordinated on-ground support services, such as extension capacity building, pesticide education and compliance, and collaborative service delivery
  – specialised extension services such as economic analysis to support the industry-led BMP
  – validating improved and innovative management practices.

• Implement the Queensland sustainable fisheries strategy 2017–2027 to ensure that fisheries resources are managed in a sustainable and responsible manner that recognises the interests of all Queenslanders. This includes a commitment to:
  – work with industry to help minimise the costs associated with vessel tracking and to ensure the rules applied are practical and achievable for smaller boats and fishing operations that use multiple boats
  – modernise the recreational fisheries app and develop a commercial fisheries app
  – commence a review of the Fisheries Act 1994 to create a legislative framework for recreational and commercial fishers that is contemporary, simple to understand, and reflective of community expectations.

• Provide the remainder of $100,000 to each of the Rockhampton, Mackay and Cairns local governments to help promote their net-free zones, which commenced in 2017–18.

• Release the final charter fishing action plan to grow a world-class charter fishing industry.

• Maintain the Shark Control Program, which provides safe and secure beaches in Queensland.

• Continue to meet the state’s native forest and quarry material supply commitments outlined in various sales permits issued under the Forestry Act 1959.