

Objective 1

Create the conditions for successful agribusinesses and supply chains that encourage innovation, productivity and new job opportunities

Creating the right conditions for agribusinesses to thrive drives investment, innovation and benefits right along the supply chain. This, in turn, promotes economic sustainability to deliver jobs and prosperity for the future.

DAF worked with industry and other government agencies to maintain, grow and open markets and generate benefits from free trade agreements. We also leveraged investment in agriculture from Queensland Government's Advance Queensland initiative. We engaged with agribusinesses and rural communities, maximising opportunities to add value to primary production and grow rural exports, to ensure sustainability, and to drive jobs growth and prosperity.

We partnered with industry and universities to invest in vital research and development to encourage diversification into new and emerging products, and to support traditional agriculture sectors. Policy and regulatory instruments provided the foundations for a strong business environment, gave certainty around regulatory requirements and assisted industries to access markets.

We have identified six new land-based aquaculture development areas in Townsville, Whitsunday, Mackay, Rockhampton and Gladstone local government areas to grow jobs and further develop an ecologically sustainable, diverse and innovative aquaculture industry in Queensland.

In doing these things, DAF helped deliver on Queensland Government's priority to **Create jobs in a strong economy**.

Strategic risks and opportunities

- **Global demand for food and fibre**—the growing global population and affluence in emerging economies result in increased 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, assist producers to improve decision-making and better predict climatic risks, leading to increased productivity.
- **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, promoting rural economic development and growing business and public confidence in DAF's strategic direction for the sector.
- **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, and these conflicts cannot always be fully resolved.

Key performance indicators

- Number of market and investment opportunities facilitated by DAF
- Percentage return on RD&E investment
- Improved regulatory frameworks

Cross-government commitments

The following intergovernmental agreements, frameworks 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. Our actions align with Advance Queensland priorities for developing innovative industries and businesses. We worked in support of *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 guidance to leaders in agriculture and food RD&E on how to make the best use of available expertise across the nation, maximising the outcomes from agriscience investment in Queensland. Queensland co-led the sugarcane strategy 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

The Queensland Government is a signatory to a national intergovernmental agreement to establish a harmonised framework for the regulation of agricultural chemicals and veterinary medicines (agvet chemicals). The department has commenced the implementation of this reform agenda by harmonising record-keeping, training and licensing requirements for all users of agvet chemicals in Queensland. These national policies were agreed to by members of the Agricultural Ministers' Forum (AGMIN) in 2017 and 2018. DAF's work on the other agreed reforms is continuing.

Results and work program

This section outlines DAF's performance aligned to the strategies in the strategic plan under Objective 1 and the priorities outlined in the 2018–19 DAF Service Delivery Statement.

Strategy 1.1

Grow markets and investment to support the flow of trade, capital and increased job opportunities

Contributing impact areas



Strategic policy
and planning



Animal science



Rural economic
development



Crop and food
science



Horticulture and
forestry science



Biosecurity
external

KPI

Number of market and investment opportunities facilitated by DAF

Performance monitored by a number of DAF business measures

Table 1 International investment briefings and incoming trade delegations

Measure	Results		Note: Support to overseas trade missions (international investment briefings) 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.
	2017–18	2018–19	
International investment briefings	1	2	Incoming trade delegations are driven by interest from overseas governments and businesses. We worked closely with Trade and Investment Queensland and other key government and industry stakeholders to build trade and investment across the Queensland food and agriculture sectors.
Incoming trade delegations	35	25	

In 2018–19, more specific assistance was directed to local businesses to grow export markets.

International trade delegations

Targeted trade missions led by Queensland Government provided practical opportunities to strengthen existing international trading relationships and establish new business in support of Queensland's future economic growth.

These opportunities showcased current high-value commodities as well as new, niche and emerging food products, encouraging export and investment partnerships.

In 2018–19, DAF supported two Minister-led trade and investment missions—one to Japan and South Korea, and one to Hong Kong and China. We also supported 25 inbound business delegations from around the world.

Grants to grow exports and develop industry

We benefited from access to a range of growing international markets. By growing Queensland's food exports (see below), we supported rural economic growth and the creation of sustainable jobs.

Rural Economic Development Grants

More than 600 jobs across Queensland are forecast to be created by 15 agribusinesses that received a share of \$3.3 million under the first round of funding of this program. The program is administered on our behalf by the Queensland Rural and Industry Development Authority (QRIDA). This is a \$10 million program over 3 years providing grants of up to \$250 000 (matched with co-contributions from the applicants) for economic development projects that are related to primary production and create employment in rural or remote areas.

In 2018–19, grants to agribusiness enterprises in the Maranoa, Lockyer Valley, Central Highlands, Toowoomba, Bundaberg, Sunshine Coast, Mareeba, Balonne, North Burnett, Western Downs and Southern Downs regions were approved under the program. Businesses include timber mills, vegetable packing sheds, nurseries and grazing enterprises.

Growing Queensland's Food Exports

Queensland food businesses, particularly in horticulture products, are well positioned to capitalise on export market opportunities. Queensland is Australia's largest producer of vegetables (estimated value \$1.28 billion in 2018–19) and the second-largest producer of fruit and nuts (estimated value \$1.9 billion in 2018–19). In 2017, \$1.3 million (over 2 years) was allocated to the Growing Queensland's Food Exports pilot program to capitalise on this export market opportunity. Since then, the program has allocated grants ranging between \$50 000 and \$100 000 to 15 projects across the state. Grant recipients and their collaborators have invested an additional \$5.4 million in cash and in-kind contributions to the projects. The program aims to have grant recipients communicate key learnings from the individual projects to the wider industry and other food businesses in their regions.

The program, which will see the last of the projects completed in December 2020, has developed food export capability. Collaboration and engagement within food supply chains and

use of consultants and experts has seen a significant increase in both market awareness and the presence of Queensland food products in international markets. A formal evaluation will be undertaken in 2019–20 to inform the development of future programs.

Some specific examples of successes of completed projects are:

- increased interest in and market recognition of DAF-bred strawberry varieties in specific market segments in Hong Kong, Macau and Indonesia
- retail-ready macadamia products making a significant entry into the China ecommerce market with targeted market penetration strategies reaching over 4 million Chinese consumers.

Strategy 1.2

Support the discovery, application and commercialisation of new ideas and technologies

Contributing impact areas



Agri-Science Queensland
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

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Strategic plan and service standard (efficiency)	Percentage return on RD&E investment through royalty returns	4.32%	4.54%	8.12%	6.78%	5.9%
Service standard (effectiveness)	Level of funding partner satisfaction that research outcomes contribute to industry productivity growth	79%	100%	100%	96%	85%

Notes: The 2018–19 percentage return remained above the targeted 4%, with increased market share of DAF-bred strawberry, mango and mandarin varieties and increased royalties relating to the Rhinogard vaccine for bovine respiratory disease contributing to the strong return.

The 2018–19 level of funding partner satisfaction is lower than previous years, but is still considered satisfactory. Feedback is being used to address areas identified for improvement.

Supporting the discovery and practical application of new ideas and technologies provides benefits to producers and consumers. Producers who apply new technologies, tools and varieties remain economically viable and grow their businesses. Consumers benefit through affordable and safe food and fibre, year-round supply of food, satisfaction that food is produced in an ethical and environmentally sound manner, and export growth. Collaborative efforts, where possible, ensure that research undertaken is in line with industry needs, and lessens the barriers to realising innovation.

Queensland agriculture and food research, development and extension 10-year roadmap and action plan

To drive innovation and promote sustainability in Queensland's agricultural and food industries, DAF commenced the implementation of this roadmap, which aligns with the Advance Queensland agenda.

The roadmap has 14 strategies organised around the goals of increasing innovation and commercialisation, identifying and promoting agriculture and food RD&E opportunities, and supporting the sector to grow and develop new businesses. An interdepartmental committee endorsed the roadmap implementation plan on 18 April 2019.

Examples of programs and activities in the roadmap are:

- delivering numerous RD&E supporting programs (such as the Advance Queensland Industry Research Fellowships, Engaging Science Grants, Ignite Ideas Fund, IndustryTech Fund and Women's Research Assistance Program) and providing a dedicated agricultural technology engagement officer to support the Advancing Regional Innovation Program
- promoting future career opportunities in the agriculture and food sectors, including RD&E, through *Schools of the future: a strategy for STEM in Queensland state schools* and the Agribusiness Gateway to Industry Schools program
- providing information on, and promoting, Queensland's key research capabilities on the Queensland Science Capability Directory to provide a single entry point for potential investors and collaborators.

RD&E investment prioritisation

Agri-Science Queensland spent \$129 million in agricultural RD&E in 2018–19 to build Queensland's competitive advantage. Of this total, \$71 million in state government funding was invested in RD&E conducted within Agri-Science Queensland to increase the productivity, profitability, resilience and sustainability of Queensland's agriculture, fisheries and forestry industries. This was leveraged to attract an additional \$58 million of external funding in 2018–19.

Funding was also provided to university alliances to deliver the department's RD&E priorities where expertise was required. During 2018–19, DAF's investment in RD&E partnerships with the university sector and Sugar Research Australia included:

- \$7.92 million with UQ in the Queensland Alliance for Agriculture and Food Innovation (QAAFI), which is a research collaboration between UQ and Queensland Government to work on key agricultural industry challenges
- \$0.95 million with the University of Southern Queensland for research on wheat and summer grain pathology, agricultural systems modelling, agricultural engineering and winter crop nematology
- \$0.36 million with the University of the Sunshine Coast in pre-harvest forestry research
- \$0.24 million with Central Queensland University, to co-fund research positions in vegetable crop protection and farming systems research
- \$0.26 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 19 sugarcane RD&E projects relating to critical industry issues (such as moth borers from South East Asia), using novel technologies to improve and enhance farming systems and practices, and investigating new and novel uses of sugar, sugarcane and sugarcane by-products.

Also, through DAF's alliance, QAAFI continues to attract significant research income, reaching \$37 million in addition to DAF's investment. QAAFI's high-impact research is vital to industry and helps Queensland's tropical and subtropical agriculture and food sectors remain competitive and sustainable.

The Technology Commercialisation Fund

This pilot project was established in 2016–17. Its overarching objective is to grow jobs and create new economic activity in Queensland—in particular in regional areas—from the commercialisation of intellectual property owned by DAF and its research partners. The fund's budget is \$3.79 million over 4 years.

A number of companies indicated interest in commercialising the following research outputs:

- access to the state's culture collection (fungal and bacterial cultures) for biodiscovery of new attributes
- creation of a high-purity protein powder using waste from sorghum ethanol production
- a plant-based, low-calorie, natural electrolyte extracted from sugarcane
- prawn shelf-life extension products
- sorghum genetics to mitigate dry conditions by reducing plant water use and maintaining yield.

Discussions are underway with those companies that have demonstrated the capability to commercialise the technologies. The companies also conduct their own market assessment and due diligence.

Investment in RD&E to address knowledge gaps in pulse storage

Pulses and grains are staples of many developing and emerging economies. We boosted investment in RD&E for pulses to \$1 million over 2 years to 2019–20.

We continued to support vital research and innovation to improve the market potential of this sector. In partnership with other agencies, we used advanced breeding and research to develop high-yielding and resilient lines of sorghum, mung bean, chickpea, barley and forage oat that have improved tolerances to drought, pests and diseases, and improved market qualities.

Growers and bulk handlers benefited from best management practices to manage phosphine fumigant resistance in stored-grain pests, new management options for herbicide-resistant weeds and a new weed-chipping machine targeted on the removal of weeds that survive herbicide application. We supported growers, breeders and prebreeders by screening barley and wheat lines to identify lines with high levels of disease resistance.

New chickpea and forage oat varieties launched

In 2018–19, DAF released two new varieties that boast higher yield and profitability than those previously in the market.

PBA Drummond chickpea was launched in Emerald in September 2018. It offers a significantly higher grain yield and improved harvestability than all other varieties grown in the region.

This desi chickpea variety, purpose-bred for Central Queensland, offers superior agronomic and seed quality characteristics combined with improved resistance to the important chickpea disease ascochyta.

In August 2018, Warlock, a new forage oat variety, was launched in Toowoomba to assist Queensland livestock producers.

The DAF program aims to develop and release improved forage oat cultivars with high forage yield, resistance to leaf rust, late maturity and high regrowth potential.

Higher yielding forage oat varieties increase the size of the feed base available to livestock producers, which in turn improves the profitability of farming enterprises. The new variety, Warlock, has the highest total forage yield of all forage oat varieties on the market.

Warlock has a long production season, produces vigorous growth in the early season and recovers quickly from grazing to produce a high forage yield during the cooler winter months, when farmers need to fatten cattle.

Both PBA Drummond chickpea and Warlock forage oat are now commercially available.

Investing in a game changer—pigeon pea

Queensland Government is investing \$800 000 over 3 years to undertake innovative research to develop a new pulse crop with enhanced productivity, profitability and sustainability for Queensland's vital grains sector.

DAF researchers are developing pigeon pea as a resilient and productive new summer crop for growers who need a drought-tolerant grain legume to increase broadacre pulse production.

Queensland pulse exporters are also excited about the possibility of securing a reliable supply of high-quality pigeon pea for expanding market opportunities in South Asia.

An integrated platform of research and development is being used to identify potential genetic options and management strategies that maximise yields, reduce risks, support premium pulse exports and increase regional jobs.

The project is also fostering vital collaboration between researchers, research agencies, growers and industry to ensure the potential benefits from pigeon pea can be realised for the benefit of Queensland.

We released DAF's annual publication *Queensland grains research* as a showcase for outcomes from regional trials on agronomy, soil nutrition, weeds and farming systems to help producers and industry better address the challenges of modern crop production. Grower Solutions projects, in collaboration with industry, addressed major and emerging constraints to crop production in the Central Queensland and Wide Bay districts. Local producers in North Queensland were provided with agronomic assistance to help implement demonstration sites and foster support for an emerging grains industry.

The co-investment by Queensland Government and the Grains Research and Development Corporation through an industry trust is positioning the Tosari Crop Research Centre on the Darling Downs as a new world-class grains RD&E facility.

Examples of the impact from DAF's breeding research are outlined in the case studies on page 24.

Investing in Bundaberg's horticulture production

Horticulture production in the Bundaberg region is worth more than \$500 million to the Queensland economy. When combined with first-stage processing, the value far exceeds this.

Queensland fruit fly is endemic to Queensland and has a serious, detrimental impact on horticulture production, and interstate and export market access. DAF has committed \$200 000 in an innovative, community-led approach to help manage fruit fly in the Bundaberg region. The pilot urban community education program, headed by Bundaberg Fruit and Vegetable Growers (BFVG), complements the existing on-farm management practices. The project engaged Bundaberg regional community groups—including five Reef Guardian Schools, gardening clubs, Bundaberg Landcare and Bundaberg Regional Council—in keeping this endemic pest in check.

The principles of community engagement and education activities developed in the pilot will be promoted to other horticulture production areas of Queensland that experience fruit fly problems.

DAF also committed \$200 000 to BFVG to conduct a pilot to increase regional horticulture data collection not currently captured in existing reports.

This pilot program has commenced compiling an economic profile of the horticulture industry in the region through the collection and analysis of production data via a web-based application system. In 2018–19, BFVG worked with developers on the design of this custom, fit-for-purpose system for a stakeholder rollout in July 2019. Initial data capture will target the avocado, macadamia, sweetpotato, mango, lychee, strawberry and blueberry industries.

The design of the pilot program shows potential to be transferable to other agricultural industry sectors and regions. More accurate local sector data allows horticulture producers to attract investment and open new opportunities at the state, national and overseas levels.

Strategy 1.3

Continue to build Queensland's biosecurity system's capability to protect the economy, the environment and community from biosecurity risks

Contributing impact areas



**Biosecurity
external**



Fisheries

Each year Queensland combats more biosecurity incursions than any other state. The number, scale and scope of recent pest and disease incursions highlights the pressure Queensland's biosecurity system is under, requiring greater biosecurity capability and capacity across industry and the community.

Saleyards Project

With assistance from Biosecurity Queensland and Animal Health Australia, Maranoa Regional Council's Roma saleyards developed a biosecurity plan and a livestock standstill action plan to enhance their emergency animal disease preparedness.

An exercise at the saleyards explored the impact of a national livestock standstill invoked during an 8000-head livestock sale. Participants included 37 members of the livestock marketing, saleyards and transport industries, as well as representatives from peak bodies including the Australian Livestock Markets Association and the Australian Livestock and Property Agents Association. These stakeholders worked with counter-disaster management personnel from the Queensland Police Service, Queensland Fire and Emergency Services, Biosecurity Queensland and Maranoa Regional Council.

The exercise gave participants better understanding of their plans and the impact of an incursion. Participants acknowledged the support provided by disaster management agencies and the opportunity to work together to improve emergency animal disease preparedness. Feedback from the exercise was very positive, enabling participants to clarify their roles in an emergency animal disease response. Biosecurity Queensland, with their partners, plan to hold more events throughout the state.



Participants in the Saleyards Project from Biosecurity Queensland, Animal Health Australia, Australian Livestock and Property Agents Association, Roma saleyards, Frasers Livestock Transport and Scotts Haulage Ltd

Biosecurity strategy and action plan

The *Queensland biosecurity strategy: our next five years 2018–2023* articulates the direction and priorities for biosecurity in Queensland. The strategy focuses on ways that all partners in the system can be activated to help manage biosecurity risks. The strategy addresses six themes:

1. collaborative governance and leadership
2. every Queenslanders plays their part
3. empowered to act
4. bright ideas and better ways
5. valuing and building on our investments
6. better intelligence systems.

To provide strategic oversight of Queensland's priorities within the national biosecurity system and monitor Biosecurity Queensland's service delivery against the themes of the strategy, the process to refresh the Biosecurity Queensland Ministerial Advisory Council commenced.

Enhancing biosecurity capability and capacity in Queensland

In 2016–17, Queensland Government allocated \$10.8 million over 4 years to implement the recommendations in the 2015 *Queensland biosecurity capability review*.

Seven priority projects were designed under the Biosecurity Capability Implementation Program to build capability and capacity in Biosecurity Queensland, with the ultimate goal of building the capability of the entire system. The projects commenced in 2016 and most will continue until 30 June 2020. A mid-term review of the seven priority projects ensured that they are on track. Key progress in 2018–19 included:

- a new marine pest preparedness education and awareness campaign and enhanced marine preparedness by ports following a marine pest response exercise
- piloting of shared governance structures for the management of invasive plants and animals at the regional level
- delivery of a report highlighting how cross-border biosecurity emergencies can be dealt with by both states
- work towards accreditation by the National Association of Testing Authorities for key diagnostic tests for selected plant pathogens
- skills mapping and workforce capability development plans to manage organisational capability within Biosecurity Queensland.

The Saleyards Project demonstrates the benefits of biosecurity plans and exercises in building capability.

Ensuring the welfare of companion animals

The Animal Welfare Advisory Board was commissioned to conduct a review and provide recommendations to Queensland Government on further actions required to ensure the welfare of companion animals. The Companion Animal Welfare Review was limited to considering the welfare of dogs and cats, because they are the majority of animals that are kept as pets in Queensland.

The final review report, provided on 28 April 2019, included the following:

- The *Animal Care and Protection Act 2001* should be reviewed to address the issue of tethering of dogs.
- The development of animal welfare standards and guidelines for cats and dogs is not considered necessary.
- Non-legislative strategies, such as targeted advertising and educational campaigns, should be considered to tackle the issue of dogs in hot cars.
- A better understanding of the nature and extent of animal welfare complaints will enable education to be better targeted at high-risk situations with the aim of reducing cruelty.

The report's recommendations and findings are being considered and options for further actions are being explored.

Strategy 1.4

Ensure department activity/regulation provides the foundations for a strong business environment, balancing economic, ecological, social and biosecurity imperatives

Contributing impact areas



**Strategic policy
and planning**



**Biosecurity
external**



Fisheries



Forestry

KPI Improved regulatory frameworks

From 2018–19, performance is monitored under the Queensland Government Regulator Performance Framework (see Appendix 1) together with a DAF service standard (Table 3)

DAF had extensive responsibilities maintaining and managing portfolio legislation (see Appendix 5). The majority of the department's regulatory activity is in five broad areas:

1. agricultural chemicals and veterinary medicines (agvet chemicals)
2. animal welfare and management
3. biosecurity
4. fisheries management
5. forestry management.

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

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Service standard (efficiency)	Average cost per hour to conduct regulatory policy and reform activities	Not measured	\$70	\$69	\$71	\$76

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

Strategy 1.5

Optimise benefits from fisheries and state-owned forestry

Contributing impact areas



Fisheries



Forestry

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. Commercial, recreational and charter fishing all contribute to local economies and the state's economy.

Fisheries

Charter fishing is now formally recognised as a sector under the *Fisheries Act 1994*. There are charter fishing representatives on three working groups including the tropical rock lobster, reef line and rocky reef working groups. The *Charter fishing action plan 2018–2021*, released in August 2018, also outlined actions to develop regional tourism opportunities.

Six land-based marine aquaculture development areas (ADAs), totalling approximately 7048 hectares, were identified in January 2019 to promote and grow the \$114.2 million aquaculture industry in Queensland.

Queensland Government policy on the future of timber production in state-owned native forests

State-owned native timber helps support Queensland's regionally based timber processing industry. DAF allocates and sells state-owned native timber through sales permits issued under the *Forestry Act 1959*.

A range of short-term and long-term sales permits are in place across Queensland, including in South East Queensland, where long-term sales permits for native hardwood sawlogs expire on 31 December 2024. The future supply of native timber resources is a key issue facing the native timber industry in Queensland. A policy about the future of timber production in state-owned native forests is under development. Consultation with the forest and timber industry and other stakeholders is expected to occur later in 2019.

Objective 2

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

Queensland's agriculture, fisheries and forestry industries, and associated food industries, are critical to the state's economy. They form the economic and jobs backbone of many rural and regional Queensland communities.

Changes in climate have contributed to diverse and extreme weather events—continued drought, fires, extensive flooding and cyclones—and biosecurity issues in Queensland. These events posed risks to production for agribusinesses in Queensland, impacting along the supply chain. Our programs and initiatives were extensively called upon this year to assist agricultural, fisheries, forestry and rural businesses to respond and recover.

Queensland's proximity to northern neighbours, its extensive coastline and its diverse climatic and geographic conditions (conducive to pest and disease establishment) means we are the frontline state for dealing with biosecurity threats. Queensland Government contributes to a strong national biosecurity system that provides an agreed national framework to manage the governance of, funding for and response to incursions of exotic animal and plant pests and diseases.

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 significantly affect the economy and the environment, compromising our disease-free reputation and restricting 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, assist producers to improve decision-making and better predict climatic risks, leading to increased productivity.
- **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, promoting rural economic development and growing business and public confidence in DAF's strategic direction for the sector.

Key performance indicators

- Business improvement attributed to DAF's products and services
- Percentage of significant biosecurity response programs delivering 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 some of the objectives of the intergovernmental agreement.

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 are outlined in subsidiary response deeds and agreements. The Intergovernmental Agreement on Biosecurity is linked to international agreements.

Results and work program

The following section outlines DAF's performance aligned to the strategies in the strategic plan under Objective 2 and the priorities outlined in the 2018–19 DAF Service Delivery Statement.

Strategy 2.1

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

Contributing impact area



**Strategic policy
and planning**

Rural Jobs and Skills Alliance and the Queensland Agriculture Workforce Network

Queensland's agricultural sector has an ongoing demand for skilled workers.

The industry-led Rural Jobs and Skills Alliance is coordinated by the Queensland Farmers' Federation and brings together multiple peak bodies as well as poultry, irrigation, forestry and timber stakeholders. The alliance has developed strong links with state and federal employment and training agencies and is recognised as a key source of labour market and training intelligence and advice.

The Queensland Agriculture Workforce Network, a regional network of industry-based agricultural workforce officers, worked directly with producers and the supply chain to assist in addressing recruitment and skilling issues.

Collectively, these initiatives have contacted over 8000 farm business owners and employees and over 6000 potential new employees, influencing over 1300 positive employment and training outcomes since 2016.

A new approach to vocational educational and training in the agricultural sector

Vocational training is essential to meet performance and emerging challenges for workers, agribusiness and the state's economy. These challenges include workforce ageing, where years at work are lengthening, and changes arising from the ongoing introduction of automation and artificial intelligence, where work content and work conditions are shifting. This is as important for young people discovering the world of work as it is for older people.

Difficult but necessary decisions to review and cease traditional methods of delivering agricultural and rural skills development occurred in 2018. DAF established a designated project management office (PMO) in response to Queensland Government's decision to close Queensland Agricultural Training Colleges (QATC) from December 2019 and transition to more modern, cost-effective and diverse training provisions that meet the needs of communities in central and western Queensland.

This decision was based on the findings and recommendations of the Coaldrake *Review of the future of vocational education, training and skilling in central-western Queensland*. The PMO will work with the QATC Board and executive and other stakeholders to develop a transition strategy, including a plan for future use of all QATC educational and production assets and resources. A key function of the PMO was to initiate the formation of local community stakeholder committees in Emerald and Longreach to provide advice and inform this strategy's development.

The Department of Employment, Small Business and Training funds the Gateway to Industry Schools program. DAF project manages the Agribusiness Gateway to Industry Schools component of the program.

Queensland Government, in its recently released *Skills for Queensland: great training for quality jobs*, announced an expansion of the Gateway to Industry Schools program. The expansion is focused on general growth of all six existing projects including Agribusiness Gateway to Industry Schools. The expansion also includes new projects in industry and occupational fields that are rapidly growing, including screen and media, information and communication technology, health and community services.

Strategy 2.2

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



Biosecurity external



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 and export development

Table 4 Service standard—improvements due to RD&E

Indicator	Measure	Results 2018–19
Service standard (effectiveness)	Assessed impact of completed agricultural RD&E projects and/or programs (benefit–cost ratio)	5.41

Note: A new measure in 2018–19 provides an estimate of benefits for the industry and the broader community associated with efficient food and fibre production generated by the use of DAF’s agriscientific research outputs relative to the cost of the overall investment. Annually a sample of completed projects will be independently assessed using the methodology outlined in the Council of Rural Research and Development Corporation’s Impact Assessment Guideline and the results will be aggregated to report on this measure.

Research and technology innovations underpin a sustainable, productive and profitable agriculture and food sector. They provide benefits across the supply chain, generate jobs in rural communities, strengthen the economy and benefit consumers.

The *Queensland agriculture and food research, development and extension 10-year roadmap* (see page 22), developed as part of Queensland Government’s Advance Queensland initiative, provides the blueprint and direction for the state’s RD&E investment, to support innovation and increase growth and export opportunities.

Returns from commercialised new horticultural varieties

DAF contributes significantly to agricultural product innovations through our breeding programs and other initiatives that grow the market share and value of these products. DAF operates a range of industry-supported fruit, nut and vegetable breeding programs that develop new varieties adapted to Queensland conditions. These new varieties help producers meet changing consumer demands, increase productivity, grow regional economies and boost exports.

Mangoes—DAF scientists worked with the mango industry to develop mango varieties with improved fruit productivity, lower tree vigour and increased disease resistance. DAF-developed mango varieties currently make up 51.7% of Australian production. The R2E2 and Calypso varieties make up 17% and 34.7% of Australia’s fresh mango production respectively. Calypso has high fruit quality and high productivity compared with other standard varieties. R2E2 is Australia’s most exported mango variety. Worldwide sales of Calypso mango in the 2018–19 season were valued at \$70.7 million.

Strawberries—The strawberry industry continued to benefit from the DAF-led national variety improvement program. Co-funded by industry, this program produced outstanding subtropical, temperate and Mediterranean strawberry varieties for year-round strawberry production. In 2018, varieties from the Australian Strawberry Breeding Program captured over 70% of the Queensland market and 19% nationally. In 2018, total sales of strawberry runners increased by 25% to approximately \$55 million in Australia, with just under 70% of these coming from the breeding program.

The DAF-bred variety Red Rhapsody had exceptional uptake by the Queensland industry, accounting for over 60% of runners planted. It has been described as a ‘game changer’. Retailers reported a sevenfold decrease in discards of Red Rhapsody compared with the standard discard rate. Sundrench, Parisienne Kiss, Sunglow and Scarlet Rose varieties also experienced growth, with increased commercial plantings in Queensland.

A new 5-year breeding program commenced in 2018. In addition to producing new varieties for the domestic market, the program will focus on varieties suitable for export.

Pineapples—Our fresh-market pineapple-breeding program has helped the industry to transition from the processing market to a predominantly fresh market. The fresh market now comprises 63% of the industry, with room for substantial expansion. DAF’s varieties are popular with consumers due to their superior flavour characteristics. Aus-Jubilee and Aus-Festival made up 2.3% and 1% of the fresh market respectively.

Macadamias—We released four new macadamia varieties to the \$280 million industry in March 2017. Commercial plantings of the first trees are expected in the second half of 2019. The new varieties are the result of a 23-year breeding program and offer up to 30% higher yields than the industry standards and superior nut quality characteristics to increase profitability. Initial interest in the new varieties is high, with over 55 000 trees pre-ordered.

Mandarins—Commercial production commenced for two new selections from the mandarin breeding program. Three new easy-peel hybrid mandarins are under on-farm testing, with one (11CO17) already in production. These hybrids have excellent flavour with low seed numbers and high yields in Queensland's subtropical environment.

Setting directions to accelerate innovation

In 2018–19, DAF aimed to accelerate sector uptake of innovation, build on past success and strengthen collaborative partnerships to tackle complex and longer term challenges.

- We supported the Agricultural Ministerial Advisory Council (AgMAC), which met three times during the year. AgMAC provided strong leadership on key issues facing the sector, such as protecting agricultural land, managing biosecurity and investigating the feasibility of abolishing stamp duty on agricultural insurance products.
- We hosted the AgFutures 2018 Innovation and Investment Forum on National Agriculture Day, 21 November 2018. Industry professionals, researchers, investors, innovators, government and other interested stakeholders came together to collaborate and explore ways to advance agricultural technology and attract investment. Showcases included organic beef production and the use of supermarket-rejected bananas to create a new business in green banana flour.
- We grew our own innovation culture by giving DAF staff an opportunity to demonstrate innovative approaches, collaborate with each other, researchers and producers and kickstart good ideas through the DAF Innovation Showcase, the DAF Digital Roadshow and the Innovation Fund. These activities help realise the goals of *FutureDAF*.
- We released the *Growing for Queensland discussion paper* in June 2019 and commenced a series of forums, interviews, online conversations and ideas boards to agree on a strategy to accelerate the development of agribusiness and the food industry in Queensland. The Growing for Queensland strategy will set DAF's direction over the coming years and complement actions already underway through the strategic directions set for biosecurity, fisheries and research and development.



The high-density mango tree planting at Walkamin Research Facility, North Queensland

New orchard practices set to transform Queensland's mango industry

DAF scientists have achieved mango yields five times higher than the average commercial yield in a high-density planting trial at the Walkamin Research Facility, North Queensland. The trial planting is part of the Small Tree High Productivity Initiative, which is partly co-funded by Hort Innovation through the 'Transforming subtropical/tropical tree crop productivity (A13004)' project.

Queensland's mango industry is increasing—its gross value of production is estimated to be \$113 million in the 2018–19 financial year. However, despite good growth, low and variable yield is an ongoing commercial problem.

Over the last 30 years, the apple industry has overcome poor productivity by shifting to high-density tree plantings in a process called 'orchard intensification'. Using these learnings from the apple industry, DAF scientists are trialling new practices to increase mango industry productivity, with the longer term goal of improving international competitiveness and export growth of Queensland mangoes.

The research team established the mango trial at Walkamin 5 years ago to identify orchard systems that have potential for improving productivity and profitability. The results are good news for the industry. Along with achieving a fivefold increase in yield, in the 2018–19 season the team met their yield target of 50 tonnes per hectare in a high-density planting of Keitt mangoes.

DAF scientists are currently working with industry to test the potential of high-density plantings to increase mango productivity on commercial farms within the 'Transforming mango futures' project, funded through CRC for Developing Northern Australia. The project team have planted trial blocks on grower properties in Bowen, Mareeba and Katherine, and the first preliminary results are due in 2019–20.

Strategy 2.3

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

Contributing impact area



Rural economic development

Many rural communities continued to face difficult times with persistent drought, floods and fires. Despite this, rural communities maintain a strong interest in working on initiatives to secure a better future.

Rural Economies Centre of Excellence

The Rural Economies Centre of Excellence, funded by DAF, is co-located in seven rural centres—Toowoomba, Gatton, Rockhampton, Emerald, Townsville, Cairns and the Atherton Tableland—as well as in Brisbane. It brought together some of Queensland's best economic analysts, rural business development specialists and policy and regional economic development practitioners.

The centre is focused on rural economic performance and improvement, and its priority work program identified five key themes for staged implementation: economic tools, business innovation, value chains, policy development, and translation and engagement.

The university consortium partners (the University of Southern Queensland, Central Queensland University, James Cook University and UQ) agreed to fund the centre for an additional 2 years to extend this to a 5-year initiative and to tangibly support the centre's ongoing development.

Agricultural development and extension project initiatives

Our network of regional officers supported a diverse range of agricultural development project initiatives across the state. Examples include:

- working with Tasmanian salmon producer Tassal, who are diversifying into the aquaculture of black tiger prawns in Queensland
- working with the Nursery and Garden Industry Association and Nambour Alliance Incorporated to investigate the feasibility of expanding the intensive horticulture sector on the Sunshine Coast
- supporting the FNQ Food Incubator project to provide a mechanism to support both existing and emerging businesses to convert their ideas into commercial products
- with Trade and Investment Queensland, assisting Qualipac with trade and market opportunities for expansion through the Inglewood vegetable packing facility.

Strategy 2.4

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

Contributing impact areas



Animal science



Crop and food science



Horticulture and forestry science



Agri-Science Queensland infrastructure, strategy and business



Rural economic development



Biosecurity external



Biosecurity internal

Secure availability of safe, fresh and diverse food and fibre supply underpins Queensland's global reputation as a high-quality exporter. Secure supply is also fundamental to meeting the government's priority to **Keep Queenslanders healthy**. The 2018–19 year featured difficult conditions, disasters, food tampering and biosecurity incidents that saw DAF, industry and the community unite to minimise disruption to food production and supply. Responses included:

- reviewing and strengthening the *Biosecurity Act 2014* to enhance on-farm biosecurity
- the 'strawesome' winter marketing campaign to restore confidence in the state's strawberry supply
- **#eatqld**, a high-profile social media campaign showcasing the diverse range of meat, seafood and produce grown in Queensland and encouraging locals to support their regional producers (with partners Woolworths, Clubs Queensland, Eat Street Northshore and the RNA, who help maximise the campaign's reach)
- briefing industry on the draft report of the KPMG investigation into the feasibility of abolishing stamp duty on agricultural insurance products (commissioned by Queensland Government); industry feedback is informing the final report, due in July 2019.

Strawberry tampering response

DAF played a critical role in supporting Queensland's strawberry industry during and following the September 2018 strawberry tampering. Our contribution, as part of the whole-of-government response led by Queensland Health and the Queensland Police Service, included providing a dedicated team that engaged with industry and managing the \$1 million industry recovery package provided by the state.

We led the Queensland Strawberry Industry Back to Market Working Group, which included representatives from strawberry supply chain business, industry and DAF, and provided industry recovery support and assistance in preparedness for future events. The state's industry recovery package allocated funds to projects aimed at restoring consumer confidence and safeguarding supply chain integrity,

and provided support for the Queensland Strawberry Growers' Association and Growcom with industry recovery activities.

Stakeholders positively acknowledged our responsiveness and expertise in managing critical incidents. Our technical and industry knowledge and positive relationships with the strawberry industry contributed to the rapid containment and restoring of confidence.

Queensland's strawberry industry has reported positive signs of recovery, evidenced by the return of consumer confidence and improved returns to growers. Industry recovery has also been assisted by the 'strawesome' winter marketing campaign, which was launched by the Minister for Agricultural Industry Development and Fisheries in June 2019.

Northern and western Queensland monsoonal event

In February 2019, northern and western Queensland received record rainfall and unseasonally cold weather, which led to devastating impacts in the region including damage to infrastructure and crops and a large number of livestock deaths. The mobilisation was a whole-of-government effort, with many of DAF's regional and central office staff playing a pivotal role in the response and recovery.

Staff from our North Region and the Land Management Unit in Brisbane managed DAF's initial response following the activation of the *Queensland state disaster management plan*. We worked closely with local government and industry to monitor and report on the impact of the evolving disaster as it unfolded across the north of the state. Data on impact to primary producers was collected on DAF's Disaster Assessment App and reported to the State Disaster Coordination Centre through daily regional and state situation reports.

As the impacts of the monsoon event shifted from the coast to the north-west of the state, the DAF State Coordination Centre (SCC) stood up to coordinate cross-government communication and efforts targeted at producers. Through the SCC, facilitated by Biosecurity Queensland, executive and secretariat support was provided for the statewide recovery effort.



DAF and Australian Defence Force staff coordinating the response effort

Credit: Australian Defence Force

Regional Biosecurity Queensland and Agri-Science Queensland staff joined with local governments and the Australian Defence Force to direct practical assistance to affected producers. Priorities were the appropriate disposal of carcasses, animal health and welfare management, management of the Nelia train derailment, the distribution of personal protective equipment and coordination of fodder drops across the affected shires.



Australian Defence Force dropping fodder at an affected property

Credit: Australian Defence Force

Through the Queensland Reconstruction Authority, DAF secured the activation of assistance under the joint Australian Government – State Disaster Recovery Funding Arrangements, which are administered in Queensland by QRIDA. Categories of assistance are:

- Category B concessional loans and freight subsidies
- Category C clean-up and recovery grants, including additional grants of up to \$400 000 to support restocking, replanting or the repair of on-farm infrastructure
- for the north-western Gulf regions, also Category D (jointly funded by the Australian Government and Queensland Government) under the \$242 million North West Queensland Beef Recovery Package, which provides
 - enhanced concessional loans of up to \$1 million with flexible interest and repayment options
 - enhanced freight subsidies of up to \$100 000 per property to support restocking and agistment
 - an industry recovery officer and financial counsellor program, through which recovery officers and financial counsellors support producers in accessing available assistance and managing the financial aspects of recovery.

Feedback on DAF's response efforts was very favourable. The acting Australian Chief Veterinary Officer said at the time of the event:

'You and your colleagues at DAF SCC have done a wonderful job with getting information out so quickly to support all the people in the flood-affected shires. The teleconferences run like clockwork, the agenda items are finalised quickly, and the level of respect and cooperation between the different agencies on the ground in Queensland is inspiring.'

Drought

In contrast to the wet in the northern and western parts of the state, drought conditions persisted across many other parts of Queensland, especially southern parts of Queensland, which have seen extremely low rainfall. As at 3 June 2019, 65% of the state is drought-declared. In 2018–19, DAF provided \$18.51 million in drought relief under the Drought Relief Assistance Scheme (DRAS) and rebates under the state-funded Emergency Water Infrastructure Rebate. Of this, \$16.42 million was provided directly to producers for freight subsidies and rebates under the Emergency Water Infrastructure Rebate. DAF processed 4054 claims for assistance in 2018–19.

DRAS is the largest component of the multi-agency Drought Assistance Package. The Drought Assistance Package 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 also assisted charities to deliver fodder and other services to drought-affected communities.

Table 5 DRAS performance

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Condition	Percentage of state drought-declared	80.3%	83.9%	66.27%	57.4%	65%
Business measure (quantity)	Number of applications received	7636	4294	1691	2628	4054
Business measure (timeliness)	Percentage of customers whose application for business assistance as a result of natural disaster or drought is processed within 21 days	90%	97%	98%	95%	94%
Service standard (effectiveness)	Investment in the management of DRAS as a proportion of the total claims paid under the scheme	Not measured	Not measured	Not measured	8%	6.74%

Note: The drought declarations figure is at June each year (Source: Queensland Government, longpaddock.qld.gov.au).

The methodology for investment in the management of DRAS is assessed by the 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.

Drought reform remains a priority for the government, to ensure primary producers are better equipped to adapt and be resilient in a changing climate. An independent panel comprising Ruth Wade (former Chief Executive Officer of the Queensland Farmers' Federation) and Charles Burke (former Chief Executive Officer of AgForce) was engaged in August 2018 to conduct the Queensland Drought Program Review.

Statewide consultation processes, including 7 regional forums and over 60 written submissions, informed the review's recommendations. Independent consultants Marsden Jacob Associates were separately engaged to evaluate the effectiveness and efficiency of the existing Queensland drought programs.

The panel made 20 recommendations around each of the existing drought assistance programs, confirming the importance of long-term preparedness, sustainability, resilience and risk management for farming businesses and farming communities in future drought support programs.

In response to the recommendations, Queensland Government committed to maintaining existing levels of drought assistance for the current drought and to starting the process of reform.

One of the key recommendations accepted was the implementation of a new drought severity index. This will transition Queensland's drought declarations to a more objective, science-based framework by 2021. Another was to continue the important work already started in the \$21 million Queensland Drought and Climate Adaptation Program. This program is already providing improved weather forecasting, helpful tools and on-the-ground extension services across Queensland.

Strategy 2.5

Lead Queensland's biosecurity preparedness and responses

Contributing impact areas



**Biosecurity
external**



**Biosecurity
internal**

KPI Percentage of significant biosecurity response programs delivering agreed outcomes

Performance monitored by a range of DAF service standards

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

Indicator	Measure	Results 2018–19
Business measure (activity)	Number of significant response programs	10
Service standard (effectiveness)	Proportion of significant biosecurity responses that deliver the planned outcomes to safeguard economic loss ¹	100%
Service standard (effectiveness)	Level of satisfaction with biosecurity partnership performance ²	3.06
Service standard (efficiency)	Cost of significant biosecurity responses per agricultural production unit ³	1:696
Service standard (efficiency)	Cost of core biosecurity services per agricultural production unit ⁴	1:288

Notes:

1. This is a new measure that provides an assessment of the initial effectiveness of biosecurity decision-making and responses. Significant biosecurity responses include nationally cost-shared responses and other responses agreed to by other parties including industry and other government agencies that have a cost–benefit analysis undertaken as part of the funding approval process. A response to a biosecurity incident is considered to have met the expected rate of return if the goals of the response plan have been achieved within the specified terms and period. Where a further agreement and terms are agreed, this is reported as a new response.
2. This measure assesses the effectiveness of the intended partnership arrangements. Five key dimensions of satisfaction are measured, including mutual trust, clarity of purpose, collaboration, role clarity and empowerment of responsibility as well as overall satisfaction with the partnership arrangements.
3. This measure is calculated and expressed as a ratio of the 5-year average of the gross value of production (GVP) over the expenditure of significant incident responses delivered in a given year. The GVP is the value of primary industry commodities produced to the farm gate. Expenditure on biosecurity incident responses can vary significantly between years depending on factors such as the number, size and location of incursions detected during the year.
4. This measure is calculated and expressed as a ratio of the 5-year average of the GVP over the base-funded expenditure for core biosecurity services. Core biosecurity services include animal and plant biosecurity, invasive plants and animals, policy and corporate support services. A ratio is used to demonstrate the link between the value of the industry/sector safeguarded/protected and the investment in biosecurity services.

A collaborative approach to the management of animal and plant pests and diseases—as a shared responsibility between federal, state and local governments, industry and members of the community—brings recognised benefits. National cost-sharing agreements outline the contractual arrangements between the federal, state and territory governments and industry for conducting national biosecurity responses. Similar arrangements have also been established with industry to manage responses to incursions that do not fall under the existing national arrangements.

Biosecurity Queensland works closely with its stakeholders and the community to maintain a strong biosecurity system. During 2018–19, DAF demonstrated its capacity to meet service requirements by effectively responding to 60 biosecurity incidents, compared with 47 incidents in 2017–18.

National agreements and partnerships

Biosecurity Queensland played a lead role in delivering nationally agreed activities to protect the rest of Australia from the significant economic, environmental and social amenity impacts of pests. In 2018–19, Queensland was party to 16 national cost-sharing agreements and led 7 programs in Queensland:

- National Red Imported Fire Ant Eradication Program
- National Electric Ant Eradication Program
- National Four Tropical Weeds Eradication Program
- National Red Witchweed Eradication Program
- Exotic Fruit Flies in Torres Strait Eradication Program
- National Varroa Mite Eradication Program
- Browsing Ant Queensland—Port of Brisbane.

Funding of \$56 million was committed nationally to deliver these programs in 2018–19. Queensland committed \$16.6 million to the total. Queensland also committed \$2.2 million to nationally cost-shared programs delivered in other states and territories.

The largest of the programs is the National Red Imported Fire Ant Eradication Program and the most remote is the Exotic Fruit Flies in Torres Strait Eradication Program. Progress on these programs is outlined in the following case studies.



Northern biosecurity initiative

The *Torres Strait and Northern Peninsula Area biosecurity strategy*, released in November 2018, was developed in collaboration with regional stakeholders. The strategy provides a framework for how regional stakeholders—including government, Traditional Owners, local residents and visitors to the region—can manage biosecurity threats.

Programs targeting biosecurity risk pathways are being implemented with the support of the successful Indigenous Trainees Program, which will see additional staff employed and trained to work with local communities in the region. These officers will help to build on local knowledge to enhance surveillance reach within this remote region.

Programs such as the Exotic Fruit Flies in Torres Strait Eradication Program are key components of Australia's defence against exotic pests. This program has prevented outbreaks of exotic fruit flies on the Australian mainland.

Shirley Bond and Trevina Lifu, DAF-funded biosecurity trainees, explaining the importance of assessing sentinel cattle herds for exotic diseases

National Red Imported Fire Ant Eradication Program

International experts agreed that eradication of these ants remains achievable and technically feasible against the National Environmental Biosecurity Response Agreement criteria. National funding of \$411.4 million was committed to the 10-year eradication strategy. Biosecurity Queensland successfully implemented its second year program of work.

Six genetically separate incursions of fire ants have been identified in Queensland. Three incursions have been eradicated—Yarwun in 2010 and 2016 and the Port of Brisbane in 2012. Two incursion sites, at Brisbane Airport and the Port of Brisbane, are expected to be declared pest-free later this year.

As the program progresses, operational adjustments are expected.

During 2018–19, the program's budget was reprioritised to address five infestations identified in 2017–18 outside of the operational boundary. The western boundary was extended by 5 kilometres to capture an additional 17 detections. These detections fell within the margin-of-error tolerance for determining the treatment area boundaries.

The program's finite resources are focused on eradication strategies, working from west to east—from the western boundary of the infestation, through Ipswich and Logan and ending in Redlands. The best available scientific advice to the program indicated that the strategy of moving from west to east, taking a systematic approach, would give us the best chance of eradicating the pest completely.

The program strategy is informed by scientific evidence and a growing body of knowledge that helps optimise treatment regimes, bait efficacy and movement controls across four treatment areas and their outer boundaries. The program applies up to six rounds of treatment, assessing the efficacy of each treatment round to determine if further rounds are necessary. Scientific evidence suggests that the treatment already undertaken has weakened the genetic diversity of the ants more widely, increasing the pressure on this pest.

In partnership with all Australian jurisdictions, Queensland Government remains committed to the eradication of fire ants in Queensland, to safeguard Australia's human health and lifestyle, agricultural sectors, ecosystems, and the construction and tourism industries.

Some of the major activities and outcomes for 2018–19 were:

- Two rounds of bait treatment were applied in the eradication treatment area.
- One monitored site in the eradication treatment area indicated that after four rounds of bait treatment, only one of the 35 live nests remained. Ants in these nests showed signs of being bait-affected—displaying low aggression and disorientation—which indicated that the nest was in severe decline.
- Increased community awareness and a new online reporting tool contributed to the receipt of 9380 public reports of suspected fire ants.
- Increased communication and stakeholder engagement activities raised awareness. These included 2331 participants from industry, local government and state government undertaking awareness training. Community forums, interactive and static displays and increased media stories also raised awareness.
- Training commenced for external pest management technicians, enabling them to join the fight against fire ants and provide self-treatment options for landholders.
- A new consolidated headquarters was established at Berrinba to co-locate staff, improving functional and practical collaboration across the program.



Biosecurity Queensland staff spreading bait to eradicate red imported fire ants

Other significant biosecurity responses and eradication programs

Other responses to biosecurity incidents identified during the year included:

- anthrax in cattle
- Panama disease tropical race 4
- West Indian drywood termite
- Asian green mussels
- Mozambique tilapia and spotted tilapia
- white spot disease in prawns.

These responses will require ongoing activity in 2019–20 and beyond, to ensure these pests and diseases have been controlled and/or eradicated in Queensland. The following two case studies highlight the complexity for the state and industry in dealing with biosecurity incursions.

Panama disease tropical race 4

Since Panama disease tropical race 4 was first detected in Far North Queensland in 2015, DAF and the Australian Banana Growers' Council have worked together to protect Queensland's \$580 million banana industry. Queensland Government has invested over \$41 million since the first outbreak to manage the disease in Queensland.

Panama disease tropical race 4 cannot be eradicated, nor reliably detected from soil and water samples. The program aims to limit its spread to allow time for the industry to adjust to farming in the presence of the disease.

Based on recommendations from an independent review to develop a shared funding and delivery arrangement between government and industry over the next 3–5 years, a formal partnership agreement is currently in development. As part of the agreement, Queensland Government has allocated an additional \$12.1 million for continuation of the program until 2022–23.

The program's surveillance teams have walked over 150 000 hectares looking for the disease on both infested and at-risk properties, and have taken over 2000 samples for testing. Communication and education activities continue to raise awareness and build capability within the community and industry to prevent and recognise the disease.

The industry partnership has been critical to Queensland's successful control and containment of the disease to three farms in 4 years.

The program is building the capacity of the two infested farms still operating to self-manage their biosecurity requirements. Ongoing compliance audits will be conducted to minimise any risk to the broader industry.

White spot disease in prawns

The detection of white spot disease in December 2016 resulted in a significant biosecurity response. Proof of freedom from white spot disease has been the main focus of the program and its activities in 2018–19. Extensive surveillance and diagnostic testing within the affected area of Moreton Bay and more broadly from Caloundra to Cairns was undertaken as part of the national surveillance program. Two rounds of testing completed in 2018–19 have returned negative results. Sampling and two further rounds of testing will continue through to late 2020 to support proof of freedom.

Three prawn farms in the Logan River area returned to production this season after putting additional biosecurity measures in place to better protect the farms from further disease outbreaks. All three farms have now completed harvest without a disease incident.

The major projects, conducted in consultation with key industry sectors and Fisheries Research Development Corporation partners, are nearing final stages. These projects aim to reduce impacts across the aquaculture and commercial fishing sectors.

Community engagement was a key focus throughout the response. Messaging about movement restrictions on species known to carry the virus and the appropriate use of bait was particularly effective.

Objective 3

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

To achieve sustainable resource use, we must ensure that the resources used by the sector—land, water, fish and forests—remain plentiful for future industry and future generations of Queenslanders. Without a sustainable resource base and ethical production, the sector will not remain competitive in meeting the ongoing growth in global food demand.

More than 88% of Queensland's land is currently used for primary production. About 14% of Queensland is classified as suitable for cropping, but high-value agricultural land uses are undertaken on less than 3% of the state's land. Northern Queensland has significant land and water resource opportunities that are still to be fully utilised.

Queensland's fisheries and forest resources underpin the economic and social/recreational activities of Queenslanders. These resources are also found in areas of iconic environmental significance, which are valued globally for their uniqueness.

Protecting the economic and environmental value of, and sharing access to, these community resources presents challenges. The hard decisions that government must make may not always sit well with the specific interests of some stakeholder groups.

DAF advocates to preserve and protect agricultural land and water, facilitates the uptake of improved land management practices, regulates access to fisheries resources and allocates native forest resources. We support the sector in its responsible use of natural resources and in minimising the impact of agriculture, fishing and forestry on the Great Barrier Reef.

DAF's role in community education and safety—through boating and fishing awareness programs and the Shark Control Program—allows 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, assist producers to improve decision-making and better predict climatic risks leading to increased productivity.
- **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 significantly affect the economy and the environment, compromising our disease-free reputation and restricting 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, and these conflicts cannot always be fully resolved.

Key performance indicators

- Adoption levels of improved management practice in Reef catchments
- Sustainability status of fish stocks
- Accreditation of DAF 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 2017–2027* are already complete. The *Charter fishing action plan 2018–2021* was released in August 2018. DAF's continued efforts contribute directly to the Reef 2050 Plan. DAF delivers a number of actions identified in the *Reef 2050 water quality improvement plan 2017–2022*. DAF works directly with producers with the aim of improving Reef water quality and to implement ecologically sustainable fishing policy.

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 Basin Plan 2012. DAF administers the High Value Horticulture Value Chains project, which extends through to 2020, developing new high-value export-oriented horticulture value chains in the region to maximise economic return from the available irrigation water.

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, separate 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, and associated Australian and Queensland government legislative provisions. A ministerial forum ensures both governments apply the guiding principles established in the intergovernmental agreement 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 the 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

The following section outlines DAF's performance aligned to the strategies in the strategic plan under Objective 3 and the priorities outlined in the 2018–19 DAF Service Delivery Statement.

Strategy 3.1

Advocate for access to agriculturally important land, energy and water

Contributing impact areas



Strategic policy
and planning



Rural economic
development



Fisheries

Performance monitored by two DAF service standards

Table 7 DAF's effectiveness in influencing planning and development

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Service standard (effectiveness)	Proportion of stakeholders who have a high level of satisfaction with agriculture policy and planning, and consultation and engagement processes	Not measured	Not available	70%	70%	85%

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. In 2018–19, an increased number of survey respondents reported a 'very satisfied' level of satisfaction with their interaction with relevant DAF staff and the quality of the information provided.

Table 8 Regional agricultural advocacy

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Service standard (efficiency)	Average cost of regional agricultural advocacy activities	Not measured	\$839	\$754	\$670	\$591

Note: The cost for this efficiency measure is based on the total number of and operational costs for delivering eligible activities.

The decrease for 2018–19 is mainly due to advocacy activities being less complex and shorter than in some previous years, resulting in a lower cost per activity.

DAF's network of regional officers ensured that the interests of agriculture were considered in statutory planning processes, water allocation and energy policies.

DAF also continued to work closely with the State Assessment and Referral Agency. Our role is to review development applications that may have an impact on marine habitats to ensure that infrastructure impacts are minimised. The Queensland Boating and Fisheries Patrol (QBFP) investigated and prosecuted persons found wilfully damaging marine plants and environments.

Strategy 3.2

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

Contributing impact areas



Strategic policy
and planning



Rural economic
development



Crop and food
science



Animal science



Horticulture and
forestry science



Fisheries

The expanded one-stop service continued to support applicants to pursue new projects or expand business by developing land and water resources in North Queensland.

Significant progress was made in 2018–19 in implementing the Queensland aquaculture policy statement and in growing the industry.

Aquaculture development areas

DAF worked to further the development of an ecologically sustainable, diverse and innovative aquaculture industry. Queensland's proximity to Asian markets, its reputation for quality seafood and increased demand for Australian native fish species mean Queensland is well positioned to produce high-value aquaculture products.

The end of January 2019 marked a big step forward in guiding aquaculture investment in Queensland, when six new land-based aquaculture development areas (ADAs), totalling approximately 7048 hectares, were declared in the Townsville, Whitsunday, Mackay, Rockhampton and Gladstone local government areas.

ADAs identify areas with potential for land-based marine aquaculture development and provide investors with a list of locations suitable for projects. The sites were identified in consultation with industry, government and affected landholders—they are the sites with the least environmental impact and the fewest land-use constraints.

The declaration of ADAs was well received by both state and local governments and will contribute to Queensland Government's priority to **Create jobs in a strong economy**.



Strategy 3.3

Reduce the impact of agriculture, pests and weeds on the environment and the Great Barrier Reef

Contributing impact areas



Rural economic development



Crop and food science



Animal science



Strategic policy and planning



Biosecurity external

KPI Adoption levels of improved management practices in Reef catchments

Performance monitored by a DAF service standard

Table 9 Service delivery standard—best management practice

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Service standard (effectiveness)	Percentage of primary producers in Reef catchments who adopt improved management practices after participation in DAF extension programs	74%	58%	68%	47%	72%

Note: There was a minor wording change to this measure in 2016–17; however, the calculation methodology remained unchanged. The strong performance in 2018–19 was attributed to explicit 'high-return' extension involving 1:1 personal interactions resulting in reported higher adoption rates of improved management practices.

Protecting the Great Barrier Reef

One of Queensland Government's key priorities for the community is **Protect the Great Barrier Reef**—this recognises the Reef's environmental, social and cultural importance not only to the state but internationally. The Reef supports its surrounding communities with economic activities and jobs, including commercial and recreational fisheries managed by DAF. We play a critical role in implementing the Reef 2050 Plan, and its subordinate *Reef 2050 water quality improvement plan 2017–2022*, particularly through the implementation of the *Queensland sustainable fisheries strategy 2017–2027* and our on-ground support to agriculture industries in the Great Barrier Reef catchment.

Improving Great Barrier Reef water quality

Nutrients, sediments and pesticides from agricultural lands adjacent to the Great Barrier Reef are contributing to its declining health, and agricultural industries are increasingly required to minimise off-farm impacts to sensitive environments. Queensland Government has invested heavily to improve the quality of water entering the Great Barrier Reef lagoon.

In 2018–19, DAF leveraged \$9.5 million from Great Barrier Reef funding programs and committed \$1.29 million to lead and support actions of the *Reef 2050 water quality improvement plan 2017–2022*.

We continued to play a major role in improving Reef water quality through best practice management (BMP) programs, particularly our extension activities, our research and development of improved land management practices and our economic evaluation of those improved practices.

The ReefPlan Grazing Extension project team delivered activities that will lead to improvements in land management, business performance and ultimately ground cover and water quality. This year, DAF:

- delivered 25 training and extension events
- worked with 407 beef producers representing 320 businesses in the Burdekin, Fitzroy, Burnett–Mary and Mackay–Whitsunday regions.

DAF also had 12 specialist agricultural development and extension officers working with growers and the cane industry to increase adoption of improved farming practices in key coastal production areas between Bundaberg and Mossman.

An important focus this year was on the viability of reducing applied nitrogen rates within a sugarcane farm. This work helped DAF provide better advice to producers on how to reach the BMP standards established by industry. This included investigating how to optimise legume crop production for biological nitrogen inputs (more efficiently using traditional nitrogen by splitting nitrogen rates to match plant demand) and assessing enhanced-efficiency fertiliser formulations across Reef catchments.

DAF extension activities relating to the implementation of improved farming systems included:

- engaging 1277 participants in 186 extension activities, representing potential improvements on a total cane land area of approximately 94 651 hectares
- promoting practices that enhance soil health and encouraging use of controlled traffic systems
- using agricultural technology (such as drone technology) to assess internal paddock variability associated with subsoil constraints, weed growth patterns and pest infestations
- increasing regional knowledge of agronomic practices associated with alternative crops
- assisting producers to understand near real-time water quality results in priority catchments
- collaborating with the Wet Tropics Major Integrated Project delivery team to promote innovative farming systems in the Tully and South Johnstone catchments.

We continued to collaborate with CANEGROWERS, Sugar Research Australia and the broader cane industry to support the cane industry's implementation of the Smartcane BMP program. The focus has been on the three core modules of BMP to enable growers to become accredited and independently recognised for their management of soil health and nutrients, irrigation and drainage, and weeds, pests and diseases.

This allowed industry to clearly demonstrate efforts to minimise the impact of sugarcane production on the Great Barrier Reef. In May 2019, CANEGROWERS publicly reported progress on adoption of Smartcane BMP as:

- 1818 farms covering 289 581 hectares (about 72% of Queensland's sugarcane area) having commenced a BMP process
- 392 farms covering 93 323 hectares (about 23% of Queensland's sugarcane area) accredited with three core units completed and independently validated.

Enhanced Extension Coordination in the Great Barrier Reef catchment



Figure 6 Enhanced extension coordination in the Great Barrier Reef catchment

Enhancing extension coordination to improve Reef water quality outcomes

Extension support—undertaken by a wide range of providers including government agencies, industry organisations, productivity boards, natural resource management bodies, private consultants and agribusinesses—is critical to improving Reef water quality.

However, the delivery of extension support is challenging because of the varying interests of these groups, the large geographical area involved and the many agricultural commodities affected.

To meet this challenge, DAF initiated the Enhanced Extension Coordination project, aimed at improving collaboration and coordination to deliver more effective and efficient extension services. The project provided support to the newly appointed regional extension coordinators (and their extension networks), helping them collaborate effectively in developing and implementing regional extension plans.

An important component of the project was to implement a collaboration framework. This clarified and defined the terms ‘coordination’ and ‘collaboration’ to help people achieve better outcomes from networking, cooperation, coordination and collaboration.

Control of weeds and pest animals

Invasive plants and animals, including those that escape from domestication, impact on the lives of all Queenslanders, our environment and agricultural production. The cost to Queensland's agriculture industry is more than \$600 million annually in lost production and in control. Efforts to control their spread can also have unintended impacts on the environment from pesticide use.

During 2018–19, DAF and our associates (under collaborative arrangements with local governments and natural resource management organisations) focused efforts on:

- delivering the program of work under the National Four Tropical Weeds Eradication Program
- researching and developing improved control strategies and methods including biological control for invasive weeds such as prickly acacia, giant rat's tail grass, mother-of-millions, cabomba and Navua sedge
- developing new methods and strategies for the management of pest animals including wild dogs, feral deer and rabbits.

Drought conditions drove ongoing focus on wild dogs and wild dog barriers. The wild dog barrier fence is about 2500 kilometres long and protects 26.5 million hectares of grazing country in southern inland Queensland. Funded 50:50 by Queensland Government and local government authorities, the 2018–19 budget of over \$2 million supported 30 kilometres of reconstruction work and regular monitoring and maintenance activities.

The Queensland Feral Pest Initiative committed \$19.7 million over the last 4 years to assist regional communities with the construction of cluster fences and the control of invasive plants and animals. The first two rounds of the initiative saw almost 7000 kilometres of cluster fencing built on 423 properties in priority sheep-growing areas. The results are outlined in the following case study.

Cluster fencing

Under the Queensland Feral Pest Initiative, a monitoring and evaluation plan is required for each funded project. These plans enable DAF to assess the social and economic impacts of fencing and wild dog management. Results to date demonstrated positive outcomes from the regional projects. Reported benefits included increases in perceived control, improved confidence and motivation for investment and increased employment. Project participants reported improvement in health and wellbeing, including mental health.

Data from completed cluster fence projects indicated that lambing rates and sheep numbers have increased dramatically in most areas. Anecdotal evidence from one south-western Queensland cluster indicated that their lambing rates

increased from 7% to 70% following the establishment of the exclusion fence. At a value of approximately \$100 per lamb, the project translated to an increased production revenue of \$504 000 annually for this cluster alone, without the use of any economic multipliers.

Economic modelling studies for the project identify that gross margins, on average, have the potential to increase by 27% and 48% for cattle and sheep businesses respectively.

Economic formulas developed by the Remote Area Planning and Development Board have identified that for every \$1 of grant funds invested, \$376 per year is returned to local economies.

Strategy 3.4

Implement the *Queensland sustainable fisheries strategy 2017–2027*

Contributing impact area



Fisheries

KPI Sustainability status of fish stocks

Performance monitored by a DAF service standard

Table 10 Sustainability of Queensland fish stocks

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Service standard (effectiveness)	Percentage of key Queensland fish stocks assessed as having no sustainability concerns	94%	93%	91%	82%	85%

Note: 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 and is reported on a calendar year. As a result, the number of stocks assessed fluctuates annually, which in turn influences the result of the formula applied to derive the measure. Species with sustainability concerns are reviewed each year.

KPI Accreditation of DAF fishery management systems

Performance monitored by a business measure

Table 11 Accreditation of the fishery management systems

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Business measure (effectiveness)	Queensland fisheries accredited for export	19	19	19	19	19

Note: Accreditation to export is granted by the Australian Government's Department of Environment and Energy. No existing approvals expired in 2018–19; therefore, no reassessment occurred during this period.

Status of fish stocks

DAF, along with other state and territory government fisheries agencies, adopted nationally agreed protocols to assess the status of key Australian fish stocks in 2012. Information describing the status of key Queensland fish stocks is available online via the national status of Australian fish stocks (SAFS) reports and on DAF's website. The national SAFS process is completed every second year to examine the status of an agreed list of fish, prawns, crabs and other seafood species. In this process, 67 key fish species from 98 stocks are assessed. In alternate years, DAF uses the SAFS framework to assess locally important Queensland seafood species.

The 2018 assessment indicated that 8 Queensland fish stocks are currently considered to have sustainability concerns. These stocks are:

- snapper, saucer scallops, pearl perch and grey morwong—considered to be depleted or overfished
- spanner crab, king threadfin (Gulf of Carpentaria) and barramundi (southern Gulf of Carpentaria)—considered to be depleting
- mangrove jack—considered to be recovering (Gulf of Carpentaria).

This increased the number of stocks with sustainability concerns by 2 since the 2016 assessment. The new additions were spanner crab and grey morwong. Grey morwong was assessed as depleted at the national level. It is a minor species in Queensland, because it mainly occurs in southern Australian waters.

As part of the *Queensland sustainable fisheries strategy 2017–2027*, the government has committed to having no overfished stocks by 2027. A number of reforms are currently being progressed to improve the sustainability of these stocks.

Progress of the *Queensland sustainable fisheries strategy 2017–2027*

The *Queensland sustainable fisheries strategy 2017–2027* sets out the reform agenda over 10 years. 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. The strategy is dedicated to delivering 33 actions across 10 reform areas between 2020 and 2027 and has 12 targets to be achieved.

The first progress report was released in September 2018, a year after the strategy's implementation. The second progress report was published at the end of this financial year. Almost half of all the actions—14 out of 33—were delivered in the first 2 years. Figure 7 (page 52) shows a summary of the progress towards the targets as at end of 2018–19.

While good progress is being made, engagement with fishers—using both traditional and novel methods—needs improvement. During the year, a project to better understand barriers to engagement with commercial fishers was completed, and this is helping to tailor our communication strategies.

A discussion paper released in January 2019 outlined the proposed reforms for the east coast inshore, east coast trawl and Queensland crab fisheries. Further consultation on the approaches to resource allocation occurred in March 2019. June 2019 saw the release of the final discussion paper on proposed regulatory amendments to implement the priority fisheries reforms and urgent management changes for snapper and pearl perch. Feedback will inform final regulatory changes, which are expected in September 2019.

Full details of actions and progress can be found in the *Queensland sustainable fisheries strategy 2017–2027: progress report year 2*, available at daf.qld.gov.au.



2020 targets

Target	Baseline in 2017–18	Progress 2018–19
Sustainable catch limits based on maximum sustainable yield (around 40–50% biomass)	<ul style="list-style-type: none"> Stock assessments completed for 28 species (43 stocks) in 2007–17 Stock assessments completed for 2 species (2 stocks) in 2017–18 8 catch-based quotas, but not explicitly set using biomass targets 	Work continuing <ul style="list-style-type: none"> Stock assessments completed for 13 species (22 stocks), including 6 new species 9 catch-based quotas, but not explicitly set using biomass targets
Harvest strategies for all fisheries	<ul style="list-style-type: none"> No harvest strategies in place 	On track <ul style="list-style-type: none"> 13 harvest strategies in development
Export approvals maintained	<ul style="list-style-type: none"> 100% export approvals in place 	Achieved <ul style="list-style-type: none"> 100% export approvals in place
Improved stakeholder satisfaction with engagement	<ul style="list-style-type: none"> Overall satisfaction with Fisheries Queensland engagement: 56% 	Work continuing <ul style="list-style-type: none"> Satisfaction survey to be completed in 2019–20 to assess progress against the baseline Independent contractors engaged to better understand barriers to engagement with commercial fishers—an action plan is being developed for implementation in 2019–20
Increased satisfaction of recreational fishers	<ul style="list-style-type: none"> Overall satisfaction of recreational fishers in Queensland: 61% 	Work continuing <ul style="list-style-type: none"> Satisfaction survey to be completed in 2019–20 to assess progress against the baseline Statewide recreational fishing survey to be completed to revise information on recreational fishing participation and harvest
Better data for key fisheries	<ul style="list-style-type: none"> 67 key species (98 stocks) considered: <ul style="list-style-type: none"> 27 species (30 stocks) undefined 5 species (5 stocks) with minimal data 1 species (1 stock) not assessed 	Work continuing <ul style="list-style-type: none"> 67 key species (98 stocks) considered: <ul style="list-style-type: none"> 27 species (31 stocks) undefined 5 species (5 stocks) with minimal data all species assessed

Figure 7 Extract from the *Queensland sustainable fisheries strategy 2017–2027: progress report year 2*

(continued)



2027 targets

Target	Baseline in 2017–18	Progress 2018–19
Sustainable catch limits based on maximum economic yield (around 60% biomass)	<ul style="list-style-type: none"> Stock assessments completed for 28 species (43 stocks) in 2007–17 Stock assessments completed for 2 species (2 stocks) in 2017–18 8 catch-based quotas, but not explicitly set using biomass targets 	Work continuing <ul style="list-style-type: none"> Stock assessments completed for 13 species (22 stocks), including 6 new species 9 catch-based quotas, but not explicitly set using biomass targets
No Queensland fisheries overfished	<ul style="list-style-type: none"> 2 overfished stocks (scallop and snapper) 	Work continuing <ul style="list-style-type: none"> 3 overfished stocks (scallop, snapper and pearl perch) Further management actions proposed to take pressure off snapper and pearl perch, and rebuild scallops
Increased certainty for commercial operators	<ul style="list-style-type: none"> No data yet (to be collected in 2018) 	On track <ul style="list-style-type: none"> New social and economic monitoring program developed to collect baseline data in 2019–20
Reduced volume of fisheries regulation	<ul style="list-style-type: none"> 933 pages of regulations—733 pages in the Fisheries Regulation 2008 and 200 pages in the Fisheries (East Coast Trawl) Management Plan 2010 	On track <ul style="list-style-type: none"> 839 pages of regulations—579 pages in the Fisheries Regulation 2008 and 260 pages of declarations Fisheries (East Coast Trawl) Management Plan 2010 incorporated into the Fisheries Regulation 2008 and declarations ready for harvest strategies
Improved trends of compliance rates*	<ul style="list-style-type: none"> 91% compliance rate 	On track <ul style="list-style-type: none"> 89%—rate is lower due to shift to intelligence-based compliance, which targets non-compliant operators rather than random inspections
Responsive and consultative approach to fisheries management	<ul style="list-style-type: none"> Overall satisfaction with Fisheries Queensland engagement: 56% Other measures to be developed 	On track <ul style="list-style-type: none"> Satisfaction survey to be completed in 2019–20 to assess progress against the baseline Changes to the <i>Fisheries Act 1994</i> to establish framework for responsive decision-making—focus in 2019–20 will shift to finalising harvest strategies with pre-agreed decision rules 10 fishery-specific working groups in place and meeting regularly to provide operational advice on respective fisheries Responsive decisions about sustainability concerns for black jewfish, and molluscs in Moreton Bay 636 responses to the discussion paper about allocation approaches with very constructive feedback provided—as a result, a number of changes made to improve allocation approaches Data validation of logbook history undertaken in the crab and east coast inshore fisheries as a result of stakeholder concern about inflated catch ahead of allocation

*QBFP has moved to an intelligence-based approach to compliance, which may result in lower compliance rates due to targeting non-compliance rather than random on-water inspections.

Figure 7 (continued)

Improved compliance and monitoring

Much of the additional investment under the strategy is directed towards boosting compliance and undertaking additional monitoring to ensure the long-term viability of the resource.

Table 12 Service standards for QBFP

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Service standard (effectiveness)	Fisheries inspections that are compliant with fisheries laws	93%	92%	92%	91%	89%
Service standard (efficiency)	Average cost of inspections	Not measured	\$456	\$487	\$469	\$544
Service standard (efficiency)	Average number of inspections per full-time equivalent	Not measured	295	286	245	220

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 increase in the average cost of inspections and average number of inspections was impacted by the protected industrial action taken by some QBFP officers early in 2018–19.

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, along with impacts of the protected industrial action.

The surveillance and inspection efforts of the QBFP ensured deterrence and prosecution for non-compliance with fisheries laws. Compliance with fisheries laws remained high, but the slightly lower rate and higher cost reflected the continued move towards more intelligence-based activities specifically targeting non-compliance, and the impact of protected industrial action (see Table 12).

The QBFP monitored boating and fishing activities and investigated alleged illegal activity along 7000 kilometres of coastline and hundreds of freshwater rivers and impoundments. QBFP had 109 authorised officers (including the additional 20 funded under the strategy's implementation) stationed across the state. Over 51 000 patrol hours were achieved in 2018–19.

The following enhanced tools improved safety for patrol officers and assisted with intelligence gathering:

- new compliance powers and heavier penalties for black-marketing (commenced at the end of May 2019)
- body-worn cameras rolled out to all officers (see the case study on page 55)
- ten drones and surveillance kits.

Patrol officers are also authorised to deliver compliance services on behalf of the Department of Environment and Science (DES), 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.

To ensure efficiencies in the compliance program, QBFP actively promoted 'cross-decking' or joint patrols with its compliance partners. In 2018–19, officers were involved in 234 joint patrols, including 157 with the Queensland Police Service, Maritime Safety Queensland and DES.

Additional fisheries monitoring activities commenced across a range of species, including additional Reef species, sharks and scallops. Social and economic surveys are underway to better understand the contribution that the commercial and charter fishing industries make to the Queensland economy and its regions. The 2018 statewide recreational fishing survey showed participation had grown, with almost 1 million Queenslanders going fishing over the last year. More than 2000 recreational fishers commenced recording 12-month logbooks to help improve understanding of the recreational catch.

The following case studies highlight the growing and important role that technology could play in improved monitoring.

Body-worn cameras for QBFP

The rollout of body-worn cameras across the state is helping all QBFP officers with compliance operations and prosecutions while providing additional safety.

QBFP monitors fisheries compliance of more than 642 000 recreational fishers and 1700 commercial fishing licence holders annually. During 2018–19, QBFP undertook 19 990 recreational and 2703 commercial fishing inspections.

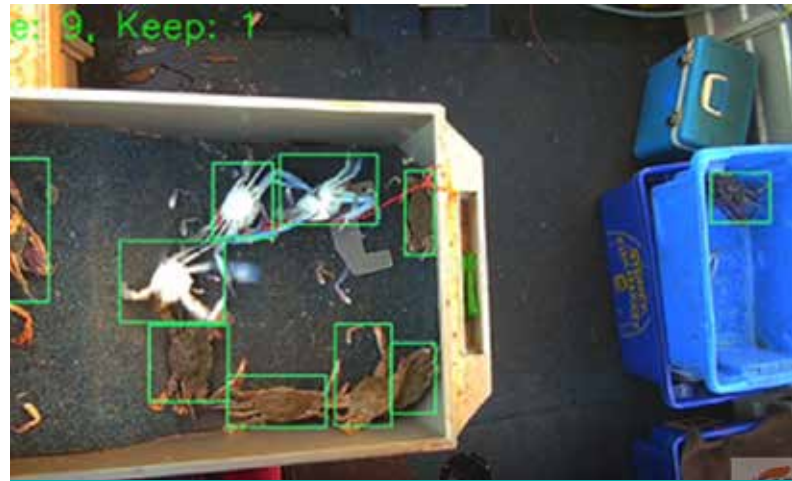
By its nature, QBFP fieldwork can be hazardous. At times, officers operate in difficult, often isolated, and dynamic environments. To safeguard workplace health and safety (WHS), all QBFP officers now wear the cameras to capture video footage of inspections and interactions with the public.

The body-worn cameras and upgraded computer servers to store the recorded data have been implemented across QBFP's 19 bases and 109 officers statewide. The footage is stored in a secure environment and only reviewed if necessary.

The 2015 independent risk assessment recommended the use of cameras for fisheries officers when working in the field. An updated risk assessment has been commissioned to evaluate the effectiveness of body-worn cameras and other WHS initiatives and ensure the continued safety of our compliance officers.



A QBFP officer with the new body-worn camera



Artificial intelligence technology recognising catch and effort on commercial vessels

'Fishal' recognition

Cutting-edge technology—including fish-image recognition—is being used to automatically collect information on commercial fishing in groundbreaking research funded by Queensland Government. Fisheries Queensland has been working closely with the two successful recipients of Queensland's Small Business Innovation Research program (Anchor Lab and Fish-e) to develop high-tech systems to monitor commercial fishing locations, effort and catch.

The technology will save fishers time by automating logbook reporting requirements and will eventually provide a 'digital observer program'. There is even the potential to replace logbooks that are currently used by commercial fishers. During 2018–19, electronic monitoring technology (including cameras, sensors and image-recognition software) was installed on a range of commercial fishing vessels as part of the feasibility and proof-of-concept stages.

Vessel tracking and rebate scheme

As part of the sustainable fisheries strategy, vessel tracking will be required on all commercial fishing boats by 2020.

The use of modern technologies like vessel tracking helps ensure the sustainability of Queensland's fisheries. It leads to more informed and responsive management, benefiting many operators and regional communities that depend on fisheries resources.

As of 1 January 2019, vessel-tracking units were required on net, line and crab commercial fishing boats. The Vessel Tracking Rebate Scheme offset the costs incurred by commercial fishers for the purchase and installation of vessel-tracking units on their fishing boats.



Vessel tracking being used on patrol in the Brisbane River

The rebate scheme should mean that most fishers are not out of pocket. QRIDA administers the scheme on DAF's behalf. Close to 500 applications were received in 2018–19. The rebate scheme continues until 31 December 2020.

Nearly 1600 vessel-tracking units have been purchased, and 1100 are now operational and sending positions.

Strategy 3.5A

Balance economic fisheries resource use with environmental and social values

Contributing impact areas



Fisheries



Animal science

Queensland's fisheries are a valued community resource. Commercial, charter and recreational fishing all contribute to the economy. The *AgTrends update* of April 2019 estimated the values of the commercial fishing sector, aquaculture industry and recreational fishing sector as \$181 million, \$120 million and \$94 million respectively.

Enjoyment and health benefits are derived from fishing for pleasure and safe swimming. The reforms under the *Queensland sustainable fisheries strategy 2017–2027* help protect jobs in both the commercial and recreational fishing sectors and ensure sound environmental health and ample fish stocks. A range of new initiatives and existing programs work to balance access and value.

Economic and social value of recreational fishing

Charter fishing was formally recognised as a sector under the *Fisheries Act 1994* and 26 new charter fishing licences were issued in 2018–19. The *Charter fishing action plan 2018–2021*, released in August 2018, sets clear targets to be achieved by 2021 across four priority areas:

- recognition of the charter sector (achieved—formally recognised under the Act)
- improved engagement and consultation (actioned by inclusion of sector representatives on three strategy working groups)
- enhanced industry standards and streamlining requirements
- developing regional tourism potential.

The current discussion paper on proposed amendments to fisheries regulations included the proposed registration of inshore charter operators and catch reporting as ways to improve data on recreational catch.

Recreational fishing continued to be one of the most popular outdoor activities in Queensland. According to Sport Australia, it is more popular than cycling (11.1%), tennis (3.9%) and golf (4.0%).¹ Approximately 943 000 or 19% of Queenslanders aged 5 years or more went recreational fishing in Queensland in the 12 months prior to April 2019.²

The statewide recreational fishing survey series commenced in 1997 and used consistent methodology across the surveys undertaken in 2000, 2010, 2013 and 2019. The surveys provide recreational fishing catch and effort information necessary to safeguard resources.

The number and proportion of Queenslanders fishing recreationally increased substantially since the 2013 survey (from 15% to 19% and from 642 000 to 943 000). The strong increase is driven by the state's population growth and the increased popularity of recreational fishing, particularly among younger Queenslanders.

The second stage of the current statewide recreational fishing survey is underway. It records activities from a sample of recreational fishers over a 12-month period to provide information about:

- where and how Queenslanders go recreational fishing
- where recreational fishers live
- which species and how many they catch and release
- expenditure information (to help us understand the economics of recreational fishing).

Better fishing experiences

Recreational fishing experiences were improved through net-free fishing zones, the official recognition of charter fishing, the Stocked Impoundment Permit Scheme (SIPS) and fish-attracting structures.

The Cairns, Mackay and Rockhampton local governments each received \$100 000 (GST inclusive) to support recreational fishing in the net-free zones through promotion, signage and infrastructure. Each local government developed a recreational fishing strategy for its region. Outcomes included:

- attracting fishing-related tourism, including interstate and international fishers and business to the local area
- improved local infrastructure such as fishing platforms and boat ramps
- improved local stewardship through regional codes of practice.

The report *Performance of Queensland's net-free zones: January 2019* showed that overall fishing satisfaction for the previous 12 months was greater in 2018 than in 2015 or 2016. Greater satisfaction was reported for the number and size of fish caught, the quality of the 'fish fights' and the quality of fishing in the area. DAF is also aware of 4 new inshore charter fishing businesses commencing operations in the Rockhampton area after the implementation of the net-free fishing zones in 2015.

There are currently 68 active stocking groups that release more than 3 million juvenile fish or fingerlings annually into 150 waterways across Queensland. Stocking provides recreational fishing opportunities in areas where they would otherwise be lacking, supporting regional communities and related jobs.

During 2018–19, a number of activities were completed, including the following:

- A statewide freshwater fishing and fish stocking workshop was held at Warwick with attendance from 40 stocking groups. Key actions from the workshop included the development of:
 - a fish stocking action plan
 - a fish stocking policy
 - a cost-effective monitoring plan
 - proposed minor changes to freshwater fishing rules.

1. Clearinghouse for Sport and Physical Activity 2019, 'State/territory results', <<https://www.clearinghouseforsport.gov.au/research/smi/ausplay/results/state>>.

2. DAF 2019, 'Statewide recreational fishing survey', <<https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-compliance/monitoring-reporting/recreational-fishing/statewide-recreational-fishing-surveys>>.

- Boat ramp surveys at impoundments were introduced to improve monitoring of stocked freshwater fisheries.
- SIPS was promoted through social media channels and through a competition that targets families.
- New signs were rolled out at SIPS impoundments to improve compliance.
- The sales system of permits was modified to phase out iPads at small businesses, saving approximately \$90 000 per year in administration costs. This can then be reinvested in other service delivery, monitoring and marketing improvements.

SIPS generates over \$1 million a year in revenue, and at least 75% of this goes directly to community-based volunteer stocking groups for maintaining and improving freshwater fisheries.

To improve recreational fishing, fish-attracting structures have been deployed in Kinchant and Cressbrook dams (under their 2018–20 fish attraction plans). Fish attractors lure fish into a particular area and encourage them to stay, making it easier for anglers to work out where fish are likely to be.

Supporting Aboriginal and Torres Strait Islander communities

The sustainable fisheries strategy outlines two key actions focused on Aboriginal and Torres Strait Islander communities. The first is to develop a traditional fishing policy that clarifies the arrangements for Indigenous people to take fish for cultural purposes. The second is to develop an Indigenous commercial fishing policy to support Indigenous economic development in a way that also supports sustainable fishing.

There has been significant progress to date:

- A cultural liaison function has been integrated into the roles of five QBFP officers. These cultural liaison officers work with Aboriginal communities and Traditional Owners to understand and address issues around fisheries compliance.
- Three Indigenous-identified positions were established and filled in 2018–19 to build stronger relationships with Aboriginal and Torres Strait Islander communities.
- Joint patrols with Indigenous ranger groups and clean-ups of derelict fishing gear have reduced harm to the environment.
- Consultation has commenced with Aboriginal organisations, communities and the fishery working groups on a draft Indigenous commercial fishing industry development policy. The policy proposes setting aside a separate Indigenous commercial allocation in each fishery harvest strategy to support economic development opportunities.

Shark Control Program

The Queensland Shark Control Program commenced in 1962 using a combination of shark nets and drum lines to reduce the possibility of a shark attack in Queensland. The program now operates at 86 of Queensland's most popular beaches, 27 of which are located within the Great Barrier Reef Marine Park.

During 2018–19, the program removed 557 sharks. Catch statistics for the program are available at daf.qld.gov.au.

Since the program started, there has been one shark fatality at a shark-controlled beach in Queensland.

Releasing entangled whales is a program priority. Fully trained marine animal release teams located at Mackay, the Sunshine Coast and the Gold Coast are experts in the safe release techniques used with these animals. Since 2006, the team has ensured the successful release of all but two whales as they migrated along Queensland's coast.

An unprecedented spate of shark attacks on swimmers occurred in Cid Harbour in the Whitsundays, which was outside the area of the Shark Control Program. In November 2018, Queensland Government outlined a five-point plan in response to the incidents. This included:

- \$250 000 towards scientific research into shark prevalence and behaviour in Cid Harbour
- maintaining Cid Harbour as a no-swim zone until that assessment is complete
- a high-profile education campaign to immediately educate locals and visitors about shark safety

- development of the broader SharkSmart education campaign, similar to the successful Crocwise campaign running in North Queensland
- continuing to meet with industry stakeholders and experts to develop and progress responses.

Fisheries Queensland is on track with full implementation of the five-point plan.

The Humane Society International requested the Administrative Appeals Tribunal review the decision by the Great Barrier Reef Marine Park Authority to approve a 10-year permit for continued operations of the DAF Shark Control Program in the Great Barrier Reef Marine Park. A decision of the tribunal handed down in early 2019 would place additional requirements on the Shark Control Program's operation in the Great Barrier Reef Marine Park. The department is appealing the decision.

Strategy 3.5B

Balance economic forestry resource use with environmental and social values

Contributing impact areas



Forestry



Horticulture and
forestry science

KPI Accreditation of DAF forestry management systems

Performance monitored by a DAF service standard

Table 13 Service standard—accreditation of our forestry management systems

Indicator	Measure	Results				
		2014–15	2015–16	2016–17	2017–18	2018–19
Service standard (effectiveness)	Percentage of findings from the previous third-party audit confirmed as satisfactorily addressed in order to maintain certification to the <i>Australian standard: sustainable forest management (AS4708:2013)</i>	Not measured	100%	100%	100%	100%

Table 14 Service standard—authorised removal of forest products

Indicator	Measure	Results
		2018–19
Service standard (efficiency)	Average expense necessary to authorise the removal of a cubic metre of forest products:	
	• native forest timber (expenses/m ³)	\$37.11
	• quarry material (expenses/m ³)	\$0.65

Note: The new measures for 2018–19 illustrate the efficiency of the management and administration of state-owned forest and related resources.

Proactive quarry material resource assessment

As part of its commitment to responsibly manage some of Queensland's state-owned natural resources, DAF proactively investigates potential sources of state-owned quarry material with a view to making it available to the market. This material ranges from gravel and ballast, such as that used in rail line construction, to high-quality hard rock used by industry in major infrastructure development projects.

DAF Forestry engaged industry professionals to conduct a sample drilling program in Wongi State Forest, near Childers. The purpose of the sampling program was to determine the extent and quality of a previously identified hard-rock resource, and to undertake further laboratory analysis to better understand the properties of the rock and its consistency.

A report of the results of the drilling program is currently under consideration by DAF. This will be used to inform further assessment of the resource's future viability and use. If the resource is proven, and there is market demand for this material, it could provide a valuable resource to supply the wider Bundaberg region well into the future.



A percussion drill being used to sample the hard-rock resource to a depth of 25 metres; DAF staff provided assistance through site set-up, logistics and supporting field sampling activities

Forest management system

DAF's forest management ensured that state-owned forests delivered a range of benefits to the community. In addition to providing economic benefits derived from the sale of timber, other forest products and quarry materials, DAF's management contributes to the maintenance of biodiversity, forest health, soil, water, cultural heritage and other values.

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 for native forest timber 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.

DAF performed well against its forest product sales service delivery standards in 2018–19. DAF is expecting that industry demand for state-owned log timber will continue to be strong in 2019–20.

Quarry material removals have met forecast expectations for the year despite adverse weather significantly disrupting operations and demand in northern and north-western Queensland. Timber removals exceeded forecast expectations due to increased demand from hardwood and cypress permit holders during the year. Quarry material sales are expected to increase in northern Queensland and remain strong in the balance of Queensland in 2019–20. Strong demand is due to increased mining-related activities, disaster recovery roadworks and infrastructure investment.

Two case studies highlight examples of DAF's work—the first (left) shows how we support local communities and the second (page 61) shows how we deliver jobs and economic opportunities for remote Indigenous communities.



The first barge being loaded with harvested timber

Harvesting of hardwood timber by local Indigenous timber company

After several years of planning and negotiation, the first barge of hardwood timbers harvested by WIK Timber Holdings departed Hey Point, Weipa, in November 2018.

WIK Timber's harvesting operations are authorised by DAF Forestry, and are undertaken on bauxite mining leases located south of the Embley River on western Cape York. The state-owned timber being harvesting by WIK Timber is in advance of clearing that has been planned in preparation for mining operations.

The leases are held by Rio Tinto Alcan Pty Ltd. WIK Timber had for some years been unable to commence harvesting operations until it reached agreement with Rio Tinto about a range of matters, including WHS issues. Agreement was reached in 2018 and timber harvesting began shortly after.

DAF supervises WIK Timber's harvesting operations and also assists with required training and support to appropriately select trees for harvesting.

WIK Timber is owned by the local Traditional Owners, providing economic benefits and employment for the local community. The first barge of timber contained 1150 tonnes of mostly Darwin stringybark sawlogs and was sent to Cairns for processing. During the year, further barge loads were sent for processing by WIK Timber.

Managing the plantation licence

HQPlantations Pty Ltd produces approximately 80% of Queensland's log supply that is used by the softwood processing sector. In 2018–19, DAF oversaw the company's compliance with its plantation licence obligations to ensure the best outcomes were delivered for Queenslanders.

HQPlantations also maintained certification under the *Australian standard: sustainable forest management* (AS4708:2013). Under the licence, it is required to transfer the management of 10 state plantation forest areas with high conservation value to the state by 2050. Transfer of several areas that have been partially harvested and rehabilitated has already occurred. The transitioned areas total approximately 230 hectares. In addition, HQPlantations has agreed to a staged surrender of its plantation licence to convert Yurol and Ringtail state forests near Noosa to protected area tenure.

Former DAF workshop repurposed for community use

In February 2019, DAF Forestry finalised the transfer of a former Forestry workshop at Yarraman to the Yarraman and District Historical Society for use by the local community.

The state retained ownership of the workshop property after its former plantation business was sold in 2010. The workshop, previously used to maintain forestry machinery, has been not been used since this time.

In late 2018, the historical society approached DAF seeking support for the property to be transferred and used by the local Yarraman Men's Shed Association. The transfer was supported and the site was handed over in late June 2019.