Queensland Good jobs Better services Great lifestyle

The **Queensland Biosecurity Strategy 2018–23**

Achievements: Case studies

A selection of partnership case studies that epitomise the spirit of each theme of the strategy.

Queensland Government

Far Northern Biosecurity Initiative

Empowering biosecurity skills and awareness within First Nations communities

Snapshot

- Local councils, rangers and community members were empowered to actively manage biosecurity risks in the Torres Strait and northern Cape York.

Outcomes

- Introduced stronger protection for movement of invasive species into the Torres Strait from the mainland.
- Trained more than 200 rangers and local government staff in all aspects of biosecurity surveillance and response.
- Established enduring working relationships with Traditional Owners and all levels of government.
- Coordinated rapid responses with local partners for pest and disease incursions from PNG and mainland Australia.

Torres Shire Council staff undertaking plant pest and disease training on Thursday Island.

Partners: Local, state and Australian government agencies and local authorities.

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Panama TR4 – Grower Engagement

Assisting growers to implement biosecurity measures on their farms

Snapshot

- Government and industry coordinated one-on-one site visits to banana growers at highest risk of exposure to Panama disease tropical race 4 (Panama TR4).

Outcomes

- Armed growers with a Panama TR4 Readiness Report tailored to their farm.
- Empowered growers to act and have the knowledge to prepare their farm for disease incursion.

Biosecurity Queensland Compliance Officer Paul Garland, right, with banana grower Adrian Crema, left, conducting an on-farm visit.

Partners: Australian Banana Growers Association, Agri-Science Queensland and Biosecurity Queensland.

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Queensland Seaports eDNA Surveillance (Q-SEAS) Program

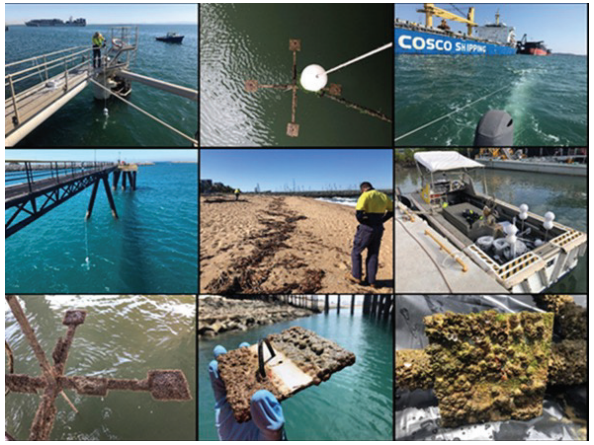
Government and industry working together to enhance marine biosecurity

Snapshot

- Biosecurity Queensland partnered with five Queensland port authorities to deliver the Queensland Seaports eDNA Surveillance (Q-SEAS) Program to provide early detection of invasive marine pests and to effectively manage or eradicate pests to minimise impacts.

Outcomes

- The Q-SEAS program uses world-leading molecular techniques across multiple sampling substrates to significantly enhance pest detection.
- Started in 2019 at five ports, Q-SEAS has expanded to the Port of Lucinda in 2021 and the Port of Weipa in 2022.
- Won the prestigious Industry Award at the 2021 Australian Biosecurity Awards.
- Demonstrates successful collaboration across industry and government, ensuring national and state level strategic alignment.



Q-SEAS marine pest surveillance in action.

Partners: Biosecurity Queensland and five Queensland port authorities.

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White Spot Disease behavioural research

Educating recreational fishers to stop using raw-eating prawns as bait

Snapshot

- Various projects were held between 2017 to 2020 to examine recreational fishers attitudes and beliefs, bait usage and supply, awareness of white spot disease (WSD) outbreaks and compliance with movement restrictions.
- White spot disease is a highly contagious viral infection that affects crustaceans such as prawns, yabbies and crabs. It can have significant impacts in high intensity production areas, such as prawns farms.

Outcomes

- Evidence-based behaviourally focussed communication campaign around the impact of using raw supermarket prawns as fishing bait. This was through TV and radio advertising, online advertisements and flyers.
- Research showed convenience and price increased the harmful use of raw bait from 17% in 2017 to 20% in 2020.
- Research evidence also revealed a reduction in recreational fishers' awareness of WSD and the consequences of using raw bait.
- The research provided evidence and mandate to engage with retail supply chains.

New white spot disease sign to educate fishers about penalties and impacts.

Partners: Biosecurity Queensland and Fisheries Research and Development Corporation (FRDC).

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Panama TR4 – Grower Research Project

Indentifying motivations and barriers to banana growers adopting on-farm biosecurity practices

Snapshot

- Far North Queensland banana growers shared insights into their reasons for and against adopting biosecurity to protect their farms from Panama disease tropical race 4 (Panama TR4).
- A slow rate of disease spread had resulted in complacency, uncertainty and negative discussion in the industry.

Outcomes

- Growers who have adopted biosecurity measures reported a more positive outlook to farming life and are motivated to protect their assets and industry.
- Best practice biosecurity delivers benefits beyond disease protection, including adding value to their business.

Checkpoints protect banana farms from Panama TR4 and can add long-term value to growers' businesses.

Partners: Biosecurity Queensland and research consultants.

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National Bee Biosecurity Program

Empowering beekeepers to detect and report exotic bee pests and use best practice methods to deal with established pests

Snapshot

- Queensland Government and the honey bee industry co-funded and delivered the National Bee Biosecurity Program to improve biosecurity preparedness and increase pest detection and reporting.
- The National Bee Biosecurity Program funds the appointment of a Bee Biosecurity Officer (BBO) across all six states in Australia.
- The BBO works directly with beekeepers to help them implement best practice in bee biosecurity.

Outcomes

- Beekeepers understand and can implement the Australian Honey Bee Industry Biosecurity Code of Practice.
- Individual beekeepers have the skills and knowledge to detect and report exotic bee pests.

Queensland's BBO Dr Dave Schlipalius demonstrates how to inspect a hive for bee pests.

Partners: Queensland Beekeeping Association, Queensland beekeepers, Plant Health Australia, Australian Honey Bee Industry Council, Biosecurity Queensland and Australian Government.

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Northern Australia Biosecurity Strategy Network

Giving private veterinarians and livestock producers the tools to act on significant disease identification

Snapshot

- Continued involvement in the Northern Australia Biosecurity Strategy Network (NABSnet) with masterclasses, significant disease investigation case subsides, and updated NABSnet newsletters and website.
- Emergency animal disease (EAD) and post-mortem examination training workshops for private veterinarians and livestock producers in northern QLD and regional council Environmental Health Workers in the Torres Strait and Northern Peninsula Area.

Outcomes

- Rapid notification (for early detection) and response to biosecurity risks through empowered stakeholders and well-connected network in Far North Queensland.
- Enhanced partnerships among Biosecurity Queensland, private veterinarians, livestock industry through AgForce and producers in northern Queensland.
- Improved Australia Animal Disease Spread (AADIS) modelling for better preparedness on EADs including foot-and-mouth disease, African swine fever and lumpy skin disease.

Animal biosecurity and welfare training workshop for regional council workers from Torres Strait and Northern Peninsula Area.

Partners: Queensland Government, Western Australian Government, Northern Territory Government and Australian Government.

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BioSecure HACCP

Empowering production nurseries to manage biosecurity risks and building market access

Snapshot

- A grower-based plant protection and biosecurity program integrating biosecurity into the normal pest management systems and enhancing overall efficacy of grower-conducted activities.
- High-health system supported by robust procedures, processes and records underpinning national market access through self-certification of nursery stock.

Outcomes

- National approval for the first non-government market access instrument that recognises grower-based activities and skills for self-certification for movement conditions and quarantine protocols.
- A partnership between industry and government that provides a high degree of confidence for robust on-farm practices and data management.

National Greenlife Industry Australia (NGIA) President Karen Brock, left, Minister for Agricultural Industry Development and Fisheries, Mark Furner, centre, and NGIA National Biosecurity Manager John McDonald, right, at the launch of BioSecure HACCP in 2018.

Partners: Hort Innovation, state and territory governments.

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Greenlife Industry Australia (GIA)

Biosecurity Response Preparedness

Enhancing and sustaining emergency response systems and capability

Snapshot

- A state-wide biosecurity response preparedness team works with technical specialists across Biosecurity Queensland and the broader Department of Agriculture and Fisheries (DAF) to maintain and enhance biosecurity emergency response systems and capability.

Outcomes

- Developing emergency response training, mentoring and skills sharing including emergency response exercises and specific function-based training.
- Developing and maintaining procedural, induction and training documents to support emergency responses.
- Reviewing biosecurity responses and exercises to ensure continual improvement.
- Maintaining information management systems which can be rapidly deployed to support biosecurity emergency responses.
- Engaging with response staff across local, state and federal governments to build awareness and response capability.
- Supporting inter-jurisdictional deployment of DAF staff to responses in other states or territories, or supporting intrastate deployment to Queensland responses.
- Participating in national preparedness planning, working groups and exercises.
- Supporting inter-jurisdictional deployment of DAF staff to responses in other states or territories, or supporting intrastate deployment to Queensland responses.

Animal Health Australia and Tocal College Workshop “CONT2BER: Control a Level 2 Incident” Biosecurity Queensland attendees were Fiona Thompson, Erin Platz and Shaina Berry.

Biosecurity Emergency Operations team including Deputy Director General and Chief Biosecurity Officer Dr Rachel Chay and Director General Bob Gee.

Laura Firrell presenting feedback and other group discussions.

Partners: Local, State and Australian Governments, State Biosecurity Agencies and Inspector-General Emergency Management.

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High Throughput Sequencing Project

Innovation in diagnostics

Snapshot

- A national High Throughput Sequencing (HTS) project began in 2018 to enhance Australia's genetic diagnostic capability and facilitate the necessary standards and frameworks needed to bring jurisdictions together in their work while still accounting for differences in lab practice.
- HTS is a genetic diagnostic method that can be used to quickly assemble genetic data to help identify species from a sample or to profile genetic relationships between different biosecurity risks.
- The project successfully leveraging lessons from the health sector's management of communicable diseases within a national framework.

Outcomes

- Major groundwork has been completed on this project: a survey of national HTS usage, including in academia, was completed; a framework and user guidelines were developed; the HTS technical standards were developed; training needs for users and approaches identified.
- Business cases were developed for the IT needs for a national database repository and a data analytics platform similar to a biosecurity version of Austrakka which tracked COVID-19 information. Some elements of these business cases have subsequently been taken on for implementation by Plant Health Australia and Department of Agriculture and Fisheries (DAF) as a result of this project.
- Biosecurity Qld and DAF staff have been trained to use Galaxy Australia, a bioinformatic pipeline software, to use in their work.
- The project has enhanced plant quarantine HTS capability, which has helped reduce the time needed for high-risk plant imports.

HTS Project meeting attendees.

Partners: Australian Government, State Biosecurity Agencies (Vic, Qld, NSW, WA, Tas), Queensland Health, QUT, CSIRO (LEADDR), Queensland Facility for Advanced Bioinformatics, Australian Genome Research Facility and others.

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Queensland Feral Pest Initiative

Building success through design, monitoring and evaluation

Snapshot

- Queensland Feral Pest Initiative (QFPI) project coordinators are trained and supported to develop monitoring and evaluation plans for projects.
- Enables clearly defined project goals to be set and supports monitoring and reporting of project outcomes.

Outcomes

- Project coordinators can better understand and communicate the benefits of invasive plant and animal management work.
- Systematic assessment of projects for better internal program-wide tracking and evaluation of investment.

Examples of the QFPI projects rolling out across Queensland.

Partners: CSIRO and Biosecurity Queensland.

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Whitsunday Pig Control

Economic evaluation of feral pig control methods

Snapshot

- An economic modelling exercise measured the costs to agricultural production and environments and the benefits of culling strategies, leading to the expansion of an aerial shooting program.

Outcomes

- An economic report was developed by Synergies Economic Consulting. It is one of the few studies that have attempted to quantify economic impacts caused by feral pigs to agricultural enterprises and the environment in that area.
- Damage caused by feral pigs to agricultural production and to the environment has been determined as $590 and $903 per feral pig per year, respectively.
- Developed social and corporate licence to continue aerial shooting and provided a ‘stop’ trigger for when benefit is exceeded.

Whitsunday Regional Council’s aerial shooting program.

Partners: Whitsunday Regional Council and Biosecurity Queensland.

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Biosecurity Commons

Cloud-based biosecurity decision-support platform

Snapshot

- Biosecurity Commons is a ground-breaking project that will deliver a cloud-based decision-support platform for modelling and analysing biosecurity risk and response.
- It will provide a secure and easy-to-use platform to create models to answer biosecurity questions about where might a pest or disease establish, where might it spread to, how long will it take to eradicate, what are the costs and impacts are of different management scenarios and if we deploy them how long until proof of freedom.

Outcomes

- Delivers access to a cloud-based software platform where experiments can be modelled securely and collaboratively.
- Connects to trusted global and local datasets to save time when modelling queries.
- Provides assurance as workflows have been peer reviewed by Australian experts to allow for consistency in the methods used.
- Accessible to biosecurity practitioners, agricultural and environmental landscape managers, economists and strategists, educators and researchers, reducing the need to engage costly consultancies.
- Platform launched planned for May 2023.

Biosecurity Commons team members Robert Clemens, left, and Paul Tudman at the Australian Weeds Conference.

Partners: Australian Government, Queensland Government, ARDC, Griffith University, CEBRA, Atlas of Living Australia and EcoCommons.

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AADIS enhancements

Building on AADIS capability for ASF modelling

Snapshot

- Australia Animal Disease Spread Model (AADIS) is Australia's most comprehensive biosecurity risk modelling tool. Extensions were required to model African swine fever (ASF) spread between feral and domestic pigs.

Outcomes

- AADIS modelling framework was expanded to simulate the potential spread and control of ASF in Queensland's domestic and feral pig populations.
- Biosecurity Queensland was involved in the building the AADIS-ASF model by incorporating current Queensland pig property data with the input from the pig industry through SunPork and the Department's Pig Extension Officer program.
- Looked at the effect of feral and domestic pig interactions on transmission.
- Delivered a decision support tool to assist with preparedness and training exercises for ASF outbreaks and to inform strategic decision making.
- Demonstrated that spillover between domestic and feral pigs was more likely to involve smallholders than commercial farms and that the consequences of spillover into commercial farms was greater due to the industry's connectedness.

Richard Bradhurst from Centre of Excellence for Biosecurity Risk Analysis (CEBRA) presenting at a workshop.

Partners: Australian Government, CEBRA, University of Melbourne, Biosecurity Queensland, Australian Pork Limited, SunPork Group and Ausvet.

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Queensland Government

DAF1920 04/2023