



Australian Government
Department of Agriculture,
Fisheries and Forestry

Commonwealth Biosecurity 2030: Action Plan 2023

Update on progress and 2023 priority actions



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Acknowledgement of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

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Foreword

I'm pleased to present the second of our annual action plans to support *Commonwealth Biosecurity 2030* – our strategic roadmap for building a stronger, more collaborative and smarter biosecurity system. The increasing number of biosecurity threats to our region, such as foot-and-mouth disease, lumpy skin disease and the parasitic varroa mite – which is threatening our bee populations – emphasises the importance of our biosecurity system. It's vital that we protect our agriculture, environment, people and economy from harmful pests and diseases.

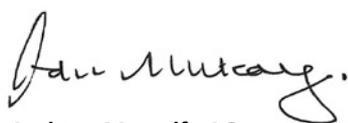
We're doing our part to respond to these increased threats, risks and demands, including through the release and implementation of the *National Biosecurity Strategy*. Alongside biosecurity partners, we'll focus on the 6 priority areas in our strategy:

1. Shared biosecurity culture.
2. Stronger partnerships.
3. Highly skilled workforce.
4. Coordinated preparedness and response.
5. Sustainable investment.
6. Integration supported by technology, research and data.

The *Commonwealth Biosecurity 2030* strategy is a key contributor to the *National Biosecurity Strategy*.

Strong biosecurity is a joint endeavour. As we continue to build our workforce and organisational capability to address biosecurity threats, we acknowledge the strong partnerships with Australian Government agencies, states and territories, our neighbours in the Asia–Pacific region, industry and the broader community.

We're proud of what we've achieved in the 12 months since the launch of the first annual action plan under *Commonwealth Biosecurity 2030*. We look forward to continuing this vital work to deliver a risk-based biosecurity system that is effective and efficient, and sustainably protects Australia from exotic pests and diseases today and into the future.



Andrew Metcalfe AO

Secretary

Department of Agriculture, Fisheries and Forestry





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Introduction

Australia's biosecurity system is a key contributor to maintaining our national economy, agricultural industries and our environment. According to ABARES, in 2021–22 the biosecurity system protected around \$251.5 billion in vulnerable assets, including \$83.1 billion in annual agricultural production, and in 2022–23 a forecast \$65.9 billion in exports of agricultural, forestry and fisheries products. Protecting Australia from increasing biosecurity risks and responding to emerging threats requires constant vigilance and oversight.

Commonwealth Biosecurity 2030, released in 2021, is our roadmap for building a risk-based biosecurity system that effectively, efficiently and sustainably protects Australia from exotic pests and diseases. The *Commonwealth Biosecurity 2030: Action Plan 2023* is the second annual plan with activities that align our biosecurity system with the 9 strategic actions outlined in *Commonwealth Biosecurity 2030*. Annual action plans are part of our commitment to guide delivery of this roadmap.

Commonwealth Biosecurity 2030: Action Plan 2023 provides the priority actions to be undertaken in 2023 to further strengthen Australia's risk-based biosecurity system. It also reports against priority actions outlined in the *Commonwealth Biosecurity 2030: Action Plan 2022* ([Appendix A](#)).

2022 in review

During the past year, we settled into new ways of working, acknowledging COVID-19 will remain with us into the future and that we have to be ready to address emerging areas of high biosecurity risk. This includes efforts to manage new and ongoing biosecurity threats to our region, such as foot-and-mouth disease (FMD) and lumpy skin disease (LSD). In 2022 our response to these threats included stronger offshore and onshore biosecurity measures and targeting high-risk flights and goods at our airports and mail centres. We also exercised our preparedness and response readiness and continued our surveillance activities, including with the Indigenous ranger program in Northern Australia. These efforts recognise an incursion could have severe implications for our agricultural industry, trade and the environment.

We continued to develop smarter and more efficient ways to manage and detect biosecurity risks to address the increasing demands on, and the growing complexity of, our biosecurity system. This included developing and harnessing new technologies in pest detection and diagnostics. With CSIRO, Microsoft and other organisations, we developed a mobile phone application that helps biosecurity officers on the frontline swiftly identify the brown marmorated stink bug (*Halyomorpha halys* or BMSB), a high-risk hitchhiker pest. We have implemented the National eDNA Testing Program to detect pests and pathogens in the environment and established high throughput sequencing, an innovative tool for detecting exotic plant viruses in high-risk plants undergoing quarantine.

In 2022 we also celebrated 30 years of our detector dog program. The Australian Government's commitment of \$11.7 million dollars to the program in the 2022–23 Budget will provide 20 detector dogs and 20 handlers at the frontline of our biosecurity system, inspecting travellers, mail and cargo. We have continued to invest in our people, improving our training for frontline officers and uplifting the regulatory knowledge of our staff to support their decision-making and biosecurity risk management.

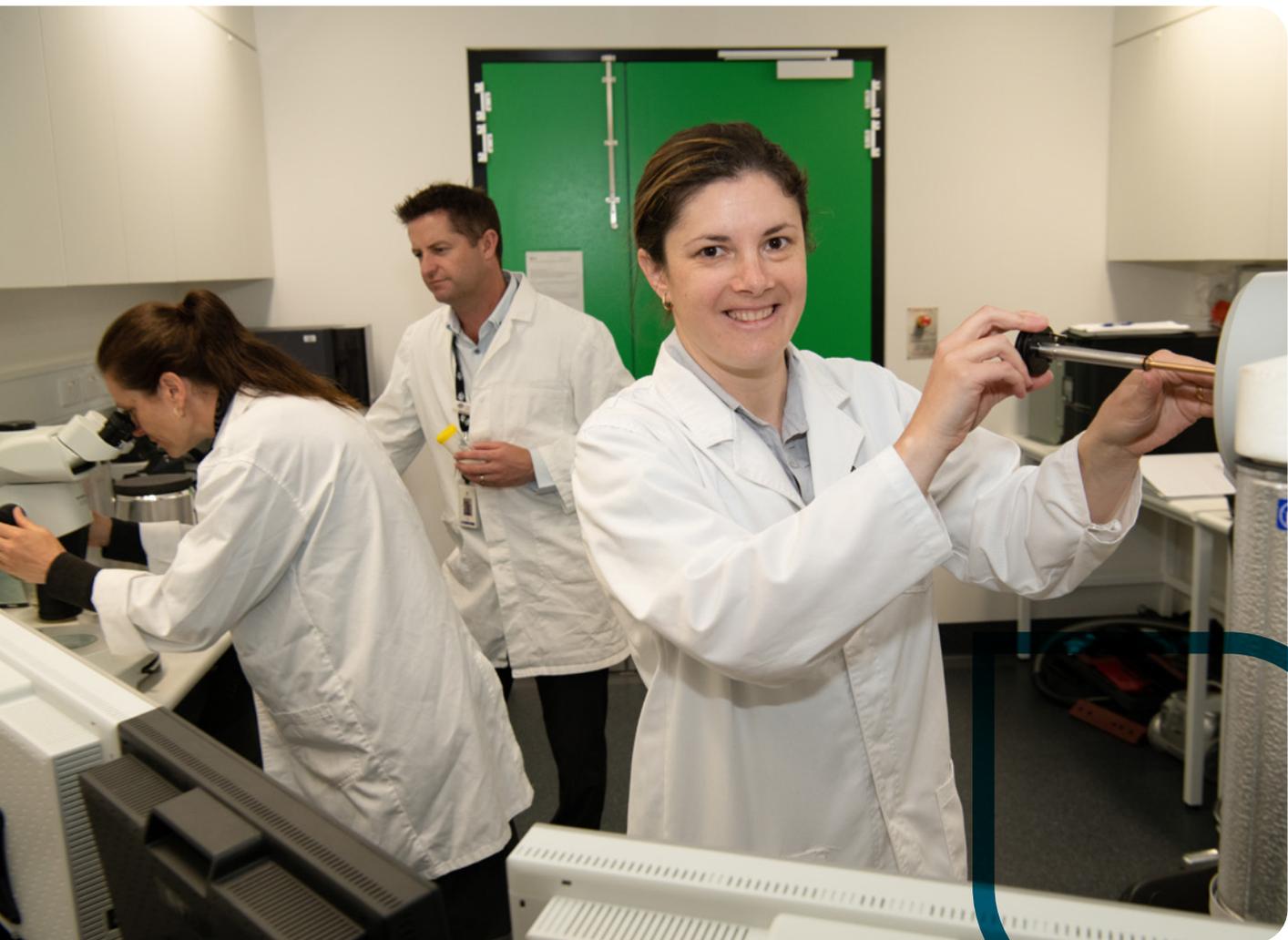
Operating environment through to 2024–25

We know our biosecurity operating environment will continue to face new and increasing challenges. These include biosecurity threats at our doorstep, fuelled by increased numbers of travellers, diversifying trade and cargo, and changes in climate. Increasing biosecurity threats, especially to our north, create a need for greater prevention and surveillance in Australia and our neighbourhood, and constant improvements to our joint preparedness and response ability.

Australia will continue to pursue a robust international trade strategy that provides our farmers with access to new and growing markets and Australian consumers with a wider choice of goods sourced from a range of trading partners. Increasingly complex supply chains and the movement of goods bring elevated biosecurity risks. Engagement with international standard-setting organisations is essential if we are to improve biosecurity regulatory outcomes for the import and export of Australian goods. Equally important is continual engagement with trading partners, particularly in Asia and the Pacific, to work together to enable biosecurity risk management capacity and capability uplift.

Data, strategic intelligence, technology and innovation will continue to play a growing part in how we manage biosecurity and demonstrate our maturity as a regulator. Changes enabled during COVID-19, such as shifting to remote inspections, are now a valuable addition to our regulatory toolkit. We will also increase our use of data analytics and intelligence to monitor trends and make more informed biosecurity risk management decisions. We will utilise more industry partnerships to manage risks jointly and more efficiently.

Key stakeholders regularly raise a need for long-term sustainable funding arrangements for the biosecurity system. In response, we are proposing funding options for the Australian Government to consider. To remain strong, our biosecurity system needs sustainable and adequate co-investment to meet operating requirements and deliver essential business transformation.



Progress implementing review recommendations

Update on Inspector-General of Biosecurity and other independent reviews

We are addressing recommendations made by the Inspector-General of Biosecurity (IGB) and the Australian National Audit Office (ANAO) in relation to reviews and audits conducted on our biosecurity system.

IGB and ANAO findings informed the development of the 9 strategic actions in *Commonwealth Biosecurity 2030*. The 2023 annual action plan highlights our response to IGB findings by reporting on our progress against the 2022 priority actions and setting out the priority actions for 2023.

During the reporting period January to December 2022, the IGB published 3 reviews, resulting in a total of 30 recommendations. The ANAO published a single audit with 3 recommendations relevant to the department. These IGB reviews looked at:

1. Arrangements for the import of live lumpy skin disease (LSD) virus into Australia.
2. The effectiveness of biosecurity arrangements for the bacterial plant pathogens of the *Xylella* genus.
3. The use of detector dogs and X-ray scanning as frontline biosecurity screening techniques.

The review into arrangements for the import of live LSD virus for research found that the department's biosecurity import arrangements were adequate. The other 2 reviews identified areas to improve biosecurity arrangements – we are actively working to address these recommendations.

For a breakdown of the status of recommendations, see Table 1 and Table 2. Learn more about the IGB's [current and completed reports](#), including recommendations and the department's responses to them.

Work continues across the department to address all open recommendations. As part of the implementation process, we are working to strengthen the internal governance structures around the accountability and tracking of responses to IGB recommendations.

Table 1 Summary status of Inspector-General of Biosecurity review recommendations, May 2017 to January 2023

IGB review title	IGB signature date	Total number	Number closed	Number in progress ^a
<i>Efficacy and adequacy of department's X-ray scanning and detector dog screening techniques to prevent entry of biosecurity risk material into Australia</i>	July 2022	14	0	14
<i>Assurance review for arrangements to import live lumpy skin disease virus to CSIRO's Australian Centre for Disease Preparedness.</i>	July 2022	2 ^b	2	0
<i>Effectiveness of preventive biosecurity arrangements to mitigate the risk of entry into Australia of the serious plant pest 'Xylella fastidiosa'</i>	June 2022	14	0	14
<i>Robustness of biosecurity measures to prevent entry of khapra beetle into Australia</i>	December 2021	13	0	13
<i>Accountable implementation of Inspector-General Biosecurity recommendations (2015–2021)</i>	November 2021	10	0	10

Table 1 Summary status of Inspector-General of Biosecurity review recommendations, May 2017 to January 2023 (continued)

IGB review title	IGB signature date	Total number	Number closed	Number in progress ^a
<i>Confidence testing for at-border delivery of critical human biosecurity functions – ‘Ruby Princess’ cruise ship incident</i>	April 2021	42	22	20
<i>Adequacy of department’s operational model to effectively mitigate biosecurity risks in evolving risk and business environments</i>	February 2021	19	4	15
<i>Biosecurity risk management of international express airfreight pathway for non-commercial consignments</i>	July 2020	25	17	8
<i>Adequacy of preventative border measures to mitigate the risk of African swine fever</i>	March 2020	13	13	0
<i>Effectiveness of approved arrangements in managing biosecurity risks in Australia</i>	August 2019	13	9	4
<i>Implementation of Inspector-General of Biosecurity recommendations [2019 to 2020]</i>	July 2019	3	3	0
<i>Pest and disease interceptions and incursions in Australia</i>	May 2019	5	3	2
<i>Effectiveness of biosecurity measures to manage the risks of brown marmorated stink bugs entering Australia</i>	May 2019	14	14	0
<i>Environmental biosecurity risk management in Australia</i>	April 2019	7	7	0
<i>Implementation of Interim Inspector-General of Biosecurity recommendations [2018 to 2019]</i>	September 2018	1	1	0
<i>Horse importation biosecurity risk management</i>	September 2018	4	4	0
<i>Military biosecurity risk management in Australia</i>	July 2018	5	3	2
<i>Hitchhiker pest and contaminant biosecurity risk management in Australia</i>	July 2018	9	8	1
<i>Uncooked prawn imports: effectiveness of biosecurity controls</i>	December 2017	22	19	3
<i>Review of Department of Agriculture and Water Resources management of biosecurity risks posed by invasive vector mosquitoes</i>	May 2017	11	11	0
Total	–	246	140	106

^a Many in-progress recommendations require fundamental shifts and regulatory practice improvements, so work will take time.

^b Recommendations for noting only. IGB Inspector-General of Biosecurity.

Note: Lists IGB reviews conducted under the *Biosecurity Act 2015*.

Table 2 Summary status of Australian National Audit Office recommendations, June 2021 to January 2023

ANAO audit title	ANAO publication date	Total number	Number closed	Number in progress
<i>Responding to non-compliance with biosecurity requirements</i>	June 2021	8	2	6
<i>Human biosecurity for international air travellers during COVID-19^a</i>	March 2022	3	0	3
Total	–	11	2	9

^a This ANAO audit resulted in 6 recommendations, of which 3 are assigned to the Department of Agriculture, Fisheries and Forestry. One recommendation is solely assigned to the Department of Agriculture, Fisheries and Forestry. The remaining 2 are jointly assigned with the Department of Health and Aged Care. ANAO Australian National Audit Office.

Thematic representation of outstanding recommendations

We have mapped the outstanding IGB and ANAO recommendations to systemic themes that align with *Commonwealth Biosecurity 2030*. Considerable work is underway within each of the themes to deliver the necessary improvements to the biosecurity system and our management of it. This work includes many of the priority actions within this action plan.

Theme 1: Improving the regulatory maturity of the biosecurity system, including ensuring the department has a professional regulatory capability and associated frameworks

The recommendations within this theme relate to advancing our regulatory maturity (e.g. biosecurity risk management and changes to our legislative framework).

We continue work to develop our regulatory practice. We have finalised a Biosecurity Risk Management Framework and will progress a series of projects to implement the framework and refresh staff training on risk management. We are developing a regulatory assurance strategy and will continue work on a biosecurity assurance plan to guide our assurance activities across the system.

Theme 2: Facilitating partnership approaches to the risk management of biosecurity pathways (e.g. through co-regulation and industry partnership arrangements)

Reviews have recognised the need to strengthen relationships with stakeholders through co-design and improved governance arrangements. Some recommendations relate to our key relationships with the Department of Health and Aged Care and the Australian Border Force.

The case study [Proof-of-concept trial for new vehicles arriving at the Port of Melbourne](#) is a good example of our work to advance industry partnerships.

The biosecurity and trade groups are developing a survey that will seek feedback from our stakeholders on how well we execute and communicate our regulatory activities. The outcomes of this survey will inform stronger engagement with our biosecurity partners.

Theme 3: Bolstering the capacity and capability of frontline biosecurity staff

Our regulatory capability, particularly the capability of our workforce, is a theme that frequently appears in independent reviews. Reviews also identified unwieldy and/or inconsistent internal guidance and processes for staff.

We continue to strengthen biosecurity staff capability in multiple ways. Our Biosecurity Training Centre, opened in 2022 in partnership with Charles Sturt University, is providing training and biosecurity capability uplift for staff. Delivery of a legal decision-making training program has uplifted our staff’s regulatory capability. A program of work is also underway to streamline decision support material for biosecurity officers.

Theme 4: Considering a sustainable funding and investment model for the biosecurity system that supports and adapts to changing risks and operating models

Successive reviews have raised concerns about the adequacy of funding for biosecurity, including cost recovery and other funding arrangements. Reviews have also recommended investment in new or enhanced system development.

Work has commenced to address this theme, and we will consider strategies that ensure funding and investment are fit for purpose and sustainable for the long-term. This will involve consultation with our key biosecurity system partners.

Theme 5: Setting a strategic direction for biosecurity management in Australia, supported by an enhanced governance framework

A range of recommendations under this theme includes broader governance arrangements, formal arrangements with stakeholders and strategic planning and direction.

Refreshed memorandums of understanding (MOUs) with the Department of Health and Aged Care and the Department of Home Affairs are almost complete. The MOUs address key recommendations from the IGB. The Biosecurity and Compliance Board continues to shape biosecurity strategy, including providing governance for investment decisions and regulatory approaches.

Our regulatory practice uplift, including for biosecurity, is supported by the whole-of-department Regulatory Practice Committee (RPC). The RPC is driving regulatory improvement across all regulatory systems, including through enhanced compliance and assurance, better risk management practices, efficient and effective information management and decision-making, and a stronger regulatory capability.



Strategic actions

The *Commonwealth Biosecurity 2030* roadmap aims to build a strong, resilient and effective biosecurity system that protects Australia against the biosecurity threats of today and tomorrow. This will be achieved by implementing our 9 strategic actions. This section outlines our 2023 priority actions against each of our strategic actions.

Strategic Action 1

Accelerate our efforts with key partners to create a strong, future-orientated and efficient national biosecurity system

The success of the national biosecurity system in protecting our environment, economy and way of life relies on the efforts of all parties. We will work across the Commonwealth and with governments, industry, research institutions and community groups to implement improvements across the system to efficiently and effectively manage biosecurity risk.

Our priority actions for 2023 are to:

- Deliver key projects under the *Northern Australia Biosecurity Strategy 2030* (NABS) implementation plan.
- Continue co-design of Western Sydney Airport, including border agency operational areas within the passenger terminal and the biosecurity waste management system, and undertaking planning and design of biosecurity and export requirements for shared Commonwealth agency canine and cargo facilities and an administration building.
- Co-design and implement a proof-of-concept revised approved arrangement to allow the air cargo industry to inspect and release Self-assessed Clearance (SAC) goods.
- Develop an approved arrangement to enable industry operators to conduct post-cleaning re-inspection of imported new vehicles.
- Implement the Simplified Targeting and Enhanced Processing System (STEPS) in consultation with central agencies.
- Expand the approved arrangements framework to accommodate industry inspection and treatment of hitchhiker pest risks for all sea containers entering Australia.
- Implement national cost-sharing arrangements for the Australian Plant Pest Database (APPD) and the Pests and Diseases Image Library (PaDIL) systems, which have been identified as nationally significant biosecurity assets that support diagnostics.
- Implement new import conditions to address risks due to increasing trade volumes, trade commercialisation and fraudulent certification that were identified in the 2023 *Review of rabies virus risk in imported dogs, cats and canine semen from approved countries*.
- Release the prawn import policy review that assesses biosecurity risks associated with the importation of prawns for human consumption.
- Consult with stakeholders and finalise the dairy import policy review assessing dairy products for human consumption from all countries.
- Release the draft Biosecurity Import Risk Analysis (BIRA) for sturgeon imported for aquaculture purposes.
- Develop the Biosecurity Amendment (Biofouling Management) Regulations 2021 (in force from June 2022) implementation policy to ensure more effective regulation of biosecurity risks via more efficient inspection methodology and enforcement protocols.
- Identify new options to reduce unwarranted regulatory impacts on system participants, building on the work of the Simplified Trade System agenda and industry consultation held in 2022.

- Identify and evaluate modifications to existing containers to prevent hitchhiker pests, and improve and increase the effectiveness of container cleaning methods. This work will be facilitated by participation in an international workshop focusing on sea containers, in July 2023.
- Engage with industry to develop biosecurity-specific lodgement prompts in the Integrated Cargo System (ICS) third-party software to reduce lodgement errors. These prompts will help us manage lodgement complexities arising from increasing biosecurity risks.
- Deliver training to Indigenous rangers as part of the Indigenous Ranger Biosecurity Program (IRBP), including Certificate IV in Tropical Biosecurity and Biosecurity Fundamentals training.
- Complete updating of the *Plant Quarantine Pest and Official Control National Policy* and finalise a regulated non-quarantine pests policy to provide greater support to states and territories when applying for regulation of specific pests and implementing regulation.
- Distribute findings on Australia's pest fruit flies identified in the Strengthening Australia's Fruit Fly System Research Program to government and industry stakeholders. This will support enhanced national fruit fly management and regulation.

Strategic Action 2

Expand offshore assurance arrangements and overseas supply chain integration

Addressing biosecurity risks before they reach our shores is a strong mitigant to preventing incursions and to minimising the scale and cost of border interventions. We will implement a range of initiatives to increase offshore compliance with our import requirements while supporting faster clearance of commodities at our borders where it is safe to do so.

Our priority actions for 2023 are to:

- Develop targeted education material that industry can use to implement offshore measures by new vehicle importers' parent companies and their supply chain.
- Develop and implement a scheme for registering and managing offshore biosecurity treatment providers to give greater assurance that offshore treatments are conducted effectively and compliantly.



Strategic Action 3

Increase partnership activities with our near neighbours to build their risk management capability and continue our engagement with key international bodies

Mitigating biosecurity risks before they reach Australia is important, as is supporting neighbouring countries in their efforts to grow their economies and protect their environment. Regional pest and disease pressure is growing. Building on our established relationships, we will partner with neighbouring countries to improve regional capability to identify and mitigate biosecurity risks. We will also work with international bodies to strengthen regional and global biosecurity frameworks and practices.

Our priority actions for 2023 are to:

- Increase capacity of government officials and industry personnel in Papua New Guinea (PNG) through the delivery of fumigation and audit training and mentoring during compliance verification activities. These activities will strengthen the long-term assurance gained through the effective conduct and regulation of biosecurity treatments offshore.
- Partner with government officials and industry personnel in the Solomon Islands to explore the feasibility of expanding the Australian Fumigation Accreditation Scheme to the Solomon Islands. This includes inviting government officials and industry personnel to fumigation training in PNG.
- Partner with Fiji, PNG, the Solomon Islands, Timor-Leste and Vanuatu to deliver animal health surveillance activities focused on priority emergency animal diseases and support for disease preparedness and response.
- Undertake an initial study to inform the methodology of genomic analysis to investigate source populations of fruit fly collected from fruit fly traps in the PNG Treaty Villages by the PNG Treaty Village community rangers.
- Conduct plant health surveys with government biosecurity counterpart agencies in PNG, the Solomon Islands and Timor-Leste, supported by Northern Australia Quarantine Strategy (NAQS) plant health scientists in each country.
- Support the delivery of training to the Papua New Guinea National Agriculture and Quarantine Inspection Authority (NAQIA) to increase molecular diagnostic capabilities.
- Deliver agreed activities under the Pacific Biosecurity Partnerships Program, including Phase 3 of the Solomon Islands Biosecurity Development Program (SIBDP), and activities that will assist trade and market access, technology and systems support and biosecurity capability uplift.
- Provide support to PNG and Timor-Leste in implementing their preparedness action plans for FMD and LSD.
- Support the Pacific Community (SPC) to function as secretariat to the Pacific Heads of Veterinary and Animal Production Services (PHOVAPS) network and assist endorsement and implementation of the Pacific Animal Health and Production Framework Priorities Plan 2022 to 2025.
- Implement the *Pacific Biosecurity Strategy 2022 to 2027*.
- Partner with regional organisations and other governments to enhance access to veterinary services across the Pacific.
- Provide biosecurity assistance and capacity-building support to Indonesia to control outbreaks of FMD and LSD.
- Progress the ASEAN Regional Diagnostic Network (ARDN) Project, including remote collaboration to develop diagnostic resources, and hold the ASEAN Diagnosticians Forum and provide pest diagnostic webinars and workshops.
- Enhance bilateral plant pest surveillance and diagnostic activities with Vietnam, including bilateral capacity building with the diagnostic laboratory of Vietnam's Plant Protection Department, with exchange visits by diagnostic specialists and procurement of diagnostic equipment (including a compound microscope).
- Expand and uplift biosecurity capability across the Asia-Pacific, improving our near neighbours' ability to detect and manage biosecurity risk to reduce the likelihood of pests and diseases of biosecurity concern establishing in the region.
- Commence third-party inspection services by Indigenous rangers from the Torres Strait Regional Authority, under interagency agreement.

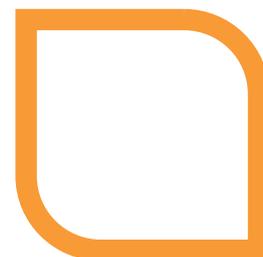
Strategic Action 4

Invest in a skilled and responsive workforce supported by improved regulatory tools and information

Our staff, together with those people working under third-party arrangements, will remain critical to managing biosecurity risk. As biosecurity threats change and grow, and technology offers new ways of doing business, our workforce needs to be equipped to respond. We will grow the capacity and skills of our people, together with the critical regulatory tools and information systems supporting them. This will increase our effectiveness, responsiveness and resilience as regulators and deliver digital transformation.

Our priority actions for 2023 are to:

- Support staff to implement the Biosecurity Risk Management Framework and integrate strategic risk management into biosecurity planning.
- Enhance the capability of biosecurity officers in the authoring, use and maintenance of decision support material that supports policy setting, process design and regulatory decision-making and improve the decision support system to respond to unique and changing biosecurity needs.
- Continue to develop and improve foundational and advanced training for Commonwealth biosecurity officers.
- Implement, manage and govern a workforce strategy for biosecurity officers.
- Finalise a workforce plan to support the requirements of a contemporary diagnostics laboratory to operate in a regulatory environment.
- Implement a targeted workforce design strategy to allow plant biosecurity operational policy staff to be ready to deliver effective and efficient plant biosecurity regulation in an evolving trade environment.
- Continue work to implement the professional regulatory capability framework.



Strategic Action 5

Roll out advancements in detection technologies and business practice innovations

New and emerging technologies are revolutionising how governments and industry operate. We will continue to explore and adopt these tools and ways of working, in partnership with industry and others where appropriate, to help us mitigate biosecurity risks and improve system efficiency for the benefit of all.

Our priority actions for 2023 are to:

- Install additional 3D X-ray units for passenger baggage screening at international airports and screening of air cargo at an industry facility.
- Develop further trials of 3D X-ray automatic detection algorithms, including for the detection of wildlife.
- Continue digital enhancement of conveyance pathways within the Maritime and Aircraft Reporting System (MARS), including Pre-Arrival Reporting (PAR) platforms.
- Continue work to modernise information and systems to help businesses and regulated entities better understand and comply with our regulations.
- Use production data to improve the custom configuration of algorithms and technologies that automate the handling of documentation assessment for full import declarations (FIDs), and pilot automation across document assessment.
- Continue to train and expand the implemented machine learning models for SAC documentation assessment across the entire SAC pathway.
- Enhance the automated collection of biosecurity risk material (BRM) contamination data and develop a performance dashboard to inform and influence industry behaviour and inform the department's risk-based decision-making.
- Test RingIR technology's ability to detect pests of biosecurity concern, using focused in-depth analysis of a small number of pests in simulated environments to determine potential effectiveness outside a lab environment.
- Develop comprehensive data views of container and cargo pathways, associated hitchhiker risk and the performance of existing controls, and use this data to forecast hitchhiker pest risks using predictive algorithms.
- Implement advances in diagnostic technologies (e.g. MinION nanopore sequencing and MALDI-TOF mass spectrometry) to enable the rapid identification of pest and disease species.
- Implement the second phase of the Laboratory Information Management System (LIMS) to support diagnostics in departmental biosecurity laboratories.
- Demonstrate e-beam efficacy and cost-effectiveness to devitalise imported seeds and weed seed contaminants and compare any negative impacts on seed properties with existing treatment settings.
- Expand the Australian network of eDNA collaboration centres and provide a certified training program and kits for portable eDNA sampling and testing to departmental frontline officers and scientists.
- Collaborate with state and territory authorities to research the use of drone detection and sampling technology to eradicate red imported fire ants and enhance pest surveillance measures.
- Test prototype mobile handheld technologies to detect pests in an operational setting.
- Continue deployment and infield user-acceptance testing of the brown marmorated stink bug (BMSB) artificial intelligence (AI) app and refine it and the AI model to enable improvements in performance, useability and functionality.
- Finalise system design of the Traveller, Aircraft and Mail System (TAMS) and undertake user-acceptance testing of the TAMS traveller, aircraft and mail applications.
- Expand the Biosecurity Assessment Recording System platform to provide collaborative scientific and technical advice between plant and animal policy areas and to other areas of the department.
- Expand the Pest and Disease Repository system used by department scientists to include both plant and animal pest/disease data and further data on plant pathways.

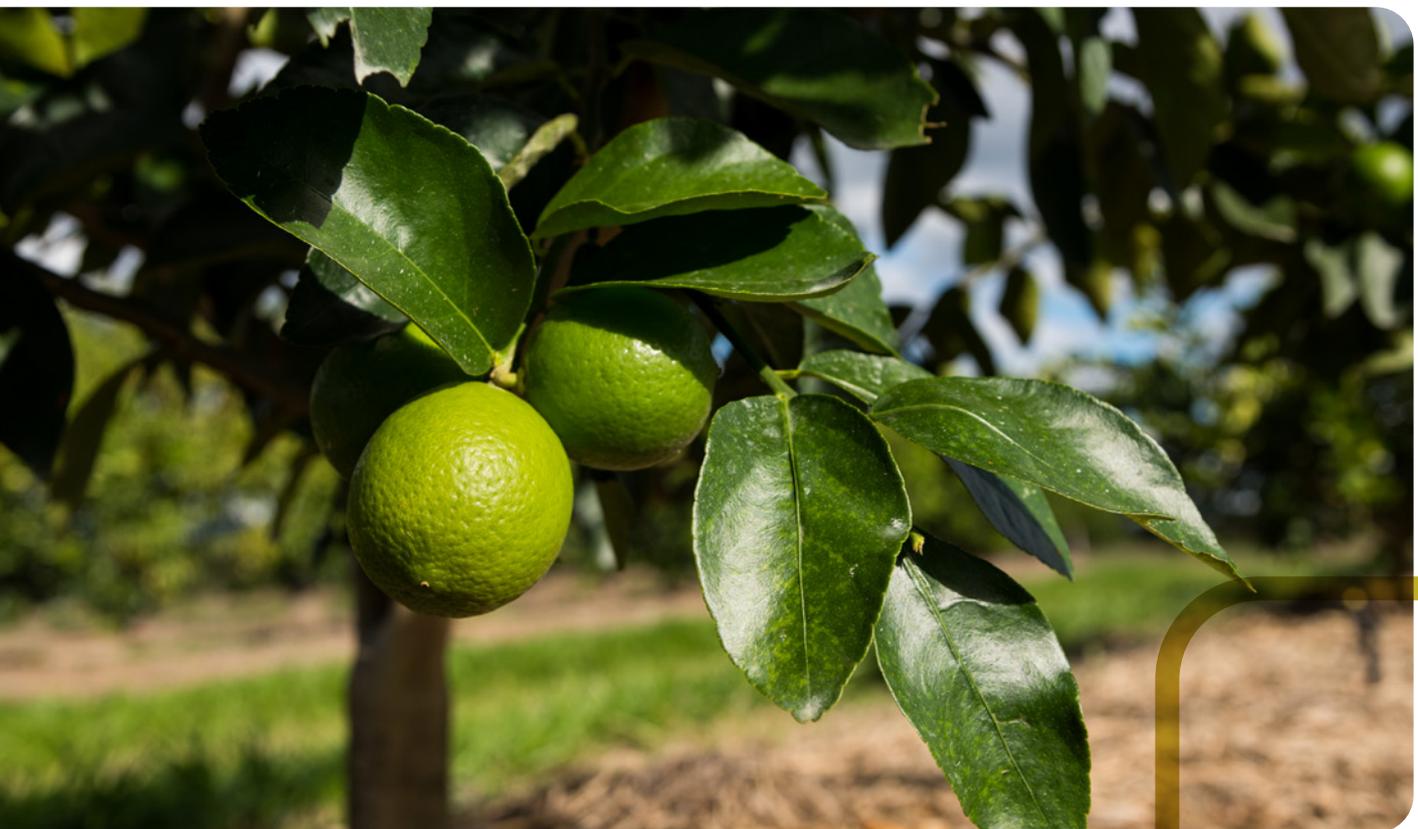
Strategic Action 6

Generate greater shared responsibility through improved awareness and understanding

Everyone can play a part in protecting our economy and environment from biosecurity risks. We will seek to enhance engagement, awareness and understanding of biosecurity risks across the Australian community and business sectors.

Our priority actions for 2023 are to:

- Provide information to the community on when and where to look for hitchhiker pests and how to report their presence.
- Conduct the National Fruit Fly Program compliance audits in South Australia, New South Wales, the Northern Territory and Western Australia to ensure states and territories meet exporting requirements, are following best practice and have a shared understanding of responsibilities.
- Deliver a national environmental biosecurity webinar series with presentations aligning with the principles, objectives and actions set out in the *National Biosecurity Strategy*.
- Enhance the user experience of the national [Biosecurity](#) website by implementing recommendations from the 2022 review.
- Deliver campaigns targeting international travellers and online shoppers to increase awareness of Australia's biosecurity requirements.
- Improve community awareness of the Australian Biosecurity system by delivering a series of 'Detect and Protect' podcasts and initiating activities under a Junior Biosecurity Officer program targeted at children aged 5 to 10.
- Increase industry awareness of high-priority plant pests and diseases and associated self-reporting obligations.



Strategic Action 7

Increase offshore intelligence, research and data sourcing to support risk-based interventions, preparedness and response

We will build our overseas strategic and operational intelligence and associated analytics capability. This will assist us to quickly identify current and emerging trends and risks to inform future planning, ensure timely and appropriate border assurance and interventions and support preparedness planning, including for possible incursions.

Our priority actions for 2023 are to:

- Deploy intelligence-led targeted operations to detect, deter and disrupt deliberate non-compliance in the mail, traveller and cargo pathways.
- Expand the Compliance-Based Intervention Scheme (CBIS) with an additional 10 plant and animal commodities, in recognition of good compliance with Australia's import conditions.
- Enhance functionality of the Torres Strait Information System.
- Conduct assurance inspections and targeted operations to inform baseline risk datasets and required changes to intervention strategies consistent with the department's *Enterprise Risk Management Framework and Policy*.
- Implement electronic screening of passenger baggage movements from Horn Island (Ngurapai) Airport, using X-ray facilities operated by the Department of Home Affairs.
- Conduct a survey inspecting external surfaces of sea containers at the ports of Brisbane and Adelaide and use survey results to confirm whether current risk settings effectively manage the risk of hitchhiker pests and contaminants entering Australia.
- Expand pest detection reporting and recording for community-led environmental biosecurity surveillance using the Atlas of Living Australia biosecurity database.
- Enhance our capability in conveyance non-compliance data collection and analysis, to identify significant trends and inform our regulatory decision-making.
- Continue work to implement an intelligence strategy for biosecurity.

Strategic Action 8

Strategic Action 8: Lift our national preparedness, response and resilience to exotic pest and disease incursions

The biosecurity threats to Australia will continue to change. Even with our best efforts, no system can reduce our risk to zero. We will invest in domestic preparedness, response, recovery and resilience planning and arrangements to help minimise potential impacts and disruptions.

Our priority actions for 2023 are to:

- Modernise and mature biosecurity emergency management arrangements through consultation with state and territory response agencies and implementation of the recommendations and actions of the *Joint Interagency Taskforce: Exotic Animal Disease Preparedness report*.
- Collaborate with states, territories and stakeholders to implement on-ground activities and national coordination that target significant established pests, weeds and diseases.
- Engage with industry and government stakeholders to implement *National Lumpy Skin Disease Action Plan* activities and provide quarterly progress reports on the implementation to the National Biosecurity Committee.

- Review recommendations from a scoping study on ways to improve exotic disease investigation and identification by veterinarians in remote regions of southern Australia and build a network similar to the Northern Australia Biosecurity Surveillance network (NABSnet).
- Continue work to enhance the department's preparedness and response, including through the establishment of a new dedicated centralised capability.
- Ensure the department's diagnostic laboratories have up-to-date protocols, resources and training to provide rapid and accurate diagnostics for high-priority plant pests and diseases.
- Enhance the department's data management practices for response activities to facilitate multi-jurisdictional data sharing and data consistency.
- Review and refine surveillance response protocols and practices for high-priority pests and diseases.
- Develop national action plans to build national capability to prevent and respond to threats posed by fruit flies and pests and diseases of broadacre crops.
- Enhance national plant health surveillance for early detection of high-priority exotic plant pests entering through international pathways.
- Deliver a phone app to support forest pest identification and reporting, and an accompanying training support package.
- Develop datasets that measure exotic environmental pest detections, including data for incursions, commodity type and management status, pest establishment and surveillance circumstances.
- Undertake consultation on a draft near-border biosecurity incident response framework with Australian, state and territory governments.
- Deliver a suitable, maintained high-speed computing environment where biosecurity simulation models can be run responsively and routinely by departmental staff, starting with the Centre of Excellence for Biosecurity Risk Analysis (CEBRA) value model that calculates the return on investment for the biosecurity system as a whole.

Strategic Action 9

Align our funding and investment model to emerging system needs

Governments, businesses and community groups invest in Australia's biosecurity to protect our collective interest in avoiding and mitigating the considerable and ongoing costs associated with exotic pests and diseases. We will work towards ensuring our funding and investment strategies are fit for purpose and sustainable for the long term, and that biosecurity partners contribute equitably. This will involve consultation with our key system partners and participants.

Our priority actions for 2023 are to:

- Prepare options for a sustainable funding model to be considered by government, including fit-for-purpose cost-recovery arrangements.
- Develop an automated financial analytics system that identifies Commonwealth expenditure on biosecurity over a given time frame (e.g. financial year or season), and map it to biosecurity pathways and controls so it is suitable for system-level and pathway-level modelling purposes and useful for other analytics and policy development.

Case studies

Targeting illegal imports of biosecurity risk food: Operation Stromlo

The department undertakes a range of compliance activities in response to known and emerging biosecurity threats and risks. These activities include targeted operations that assess biosecurity risk on specific import pathways and test departmental controls. Operation Stromlo was a recent multi-agency, intelligence-led operation that focused on the traveller pathway.

Operation Stromlo targeted specific passenger flights and goods that presented risks of ASF, with the resulting benefit of monitoring for FMD. Working with the Australian Border Force, any arriving flight crew and passengers showing indications of higher risk were directed for inspection.

The operation found a range of non-compliant food items, including over 12 kg of pork products (sausages and pork floss) that carried the risk of ASF and FMD. Additionally, 1.8 kg of dairy products (yoghurt), seafood products (finfish exceeding personal limits or finfish containing internal organs) and plant products (rice, tamarind and peppercorns) were also found.

These types of activities detect and disrupt the illegal importation of biosecurity risk material (BRM) where it is occurring while delivering regulatory outcomes that protect Australia from risks to our biosecurity and trade systems. Results of targeted operations indicate where the department can enhance compliance and legislative and regulatory settings for a stronger biosecurity system.



Proof-of-concept trial for new vehicles arriving at the Port of Melbourne

We partnered with the Port of Melbourne to develop new approaches to managing biosecurity risk associated with imported new vehicles. Transformation is critical to the management of increasing volumes and complexity of freight, pests and diseases. About 315,000 new vehicles arrive annually at the Port of Melbourne, and that number is expected to increase substantially over the next few decades. The current system for assessing and managing biosecurity risk is labour-intensive, with significant industry working capital tied up when biosecurity risk material (BRM) is identified onshore.

In partnership with key industry players in the new vehicle import supply chain, including port operators, stevedores, importers and shipping lines, the trial tested an end-to-end solution aimed at transforming how biosecurity outcomes are achieved and ran parallel to the existing regulatory framework so that biosecurity risks continued to be managed. The trial focused on ways to reduce BRM reaching Australia, manage BRM onshore (including with new technology) and achieve better biosecurity outcomes.

Overall, the trial was successful and demonstrated that:

1. Developing and delivering educational material to overseas supply chains will reduce BRM on imported new vehicles.
2. With further development, mobile gantry scanner technology is likely to detect BRM on vehicles as they are driven off the vessel.
3. A new approved arrangement will enable industry to conduct post-cleaning inspections, with the department working to automate the release of vehicles.
4. Enhanced and automated data collection and management is needed to influence industry behaviour and improve the department's risk-based decision-making.

We will now consider opportunities to implement the recommendations from the trial. Scaling the end-to-end solution to other ports and commodities is one approach that is likely to make biosecurity risk management sustainable into the future.



High throughput sequencing

High throughput sequencing (HTS) is an innovative technology that began development in 2015. In December 2022, HTS was formally adopted as the primary screening tool for all plant exotic viruses in several key commodities (such as cherries, nectarines and peaches) that undergo quarantine at the national Post Entry Quarantine (PEQ) facility.

HTS is a quantum leap in the department's diagnostic capability to detect biosecurity threats. One HTS test will replace hundreds of individual polymerase chain reaction (PCR) tests, resulting in major efficiency dividends for the department and importers. The initial implementation of HTS on just 3 plant families will result in nearly 6,000 fewer tests annually and use less PEQ glasshouse space for testing – meaning more new plant varieties can be safely imported.

HTS can also detect every virus in a single test, including new and undiscovered viruses and those with no specific molecular test. For example, in late 2022 HTS detected the exotic citrus vein enation virus (CVEV) in an imported plant, when the traditional biological assay failed to detect it. This detection resulted in the introduction of a specific molecular assay for CVEV to replace the biological assay. Adopting HTS means we can detect and respond to new and emerging biosecurity risks in real time. Combined, these benefits will mean improved biosecurity outcomes and cheaper high-risk plant imports.

Our collaborative partnerships with the Queensland University of Technology, Hort Innovation, the Plant Biosecurity Cooperative Research Centre, the New Zealand Ministry for Primary Industries and Agriculture Victoria have successfully progressed HTS from a proof-of-concept research project to operational implementation.



Urgent actions to reduce the risk posed by khapra beetle

Khapra beetle (*Trogoderma granarium*) is Australia's number 2 National Priority Plant Pest and the number 1 plant priority pest for grains. It is not present in Australia but is a highly invasive pest that poses a major threat to our grain industry. It destroys grain quality, making grain unfit for human or animal consumption and has been recorded infesting more than 100 commodities, including most dried plant products. If khapra beetle were to establish in Australia, it would cause significant trade losses and affect our economy.

Our border detections of khapra beetle as a hitchhiker pest have increased, particularly in imported empty sea containers and sea containers of consignments that previously had no association with the pest. The pest is also entering Australia from countries not known to have khapra beetle. Approximately 73% of interceptions in 2020–21 were attributed to sea container contamination. This change in the risk profile signified the need to introduce new biosecurity measures to ensure Australia remained protected.

Accordingly, the department took urgent actions in September 2020 to reduce the risk of khapra beetle entering Australia. Actions are being implemented in phases and have resulted in changes to import conditions for certain sea containers and goods on commercial and non-commercial pathways. The department will implement the final phase of khapra beetle actions in 2023.

Since implementation of the new measures throughout 2021–22, and our engagement and education of international and domestic stakeholders on the risks of khapra beetle, the number of interceptions of khapra beetle has declined markedly at Australia's borders.



Sea container data sourcing and integration

Over 2.5 million sea containers arrive in Australia each year. These containers may carry pests of biosecurity concern that can ‘hitch a ride’ inside and/or outside a container as it moves around the world. Some pests can survive in the container for multiple voyages.

A crucial first step in assessing and designing controls to manage the risks of pests on these containers is having a single and reliable source of data on container arrivals into Australia and biosecurity outcomes. This will improve our capacity to associate pest detections with relevant cargo, containers and vessels, which will help us assess hitchhiker and non-hitchhiker pest threats.

We have been obtaining additional data to use alongside our pest and other data holdings to build a comprehensive and reliable dataset for sea containers. We have sourced data from the Department of Home Affairs and commercial data providers and applied an address-matching algorithm to uncover data on container movements not previously attainable. This revealed true volumes and movement patterns of containers through premises. The dataset has been used to inform development of policies for onshore approved arrangements to manage hitchhiker pest risks.

To help assess the likelihood of global hitchhiker pest threats, their distribution will be identified by country and overlaid with data on the source and volume of containers imported into Australia. This information will be used to assess, monitor and improve management of hitchhiker pests.



Vector monitoring Indigenous ranger program

Exotic mosquitoes are capable of transmitting human and animal diseases, including dengue, malaria, Japanese encephalitis and West Nile fever. Mosquitoes primarily spread around the world through international travel and trade, and pose an increasing risk to animal, human and environmental health. The department conducts a Vector Monitoring Program at international air and sea ports around Australia to find any exotic mosquitoes arriving in Australia and to prevent the establishment of exotic mosquitoes.

In late 2021 the department began collaborating with the Nanum Wungthim Land and Sea Rangers based in Napranum to conduct mosquito vector monitoring at Weipa, a remote port in Northern Australia. With training and equipment supplied by the department, the Nanum Wungthim Land and Sea Rangers have been checking mosquito traps at the Port of Weipa on a weekly basis. Specimens collected in the traps are preserved and sent to the department's laboratory in Cairns for identification. The rangers have collected more than 6,000 mosquitoes in the traps since the vector monitoring Indigenous ranger program commenced. To date, no exotic mosquitoes have been detected.

Following the success of this engagement in Weipa, we are expanding the program from early 2023. It will team up with the Anindilyakwa Land and Sea Rangers and provide the training and equipment they need to check mosquito traps on Groote Eylandt in the Northern Territory. These collaborations highlight the important work Indigenous rangers do to protect Australia's biosecurity, the environment and our way of life.



National collaboration to protect Australia's forests

Australia's forests represent the seventh-largest forest estate in the world, encompassing native, commercial and urban forests. These forests make a significant contribution to Australia's economy, environment and community, and are associated with over 109 stakeholder groups.

Forests face a significant exotic pest threat due to increasing international trade and movement of people. Establishment of new exotic forest pests will result in significant economic, environmental and amenity costs to Australia. Climate change can heighten this threat by making forest trees more susceptible to pests and forcing their establishment range southwards and to higher altitudes.

In the past, a significant number of forestry pests entered through various pathways and established in Australia because we lacked a well-structured post-border surveillance program to detect them early enough for eradication.

A National Forest Pest Surveillance Program has been established through a government–industry collaboration agreement to address this serious threat to Australian forests. The program enables early detection of high-priority exotic forest pests through coordinated, risk-based forest pest surveillance activities, improving the likelihood of successful pest eradication or containment before significant impacts occur. The program focuses on high-risk locations along the pest-risk pathways, including areas near major international ports, import storage or distribution facilities, container parks and approved arrangement sites.

The landmark government–industry collaboration agreement, executed in 2022, is a shared responsibility with clearly defined roles. It will enhance the National Forest Pest Surveillance Program and sustain it into the future. It also provides a trusted, consistent and harmonised approach to reporting and sharing surveillance information – providing crucial evidence of Australia's pest-free status to support trade and market access.



Modelling African swine fever spread and control in Australian pigs

Australia is free from ASF, which has spread through Asia in recent years, including to neighbouring PNG and Timor-Leste. The disease poses a significant threat to the Australian pig industry, so improving preparedness for outbreak response is a priority. We have developed a national-scale epidemiological model to simulate outbreaks and control of ASF in Australian pigs. The model can be used as a decision support tool for preparedness planning and to inform simulation exercises.

The new model is an extension of the [Australian Animal Disease Spread \(AADIS\) Model](#), originally developed for FMD. It incorporates updated national-scale domestic and feral pig demographic data, domestic pig movement data and current biosecurity practices in the pig industry. The project was a successful collaboration between our Biosecurity Innovation Program, the Centre of Excellence for Biosecurity Risk Analysis (CEBRA), the University of Melbourne, Biosecurity Queensland, SunPork Group, Australian Pork Limited and Ausvet.

Preliminary findings under the study scenarios assessed indicate that indirect transmission of ASF (e.g. via vehicle and people movements) and reduced biosecurity measures strongly influence disease spread. Feral pigs can also amplify the size and duration of an outbreak. These findings were consistent with international observations on ASF outbreaks and local expectations. Simulating different ASF outbreak scenarios and control strategies can help address questions about the likely course of an outbreak and appropriate application of control measures such as movement restrictions.



Appendix A: Status and update of the 2022 priority actions for *Commonwealth Biosecurity 2030*

Significant progress has been made against the 2022 priority actions under each strategic action of *Commonwealth Biosecurity 2030*. Most 2022 priority actions were completed or are expected to be completed in 2023. Some priority actions are part of ongoing projects. We have made progress towards completing these actions and will report on them in future action plans.

Table A1 Strategic Action 1: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 1: 2022 Priority action	2022 Priority action update	Status
Finalise a national biosecurity strategy and transition to action planning and implementation, in collaboration with state and territory governments, industry, environment and community stakeholders.	The <i>National Biosecurity Strategy 2022–32</i> (NBS) was released on 9 August 2022. NBS implementation is overseen by the National Biosecurity Committee, working through the newly established NBS National Implementation Committee (NIC). The NIC comprises members from multiple industry sectors, and the Australian, state and territory governments. A national implementation plan and national action plan are being developed.	Completed
Deliver on the Northern Australia Biosecurity Strategy (NABS) through the NABS Implementation Plan.	Seed funding to deliver some elements of the NABS was announced in the October 2022 Budget. Planning and delivery of key priority projects is underway.	Ongoing
Support a refreshed and refocused Biosecurity Futures group and support the emergence of an industry and community biosecurity advisory group to all governments.	<p>The Biosecurity Futures group was established on 27 November 2019 to provide the then Minister for Agriculture with strategic advice on the national biosecurity system at the minister’s request. The group met on 6 occasions and was engaged:</p> <ul style="list-style-type: none"> ■ during development and delivery of the <i>National Biosecurity Strategy</i> (NBS) ■ on the inaugural <i>Commonwealth Biosecurity 2030 Action Plan</i>. <p>The department is working with a wide range of biosecurity system participants, beneficiaries and regulators through new governance arrangements to progress biosecurity improvements (e.g. through the new NBS implementation process).</p>	Ongoing
Conclude a strategy with the Australian Border Force to support [a] joint effort to lift our capability and capacity to manage risk at Australia’s international border.	The Border 2023 strategy has been developed with the Australian Border Force (ABF) and is in final draft.	Expected completion 2023

Table A1 Strategic Action 1: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 1: 2022 Priority action	2022 Priority action update	Status
Advance a new memorandum of understanding (MOU) with the Department of Home Affairs/ Australian Border Force to guide our operating and strategic relationship.	On 16 November 2022, the Department of Agriculture, Fisheries and Forestry and the Department of Home Affairs (including the Australian Border Force) established an MOU. The MOU has an updated framework for cooperation and collaboration, recognising the strategic relationships between the parties.	Completed
Finalise the review of the MOU with the Department of Health and complete the vector policy.	The review of the MOU with the Department of Health and Aged Care, formerly the Department of Health, is progressing and is expected to be finalised in 2023. We are also collaborating on a mosquito vector monitoring policy under development by the Department of Health and Aged Care.	Expected completion 2023
Strengthen support for global One Health outcomes, including through wildlife health surveillance by Wildlife Health Australia and new working arrangements with the Australian Government Department of Health in relation to zoonotic diseases.	A program to support the national wildlife surveillance, reporting and management system was successfully launched in January 2022 and will be delivered in collaboration with Wildlife Health Australia. The Human Animal Spillover and Emerging Disease Scanning Group has been established with the Department of Health and Aged Care, formerly the Department of Health, to identify and assess new, emerging and re-emerging diseases with potential for human–animal interspecies transfer.	Ongoing
Partner with plant stakeholders to build national capacity and capability in plant pest surveillance and diagnostics, facilitate the implementation of national and international policies on plant biosecurity and contribute to plant health research efforts.	<p>We are partnered with jurisdictional governments, through the Plant Health Committee and its subordinate groups on diagnostics, surveillance, fruit fly and preparedness, to build national plant biosecurity capacity and capability. Significant efforts in 2022 include:</p> <ul style="list-style-type: none"> ■ finalisation of National Diagnostic Protocols (including for <i>Trogoderma granarium</i> Everts, <i>Flavescence dorée</i> phytoplasma, red clover vein mosaic virus, wheat spindle streak mosaic virus and <i>Fusarium oxysporum</i> f. sp. cubense Tropical Race 4) ■ finalisation of National Surveillance Protocols (for brown marmorated stink bug, citrus canker and <i>Lymantria</i> sp.) ■ endorsement of the <i>National Hitchhiker (Contaminating) Plant Pest Action Plan 2022–2032</i>. <p>These protocols and action plans contribute to national preparedness capability. Research projects under the Strengthening Australia’s Fruit Fly System Research Program have been completed and the distribution of findings is planned in 2023.</p>	Completed
Complete phase one of an animal biosecurity system assessment, in collaboration with key partners, to identify trends, emerging vulnerabilities and future system pressures to inform strategic planning and priorities.	Collaborated with key partners to identify emerging issues and inform discussions about the changing biosecurity landscape and threats.	Ongoing

Table A1 Strategic Action 1: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 1: 2022 Priority action	2022 Priority action update	Status
Redesign fit and proper person test arrangements to streamline the application process and be more aligned with the Department of Home Affairs Australian Trusted Trader program, including progressing more integrated cross-agency arrangements where practicable	The department’s work on the Australian Trusted Trader program is currently paused due to resourcing.	Ongoing
Build on work through the Simplified Trade System agenda and industry roundtables held in 2021, by identifying further options for reducing unwarranted regulatory impacts on system participants.	The Simplified Trade System agenda is continuing with the development of options to simplify trade and reduce regulatory burden. The department is also continuing to look at areas for regulatory reform to support streamlined regulation.	Ongoing
Undertake a comprehensive review of the <i>Imported Food Control Act 1992</i> .	In 2022 we established a reference group comprising Australian Government agencies that interface with the <i>Imported Food Control Act 1992</i> . This group met 3 times to support the stand-up and planning for the review.	Ongoing
Work closely with CSIRO and other partners to enable targeted, co-developed research outcomes to improve biosecurity.	Catalysing Australia’s Biosecurity (CAB) is a joint initiative between the department and CSIRO to develop implementable science-based innovation, next generation technologies, systems and capabilities that have the potential to achieve significant changes in the performance of our biosecurity system. This initiative is transitioning from concept stage to planning.	Ongoing
Implement the National Environment and Community Biosecurity Research, Development and Extension Strategy that will drive collaboration across the biosecurity sectors for efficient and targeted research outcomes.	The <i>National Environment and Community Biosecurity Research, Development and Extension Strategy 2021–26</i> (NECBRDES) was finalised and endorsed by the National Biosecurity Committee in November 2021. A NECBRDES National Coordinator will form cross-biosecurity-sector working groups to help implement the strategy.	Ongoing
Collaborate with states, territories and stakeholders to implement on-ground activities and national coordination to target significant established pests, weeds and diseases.	Significant advances have been made in collaboration with states, territories and stakeholders on a large number of projects to target established pests, weeds and diseases. This includes a draft National Established Weed Priorities Framework, building on the Weeds of National Significance initiative that has been endorsed in principle by the Environment and Invasives Committee. Progress has been made on multiple invasive pest national action plans, including implementing plans for feral pigs and wild dogs.	Ongoing

Table A2 Strategic Action 2: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 2: 2022 Priority action	2022 Priority action update	Status
Develop new protocols for offshore treatments to improve management at the border and expand the offshore treatment assurance system for hitchhiker pests to increase confidence in the effectiveness of these treatments.	Development of an offshore treatment assurance framework is progressing. A policy intent statement was approved, and internal consultation on stakeholders’ principal objectives and policy elements was completed.	Ongoing
Progress efforts to enhance compliance prioritisation and prediction tools with a view to streamlining import clearances.	Work has commenced to map compliance prioritisation options and enhance our ability to predict and manage non-compliance. New technology and enhancements to existing systems will also improve non-compliance responses and streamline clearance for compliant entities.	Ongoing
Continue and complete proof-of-concept trials with industry partners towards streamlined clearance arrangements based on an individual importer’s assurance arrangements across their supply chains.	Proof-of-concept green lane trial, involving 7 pilots with different importers, has been completed. These results, and additional engagement with industry, have informed the design of a new biosecurity ‘trust-based’ arrangement.	Completed
Build a business case for an integrated risk management system for imported cargo that will enable better targets and management of risk earlier in the supply chain, informed by 3 proof-of-concept trials exploring options for continuous pre-border biosecurity risk assessment, expanding business partnerships and supply-chain data exchange.	<p>We have completed the:</p> <ol style="list-style-type: none"> 1. Initial case for an integrated risk management system for imported cargo that will enable better targets and management of risk earlier in the supply chain. 2. Three proof-of-concept trials exploring options for continuous pre-border biosecurity risk assessment, expanding business partnerships and supply-chain data exchange. 	<ol style="list-style-type: none"> 1. Ongoing 2. Completed



Table A3 Strategic Action 3: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 3: 2022 Priority action	2022 Priority action update	Status
Finalise our Pacific Biosecurity Strategy 2021 to 2026.	We have worked with internal and external stakeholders to develop and finalise the Pacific Biosecurity Strategy (now called the <i>Pacific Biosecurity Strategy 2022 to 2027</i>), an external-facing document that aims to guide our work and communicate our scope and intention externally.	Completed
Enhance engagement with the World Organisation for Animal Health (OIE) across the Pacific, including initiatives to increase OIE membership.	The World Organisation for Animal Health (WOAH), formerly OIE, has strengthened its presence across the Pacific through increased engagement with the Pacific Community (SPC) and other regional organisations. Collaboration with WOAH will continue through the Pacific Heads of Veterinary and Animal Production Services (PHOVAPS).	Completed
Deliver support to near neighbours for lumpy skin disease (LSD) and African swine fever (ASF) preparedness and response, including in the areas of biosecurity risk assessment, surveillance and port-entry quarantine capability.	Rapid risk assessments for LSD and foot-and-mouth disease (FMD) were completed with Papua New Guinea (PNG) and Timor-Leste. We also completed diagnostic capability for LSD (serology and PCR) and an LSD response plan with Timor-Leste. LSD- and FMD-awareness materials were developed with Timor-Leste and shared with PNG. We conducted collaborative animal health surveillance in PNG and Timor-Leste, including for LSD, FMD and ASF. From January to June 2023, a pilot quarantine capacity-building program is being delivered with Timor-Leste.	Expected completion 2023
Support continued engagement and participation of Asian and South West Pacific region members to the International Plant Protection Convention (IPPC), including regional standard setting and implementation.	<p>We have been an active contributing member of the Asia–Pacific Plant Protection Commission (APPPC) and the Pacific Plant Protection Organisation (PPPO). Together with the APPPC and PPPO, we have assisted with several submissions to the IPPC, including:</p> <ul style="list-style-type: none"> ■ a topic proposal submission for development of a standard on the safe movement of food and humanitarian aid ■ submissions for the development and endorsement of revised regional standard-setting approaches. <p>We have also nominated priority topics for the PPPO and the APPPC and provided a secondee to the PPPO to support regional standard-setting activities.</p>	Completed
Partner with Papua New Guinea, Timor-Leste and the Solomon Islands to deliver plant health surveillance activities focused on priority production and environment threats.	We have been working in partnership with government biosecurity counterpart agencies in PNG, Timor-Leste and the Solomon Islands to plan the delivery of plant biosecurity surveys in each country in 2023. Delivery will be provided with support from Northern Australia Quarantine Strategy (NAQS) plant health scientists.	Expected completion 2023
Partner with Indonesian authorities and the OIE to deliver a mass dog vaccination program in Bali to protect locals and their dogs from rabies, and reduce the threat of rabies in our region.	The first shipment of canine rabies vaccines funded by Australia landed in Bali in September 2022. We worked with a range of stakeholders to support the strategic use of 200,000 doses, in coordination with other rabies control initiatives. This work continues in 2023, in partnership with the World Organisation for Animal Health (WOAH), formerly OIE.	Ongoing

Table A3 Strategic Action 3: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 3: 2022 Priority action	2022 Priority action update	Status
Deliver against the Pacific Biosecurity Partnerships Program with a focus on trade and market access support, technology and systems support and biosecurity capability uplift.	We have delivered several activities under the Pacific Biosecurity Partnerships Program and worked with programs and regional organisations to plan and deliver agreed priorities of mutual benefit to Australia and the Pacific Islands. Our partners include Pacific Horticultural and Agricultural Market Access Plus (PHAMA Plus), Pacific Agreement on Closer Economic Relations Plus (PACER Plus) and the Pacific Community (SPC).	Completed
Progress with Papua New Guinea the development of an animal health information system to provide data to support evidence-based decisions when responding to animal disease outbreaks.	The National Animal Health Information System (NAHIS) was handed over to the Papua New Guinea National Agriculture and Quarantine Inspection Authority (NAQIA) in June 2022. We will continue to provide support in 2022–23 to help implement the NAHIS.	Completed
Enhance regional plant pest diagnostic and surveillance capability by collaborating with ASEAN partners.	Diagnostic capability was strengthened and capacity increased through the ASEAN Diagnostic Network (ARDN) Project. The World Trade Organization’s Standards and Trade Development Facility (STDF) Pest Surveillance and Reporting Project was completed. The project promoted a harmonised approach to performing surveillance in 7 ASEAN countries and PNG. Under the Mekong–Australia Partnership (MAP), the Australia–Vietnam Enhanced Economic Engagement Strategy (EEES) strengthened plant pest diagnostic and surveillance capability in Vietnam.	Completed



Table A4 Strategic Action 4: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 4: 2022 Priority action	2022 Priority action update	Status
Establish a Biosecurity Training Centre to build the skills of our staff and those of our key system partners.	The Biosecurity Training Centre (BTC), established with Charles Sturt University (CSU), opened in July 2022 at the Wagga Wagga CSU campus. To date, the BTC has delivered training to 229 department staff. Representatives from the BTC have travelled to international partners in the Asia–Pacific to provide training and mentoring. The BTC is also scoping opportunities for collaborating with and supporting industry and stakeholders.	Completed
Implement a targeted program to support the recruitment, retention and professional development of scientifically qualified staff to support the department’s technical needs, with an early focus on diagnostic capability.	We have engaged additional staff with molecular diagnostic skills and a mass spectrometrist to pilot MALDI-TOF as a potential tool to use in departmental diagnostic laboratories. We have also started mapping our diagnostic capability needs and considering a hybrid approach with staff, and outsourced arrangements to deliver the diagnostic services we need.	Completed
Finalise the implementation of a modernised workforce management system to optimise the efficient deployment of biosecurity resources and increase data analytics capability.	The Scheduling and Workload Management System (SWMS) was deployed nationally in August 2022. Enhanced automation capabilities were implemented in late 2022, including work order automation and resource scheduling optimisation to efficiently manage biosecurity inspections and maximise resource use. Ongoing work is required to realise the intended benefits of this modernisation activity.	Completed
Develop augmented reality and virtual reality training materials and test their application and effectiveness as training tools to support decision-making.	Proof-of-concept using virtual reality (VR) and 360-degree digital media and augmented reality (AR) objects was completed in 2022. Three proofs-of-concept included 360-degree environments (for Sydney Gateway Facility, Post Entry Quarantine at Mickleham and Adelaide Airport), which can be viewed on the department’s desktops, mobile devices and VR headsets.	Completed
Modernise decision support material and approaches for our biosecurity officers.	The information that biosecurity officers use to make biosecurity risk-based regulatory decisions is being reformed to be clear, concise and easy to use. Information has been restructured in core documents across the 4 biosecurity pathways: conveyances, cargo, travellers and mail. This work has supported knowledge transfer and capability uplift of our policy and operations staff. This contemporary management of information supports defensible regulatory decisions.	Ongoing
Complete delivery and evaluation of the legal organisational capability training program to support policy and frontline staff in performing their regulatory and policy functions.	<p>The Building Legal Organisational Capability Taskforce ran the equivalent of 119 full-day sessions, training 1,813 employees. Review of the training will be undertaken in February 2023 to determine:</p> <ul style="list-style-type: none"> ■ ongoing requirements for delivery (timing, delivery method and facilitators) ■ integration into new officer training (ensure officers have enough experience to contextualise the examples) ■ a plan for training experienced staff yet to attend a session. 	Expected completion 2023

Table A4 Strategic Action 4: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 4: 2022 Priority action	2022 Priority action update	Status
Undertake a pilot of regulation specialist roles in operational pathways to mature our regulatory culture and capability and provide support to our frontline biosecurity officers.	Three regulation specialists and 3 regulatory support managers have been recruited and inducted as a pilot of specialist regulation roles in operational pathways. These specialist regulation roles are in Brisbane, Fremantle, Melbourne and Sydney. The pilot was launched on 10 June 2022 and concluded on 31 December 2022. Outcomes of the pilot will be reviewed in 2023.	Expected completion 2023
Deliver a biosecurity compliance plan and strategic assurance framework to guide robust regulatory settings, decision-making and work with industry to address non-compliance outcomes and incentivise more compliant behaviour.	A Regulatory Assurance Strategy (RAS) has been developed to detail our approach to assurance, as outlined by the <i>Regulatory Practice Statement</i> . We are developing a regulatory assurance framework for the biosecurity regulatory system to articulate what assurance will mean for the system, the priorities aligned to the RAS and ways to achieve assurance. The framework will also detail how assurance activities across the biosecurity regulatory system support our broader goals and objectives, thereby supporting effective risk management.	Ongoing
Develop a risk management framework to guide regulatory approaches and decisions.	We finalised the Biosecurity Risk Management Framework in December 2022. We are working through implementation planning.	Completed
Establish a digital reform roadmap for biosecurity, guided by a new Digital Reform Division, which maximises integration with government and industry systems.	We created a dedicated Digital Reform Division in 2022 as the system owners of biosecurity systems. Development of a digital strategy commenced in 2022 and consultation is scheduled for finalisation in 2023.	Expected completion 2023
Deliver further digital, risk assessment and workflow capabilities for the international mail pathway.	In 2023 we will continue to deliver automated workflow and enhanced data arrangements to underpin regulatory support for biosecurity officers. Some deliverables completed in 2022 include: <ul style="list-style-type: none"> ■ requirements for parcel scanner and inspections scoping ■ Electronic Advance Data trial across gateways – findings will inform business requirements for automation ■ development of Traveller, Aircraft and Mail System implementation and change management for mail. 	Ongoing
Develop a biosecurity risk workflow that captures, assesses and identifies mitigation measures to manage the risk of emerging pests and diseases and records outcomes for changes in biosecurity risk.	The Biosecurity Risk Management Framework was finalised in 2022 and implementation of the framework has commenced. The biosecurity risk workflow is being developed as part of the framework.	Ongoing
Develop a biosecurity data and analytics data platform that leverages Microsoft Azure, including Azure data lake, to provide greater analytics capacity and tooling.	In 2022 we successfully deployed the Biosecurity Azure Data Platform infrastructure for use across our biosecurity and compliance divisions. Implementation will continue into 2023 as the data warehouse and analytics pipeline are migrated. Exploration of scalable advanced analytics and machine learning is underway, which will yield greater insights for biosecurity risk management.	Ongoing

Table A5 Strategic Action 5: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 5: 2022 Priority action	2022 Priority action update	Status
Finalise a pilot of new remote capabilities to increase inspection efficiency and mitigate workplace health and safety risks.	Following completion of Stage 1 trials of livestream technologies in 2021, we invested in a new model, the Realwear Navigator 500, and tested its capacity to overcome issues identified in the trials. In 2022 we tested Realwear and the Microsoft HoloLens 2 glasses due to the similarity in use cases. Testing conducted in the Torres Strait Islands and the Northern Territory looked at connectivity and video image quality. Testing of both technologies continues in 2023 in Melbourne and Brisbane.	Ongoing
Complete a trial of X-ray applications to automate the identification and capture of seed packets coming through the international mail gateways.	Research and development trials have been undertaken to test the feasibility of identification of seed packets in mail articles via an automated algorithm.	Completed
Partner with key stakeholders to pilot high throughput sequencing in post-entry quarantine.	A pilot-scale high throughput sequencing (HTS) system, including custom bioinformatics and database cloud-based platforms, was successfully implemented at the Mickleham Post Entry Quarantine facility in December 2022. HTS will be progressively expanded over 2023–24 to cover all key commodities, resulting in significant efficiency dividends and improved biosecurity outcomes.	Completed
Deliver a national environmental DNA (eDNA) testing program to assist border surveillance of key exotic pests, supported by a partnership with University of Canberra.	<ol style="list-style-type: none"> 1. We have successfully completed implementation of the National eDNA Testing Program and establishment of the National eDNA Reference Laboratory (NRC) and Australian network of eDNA collaboration centres. The first scheduled review of the NRC will commence in February 2023. 2. We are testing and validating the technology to detect hitchhiker risks in the sea cargo pathway, with a plan for the outcomes to be applicable to other hitchhiker pathways. A draft expression of interest proposal is under development for consideration by the departmental Cargo Consultative Committee (DCCC) to promote industry partnership for container sampling. 	<ol style="list-style-type: none"> 1. Completed 2. Ongoing
Roll out the Biosecurity Portal, which will provide an online self-service capability for industry, initially for inspection bookings.	The Biosecurity Portal, which supports inspection requests, has been rolled out nationally. Closure of the previous email inspection request channel begins in early 2023.	Completed

Table A5 Strategic Action 5: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 5: 2022 Priority action	2022 Priority action update	Status
Progress automated import document assessment (Self-assessed Clearance and minimum documentation assessment processes) and enhancements to the processing of documents.	<p>The import documentation automation solution was developed in partnership with Indigenous business technology provider Gulanga Group Pty Ltd. The complexity of document assessment work and biosecurity systems required innovative approaches to deliver this automation solution. We are piloting the solution with assessment officers ahead of a staged national roll-out in the first quarter of 2023.</p> <p>The Self-assessed Clearance (SAC) assessment automation was implemented in April 2022. It uses machine learning to replace manual triaging and provides our biosecurity officers with a user interface to action millions of referrals annually. The automation works to group like SAC consignments, reviewing each one and providing a recommendation for appropriate action. It also provides oversight and transparency of biosecurity risk decisions.</p>	Completed
Trial mobile handheld technologies to better detect pests.	A test plan has been finalised. Prototypes are ready to be tested by the supplier in an operational setting in New South Wales.	Ongoing
Partner with industry to deliver a prototype sensor that identifies and quantifies residual fumigants on sea containers in real time and identifies biosecurity pests of concern.	<p>We have partnered with RingIR to develop and test a device that can detect methyl bromide, sulfuryl fluoride and phosphine. Work on a new prototype was completed in 2022, with field trials to be conducted in early 2023. Work was also undertaken in the United States, with assistance from the US Department of Agriculture, to determine whether the technology could detect pests of biosecurity concern in a laboratory environment. The outcomes from this activity were positive and further in-depth analysis will be undertaken in 2023.</p>	Expected completion 2023
Pilot automating shipping container screening using hyperspectral cameras attached to port cranes.	Results to date indicate that further work is required for pest detection and contamination accuracy.	Ongoing
Complete testing of tools to improve monitoring of compliance with aircraft disinsection requirements.	<p>Pyrethroid surface sampler (PSS) testing is now complete. Enhancements are required to the technology for it to be a viable operational tool.</p> <p>We have enhanced the Aircraft Disinsection Information (ADI) application. This includes introducing a more stable and reliable platform and improving security measures and specified roles and applications to authenticate new and current user access.</p> <p>Import Relationship and Access Manager (iRAM) has been introduced to authenticate user access to ADI and manage external user accounts.</p>	Completed
Progress the development of a tool using artificial intelligence to enable real-time identification of brown marmorated stink bug (BMSB) and exotic bees.	<p>The BMSB AI app was developed in partnership with CSIRO and the Australian Chief Plant Protection Office (ACPPPO). The artificial intelligence (AI) model and application were developed using Deep Learning AI for the identification of BMSB (<i>Halyomorpha halys</i>) and 44 other stink bug species. During the latest BMSB season (November 2022 to February 2023), around 100 operational staff trialled the BMSB AI app in the field to test accuracy, functionality and useability.</p>	Completed

Table A5 Strategic Action 5: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 5: 2022 Priority action	2022 Priority action update	Status
<p>Implement interoperable system functionality to provide for accurate, consistent and current taxonomic information to support regulatory decision-making.</p>	<p>We have progressed enhancements to the Taxonomic Reference Service (TRS), an enterprise system for entering and maintaining taxonomic data. This includes infrastructure upgrades and exploration of datasets for the system. We also identified a need for TRS upgrades to integrate with our Laboratory Information Management System (LIMS) – a key requirement to support accurate, consistent and current taxonomic data for LIMS. This work will facilitate integration of the TRS in other departmental systems to support regulatory decision-making using taxonomic data.</p> <p>We also upgraded our Pest and Disease Repository (PDR) to include taxonomic support and decision-making information through different workflow tools. Inclusion of the Pest and Disease Management (PDM) product in the Biosecurity Assessment Recording System (BARS) enables us to enter new and updated information against taxonomy that will be accessible through PDR. Consultation across the department is contributing to PDR data updates to support staff making biosecurity-related regulatory decisions.</p>	<p>Completed</p>
<p>Progress use of enhanced capabilities such as machine learning, anomaly detection and geospatial mapping to assist with risk management.</p>	<p>Multiple proof-of-concept trials have been delivered to the exploration and presentation phase, such as geospatial modelling (including a range of geospatial dashboard concepts), statistical modelling, advanced probability modelling and 2 anomaly detection methods to highlight unusual patterns and trends in data.</p>	<p>Completed</p>

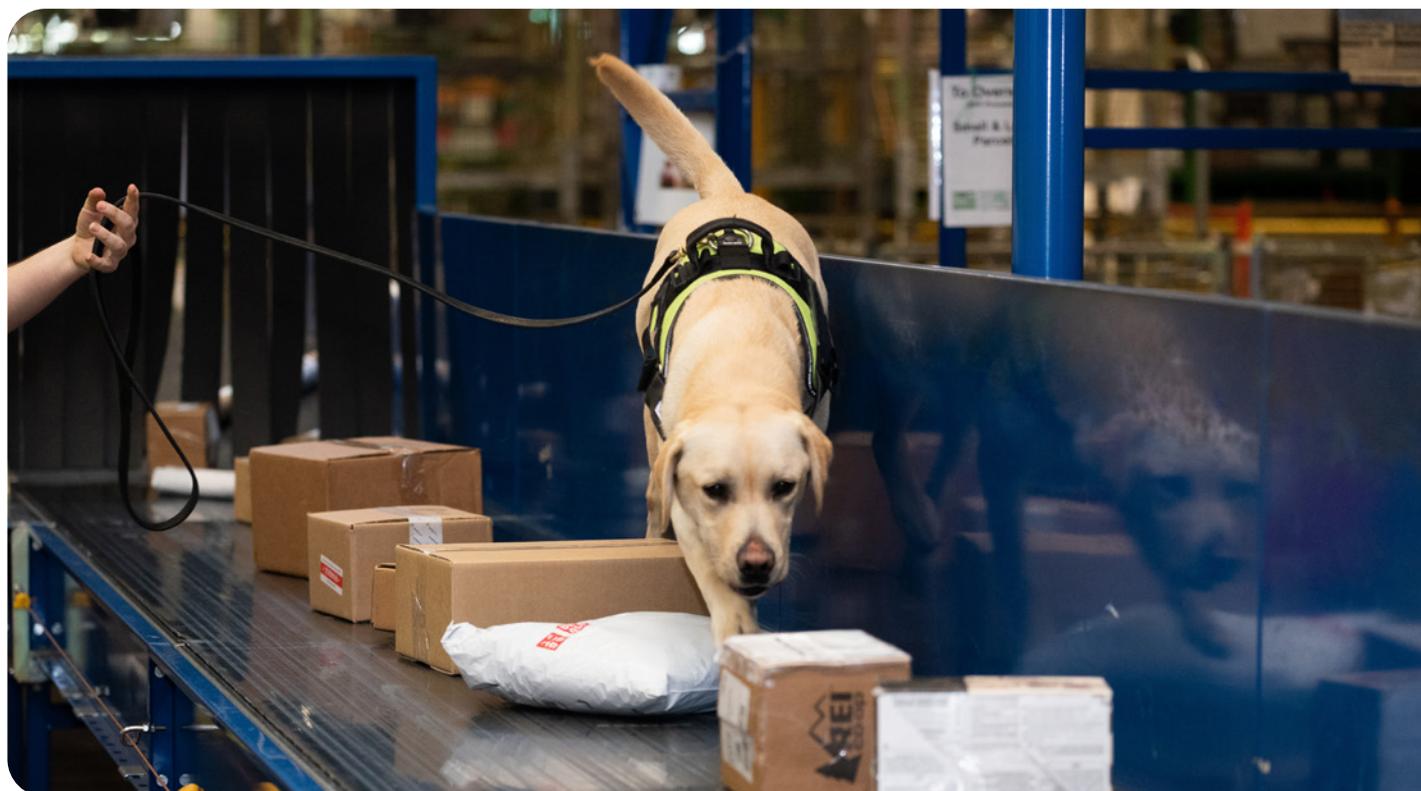


Table A6 Strategic Action 6: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 6: 2022 Priority action	2022 Priority action update	Status
Complete the first annual biosecurity threat assessment.	The National Biosecurity Threat Assessment (NBTA) is in the final stages of development.	Expected completion 2023
Develop a biosecurity brand to increase awareness of the importance of biosecurity and people’s roles in the biosecurity system.	Initial work was undertaken by consultants to develop a Biosecurity Brand Platform. This was informed by interviews with key stakeholders and input from an internal working group. Further consideration will be given to this work through 2023.	Ongoing
Deliver targeted biosecurity education campaigns, in multiple languages where relevant, including with a focus on online shoppers and African swine fever (ASF).	An international traveller communications campaign was held from December 2021 to March 2022. This included a range of mediums such as sponsored social media sites, digital advertising and animations. We ran a foot-and-mouth disease (FMD) communications campaign from October 2022 to January 2023. Materials were developed in various culturally and linguistically diverse languages and distributed via targeted digital platforms. Two smaller campaigns targeting international travellers and FMD were held from July to October 2022. Separate campaigns on ASF and online shopping have been developed and market tested for future delivery.	Completed
Improve the user experience of the national biosecurity website to further build on it as the first stop for biosecurity information for Australians.	A review of biosecurity.gov.au undertaken in mid-2022 provided recommendations for refinements to the site. This will be considered further in 2023.	Ongoing
Develop a tool to intervene and understand the motivations, barriers and drivers of people who purchase seeds online	Initial planning has occurred with further work to be considered through 2023.	Ongoing

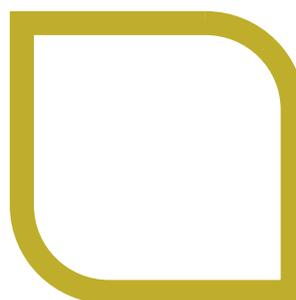


Table A6 Strategic Action 6: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 6: 2022 Priority action	2022 Priority action update	Status
<p>Strengthen work with government, communities, industry, indigenous groups, veterinarians and other service providers to raise awareness of biosecurity risks in the north.</p>	<p>We delivered an integrated biosecurity awareness program through the Northern Australia Quarantine Strategy ‘Top Watch!’ initiative. Key achievements in 2022 include:</p> <ul style="list-style-type: none"> ■ integrating new public awareness resources targeting remote and Indigenous communities ■ delivering interactive training resources (3D models) supporting Indigenous ranger monitoring for target pests and plant diseases ■ adopting new technologies (digital noticeboards) to deliver real-time biosecurity awareness information in key intervention points in Torres Strait (Thursday Island and Horn Island) ■ coordinated distribution of new awareness products targeting emerging animal and plant health threats (including Japanese encephalitis, lumpy skin disease, FMD and exotic fruit fly) in collaboration with state and territory jurisdictions across the Northern Territory, Western Australia and Queensland. <p>Additional engagements with state and territory jurisdictions, industry representatives and other stakeholders progressed through forums supporting the Northern Australia Biosecurity Strategy.</p>	<p>Completed</p>
<p>Establish and support a peri-urban environmental biosecurity community of practice with New South Wales to assist volunteers to perform environmental biosecurity surveillance functions.</p>	<p>Strategic planning is ongoing in addition to early-stage community engagement in person and online. Peri-urban and other environmentally conscious community groups are identified as best candidates for assisting with the provision of exotic environmental biosecurity surveillance.</p>	<p>Ongoing</p>



Table A7 Strategic Action 7: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 7: 2022 Priority action	2022 Priority action update	Status
Conduct a Global Biosecurity and Trade Technology Challenge to identify emerging technology and uncover novel ideas to support a proactive approach to managing emerging biosecurity risks at the Australian border beyond the next 5 years.	In 2022 we selected an external provider to help identify key biosecurity issues. From this work, we selected a challenge focusing on the 5-year history of shipping containers arriving in Australia. Work has progressed on developing this challenge, with future work to be considered through 2023.	Ongoing
Finalise a proof-of-concept trial to inform the digital design of biosecurity traveller declarations, enabling a more efficient pre-arrival acquisition of data to inform border clearance and compliance processes.	The proof-of-concept trial is on hold, pending work by the Department of Home Affairs.	On hold
Finalise a fit-for-future strategy to gather, analyse and disseminate animal biosecurity intelligence.	We analysed our animal biosecurity intelligence activities to determine their effectiveness to support identification and communication of emerging animal biosecurity in line with ongoing departmental strategies and activities. We are implementing the findings.	Ongoing
Progress work to build animal biosecurity capability of our near neighbours in intelligence gathering, information sharing, early detection and alerts.	We are continuing our activities to support biosecurity and disease risk management capabilities in our near neighbours, including animal disease surveillance, use of diagnostic test kits and biosecurity risk pathway assessments. We are also continuing other activities through the World Organisation for Animal Health (WOAH), formerly OIE, to support early warning about animal health events in the region.	Ongoing
Continue to work with New Zealand to increase our joint intelligence capacity (including concluding an intelligence-sharing arrangement).	Work is ongoing with New Zealand in relation to our intelligence capability and data-sharing arrangements.	Ongoing
Develop a new capability, in partnership with industry, to access and analyse information on the current and historic global movements of shipping containers.	As part of the Hitchhiker Program, the Biosecurity Analytics Centre is sourcing information to provide us with a view of container pathways and the outcomes of biosecurity controls on containers – a crucial first step in assessing and designing controls to manage risks of pests onboard those containers. During 2022 we sourced data from commercial vendors that provide information about global shipping movements and containers landing in Australia. We have also obtained 5 years of historical import data from the Department of Home Affairs Integrated Information System that will help us match pest detections with cargo, containers and vessels. Following initial discussions, we are working with the shipping industry to obtain relevant data.	Expected completion 2023

Table A8 Strategic Action 8: 2022 priority action updates for *Commonwealth Biosecurity 2030*

Strategic Action 8: 2022 Priority action	2022 Priority action update	Status
Complete Phase 1 of a national emergency preparedness exercise program (Exercise Paratus) and refreshed biosecurity emergency management arrangements.	Phase 1 of the Exercise Paratus program was completed in 2022, comprising 6 planned and 2 supplemental activities. The remaining activities will be planned for and delivered across the 2023–24 financial year. The Australian Government Biosecurity and Agricultural Response Plan (AUSBIOAGPLAN) was updated in July 2022. Projects throughout 2023 will continue to modernise and mature relevant biosecurity emergency management arrangements.	Completed
Agree a near-border biosecurity incident response framework with states and territories.	Work on the near-border biosecurity incident response framework was paused in 2022 due to the significant amount of effort required to manage the risk of foot-and-mouth disease (FMD) and lumpy skin disease (LSD). The project will recommence in 2023.	Ongoing
Establish a dedicated response team and protocols to respond to detections of exotic pests and diseases post-biosecurity control.	We have established a dedicated response team for exotic pest and disease detections post-biosecurity control. Response protocols are under development and the team is expected to be fully operational by the end of 2023.	Expected completion 2023
Implement and build staff capacity around a new biosecurity incident management system.	In 2022 we procured a system containing crisis management and case management modules. The crisis management module has been customised to support departmental incident management arrangements. User training will continue throughout 2023. Work to develop the case management module will commence in 2023.	Ongoing
Advance region-based biosecurity preparedness planning and investment in Northern Australia, including operational response arrangements, starting with lumpy skin disease and other vector-borne diseases.	The Northern Australia Quarantine Strategy (NAQS) is implementing enhanced Emergency Animal Disease surveillance and preparedness activities in collaboration with the 3 Northern Australia jurisdictions and Northern Australia stakeholders.	Ongoing
Finalise and implement a national action plan for hitchhiker plant pests to enhance Australia’s capacity to prevent, prepare for and respond to the threat of such pests.	We released the <i>National Hitchhiker (Contaminating) Plant Pest Action Plan 2022–2032</i> on 25 August 2022. Activities developed under the Implementation Schedule are being used to focus national investment and effort to improve our preparedness capability against hitchhiker plant pests.	Completed
Create a network of private veterinarians, supported by jurisdictions, to investigate and report on unusual disease presentations in production animals.	We received a scoping study report on how to develop a southern Australia network to increase early detection of an exotic disease incursion, particularly in remote areas. The proposed network would be modelled on the Northern Australia Biosecurity Surveillance network (NABSnet).	Completed
Develop new modelling tools to support preparedness activities – for example for African swine fever (ASF).	In 2022 we began developing and refining several modelling tools for emergency animal disease preparedness and response. These include developing an LSD model, enhancing the ASF and FMD models, developing a suite of decision support tools for outbreak response and planning and updating key animal population and movement data.	Expected completion 2023

Table A8 Strategic Action 8: 2022 priority action updates for *Commonwealth Biosecurity 2030* (continued)

Strategic Action 8: 2022 Priority action	2022 Priority action update	Status
Implement new tools and systems to improve biofouling risk identification and management.	<p>The Maritime and Aircraft Reporting System (MARS) Pre-Arrival Reporting was updated in June 2022 to include biofouling management information, which was made mandatory by the Biosecurity Amendment (Biofouling Management) Regulations 2021. The changes were informed by a successful trial held in February 2022. We will update systems and processes before December 2023 to incorporate industry feedback and improve the management of the biofouling risk pathway.</p> <p>In September 2022, we tested the capabilities of 2 remotely operated vehicles (ROVs) to undertake underwater inspection of vessel hulls. We tested basic functionality, manoeuvrability, deployment and retrieval processes, image and video quality, and use of sonar for navigation. We are conducting further trials of ROVs in 2023.</p>	Expected completion 2023
Commence development of a National Action Plan for Trees and Timber to build national capability to prevent and respond to pest and disease threats to trees.	Development of the National Action Plan for Pests of Trees and Timber commenced in April 2022. Work is continuing with the project expected to be completed in 2024.	Ongoing
Progress work with states and territories towards national harmonisation of biosecurity treatments.	The following areas were identified for alignment with states and territories: treatment application requirements, treatment accreditation requirements, compliance verification, non-compliance/sanctions policy and information sharing.	Ongoing
Enhance national plant health surveillance for early detection of high-priority exotic plant pests entering through international pathways.	<p>The National Plant Health Surveillance Program was delivered successfully across all states and territories in 2022, under the new National Partnership Agreement. It involved government–industry collaborations and focused on early detection of high-priority plant pests at identified high-risk locations along international pathways.</p> <p>Industry-led surveillance is helping to improve early detection of high-priority pests through initiatives such as the Forest Pest Surveillance Program and the Citrus Biosecurity Surveillance Program. These activities will continue in 2023.</p>	Ongoing
Undertake a risk assessment of lumpy skin disease introduction into Northern Australia, including modelling the potential dispersal of insect vectors from neighbouring countries.	A literature review and qualitative risk assessment for LSD introduction via non-regulated pathways were completed in mid-2022, and additional work on a quantitative risk assessment with modelling of insect vector dispersal was completed in November 2022.	Completed
Expand Australia’s testing capability for lumpy skin disease.	We are funding CSIRO’s Australian Centre for Disease Preparedness (ACDP) to roll out essential genomic and serological detection capabilities for LSD to the Laboratories for Emergency Animal Disease Diagnosis and Response (LEADDR) network by April 2025. In 2023 ACDP will finalise improvements to its capabilities in immunohistochemistry and whole genome sequencing for LSD. We facilitated the import of live LSD viruses into ACDP to enhance the development of various LSD testing capabilities and our capability to evaluate LSD vaccines if needed.	Ongoing
Release the Exotic Environmental Pest List Implementation Plan detailing work to continue to reduce the establishing risk of exotic environmental pests, weeds and diseases.	The Exotic Environment Pest List (EEPL) Implementation Plan is scheduled to be published in 2023. The EEPL program of work is underway – we are addressing environmental biosecurity risks at pre-border, border and post-border. The work addresses pest entry pathway risks and prioritises higher-risk exotic species by developing identification, prevention and response capabilities.	Expected completion 2023

Table A9 Strategic Action 9: 2022 priority action updates for Commonwealth Biosecurity 2030

Strategic Action 9: 2022 Priority action	2022 Priority action update	Status
Undertake a public consultation process on options to deliver sustainable biosecurity system funding and investment.	Consultation completed. We are developing options for government to consider. At a national level, sustainable investment is a key priority focus for the <i>National Biosecurity Strategy</i> .	Ongoing
Complete detailed work and industry engagement to support longer-term reforms of our current biosecurity cost-recovery arrangements to ensure they are fit for purpose.	We are developing options for government to consider. At a national level, sustainable investment is a key priority for the <i>National Biosecurity Strategy</i> .	Ongoing
Identify changes to our compliance framework to incentivise compliance behaviour and remove unnecessary system costs associated with addressing non-compliance.	We are developing options for government to consider.	Ongoing
Progress work on options to fund critical national biosecurity infrastructure and systems, including through state and territory government co-investment, aligned with efforts being led by the National Biosecurity Committee.	We are developing options for government to consider.	Ongoing



Appendix B: Status and update of the 2021 initial steps for *Commonwealth Biosecurity 2030*

Table B1 2021 initial step updates for *Commonwealth Biosecurity 2030*

2021 Initial step	Initial step update	Status
Progress a national biosecurity strategy with states, territories, industry and the community.	The <i>National Biosecurity Strategy 2022–2032</i> was released on 9 August 2022.	Completed
Finalise our first annual plan to deliver against this roadmap, following consultation with key partners.	The first annual action plan for our <i>Commonwealth Biosecurity 2030</i> strategic roadmap was published in March 2022.	Completed
Deliver our first annual report on our progress implementing the Inspector-General of Biosecurity’s recommendations to enhance our risk-based biosecurity approach.	A report on our efforts to address systemic issues underlying recommendations made by the Inspector-General of Biosecurity and the Commonwealth Auditor-General was included in the first Commonwealth Biosecurity 2030 annual action plan, published in 2022.	Completed
Develop a strategy to support our Pacific Islands biosecurity partnerships and engage 2 dedicated engagement officers.	Two Pacific engagement officers have been appointed, one each for animal and plant biosecurity. These officers provide the dedicated entry point into the department for Pacific Islands governments and stakeholders, and support engagement from these governments on issues such as trade requests, partnering on projects and regional biosecurity. We are finalising our <i>Pacific Biosecurity Strategy 2022 to 2027</i> . For information about this activity, see 2022 priority action updates in Table A3.	Completed
Work with the states and territories to implement the Northern Australia Biosecurity Strategy (NABS).	In February 2023 the 3 Northern Australia jurisdictions and other key stakeholders were engaged in delivery of the NABS through the NABS forum. They will continue to meet with the animal, plant and aquatic technical working groups and the NABS Reference group in 2023.	Completed
Co-design national preparedness exercise and commence workshops to agree on critical national practices.	A national preparedness exercise program (Exercise Paratus) was designed and Phase 1 of the exercise was completed in 2022. For information about this activity, see 2022 priority action updates in Table A8.	Completed

Table B1 2021 initial step updates for *Commonwealth Biosecurity 2030* (continued)

2021 Initial step	Initial step update	Status
Undertake an assessment of the need for a livestock genetics preservation arrangement.	<p>We engaged CSIRO to undertake a scoping project, investigating the feasibility of a livestock gene bank. The report, finalised in June 2022 (unpublished), highlighted several challenges associated with establishing a national gene bank facility. This included:</p> <ul style="list-style-type: none"> ■ difficulty in fairly distributing genetic samples following disaster events ■ poor utility of providing genetic material when all breeding stock had been destroyed, because receptive breeding females would not be available ■ funding a national gene bank facility would not be cost recoverable. 	Completed
Design and deliver up to 3 pilots with the import sector to test streamlined clearance arrangements, with a view to reducing regulatory costs for compliant importers and producers.	We completed 7 pilots in 2022 with different importers across a varied supply chain and commodity base, and cargo flow method for importation. For information about this activity, see 2022 priority action updates in Table A2.	Completed
Introduce 3 new 3D X-ray machines into international mail centres.	Two 3D X-ray units were operational at international mail centres in 2021. Our third 3D X-ray machine was installed in an international mail gateway facility in April 2022.	Completed
Pilot offshore (remote) screening of international passenger baggage.	<p>The pre-screening of passenger baggage project was originally scoped with 2 streams of work:</p> <ol style="list-style-type: none"> 1. Onshore (but pre-border). 2. Offshore. <p>We have secured agreement with 2 international airports to install 3D X-ray machines and associated tracking technology into their baggage handling systems for the trial of onshore pre-screening of passenger baggage. Installation and trials commence in 2023–24. The offshore component of the project was de-scoped primarily due to legal barriers and because the onshore component delivers the same outcome for both the passenger and biosecurity outcomes and is country agnostic.</p>	Ongoing
Progress an integrated biosecurity clearance, assurance and response model for Australian port precincts, involving government and industry, starting with cases studies in key air and seaports.	We worked with the Port of Melbourne and key industry stakeholders on a proof-of-concept trial for new vehicle imports, testing an industry end-to-end solution that achieves the required biosecurity outcomes. For information about this activity, see the case study Proof-of-concept trial for new vehicles arriving at the Port of Melbourne .	Completed

Table B1 2021 initial step updates for *Commonwealth Biosecurity 2030* (continued)

2021 Initial step	Initial step update	Status
Agree on early regulatory changes to biosecurity and imported food control legislation to remove unwarranted legislated constraints and administrative burden for government and industry.	<p>Work has commenced to review the <i>Imported Food Control Act 1992</i>. The <i>Biosecurity Act 2015</i> was amended in December 2022 by the <i>Biosecurity Amendment (Strengthening Biosecurity) Act 2022</i>. In part, the amendments aim to:</p> <ul style="list-style-type: none"> strengthen Australia’s ability to effectively manage and respond to emerging biosecurity risks improve the efficiency and effectiveness of the administration of the <i>Biosecurity Act 2015</i> enable more effective information sharing with government agencies. 	Ongoing
Release an updated regulatory practice statement and compliance policy, together with tailored legal training to support our staff in their regulatory role.	<p>This initial step was updated in the <i>Commonwealth Biosecurity 2030 Action Plan 2022</i>.</p> <p>Building Legal Organisational Capability training was delivered to 1,813 department employees. For information about this activity, see 2022 priority action updates in Table A4.</p>	Completed
Refresh the national biosecurity website to improve awareness and information sharing.	<p>This initial step was updated in the <i>Commonwealth Biosecurity 2030 Action Plan 2022</i>.</p>	Completed
Review our existing biosecurity cost recovery arrangements.	<p>This initial step was updated in the <i>Commonwealth Biosecurity 2030 Action Plan 2022</i>.</p> <p>We also published the <i>Cost Recovery Implementation Statement: biosecurity (hitchhiker) 2022–23</i> in November 2022, detailing increases to the Full Import Declaration charge for sea cargo (Sea FID) for each declared consignment arriving by sea. This cost recovery is to address our increased efforts to manage risks posed by hitchhiker pests and diseases. We intend to commence consultation with industry in early March 2023 on proposed new fees and charges for biosecurity cost recovery. Updated prices will realign effort and costs with pricing for current regulatory activities. New prices are likely to be imposed from 1 July 2023.</p>	Ongoing
Scope the critical elements of an integrated biosecurity import system that is interoperable with government and industry systems.	<p>This initial step was updated in the <i>Commonwealth Biosecurity 2030 Action Plan 2022</i>.</p>	Completed

Glossary

Term	Definition
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences – ABARES is the science and economics research division of the Department of Agriculture, Fisheries and Forestry.
ABF	Australian Border Force – the ABF is Australia’s frontline border law enforcement agency and customs service.
ANAO	Australian National Audit Office – ANAO is a specialist public sector practice providing a full range of audit and assurance services to parliament and Commonwealth public sector entities and statutory bodies.
ASEAN	Association of Southeast Asian Nations – ASEAN includes 10 member states: Brunei Darussalam, Cambodia, Indonesia, Lao People’s Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.
ASF	African swine fever – ASF is a highly contagious viral disease of domestic and wild pigs.
biosecurity risk	<ul style="list-style-type: none"> ■ the likelihood of a disease or pest entering, establishing or spreading in Australian territory or a part of Australian territory ■ the potential for any of the following <ul style="list-style-type: none"> - the disease or pest to cause harm to human, animal or plant health - the disease or pest to cause harm to the environment - economic consequences associated with the entry, establishment or spread of the disease or pest.
BMSB	brown marmorated stink bug (<i>Halyomorpha halys</i>) – BMSB is a hitchhiker pest and an Australian National Priority Plant Pest.
BRM	biosecurity risk material – BRM is material that may pose a biosecurity risk.
CEBRA	Centre of Excellence for Biosecurity Risk Analysis
citrus canker	Caused by the bacterium <i>Xanthomonas citri</i> subsp. <i>citri</i> . Citrus canker affects citrus species and is an Australian National Priority Plant Pest.
FID	Full Import Declaration – a declaration to Customs and Border Protection required for clearance of goods that have a value of more than \$1,000.
FMD	foot-and-mouth disease – FMD is a highly contagious viral disease that affects cloven-hoofed animals.
hitchhiker pest	These are pests that can ‘hitch a ride’ to Australia within or on shipping containers, imported goods and other forms of transportation.
IGB	Inspector-General of Biosecurity – the IGB is an independent, statutory officer responsible for reviewing the performance of functions or exercise of powers by biosecurity officials in the department.
IPPC	International Plant Protection Convention – the IPPC is an intergovernmental treaty signed by over 180 countries, aiming to protect the world’s plant resources from the spread and introduction of pests and promoting safe trade.
khapra beetle	Khapra beetle (<i>Trogoderma granarium</i>) is a serious pest of stored grains, rice, oilseeds and dried foodstuffs. Khapra beetle is also a hitchhiker pest and is an Australian National Priority Plant Pest.
LSD	lumpy skin disease – LSD is a highly contagious viral disease of cattle and buffalo.

Term	Definition
MALDI-TOF	Matrix-assisted laser desorption/ionisation (MALDI) coupled to time-of-flight (TOF) mass spectrometry. MALDI-TOF mass spectrometry can be used to identify organisms (such as bacteria and fungi).
MARS	Maritime and Aircraft Reporting System – MARS is a departmental online web portal used by shipping agents and masters of commercial vessels to submit pre-arrival documents.
MinION	A form of nanopore sequencing technology.
MOU	memorandum of understanding
NABS	<i>Northern Australia Biosecurity Strategy 2030</i>
NAQS	Northern Australia Quarantine Strategy – NAQS provides an early warning system for exotic pest, weed and disease detections across Northern Australia and helps to address unique biosecurity risks facing the region.
PCR	polymerase chain reaction – PCR is a laboratory technique for rapidly amplifying copies of a specific segment of DNA.
SAC	Self-assessed Clearance – SAC cargo are non-commercial goods (including online purchases) imported into Australia with a value of less than or equal to \$1,000.
WOAH	World Organisation for Animal Health – WOAH was founded as OIE (Office International des Epizooties). It is an intergovernmental organisation and the global authority on animal health.
<i>Xylella</i>	<i>Xylella fastidiosa</i> , a bacterium causing disease that can affect hundreds of plant species. <i>Xylella</i> is Australia's number 1 National Priority Plant Pest.





