National Hitchhiker (Contaminating) Plant Pest Action Plan 2022–2032: implementation schedule 2025

The success of the National Hitchhiker (Contaminating) Plant Pest Action Plan 2022–2032 (the plan) depends on cooperation and collaboration between importers, shipping businesses, agricultural industries, all levels of government, non-government organisations and individuals, experts and research agencies. This implementation schedule will be used to:

- record the progress of actions set out in the national action plan
- document roles, responsibilities and funding mechanisms
- communicate progress with stakeholders.

Actions in this plan will complement actions in other national action plans for priority plant pests.

Plant Health Committee (PHC) is responsible for endorsing plans and overseeing implementation. The Department of Agriculture, Fisheries and Forestry (DAFF) will provide mechanisms (such as workshops with key stakeholders) to monitor and review implementation schedules. The purpose of the reviews is to identify and/or discuss actions that support the plan and deliver the associated preparedness outcomes. PHC will be provided with review findings to deliberate if the activities meet the need and will support implementation if needed for activities where no lead or financial contributors have been proposed.

The plan will achieve:

1) High level of engagement and support from stakeholders.
2) Improved diagnostic capacity and treatment capability.
3) Increased awareness among importers, international and domestic shipping providers, Australian industry, governments and the general public, of the potential risks to Australian industry, the environment and social amenity from hitchhiker pests since the development of the plan.
4) A demonstrated increase in projects initiated and completed to address identified knowledge gaps.
5) High level of confidence in national surveillance and diagnostic capability to provide evidence of Australia's pest-free status for hitchhiker pests.
6) Improved preparedness among stakeholders to respond to a border incident or incursion of a hitchhiker pest.

Implementation of the plan's actions are shown in Table 1 (prevention), Table 2 (detection), Table 3 (response) and Table 4 (cross-cutting).

Indicative timeframes are short term (up to 3 years), medium term (4 to 8 years) and long term (up to 10 years). The indicative timeframe reflects the expected duration to deliver an activity once it has commenced.

Actions are prioritised based on stakeholder feedback, ranging from low, medium to high priority to focus efforts on actions which maximise preparedness outcomes within their indicative timeframes. Action priorities are subject to change based on stakeholder feedback provided through reviews.

Lead organisations are outlined against each project or activity to support collaboration between organisations. Contributors (in-kind and financial) are also identified to outline partnerships and/or collaborations. Where an activity hasn't been started the lead organisation and contributors should be suggested organisations to engage during development of the activity.

Dependencies in the implementation schedules indicate where a project or activity can only be successful with the support of an additional activity. The dependencies column outlines the complexity of the plant biosecurity system and provides a tangible path forward to achieving expected benefits and outcomes.

Linkages in the implementation schedules indicate intersections between projects identified in the implementation schedule and projects identified in other national biosecurity strategies and plans. The purpose of identifying linkages between projects in the implementation schedule and other national biosecurity strategies and plans is to outline the connectivity between the biosecurity system and support cross-organisation collaborations where opportunities arise.

Progress against actions is identified in the Implementation Schedule using highlighted colours as per the following key.

Status key

	Completed – project finished
	On track – project commenced
	Ongoing – business as usual activity
	Pending – project to commence when funding available

Table 1 Implementation of activities for Area 1: Prevention

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
Action 1.1: Undertake pest risk assessments for hitchhiker pest groupings, taking into account border interception data. **Expected benefit and outcome:** A pest risk assessment will support emergency responses and lead to more effective measures at the Australian border to minimise the risk of a hitchhiker pest incursion. **Priority:** High **Time frame:** Medium term (4 to 8 years)	**1.1.1** Develop pest risk assessments, including consideration of biology, interception data modelling, and risk mitigation/management options	Ongoing – business as usual Pest risk assessments to be completed at species level, with functional groups being informed by this process. External container risk assessment complete.	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.1 • National Invasive Ant Biosecurity Plan: 1.1	PBRI Strategy: 1.5
	1.1.2 Review interception data to inform the pest risk assessment and, if possible, provide support to modelling	Ongoing – business as usual Interception data reviewed as part of external container risk assessment.	Commonwealth	Commonwealth	Supports many other action areas, including action 1.4	NBS: IA6.4 PBRI Strategy: 1.5
	1.1.3 Undertake a thorough risk assessment of pathways to inform the pest risk assessment	Ongoing – business as usual	Commonwealth	Commonwealth	Supports many other action areas, including action 1.4	PBRI Strategy: 1.1, 1.5 Biosecurity Plan for the Australian Truffle Industry 2016-2021: 7 Biosecurity Plan for the Vegetable Industry 2017–2022: 2c Biosecurity Plan for the Lychee Industry 2021–2026: 1.2 Rice Industry Biosecurity Implementation Plan 2023-2028: 1.2
	1.1.4 Container data and analytical tools	On track – project commenced Some projects are on track others have been delayed. This project maintains existing high-quality, curated data and reporting on shipping container entries and biosecurity risk management. It supports understanding the risk of hitchhiker pests in imported shipping containers and their cargo using data and analytics. The project includes productionising existing tools to support monitoring and review of high-risk containers and review of port risk classifications. It also includes support for and expansion of reporting on offshore and onshore treatment provision and AI-based tools to read treatment-related documents.	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.1	NBPS: 4.1 NPBS: 6.1 NPBSS: 2.3
	1.1.5 Biosecurity system simulation model to enhance the capability to estimate biosecurity risk, expenditure, and value across the national biosecurity system	Ongoing – business as usual This work will inform the prioritisation of intervention to higher risk areas. It will also identify where economic or environmental impact of pest/disease outbreaks would be most severe. The project will focus on ensuring the growing risk of hitchhiker pests is appropriately modelled.	Commonwealth	Commonwealth	Relates to action 1.1, 1.2, 1.5, 1.7 Supports: • National Khapra Beetle Action Plan: 2.3	NBS: IA3.2 NPBS: 2.2 NPBPS: 2.1 NPBSS: 2.1 Biosecurity Plan for the Australian Truffle Industry 2016-2021: 15

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
						Biosecurity Plan for the Australian Viticulture Industries 2019-2024: 3C Biosecurity Plan for the Berry Sector 2019-2024: 1.5 Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 3.2 Biosecurity Plan for the Lychee Industry 2021–2026: 1.4 Biosecurity Plan for the Australian Production Nursery Industry 2023–2028: 1.3 Rice Industry Biosecurity Implementation Plan 2023-2028: 1.4
Action 1.2: Undertake a sea container pathway review to reduce the risk of hitchhiker pests being transported. **Expected benefit and outcome:** Addressing the risk of contaminated shipping containers will reduce the biosecurity risk of hitchhiking plant pests. **Priority:** High **Time frame:** Medium term (4 to 8 years)	**1.2.1** Assess results of DAFF initiatives to target high-risk FCL/FCX containers for khapra beetle for implications for other hitchhiker pests	Pending – project to commence The khapra beetle pest risk analysis is underway. Once finalised this assessment will determine implications for management of other hitchhiker pests. Available at: https://www.agriculture.gov.au/biosecurity-trade/policy/risk-analysis/plant/khapra-pest-risk-analysis	Commonwealth	Commonwealth	Relates to action 1.4 Supports: • National Khapra Beetle Action Plan: 1.4, 1.7	PBRI Strategy: 1.1 NBS: IA4.3
	1.2.2 Assess results of eDNA project for detection of khapra beetle in sea containers for technology's potential applicability to other hitchhiker pests	Completed – Project finished (2023). Developed and validated eDNA tests for BMSB, red imported fire ant, electric ant, spotted lantern fly and spongy moth. Varroa mite eDNA assay developed. This project will be informed by eDNA investigations conducted by khapra beetle surveillance team and new eDNA surveillance team. Available at: https://researchprofiles.canberra.edu.au/en/projects/biosecurity-molecular-screening-using-edna-technology-phase-5/	Commonwealth University of Canberra	Commonwealth	Informed by: • National Khapra Beetle Action Plan: 1.5.1	PBRI Strategy: 1.1 NBS: IA4.3
	1.2.3 Risk and Control Framework: A revised policy approach for managing external risks associated with sea containers	Ongoing – business as usual Tranche 1 was the Hitchhiker Pest Container Survey and was completed in 2025. This survey confirmed that externally contaminated containers are entering Australia without inspection. The survey also provided valuable	Commonwealth	Commonwealth)	Not applicable	PBRI Strategy: 1.1 NBS: IA4.3

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		insights that assisted in the development of the Risk and Control Framework and a new approved arrangements (AA) framework with new or updated AA classes and conditions for container inspections and treatments. Tranche 2 was completed in 2025. This included developing the Risk and Control Framework policy, the new AA framework and material to support implementation. The next stage of this project will be the ongoing implementation of the Risk and Control Framework.				
	1.2.4 Compliance-Based Intervention Scheme (CBIS)	Ongoing – business as usual The CBIS uses a risk-based management approach to regulate imports by applying risk-based intervention. CBIS reduces intervention on imported goods that have continually demonstrated a high level of compliance with Australia's import conditions and increases intervention when non- compliance is detected. The CBIS project teams are continually improving the system functionality and expanding the program onto a broader range of plant and animal imports.	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.2	PBRI Strategy: 1.1 NBS: IA1.2, IA4.3 NPBPS: 3.5
	1.2.5 Profiling and targeting of hitchhiker pests in sea containers	On track – project commenced This project will develop new and refined profiles to support the management of hitchhiker pests in sea containers. Accurate profiling will help achieve better border intervention outcomes.	Commonwealth	Commonwealth	Supports: • National Invasive Ant Biosecurity Plan: 1.1 • National Khapra Beetle Action Plan: 1.5	NBS: IA4.3 NPBS: 2.1, 3.2 NPBSS: 5.1 PBRI Strategy: 1.1
	1.2.6 Gathering biological and ecological information on Yellow Spotted Stink Bug to inform risk assessment and improve detection and surveillance capabilities	On track – project commenced The project aims to acquire ecological and biological information on Yellow Spotted Stink Bug relevant to support evidence-based policy and facilitate better detection, surveillance, and response capabilities for YSSB detections at Australian ports and post-border surveillance and response management. Phase 1 of the project, focusing on field studies on import of live insects from Albania to Switzerland, is complete. Phase 2 of the project will be delivered through CABI in Switzerland and China and will focus on developmental and biological research for YSSB.	Commonwealth	Commonwealth	Not applicable	PBRI Strategy: 1.1 NPBS: 2.1
Action 1.3 Assess whether current random verification requirements for air freight containers will effectively manage the emerging biosecurity risks on the hitchhiker pest pathway. **Expected benefit and outcome:** Determining the optimal level of random verification protocols for air	**1.3.1** Assess whether random verification requirements for air freight containers is adequate by analysing airside biosecurity risk detections over the previous five years	On track – project commenced Available at: https://www.agriculture.gov.au/biosecurity-trade/import/arrival/clearance-inspection	Commonwealth	Commonwealth	Relates to action 1.4, 1.7, 3.2 and 3.3 Supports: • National Khapra Beetle Action Plan: 1.2	NPBSS: 1.3, 6.3

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
freight containers will increase the effectiveness of risk mitigation measures for hitchhiker pests. **Priority:** High **Time frame:** Short term (up to 3 years)						
Action 1.4 The Cargo Compliance Verification (CCV) program can be used to inform the biosecurity risk profile for hitchhiker pests. **Expected benefit and outcome:** CCV data is an important tool for testing the validity of a pest risk profile. **Priority:** High **Time frame:** Ongoing	**1.4.1** Analyse CCV program data to improve the validity of hitchhiker pest risk profiles	Ongoing – business as usual	Commonwealth	Commonwealth	Relates to action 1.2 Supports: • National Khapra Beetle Action Plan: 1.2	NBS: IA4.3 PBRI Strategy: 1.1 NPPRCS: 4.1
	1.4.2 Where applicable, leverage the CCV program to inform enhanced data collection to assist risk owners make policy decisions about hitchhiker pests	Ongoing – business as usual	Commonwealth	Commonwealth	Relates to action 1.2 Supports: • National Khapra Beetle Action Plan: 1.2	NBS: IA4.3 NPBSS: 2.3
	1.4.3 CCV sweepings	Completed – project finished (2023)	Commonwealth	Commonwealth	Relates to action 1.2 Supports: • National Khapra Beetle Action Plan: 1.2	NBS: IA5.3 NECBRDES: 1.2.2
	1.4.4 To increase the efficiency of biosecurity investment and to identify opportunities for improvement	Completed – project finished (2023) Consider the data from CCV outcomes and how they will be shared with policy areas for review.	Commonwealth	Commonwealth	Relates to action 1.2 Supports: • National Khapra Beetle Action Plan: 1.2	NBS: IA5.3 NECBRDES: 1.2.2
Action 1.5 Analysis of critical control points on the container pathway considering changes in known hitchhiker pest distribution. **Expected benefit and outcome:** Analysing critical control point data may assist in identifying high-risk container pathways and their change over time, for example, with changes in hitchhiker pest distribution. **Priority:** High **Time frame:** Ongoing	**1.5.1** Promoting custodial responsibilities of industry stakeholders	Ongoing – business as usual The IPPC's Focus Group is developing a supply chain solution known as Custodial Responsibility. Under this concept, each custodian of the container takes reasonable steps to ensure that the container, and any cargo it contains, are received from the previous party are free of any visible pest contamination, and that reasonable efforts are made to prevent such contamination from occurring whilst the container and/or cargo is in that party's custody.	Commonwealth	Commonwealth	Relates to action 1.1 Supports: • National Khapra Beetle Action Plan: 1.1	NBS: IA4.3 NPBSS: 4.2
	1.5.2 Understanding and tracking pathways of hitchhiker (contaminating) plant pest movement to and within Australia	Pending – project to commence when funding available Proposed at 2025 forum.	To be determined.	To be determined.	To be determined.	PBRI Strategy: 1.1, 1.5 Biosecurity Plan for the Australian Truffle Industry 2016-2021: 7 Biosecurity Plan for the Vegetable Industry 2017–2022: 2c Biosecurity Plan for the Lychee Industry 2021–2026: 1.2

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
						Rice Industry Biosecurity Implementation Plan 2023-2028: 1.2
Action 1.6 Consider stronger measures with Approved Arrangements and First Points of Entry. **Expected benefit and outcome:** Information on post border movement of containers from likely source ports or containing known host commodities from pack/unpack sites under Approved Arrangements, and volumes and destinations would be valuable to increase the possibility of early detection for post border surveillance and avoid having to undertake a response. **Priority:** High **Time frame:** Ongoing	**1.6.1** Regularly analyse container movement information to strengthen Approved Arrangements and assist with post border surveillance for early detection	Ongoing – business as usual Hitchhiker surveillance project has identified high-risk non-Biosecurity Entry Points for surveillance and aims to better use data to identify high-risk Biosecurity Entry Points for surveillance.	Commonwealth	Commonwealth Jurisdictions	Relates to action 1.7 Supports: • National Invasive Ant Biosecurity Plan: 2.5, 2.9	NBS: IA4.6 NPBS: 3.1 PBRI Strategy: 2.1
	1.6.2 Consider outcomes of ant baiting at port project for transference to Approved Arrangements	Ongoing – business as usual The project 'Pilot prophylactic baiting for exotic invasive ants at high-risk sites' supports implementation of the National Biosecurity Invasive Ant Plan 2018-2028 – Action 2.9. Project due for completion 30 October 2023. Similar trials could also be undertaken for other hitchhiker pests if determined suitable to deliver program of work.	Commonwealth Jurisdiction	Industry	Supports: • National Invasive Ant Biosecurity Plan: 2.9 • National Khapra Beetle Action Plan: 2.3	
	1.6.3 Approved arrangement class 19	Ongoing – business as usual Approved arrangement class 19 enables accredited persons and self-reporting importers to undertake assessment of import information and generate biosecurity notices. In recent years, the changing hitchhiker pest risk profile has significantly increased demands for biosecurity operations, leading to additional resources required to manage assessment and inspection operation areas. Approved arrangement class 19 allows DAFF to better utilise staff to strategically target 'higher risk' imported goods and better manage biosecurity operations.	Commonwealth	Commonwealth	Supports: • National Invasive Ant Biosecurity Plan: 2.9 • National Khapra Beetle Action Plan: 2.3	
Action 1.7 Support an international shipping container standard and container cleanliness in general. **Expected benefit and outcome:** Support development of an international phytosanitary standard for shipping containers will reduce hitchhiker risks associated with shipping containers. **Priority:** High **Time frame:** Medium term (4 to 8 years)	**1.7.1** Contribute to the development of an international shipping container standard	Ongoing – business as usual The IPPC's Sea Container Focus Group has developed a CPM Recommendation for sea containers, advising Contracting Parties, NPPOs, regional plant protection organisations, and other relevant stakeholders involved in international trade to implement several activities to address the plant pest risks associated with sea container movements. The CPM Recommendation was adopted in 2024. The Focus Group is now considering whether an international standard should be recommended as a longer-term solution. Australia has proposed a draft standard for the Focus Group's consideration. Separately, a joint Asia–Pacific regional standard is being developed, and Australia has contributed to its development.	Commonwealth	Commonwealth Industry	Supports: • National Khapra Beetle Action Plan: 1.4 • National Invasive Ant Biosecurity Plan: 1.4	NBS: IA2.8

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
	1.7.2 Investigate provisions to clean containers at container park facilities at the time of servicing and repair, as well as cleaning once sea containers reach the end of their transportation life and are sold as storage containers to the general public	Pending – project to commence when funding available Looking at ways to better utilise container parks for inspecting and cleaning containers subject to biosecurity control under Approved Arrangements.	Commonwealth	Industry	Supports: • National Khapra Beetle Action Plan: 1.4 • National Invasive Ant Biosecurity Plan: 1.4	NPBS: 3.5 NPBPS: 2.3 PBRI Strategy: 4.3
	1.7.3 Consider reviewing resource material and guidelines that will support container cleanliness	Ongoing – business as usual The Sea Container Focus Group has developed several material and guidelines to promote best practices for managing pests associated with sea containers for regulators and industry including a pest management poster for pests associated with sea containers, and guidelines for NPPOs on how to undertake inspections and record inspection results. Additionally, Australia, in collaboration with several international sea container industry bodies, is developing a series of capacity-building videos to provide guidance on sea container risk management activities for both international regulators and industry stakeholders.	Commonwealth	Industry	Supports: • National Khapra Beetle Action Plan: 1.4 • National Invasive Ant Biosecurity Plan: 1.4	NPBS: 1.3
	1.7.4 A project aimed at gaining a better understanding of the extent of the contamination of containers by lifting the floors for inspection and sampling.	On track – project commenced Two trials have been completed using eDNA and visual inspections.	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.4 • National Invasive Ant Biosecurity Plan: 1.4	PBRI Strategy: 1.1
	1.7.5 Test use of quantitative mass spectrometers to detect brown marmorated stink bugs in containers and determine whether they are alive or dead	Pending – project to commence when funding available The technology was tested during the BMSB season that commenced in September 2020. The project could be expanded to detect other biosecurity threats, including other stink bug species.	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.4 • National Invasive Ant Biosecurity Plan: 1.4	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	1.7.6 Australian Fumigation Accreditation Scheme (AFAS) to provide assurance that methyl bromide treatments performed offshore meet required standards	Ongoing – business as usual The AFAS is a bilateral arrangement between DAFF and participating overseas government agencies. AFAS manages the high biosecurity risk posed by ineffective methyl bromide (MB) treatments performed offshore. Available at: https://www.agriculture.gov.au/biosecurity-trade/import/before/prepare/treatment-outside-australia/afas	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.6, 3.3 • National Invasive Ant Biosecurity Plan: 3.2, 3.3	NBS: IA2.8

Table 2 Implementation of activities for Area 2: Detection

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
Action 2.1: Support ongoing investment in automatic scanning technology. **Expected benefit and outcome:** Develop technology to detect hitchhiker pests to full utility and commercialisation. **Priority:** High **Time frame:** Short term (up to 3 years)	**2.1.1** Technology to detect biosecurity risks on container surfaces: investigating the use of high-resolution cameras, combined with software algorithms to interpret the images, for automatic detection of biosecurity risks on the external surfaces of containers	Completed – project finished (2023) Extensive trials conducted from June 2022 to March 2023 showed the camera system could successfully capture images of biosecurity risk material on containers during discharge. However, further work and investment would be required to improve accuracy levels before it could be adopted operationally.	Commonwealth Trellis	Commonwealth	Relates to action 2.2. Supports: • National Invasive Ant Biosecurity Plan: 2.4	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.1.2 Technology to detect pests in difficult to access areas of container and warehouses, and biosecurity sample processing: investigating the use of hyperspectral and visual spectrum camera technology combined with software technology for automatic detection of biosecurity risks on external surfaces of containers	Completed – project finished (2024) The project was focused on verifying the accuracy of the sample processing model using a machine learning algorithm combined with camera technology. The technology could be used for fast, real-time scanning within a range of intended use environments and settings, including cracks, crevices, and joints in sea containers.	Commonwealth Intelligent System Design	Commonwealth	Relates to action 2.2 Supports: • National Khapra Beetle Action Plan: 2.2	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.1.3 Novel technologies to assist rapid and sensitive detection of brown marmorated stink bug	Completed – project finished (2023). This project developed the use of environmental DNA (eDNA) technology to assist the rapid and sensitive detection of *Halyomorpha halys.* The project also delivered public education materials. The materials for a guide and workshop to train industry staff in the use of eDNA diagnostics are currently being produced. Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/as19000/	Cesar Australia	Hort Innovation	Not applicable	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1 Biosecurity Plan for the Vegetable Industry 2017–2022: 7C Biosecurity Plan for the Australian Viticulture Industries 2019-2024: 3D
	2.1.4 Exploration of advanced control and detection methods for varroa mite	Completed – project finished (2024). The project delivered a shortlist of emerging monitoring and control techniques that could be further developed as tools to defend Australia against the Varroa mite (*Varroa destructor*). The information produced by this project provides a comprehensive list of techniques that could be further explored to monitor and manage varroa, along with a structure in which to use those techniques and recognition of industry challenges in engaging industry with these techniques. Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/ph22002/	Macquarie University	Hort Innovation	Not applicable	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1 Industry Biosecurity Plan for the Honey Bee Industry 2013-2018: E, J Biosecurity Plan for the Cherry Industry 2018-2023: Preparedness and Response H
	2.1.5 Production of a robust classification and identification key of the *Halyomorpha* complex and allied taxa	On track – project commenced This project will clarify the identity and relationships of the *Halyomorpha* complex of	University of New South Wales	Commonwealth	Not applicable	PBRI Strategy: 2.1 NBS: IA6.6

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		stink bugs (Pentatomidae: *Cappaeini*), inclusive of the brown marmorated stink bug (BMSB) - *H. halys.* Duration of project: 2022–2026				NPBS: 3.1 NPBDS: 3.1
	2.1.6 Electrochemical pest detection	On track – project commenced BMSB is the first target organism. Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/by22007/	Macquarie University	Hort Innovation	Not applicable	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1
	2.1.7 Total environmental surveillance (HTS)	On track – project commenced Project developing quantitative total environmental surveillance post-border. Proof of concept complete.	CSIRO	CSIRO	Not applicable	NPBSS: 4.1
	2.1.8 Development of genomic tracking and tracing technology for hitchhikers	Pending – project to commence when funding available. Pending proof of concept demonstrated in fall armyworm, coconut rhinoceros beetles, and stored grain beetle pest *Cryptolestes* spp. Hitchhiker-based deployment pending.	CSIRO	CSIRO GRDC ACIAR	Not applicable	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1
	2.1.9 Honeybee innovation challenge	On track – project commenced This project aims to find technologies for detecting and managing European honeybee mites. This project aims to improve Australia's ability to detect exotic mites at the border and provide beekeepers with technology to manage Varroa mite effectively. Available at: https://www.agriculture.gov.au/about/news/innovation-to-save-bees	CSIRO	Hort Innovation Commonwealth	Not applicable	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1 Industry Biosecurity Plan for the Honey Bee Industry 2013-2018: G
	2.1.10 Artificial Intelligence and Machine Learning Stocktake	Completed – project finished (24/25 FY) A Stocktake of Artificial Intelligence and Machine Learning models that have been developed to date (or in progress) that relate to biosecurity activities was undertaken to inform future work on the development of autonomous and assistive technologies capability concepts for automating container inspections.	Commonwealth	Commonwealth	Not applicable	PBRI Strategy: 2.1 NBS: IA6.6 NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
Action 2.2: Review surveillance and diagnostic methodologies and tools. **Expected benefit and outcome:** Reliable and affordable surveillance and trapping methods and tools, which can be deployed in the field, will assist	**2.2.1** Investigate effective surveillance and trapping methods and tools to assist with the detection of hitchhiker pests	Ongoing – business as usual Review and assess new surveillance methods and tools and undertake surveillance at or near border areas to address risk of emerging hitchhiker pests through the Hitchhiker Surveillance Program.	Commonwealth	SNPHS Jurisdictions PHC	Relates to action 1.7 Supports: • National Khapra Beetle Action Plan: 2.2	NPBSS: 4.1 Biosecurity Plan for the Banana Industry 2018-2023: Surveillance B Biosecurity Plan for the Cherry Industry 2018-2023: Biosecurity

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
rapid and accurate identification of hitchhiker pests. **Priority:** High **Time frame:** Short term (up to 3 years)					• National Invasive Ant Biosecurity Plan: 2.7, 2.7, 3.5	Research, Development and Extension C, Surveillance D Biosecurity Plan for the Australian Summerfruit Industry 2019-2024: 4c Biosecurity Plan for the Vegetable Industry 2017–2022: 7c Biosecurity Plan for the Berry Sector 2019-2024: 1.4 Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 5.1 Rice Industry Biosecurity Implementation Plan 2023-2028: 1.3b Biosecurity Plan for the Apple and Pear Industries 2025-2030: 1.9
	2.2.2 Develop training workshops on identification of hitchhiker pests for selected businesses, with some of these businesses being considered for participation in the development/field-testing of cost-effective hitchhiker trapping/surveillance methods	On track – project commenced Online training has been developed. However, new project requires development/field-testing of cost-effective hitchhiker trapping/surveillance methods and is yet to occur. Available at: https://www.planthealthaustralia.com.au/training/biosecurity-online-training-bolt/	Commonwealth	Jurisdictions Industry PHA	Relates to action 1.7 Supports: • National Khapra Beetle Action Plan: 2.2 • National Invasive Ant Biosecurity Plan: 2.7, 2.8, 3.5	NPBPS: 2.4 NPBSS: 2.5 Industry Biosecurity Plan for the Honey Bee Industry 2013-2018: C Biosecurity Plan for the Tree Nut Industry 2016-2021: 3A, 3b Biosecurity Plan for the Australian Truffle Industry 2016-2021: 5 Biosecurity Plan for the Australian Summerfruit Industry 2019-2024: 2a, 2b Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 4.2 Biosecurity Plan for the Cherry Industry 2018-2023: Plant Biosecurity Education and Awareness A, B, H Biosecurity Plan for the Australian Production Nursery Industry 2023–2028: 3.8 Biosecurity Plan for the Apple and Pear Industries 2025-2030: 2.1,2.2
	2.2.3 Deep learning artificial intelligence for BMSB image triage: involves the use of a phone app that uses artificial intelligence for	Completed – project finished (2023) Developments to the app included an AI model for the identification of exotic bees. The trial	CSIRO	Commonwealth Industry	Relates to action 1.7 Supports:	NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
	real time identification of brown marmorated stink bug	for the BMSB AI app has concluded and is no longer in use by DAFF. Available at: https://www.csiro.au/en/news/All/Articles/2022/March/ai-stink-bug			• National Khapra Beetle Action Plan: 2.2 • National Invasive Ant Biosecurity Plan: 2.7, 2.8, 3.5	NECBRDES: 2.2.2
	2.2.4 Improved molecular diagnostic to detect exotic bee mites	Completed – project finished (2023) The aim of this project was to develop a single test to detect all five priority honeybee mites. Assays were developed and validated. A National Diagnostic Protocol based on these assays is under development. Information was shared with key stakeholders including SPHD members from state and territory organisations. CSIRO have also trialled and optimised sampling and extraction to improve efficacy and efficiency. Online training will be provided to participants and the protocol shared for proficiency testing. F2F and online training was delivered in 2024 as part of Annual Diagnostics Workshop. Rapid molecular test to detect multiple honeybee pests was developed in partnership with CSIRO, which is up to 42% faster than current morphological methods; the test was used in the recent NSW *Varroa destructor* response. Available at: https://www.agriculture.gov.au/science-research/pic#past-projects	Commonwealth CSIRO	Commonwealth	Not applicable	NPBS: 3.1 NPBDS: 3.1 Industry Biosecurity Plan for the Honey Bee Industry 2013-2018: G
	2.2.5 Hazard area analysis for brown marmorated stink bug	Completed – project finished (2023) Working through data sharing policies. Victoria has incorporated the hazard risk analysis into the NPHSP BMSB network for 2023/24.	Commonwealth	Commonwealth NPHSP Jurisdictions	Not applicable	PBRI Strategy: 1.1
	2.2.6 Investigating the use of robots (Spot the dog) to aid biosecurity activities	Completed - project finished (2024) This project will investigated the use of autonomous robots to increase the number of containers that can be inspected and remove officers from potential work health safety (WHS) risks. It aims to evaluated the viability of machine vision AI models for detection of biosecurity risk material (BRM) along with a robot (Boston Dynamics Spot) with autonomous capabilities.	Commonwealth	Commonwealth	Relates to action 1.7 Supports: • National Khapra Beetle Action Plan: 2.2	NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.2.7 Container screening for hitchhikers using eDNA/eRNA and point-of-care technology	Completed – project finished (2025) This project aimed to assess and validate if eDNA/eRNA technology can quickly, reliably	Commonwealth University of Canberra	Commonwealth Jurisdictions	Supports action 1.7 Supports:	NPBS: 3.1 NPBDS: 3.1

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		and cost-effectively detect hitchhiker pests in sea containers.			• National Khapra Beetle Action Plan: 2.2	NPBSS: 4.1
	2.2.8 Air sampling and testing at AAs to gather evidence to support the analysis of eDNA in air samples	Completed – project finished (2025) This project investigated automated air sampling for remote surveillance and high throughput processing of environmental samples for eDNA analyses including for passive surveillance of pest diversity.	Commonwealth University of Canberra	Commonwealth	Supports: • National Khapra Beetle Action Plan: 2.2	NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.2.9 Inspection wand project to detect biosecurity risk material in hard-to-reach areas	Completed – project finished (2024) This project trialled a new high-tech camera 'inspection wand' (modified Cyclops-2) to see if it can detect biosecurity risk material (BRM) in hard-to-reach areas, like on top of shipping containers or underneath large machinery. Available at: https://www.agriculture.gov.au/about/news/hitchhiker-detection-trial	Commonwealth	Commonwealth	Relates to action 1.7 Supports: • National Khapra Beetle Action Plan: 2.2	NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.2.10 eDNA Operational Implementation Gap Analysis	Completed – project finished (2025) DAFF has undertaken a variety of research projects aiming to develop, assess and validate if eDNA technology can quickly, reliably and cost-effectively detect hitchhiker pests. A gap analysis was conducted to identify areas requiring further refinement, validation, or implementation support to support effective translation of findings into operational use.	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.5	NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.2.11 BMSB genomics	On track – project commenced This project will conduct a standard population genetics analysis to assess management of BMSB detections. This project is due to be completed December 2025. A further stage of population genetics analysis is proposed prior to the 2025/26 pest season.	Commonwealth	Commonwealth	Not applicable	NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.2.12 Container whitelisting solution – Seasonal Pest	Ongoing – business as usual This project was initiated to support longer-term operation and management of hitchhiker (BMSB and khapra beetle) import conditions on sea containers. This project aimed to enable accurate reporting and reduces the manual work required for assessment of BMSB/khapra risk through improvements to ICS cargo message handling and developing capability to identify risk lists within DAFF systems. Due to the inability to update the ICS whitelist via Home Affairs, an alternate, internal solution is being implemented to bring the whitelisting 'in-house' by lifting the SPREF assessments on	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 1.5, 1.7	NPBS: 3.3

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		bill lines for treated containers when they are reported to DAFF through ICS. Development is close to completion with integration testing to occur prior to higher environment deployment in early 2026. Available at: https://www.agriculture.gov.au/biosecurity-trade/import/before/brown-marmorated-stink-bugs/safeguarding				
Action 2.3: Develop and implement national surveillance programs using best practice methodologies and tools. **Expected benefit and outcome:** Biosecurity at Australia's borders will be strengthened by national surveillance protocols that reflect the ability of hitchhiker pests to enter through non-commodity pathways, such as shipping containers and personal effects. **Priority:** High **Time frame:** Short term (up to 3 years)	**2.3.1** Develop and implement national diagnostic protocols (NDPs) for hitchhiker pests, as well as guide the development of surveillance design processes to provide nationally agreed benefits	Pending – Project to commence when funding available Note: national diagnostic protocols will already exist for some pests Available at: https://www.plantbiosecuritydiagnostics.net.au/resources/national-diagnostic-protocol-list/	Commonwealth Jurisdictions SNPHS	Industry	Supports: • National Khapra Beetle Action Plan: 2.3 • National Invasive Ant Biosecurity Plan: 2.4, 2.6	NPBDS: 3.3
	2.3.2 Identify high-risk non-commodity pathways for surveillance and review methods of reducing the risk including additional intervention	Pending – Project to commence when funding available For example, the appropriate employment of an approved methodology, combining targeted visual surveillance and trapping methods, etc. Regularly review surveillance methods and address gaps identified.	Commonwealth	SNPHS	Relates to action 1.1, 1.2, 1.5, 1.7 Supports: • National Khapra Beetle Action Plan: 2.3 • National Invasive Ant Biosecurity Plan: 2.4, 2.6	PBRI Strategy: 1.1 NPBSS: 5.1 Australian Truffle Industry 2016-2021: 7 Biosecurity Plan for the Vegetable Industry 2017–2022: 2c Biosecurity Plan for the Lychee Industry 2021–2026: 1.2 Rice Industry Biosecurity Implementation Plan 2023-2028: 1.2
	2.3.3 Develop HTS-based, high-throughput screening technology for hitchhiker pests, as a screening and surveillance tool to improve outcomes from national diagnostics efforts	Pending – Project to commence when funding available Successful proof of concept already completed post-border, and CSIRO also has a growing genomic database of hitchhiker species genomes for deployment.	CSIRO	CSIRO	Not applicable	NPBS: 3.1 NPBDS: 3.1 NPBSS: 4.1
	2.3.4 National Bee Pest Surveillance Program: Transition Program	On track – project commenced Between November 2023 and June 2024, more than 2,000 surveillance activities were performed across 22 port locations as part of the National Bee Pest Surveillance Program (NBPSP). This project is expected to finish at the end of 2025. Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/mt21008/	PHA	Hort Innovation	Not applicable	NPBSS: 1.3, 1.5 Biosecurity Plan for the Tree Nut Industry 2016-2021: 1B Biosecurity Plan for the Vegetable Industry 2017–2022: 4H Biosecurity Plan for the Cherry Industry 2018-2023: Surveillance F

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
	2.3.5 National Integrated surveillance system for plant pests (NISSPP)	On track – project commenced The NISSPP is currently under consideration by Plant Health Committee following PHA developing an approach for the NISSPP. Funding is required for its implementation. Available at: https://www.planthealthaustralia.com.au/wp-content/uploads/2023/12/NISSPP-Placemat_V3.pdf	PHA	Commonwealth	Relates to action 1.1, 1.2, 1.5, 1.7 Supports: • National Khapra Beetle Action Plan: 2.3	NPBS: 2.4, 4.1 NPBSS: 6.1 Biosecurity Plan for the Vegetable Industry 2017–2022: 4A, 4C, 4G Biosecurity Plan for the Cherry Industry 2018-2023: Surveillance D Biosecurity Plan for the Berry Sector 2019-2024: 1.3 Biosecurity Plan for the Australian Summerfruit Industry 2019-2024: 4B Biosecurity Plan for the Australian Viticulture Industries 2019-2024: 4D, 4G Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 2.1 Biosecurity Plan for the Lychee Industry 2021–2026: 1.3 Rice Industry Biosecurity Implementation Plan 2023-2028: 1.3A
	2.3.6 Atlas of Living Australia Biosecurity Alerts Service	Ongoing – business as usual The ALA's Biosecurity Alerts Service provides email notifications of occurrences of exotic invasive species to management authorities. The ALA's Biosecurity Alerts are on the lookout for exotic priority plant pests. Available at: https://www.ala.org.au/blogs-news/australias-most-unwanted-tackling-invasives-with-the-ala-biosecurity-alerts-service/	CSIRO	CSIRO Commonwealth Jurisdictions	Relates to action 1.1, 1.2, 1.5, 1.7 Supports: • All National Action Plans	NPPRCS: 4.2 PBRI Strategy: 2.1 Australia's Biosecurity Future (2020–2030): 1, 15 Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 7.2
	2.3.7 Hitchhiker Surveillance Program	On track – project commenced The Hitchhiker Surveillance Program is a key component of the national biosecurity surveillance system. Its aim is to improve early detection of high priority hitchhiker pests at locations which receive high-risk imported goods and conveyances, such as Approved Arrangements and First Points of Entry.	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 2.3	PBRI Strategy: 1.1 NPBSS: 5.1
	2.3.8 National Plant Health Surveillance Program	On track – project commenced The National Plant Health Surveillance Program (NPHSP) is a national surveillance program. It looks for exotic plant pests and diseases identified as national priorities that are threats to our agricultural, horticulture and forestry	Commonwealth	Jurisdictions	Supports: • National Khapra Beetle Action Plan: 2.3	NPBSS: 5.1 PBRI Strategy: 1.1

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		industries, including the BMSB and spongy moth. Available at: https://agriculture.vic.gov.au/biosecurity/protecting-victoria/plant-pest-surveillance/national-plant-health-surveillance-program				
	2.3.9 Technical Reference Guides for hitchhiker pests	On track – project commenced Technical Reference Guides (previously known as National Surveillance Protocols) serve as the first point of reference for developing surveillance plans, and include information on surveillance methodology, pest/pathogen biology, taxonomy, identification and sample processing. Technical Reference Guides have been developed for BMSB, exotic bee mites, exotic bees, exotic snails and spongy moths. Available at: https://plantsurveillancenetwork.net.au/resources/national-surveillance-protocols/	PHA	Commonwealth	Supports: • National Khapra Beetle Action Plan: 2.3	NPBSS: 1.3, 6.3 PBRI Strategy: 1.1 Biosecurity Plan for the Australian Viticulture Industries 2019-2024: 3D Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 2.3
	2.3.10 Forest Watch Australia post-border surveillance program for high priority pests	On track – project commenced Forest Watch Australia is focused on surveillance for the early detection of high priority pests (HPPs) of trees that are exotic to Australia, including the spongy moth. The program also collects tree related pest reports provided by collaborating stakeholders such as arborists, botanic gardens, local council staff or community groups. Available at: https://forestwatchaustralia.com/about	PHA (through the Forest Watch Australia program)	Forest Watch Australia partners	Supports: • National Khapra Beetle Action Plan: 2.3 • National Action Plan for Pests of Trees and Timber: 2.2, 2.3	Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 2.3

Table 3 Implementation of activities for Area 3: Response

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
Action 3.1: Continuous improvement of post biosecurity detection responses. **Expected benefit and outcome:** Post biosecurity detection responses need to adapt to changing pest detection profiles and would benefit from incorporating lessons learnt from previous responses. **Priority:** High **Time frame:** Short term (up to 3 years)	**3.1.1** Continue improvements for co-ordination and optimising responses to post biosecurity pest detections	Ongoing – business as usual Project being carried out by Victoria – Streamlining Plant Pest Contingency Plans for Integration – completed. This project will develop an IT system to contain modular plans. Adoption of an incident management recording tool (e.g. MAX platform) by all jurisdictions	PBPWG	PBPWG	Relates to action 1.7 Supports: • National Khapra Beetle Action Plan: 3.1 • National Invasive Ant Biosecurity Plan: 3.1 • National Action Plan for Pests of Trees and Timber: 3.1	NBS: IA2.2 NPBS: 3.4 NPBPS: 1.1, 5.2 NPBSS: 1.1, 5.3 PBRI Strategy: 1.4, 2.1
	3.1.2 Review response guidelines and previous response strategies to improve future response planning, coordination, and communication	Ongoing – business as usual Project being carried out by Victoria – Streamlining Plant Pest Contingency Plans for Integration- completed. This project will develop an IT system to contain modular plans. Adoption of an incident management recording tool (e.g., MAX platform) by all jurisdictions. NSW adopted MAX platform.	Commonwealth	Jurisdictions Industry	Relates to action 1.7 Supports: • National Khapra Beetle Action Plan: 3.1 • National Invasive Ant Biosecurity Plan: 3.1	NBS: IA2.2 NPBS: 3.4 NPBPS: 1.1, 5.2 PBRI Strategy: 1.4, 2.1 Biosecurity Plan for the Tree Nut Industry 2016-2021: 4A Biosecurity Plan for the Australian Truffle Industry 2016-2021: 13 Biosecurity Plan for the Vegetable Industry 2017–2022: 3B, 3C Biosecurity Plan for the Banana Industry 2018-2023: Preparedness and Response A, B Biosecurity Plan for the Cherry Industry 2018-2023: A, B Biosecurity Plan for the Australian Summerfruit Industry 2019-2024: 3C, 3D Biosecurity Plan for the Australian Viticulture Industries 2019-2024: 3A Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 3.5 Biosecurity Plan for the Apple and Pear Industries 2025-2030: 1.2
	3.1.3 Protecting pollinators from pesticides: Developing safer, selective pesticides targeting Varroa mite and small hive beetle hormone receptors	On track – project commenced In 2024, the project team created a fact sheet on protecting pollinators from pesticides. It covers the development of safer, selective	The University of Sydney	Hort Innovation	Not applicable	NBS: IA2.7 Biosecurity Plan for the Vegetable Industry 2017–2022: 7E

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		pesticides targeting Varroa mite and small hive beetle hormone receptors. Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/ph20003/				
	3.1.4 Expansion of flies as berry crop pollinators	On track – project commenced The research will expand current understanding of how release strategies and supplementary resources affect hoverfly survival, behaviour, and pollination in berry crops, and develop methods to diversify and sustain future managed pollinators in berry production. Available at: https://www.horticulture.com.au/growers/help-your-business-grow/research-reports-publications-fact-sheets-and-more/mt22007/	The University of New England	Hort Innovation	Not applicable	PBRI Strategy: 1.1 Biosecurity Plan for the Vegetable Industry 2017–2022: 7E Biosecurity Plan for the Cherry Industry 2018-2023: Biosecurity Research, Development and Extension E
	3.1.5 Taxonomic study of *Trissolcus mitsukurii* and its efficacy in control of *Halymorpha halys*, the brown marmorated stink bug (BMSB)	Completed – project finished (2023) The project improved taxonomic knowledge of *T. mitsukurii* in Australia and confirmed that this species has been found previously in Australia but it was not identified using egg sentinel surveillance. The project identified that overseas research shows *T. mitsukurii* has potential as a biological control agent for BMSB. Available at: https://www.csiro.au/en/news/All/Articles/2023/June/Samurai-wasp	CSIRO	Commonwealth	Not applicable	NPPRCS: 1.1
	3.1.6 Australia Priority Pest & Disease Model (APPDIS) modelling for management decisions-khapra beetle and HPPPs Modelling the incursion and spread of hitchhiker and windborne plant pests in Australia	Completed – project finished (2024) In October 2024, the Centre for Excellence for Biosecurity Risk Analysis (CEBRA) developed a model APPDIS (Australian Priority Plant & Disease Model) which parameterised the model for khapra beetle (previously for fruit fly and tramp ants). This models incursion spread, detection, surveillance, treatment and proof-of-freedom for critical plant pests. Available at: https://grdc.com.au/grdc-investments/investments/investment?code=UOM2306-003RTX https://aadis.org/modelling-plant-and-environmental-pests/	CEBRA	GRDC	Supports: • National Khapra Beetle Action Plan: 3.1	NPBS: 2.1 NECBRDES: 3.3.1, 3.3.2 Industry Biosecurity Plan for the Honey Bee Industry 2013-2018: J
	3.1.7 Investigating economic and technical cost-benefit of national containment for incursions of hitchhiker (contaminating) plant pests	Pending – project to commence when funding available Proposed at 2025 forum	To be determined	To be determined	To be determined	To be determined.

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
	3.1.8 Conduct case studies of cost benefit analyses for various hitchhiker (contaminating) plant pests during incident responses	Pending – project to commence when funding available Proposed at 2025 forum.	To be determined	To be determined	To be determined	Biosecurity Plan for the Vegetable Industry 2017–2022: 2B
Action 3.2: Improve capability to trace shipping containers and to access their history. **Expected benefit and outcome:** The ability to effectively track goods following a pest detection will reduce biosecurity risk through permitting a rapid emergency response. **Priority:** High **Time frame:** Medium term (4 to 8 years)	**3.2.1** Investigate methods to improve container and goods tracking to target the movement of hitchhiker pests	Ongoing – business as usual	Commonwealth	Commonwealth	Supports: • National Khapra Beetle Action Plan: 3.2	NPBPS: 2.2 NPBSS: 4.2 NECBRDES: 1.3.1
Action 3.3: Identify and assess effective eradication treatment methods for buildings, goods, and shipping containers. **Expected benefit and outcome:** There is a need for effective treatments for the eradication and control of hitchhikers in buildings, goods, and shipping containers. There is currently no single treatment that fits all goods and situations. **Priority:** High **Time frame:** Long term (up to 10 years)	**3.3.1** Identify and assess effective treatments for responding to hitchhikers in buildings, goods, and shipping containers to reduce the likelihood of hitchhikers establishing and spreading in Australia.	Ongoing – business as usual DAFF is currently a member of the methyl bromide alternative working group. Need to take into account specific industry needs, such as avoiding damage to rubber seals in vehicle imports.	Commonwealth	Jurisdictions Industry RDCs	Relates to action 1.6 and 1.7 Supports: • National Khapra Beetle Action Plan: 1.6, 3.3 • National Invasive Ant Biosecurity Plan: 3.2, 3.3	NPBS: 2.2, 3.1 Industry Biosecurity Plan for the Honey Bee Industry 2013-2018: E Biosecurity Plan for the Berry Sector 2019-2024: 1.6 Biosecurity Plan for the Lychee Industry 2021–2026: 1.5, 1.6
	3.3.2 Alternative treatments – snails heat treatment	Completed – project finished (2024) This project aimed to evaluate heat treatments on dormant or aestivating snails of biosecurity concern to Australia. Heat treatment offers an environmentally friendly method to treat exotic snails.	Commonwealth	South Australia Research and Development Institute (SARDI)		NPBS: 3.1
Action 3.4: Consider development of standardised response procedures for hitchhiker pests. **Expected benefit and outcome:** Developing standardised response(s) for hitchhiker pests will strengthen response procedures when a hitchhiker pest is detected. **Priority:** Medium	**3.4.1** Develop a standardised response(s) for hitchhiker pests	Pending – project to commence when funding available Consider Action 3.1 of the *National Biosecurity Invasive Ant Plan 2018-2028*[1] – Develop standardised response procedures for invasive ants	Commonwealth	Commonwealth	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 3.4 • National Invasive Ant Biosecurity Plan: 3.1	NPBS: 3.4 NPBDS: 5.2 NPBSS: 5.3 Biosecurity Plan for the Berry Sector 2019-2024: 1.1 Biosecurity Plan for the Australian Viticulture Industries 2019-2024: 3F

[1] *Exotic invasive ants imported with goods and conveyances: Guidelines for preparing response strategies* (DAFF, as at April 2021).

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
Time frame: Medium term (4 to 8 years)						Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 1.1 Biosecurity Plan for the Lychee Industry 2021–2026: 1.1 Biosecurity Plan for the Australian Production Nursery Industry 2023–2028: 1.1 Rice Industry Biosecurity Implementation Plan 2023-2028: 1.1
	3.4.2 Develop Commonwealth Places Policy	Pending – project to commence when funding available	Commonwealth	Commonwealth	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 3.4 • National Invasive Ant Biosecurity Plan: 3.1	
	3.4.3 Develop Commonwealth Near Border Policy	On track – Project commenced Draft in development	Commonwealth	Commonwealth	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 3.4 • National Invasive Ant Biosecurity Plan: 3.1	

Table 4 Implementation of activities for Area 4: Cross–cutting

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
Action 4.1: Develop an overarching communication and engagement strategy and deliver targeted activities relevant to each stakeholder group (industry, traveller, community, government). **Expected benefit and outcome:** There is a need for national awareness of biosecurity and understanding of the risks posed by hitchhiker plant pests, and to encourage reporting. The communication and engagement strategy will need to emphasise biosecurity is everyone's responsibility and include activities to target the import supply chain, production industries, the general public and travellers. **Priority:** High **Time frame:** Short term (up to 3 years)	**4.1.1** Develop an overarching communication and engagement strategy	Ongoing – business as usual The strategy: • will identify ways for business and members of the general public to report suspect pests and receive feedback on their submissions. The significant issue of non-reporting of suspect pests through fear of job loss or a detrimental impact on the business also needs to be addressed in the strategy. The lack of awareness in the general public also needs to be addressed • will consider ways to encourage reporting, interactive training on recognising exotic hitchhiker pests, noting it may also be mandated for importers receiving consignments from high-risk pathways and for Approved Arrangements • will consider businesses in the export supply chain as a key communication target in relation to at-risk commodities • will include activities to target the import supply chain, production industries, the general public and travellers • needs to consider likely reporting volumes and ensure a feedback loop is in place between reporter and assessment.	Commonwealth	Plant Health Australia Industry	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 4.1 • National Invasive Ant Biosecurity Plan: 6.10	NBS: IA1.1 PBSS: 2.4 NPBPS: 1.3, 1.4 Biosecurity Plan for the Banana Industry 2018-2023: Plant Biosecurity Education and Awareness D Biosecurity Plan for the Cherry Industry 2018-2023: Plant Biosecurity Education and Awareness B Biosecurity Plan for the Berry Sector 2019-2024: 3.2 Biosecurity Plan for the Lychee Industry 2021–2026: 3.2 Biosecurity Plan for the Australian Production Nursery Industry 2023–2028: 3.2 Rice Industry Biosecurity Implementation Plan 2023-2028: 3.2
	4.1.2 Hitchhiker pest awareness campaign	Completed – project finished (2024). An awareness campaign was undertaken to raise awareness of the risk of hitchhiker pests amongst stakeholders who interact with imported sea containers and goods, and to encourage them to report pest detections to the department using the See. Secure. Report hotline. A repeat of this campaign is planned for 2026.	Commonwealth	Commonwealth	Supports many other action areas and national action plans	NBS: IA1.1 NPBPS: 1.3, 1.4, 3.2 NPBSS: 2.4
	4.1.3 Exotic Plant Pest Hotline online reporting tool	Ongoing – business as usual The Exotic Plant Pest Hotline allows members of the public to report any unusual plant pest or disease to the relevant state or territory agriculture agency, or other formal reporting means promoted by state or territory jurisdictions. Available at: https://www.planthealthaustralia.com.au/response-arrangements/incursion-management/reporting-suspect-pests/	PHA	Jurisdictions	Supports many other action areas and national action plans	NBS: IA1.3 NPBSS: 3.1 Biosecurity Plan for the Vegetable Industry 2017–2022: 8A Biosecurity Plan for the Cherry Industry 2018-2023: Legislative and Regulatory Issues of Importance A Biosecurity Plan for the Australian Summerfruit Industry 2019-2024: 8a

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
						Biosecurity Plan for the Australian Plantation Forests Sector 2020-2025: 7.2
Action 4.2: Establish governance arrangements to coordinate and monitor national actions. **Expected benefit and outcome:** Clear governance arrangements to guide implementation of the Plan and coordinate national effort to ensure Australia is as prepared as possible for a post border detection or incursion. **Priority:** High **Time frame:** Short term (up to 3 years)	**4.2.1** Develop/improve governance arrangements to coordinate and monitor national actions and review effectiveness at regular intervals	Ongoing – business as usual	Commonwealth	Jurisdictions	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 4.2 • National Xylella Action Plan: 4.3	NBS: IA2.3 NPBS: 1.1 NPBPS: 1.1 Industry Biosecurity Plan for the Honey Bee Industry 2013-2018 : A Biosecurity Plan for the Tree Nut Industry 2016-2021: 2A Biosecurity Plan for the Australian Truffle Industry 2016-2021: 3, 11 Biosecurity Plan for the Vegetable Industry 2017–2022 : 1A, 1B Biosecurity Plan for the Banana Industry 2018-2023: Capacity and Capability A Biosecurity Plan for the Cherry Industry 2018-2023: Capacity and Capability A Biosecurity Plan for the Australian Summerfruit Industry 2019-2024 : 1A
	4.2.2. Collaborate with regional neighbours to align prevention and preparedness activities	Ongoing – business as usual	Commonwealth	Jurisdictions	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 4.2 • National Xylella Action Plan: 4.3	NPBS: IA2.6 NPBSS: 1.4 NPPRCS: 3.1 Biosecurity Plan for the Berry Sector 2019-2024 : 5.4 Biosecurity Plan for the Australian Viticulture Industries 2019-2024 : 4B Biosecurity Plan for the Lychee Industry 2021–2026 : 2.3 Rice Industry Biosecurity Implementation Plan 2023-2028 : 2.4
	4.2.3 Establishment of a regional research alliance Asian Pacific Bioprotection Research Alliance (APBRA) to align research strategies on prevention and preparedness activities	Ongoing – business as usual	CSIRO	Commonwealth	Not applicable	NPBS: IA2.6 NPBSS: 1.4 NPPRCS: 3.1
	4.2.4 Streamlining jurisdictions' hitchhiker preparedness through a national practitioners network	Pending – project to commence when funding available	To be determined	To be determined	To be determined	Biosecurity Plan for the Berry Sector 2019-2024 : 5.1

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		Proposed at 2025 forum.				Biosecurity Plan for the Lychee Industry 2021–2026 : 5.1 Biosecurity Plan for the Australian Production Nursery Industry 2023–2028 : 5.1 Rice Industry Biosecurity Implementation Plan 2023-2028: 5.1
Action 4.3: Identify research and development priorities for investment and to support national and international collaboration. **Expected benefit and outcome:** Research and development, delivered in collaboration with national and international experts, is an important means to provide information, skills, and tools to prevent entry of hitchhiker pests, or to effectively respond if detected in Australia. **Priority:** Medium **Time frame:** Medium term (4 to 8 years)	**4.3.1** Identify research and development priorities for investment	Ongoing – business as usual	Commonwealth Jurisdictions PBPWG (or similar) CSIRO (APBRA)	Commonwealth Plant Health Australia Jurisdictions RDCs	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 4.3 • National Xylella Action Plan: 4.5	NECBRDES: 2.3 PBRI Strategy: 1.2 Biosecurity Plan for the Australian Truffle Industry 2016-2021: 16 Biosecurity Plan for the Vegetable Industry 2017–2022: 7A Biosecurity Plan for the Banana Industry 2018-2023: Biosecurity Research, Development and Extension A Biosecurity Plan for the Berry Sector 2019-2024: 2.2, 4.1 Biosecurity Plan for the Australian Summerfruit Industry 2019-2024: 7A, 7C Biosecurity Plan for the Australian Viticulture Industries 2019-2024: 7A Rice Industry Biosecurity Implementation Plan 2023-2028: 5.2 Biosecurity Plan for the Apple and Pear Industries 2025-2030 Action 1.6, 1.7, 1.8
	4.3.2 Support national and international collaboration	Ongoing – business as usual	Commonwealth CSIRO (Fall armyworm, APBRA target lists, Coconut rhinoceros beetles)	Commonwealth	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 4.3 • National Xylella Action Plan: 4.5	NPBS: IA2.6 NPBSS: 1.4 NPPRCS: 3.1
	4.3.3 National Environmental and Community Biosecurity RD&E Strategy (NECBRDES) – National Coordinator: Phase 2	On track – project commenced The main activities will be the formation of biosecurity cross-sectoral working groups to understand and identify RD&E requirements and objectives across the biosecurity sectors of animal, plant, environmental and marine biosecurity. The National Coordinator will manage the working groups to deliver mutually	Commonwealth	Commonwealth	Supports many other action areas Supports: • National Khapra Beetle Action Plan: 4.3	NECBRDES: 2.3.1

Action	Project or business as usual activity	Status	Lead organisation	Contributors (financial and in-kind)	Dependencies	Linkages
		beneficial outcomes for the biosecurity sectors and in particular to progress environmental and community biosecurity RD&E work. Available at: https://www.agriculture.gov.au/biosecurity-trade/policy/environmental/projects#daff-page-main			• National Xylella Action Plan: 4.5	

Glossary

Term	Definition
Commonwealth	Australian Government Department of Agriculture, Fisheries and Forestry (DAFF).
Jurisdictions	Australian state/territory government departments.
Research and Development Corporations	Relevant research and development corporations
Research organisations	Universities, CSIRO and other entities involved in conducting research.
Forest Watch Australia partners	Organisations who are Parties to the National Forest Pest Surveillance Collaboration Agreement, which includes: Australian Forest Products Association, Commonwealth of Australia, Invasive Species Council, Forest and Wood Products Australia, NRM Regions Australia, Plant Health Australia, Northern Territory, New South Wales, Queensland, South Australia, Tasmania Victoria, and Western Australia.
Industry	Peak Industry Bodies.

Abbreviations

Term	Definition
AA	Approved Arrangements
AAPDIS	Australian Priority Pest and Disease Model
ACIAR	Australian Centre for International Agriculture Research
AFAS	Australian Fumigation Accreditation Scheme
ALA	Atlas of Living Australia
APBRA	Asian Pacific Bioprotection Research Alliance
BMSB	brown marmorated stink bug
CBIS	Compliance Based Intervention Scheme
CCV	Cargo Compliance Verification
CEBRA	Centre of Excellence for Biosecurity Risk Analysis
CPM	Commission on Phytosanitary Measures
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry (Commonwealth)
HTS	total environmental surveillance
IPPC	International Plant Protection Convention
ISD	Intelligent System Design
NBPS	National Bee Pest Surveillance Program
NBS	National Biosecurity Strategy – Action Plan
NDP	National Diagnostic Protocols
NECBRDES	National Environment and Community Biosecurity Research, Development and Extension Strategy
NISSPP	National Integrated Surveillance System for Plant Pests
NPBDS	National Plant Biosecurity Diagnostic Strategy
NPBPS	National Plant Biosecurity Preparedness Strategy
NPBS	National Plant Biosecurity Strategy

Term	Definition
NPBSS	National Plant Biosecurity Surveillance Strategy
NPHSP	National Plant Health Surveillance Program
NPPOs	National Plant Protection Organisation
NPPRCS	National Plant Pest Reference Collections Strategy
NSP	National Surveillance Protocols (now Technical Reference Guides)
PBPWG	Plant Biosecurity Preparedness Working Group (under PHC)
PBRI Strategy	Plant Biosecurity Research and Innovation Strategy
PHA	Plant Health Australia
PHC	Plant Health Committee
RDCs	Rural Research and Development Corporations
SCFG	Sea Container Focus Group
SNPHS	Subcommittee on National Plant Health Surveillance (under PHC)
SPHD	Subcommittee on Plant Health Diagnostics (under PHC)
TRG	Technical Reference Guides (previously National Surveillance Protocols)

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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