



Annual Surveillance Workshop (ASW) 2024 Report

20 – 21 March 2024

Twin Towns Conference and Events Centre, Tweed Heads, NSW

This workshop was coordinated by the Subcommittee on National Plant Health Surveillance (SNPHS) and Plant Health Australia (PHA). Financial assistance was provided by the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) under the *National Plant Biosecurity Surveillance Professional Development and Protocols Project*.



Australian Government
Department of Agriculture,
Fisheries and Forestry



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Acronyms

Acronym	Description
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ADW	Annual Diagnostics Workshop
ADSW	Annual Diagnostics and Surveillance Workshop
ASW	Annual Surveillance Workshop
AgVIC	Agriculture Victoria
ASW	Annual Surveillance Workshop
B3	Better Border Biosecurity
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry
GRDC	Grains Research and Development Corporation
MPI NZ	Ministry of Primary Industries New Zealand
NAQIA	The National Agriculture and Quarantine Inspection Authority
NDP	National Diagnostic Protocol
NIWG	Networks implementation Working Group
NRE TAS	Natural Resources and Environment Tasmania
NSW DPI	New South Wales Department of Primary Industries
NT DITT	Northern Territory Department of Industry, Tourism and Trade
PHA	Plant Health Australia
PSNWG	Plant Surveillance Network Working Group
QDAF	Queensland Department of Agriculture and Forestry
RDC	Research and Development Corporation
SARDI	South Australia Research and Development Institute
SRA	Sugarcane Research Australia
TL MALFF	Timor Leste Ministry of Agriculture, Livestock, Fisheries and Forestry
UF	University of Florida
UQ	University of Queensland
WA DPIRD	Western Australian Department of Primary Industries and Regional Development

Executive summary

The Annual Surveillance Workshop (ASW) 2024 was held at the Twin Towns Conference and Events Centre, Tweed Heads, NSW, between 20 and 21 March 2024. The workshop showcased 23 presentations in the main program which addressed the theme of “*Surveillance in remote locations: challenges, solutions and incorporating community engagement*” across four sessions. To maximise the benefits to the Plant Surveillance Network Australasia-Pacific (PSNAP) members attending ASW 2024, three in-person or hybrid shoulder workshops were held within the program and provided training in AUSPestCheck® (an overview and demonstration), and in National Surveillance Protocols (NSPs, two workshops). ASW 2024 hosted participants from New Zealand and all jurisdictions in Australia, including a total of 74 in-person participants [ACT (18), NSW (9), NT (4), QLD (15), SA (5), VIC (11), WA (4), NZ (1), PNG (3), SI (2), TL (2)], and 40 virtual participants [ACT (3), NSW (3), NT (3), QLD (7), VIC (5), WA (12), NZ (7)].

Based on poll results and post-workshop feedback, the ASW 2024 successfully provided participants with opportunities for networking and knowledge exchange, and participants rated the ASW 2024 as either excellent or average. The associated workshops received positive feedback from participants based on the survey results received and on verbal communication. The hybrid option of attendance enabled network members (participants and speakers) unable to travel either due to travel restrictions or other constraints to participate in the workshop remotely. Participants indicated that ASW 2024 was most useful for networking, but also indicated that the presentations and shoulder workshops were beneficial, indicating that opportunities for the above should be maximised at future ASW events.

For future events, participants indicated that they would like to hear from more industry, international presenters, and research and development corporations. The respondents also wanted future ASW events to include a field trip and representation of pathology, entomology, and industry.

Regarding the logistics of ASW 2024, participants preferred a canapé social event over a sit-down dinner to maximise networking opportunities, and that they enjoyed and benefitted from ASW taking place concurrently or overlapping with the Annual Diagnostics Workshop (ADW). The poll also showed that the ad-hoc emailing system to notify members of the ASW was highly effective at advertising the event, with this being the first source of the workshop for most respondents and should, therefore, continue be pursued and developed in future communications.

ASW 2024 clearly demonstrated the value of these hybrid annual events, including how they were effective at bringing surveillance practitioners together to share knowledge and collaborate to contribute positively towards achieving the shared goal of improving capability in plant pest surveillance.

ASW 2024 was coordinated by the Subcommittee on National Plant Health Surveillance (SNPHS), with financial assistance provided by the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) under the *National Plant Biosecurity Surveillance Professional Development and Protocols* Project managed by Plant Health Australia. Members of the Plant Surveillance Network Working Group (PSNWG), a working group under SNPHS, governed all decisions around the theme(s), content, and abstract selections for ASW 2024 and were session chairs throughout the workshop.

Introduction

About ASW 2024

The Annual Surveillance Workshops (ASWs) are networking events which allow surveillance practitioners to come together to share knowledge and build collaborative relationships, thereby improving Australia's plant pest surveillance capability. These annual events are coordinated by the Subcommittee on National Plant Health Surveillance (SNPHS) and Plant Health Australia (PHA), with financial assistance provided by the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) under the National Plant Biosecurity Surveillance Professional Development and Protocols Project managed by Plant Health Australia (PHA). The Plant Surveillance Network Working Group (PSNWG) led all decisions surrounding the content and structure of ASW 2024. Attendance of ASW is exclusive to Plant Surveillance Network Australasia-Pacific (PSNAP) members.

In 2024, the ASW and Annual Diagnostics Workshop (ADW) 2024 were held as separate events based on recommendations and agreement by PSNWG and the Networks implementation Working Group (NIWG).



ASW 2024 was held on 20 and 21 March 2024 at the Twin Towns Conference and Events Centre, Tweed Heads, NSW. ADW and ASW overlapped on 20 March 2024 at the same venue to facilitate networking between diagnostic and surveillance practitioners. ASW 2024 was hosted as a hybrid event, with 74 participants attending in person and 40 attending virtually (78 virtual registrations were received). The participants at ASW 2024, were affiliated with government agencies (70%) in Australia or neighbouring countries, while the remaining 30% of participants were affiliated with sectors listed as 'other' (14%), industry (7%), universities (8%), and private companies (1%) (**Appendix 1**). Additionally, participants from all Australian jurisdictions attended ASW 2024 apart from Tasmania, with international participants from New Zealand, Papua New Guinea, Timor Leste, and the Solomon Islands also attending (**Appendix 1**).

A total of three shoulder workshops were held on both days of ASW 2024 (**Table 1**), which were attended, in-person or virtually, by a total of 114 individuals.

The theme for ASW 2024, “*Surveillance in remote locations: challenges, solutions and incorporating community engagement*”, was explored in the main program of the workshop (**Appendix 2**), and was addressed through four sessions:

- Session 1 (20 March 2024): Communities.
- Session 2 (21 March 2024): Connections.
- Session 3 (21 March 2024): Risks and challenges.
- Session 4 (21 March 2024): Opportunities.

Highlights from ASW 2024 program included (**Appendices 2 and 3**):

- Three training workshops (**Table 1**).
- Twenty-three presentations, delivered in-person or virtually, including:
 - Three presentations delivered by invited guests – Michael Douglas (University of Western Australia), Heleen Kruger (ABARES, DAFF), Desi Ramoo (Better Border Biosecurity, B3, New Zealand),
 - Thirteen presentations delivered by abstract submissions,
 - Two PSNAP residential updates presented by successful recipients for the 2023/2024 period, and
 - Three presentations covering standing items for ASW, namely PSNAP professional development updates, updates on NSPs, and the SNPHS update.
- One panel session on *surveillance perspectives from our near neighbours*, facilitated by staff of the Timor Leste Ministry of Agriculture, Livestock, Fisheries and Forestry (TL MALFF), The National Agriculture and Quarantine Inspection Authority (NAQIA), and Biosecurity Solomon Islands.
- One networking social event (evening of 20 March 2024).



Photo of the ASW 2024 in-person participants at the Twin Towns Conference and Events Centre, Tweed Heads, NSW.

ASW 2024 Program

Part of the program for ASW 2024 was developed from PSNWG’s assessments of abstracts submitted through an [expression of interest](#) process where abstracts were sought to address this year’s theme. The remaining presenters for the panel session, invited talks, and for standing items were identified by PSNWG and contacted directly by PSNWG members or the Networks Coordinator. Workshops were also submitted and evaluated through the usual channels for PSNAP workshops, with the facilitators contacted to propose they run as shoulder workshops at ASW 2024.

Shoulder workshops

Two of the [shoulder workshops](#) were held on either side of the ASW 2024 main program, and one was held at the end of Day 1 to maximise the outcomes and professional development opportunities of members who were already attending ASW 2024 and resulted in high numbers of participants at these workshops (**Table 1**). All workshops catered for in-person attendance, with one being held as a hybrid workshop.

- **Workshop 1** (AUSPestCheck® overview and demonstration) received positive feedback in the post-workshop survey and verbally, with one survey participant reflecting that the workshop offered a “well-designed presentation [that] took us all through the whole program from start to finish, without missing any aspects and also meant that we could ask questions along the way” and a second mentioning that they are “now clear of the role of AUSPestCheck® as essentially a tool for ‘participants’ to securely ‘collect, share and visualise survey data’.”
- **Workshops 2 and 3** (focused on NSP development, review, and implementation) received positive verbal responses by participants but unfortunately no responses were captured from the surveys sent out.

It is recommended that post-workshop surveys be run during the workshop in future.



From left to right: Matt Hill (PHA) presenting at the AUSPestCheck® overview and demonstration workshop, Rachel Taylor-Hukins (NSW DPI) and Tim Hurst (AgVIC) presenting at an NSP workshop.

Table 1: Details of the three workshops held at ASW 2024.

Workshop title	Facilitator(s)	No. participants	Format	Aims & objectives
Workshop 1 - AUSPestCheck® overview and demonstration	Matthias Jost, Jimmy, Lu, Matt Hill (PHA)	20	In-person	To deliver a complete overview of AUSPestCheck® with step-by-step demonstrations of the main system's features. This is a great opportunity for new users to get familiar with the system's core functionalities, as well as providing existing users a refresh and extending on existing knowledge. Eligibility: All interested surveillance practitioners attending ASW 2024 in-person who have registered to attend the workshop.
Workshop 2 - An introduction to National Surveillance Protocols (NSPs) and their applications	Tim Hurst (AgVIC and SNPNS Coordinator) Rachel Taylor-Hukins (NSW DPI and NSPWG Coordinator)	54 in-person 25 virtually (Total: 79)	Hybrid	To address the knowledge gaps in NSP development and review, and to encourage more experts to get involved in developing them, through presentations and discussions on: <ul style="list-style-type: none"> - NSP reference standards - how to develop and review an NSP - the endorsement process of an NSP - understanding program data standards and how to implement them. Eligibility: Open to all PSNAP members, subject to availability.
Workshop 3 - Putting National Surveillance Protocols (NSPs) into action	Tim Hurst (AgVIC and SNPNS Coordinator) Rachel Taylor-Hukins (NSW DPI and NSPWG Coordinator)	33	In-person	To address and review the knowledge gaps in NSP implementation and utility by facilitating: <ul style="list-style-type: none"> - a hands-on activity to learn how NSPs can be implemented in developing a surveillance plan, and - discussions around the current format and content of NSPs. Eligibility: Open to 25 PSNAP members attending ASW 2024 in-person, subject to availability.

Presenters

1. Abstract submissions (Appendices 2 and 3)

Of the 20 abstracts submitted for ASW 2024, 13 were accepted during evaluation by PSNWG. The presenters were from WA (3), ACT (2), PNG (2), NSW (1), QLD (1), SA (1), VIC (1), TL (1), SI (1). These abstracts addressed the theme of “*Surveillance in remote locations: challenges, solutions and incorporating community engagement*”.

2. PSNAP Residentials (Appendix 2)

Two PSNAP residential plans from the 2023/2024 round were presented at ASW 2024, and were:

- Antonette Walford (AgVIC): Invasive, exotic snail surveillance and specimens for reference collections
- Brooke O’Connor (Scion, NZ): Surveillance and management techniques for the invasive species *Lymantria dispar dispar* (Spongy moth)

3. Standing items and updates (Appendix 2)

Standing items of the ASW are set to ensure that there is a continuation of information shared with PSNAP members on priority areas listed in the [National Plant Biosecurity Surveillance Strategy](#). These items and presenters include:

- Bianca Rodrigues Jardim (Networks Coordinator, PHA): PSNAP professional development updates
- Tim Hurst (SNPHS Coordinator, AgVIC): SNPHS updates
- Harsh Garg (Protocols Coordinator, PHA): NSP updates

4. Panel session: Surveillance perspectives from our near neighbours (Appendix 2)

The panel session at ASW 2024 focussed on the theme of “*surveillance perspectives from our near neighbours*”, with panellists Abel Ximenes and Leoneto Martins Oliveira (both TLDBQ), Anastasia Kawi and Marjorie Kemoi (both NAQIA), George Harunari and Gideon Suda (both Solomon Islands Biosecurity, facilitators Emily Lamberton, Elizabeth McCrudden, and Michelle Balfour (all DAFF) and chaired by PSNWG members, Callum Fletcher (GRDC) and Ben Page (PIRSA/SARDI). The panel session was run by each country delivering a presentation, followed by answering questions from the floor and using those that were pre-set by the panel facilitators. More information on this panel session was shared [here](#).

- **Abel Ximenes** and **Leoneto Martins Oliveira** are based at MALFF in Timor Leste where they work as the Coordinator of the Plant Biosecurity Scientific team and as a Technical Investigator, respectively.
- **Anastasia Kawi** and **Marjorie Kemoi** are the Acting Chief Plant Protection Officer and the Senior Technical Officer (entomology), respectively, at NAQIA in Papua New Guinea.
- **George Harunari** and **Gideon Suda** work form part of the Surveillance Team at Biosecurity Solomon Islands.



Panellists from left to right: Abel Ximenes (TLDBQ), Anastasia Kawi and Marjorie Kemoi (both NAQIA), George Harunari and Gideon Suda (both Solomon Islands Biosecurity).

5. Invited speakers (Appendix 2)

Three speakers were invited to speak on topics in which they were an expert and/or to discuss projects in which they were involved. This included:

- **Prof. Michael Douglas** (University of Western Australia) spoke on “*The evolution of a large research collaboration to support the diversity conservation and environmental management – innovation and learning from setbacks*”. Prof. Douglas is a professor of environmental science at The University of Western Australia and leads the Resilient Landscapes Hub in the National Environmental Science Program. For the past two decades he has been leading large research initiatives focussed on applied environmental science. Under his leadership, these hubs have delivered outcomes for major environmental issues across northern Australia and have set new standards in Indigenous collaboration. His own research is focussed on the management of tropical rivers and their catchments and has directly influenced policy and planning across the region.
- **Dr Desi Ramoo** (B3, NZ) spoke on “*Surveillance and preparedness: a marriage of necessities*”. Dr Ramoo is the Director Better Border Biosecurity (B3). In 2000 Desi completed his PhD in theoretical physics after developing first principle models of microcavity semiconductor lasers at the University of Essex UK. In 2008, Desi was recruited by the Building Research Association of New Zealand (BRANZ) and this is when he, his wife and two young sons moved around the world to New Zealand. For BRANZ he combined software packages in computational fluid dynamics, building energy and building design to research building weathertightness and health issues in NZ; this software combination was a southern hemisphere first. Opportunities in NZ saw Desi move away from hands-on research to take on senior management roles in government agencies. For the Ministry for Primary Industries, 2016, he designed and established the Research Technology and Innovation (RTI) Practice. In RTI end of research, predominantly biosecurity, were able to transition to proof of concept through trialing solutions in real world operational situations. Prior

to appointment as Director B3, 2022, he held the position Chief Advisor Strategic Science Investment for the Ministry for Environment, and this broadened Desi's understanding of biosecurity impacts beyond the productive estates to include the natural environment.

- **Dr Heleen Kruger** (ABARES, DAFF) spoke on “Unlocking the potential of general surveillance programs in remote regions”. Dr Heleen Kruger is a social scientist in the Australian Bureau of Agricultural and Resource Economics and Sciences and has worked in Australian agriculture for over 20 years. She has led various projects that investigated the social and institutional aspects of agriculture and natural resource management, mostly focusing on biosecurity. These include research on community engagement about biosecurity, the social impacts of biosecurity outbreaks, social network analysis, and area-wide management. For the last five years much of her work has focused on general surveillance programs. She led the Making General Surveillance Work project that explored general surveillance case studies through a systems-thinking lens to develop guidelines for general surveillance programs. She is currently leading an extension of that work to develop a guide to design, measure and evaluate general surveillance programs.



Invited speakers from left to right: Prof. Michael Douglas (University of Western Australia), Desi Ramoo (B3), Dr Heleen Kruger (ABARES, DAFF).

Evaluation and feedback of ASW 2024

Evaluation of the ASW 2024 was conducted using the Poll Everywhere (www.polleverywhere.com) application, allowing real-time outputs to be displayed and participants to interact with the evaluation. The Poll Everywhere results are provided in **Appendix 4** and summarised below.

Evaluation of participants, their attendance, and communication of ASW 2024

Participants included entomologists (29%), program managers (19%), pathologists (17%), agronomy consultants (5%), policy personnel (10%), and risk analysts (7%).

Most participants (44%) heard about ASW 2024 first via a colleague or referral, or via the ad hoc email from the psnap@phau.com.au address (41%). The remainder of the participants first heard about ASW 2024 from the PHA Tendrils newsletter (13%) and the PSNAP website (3%).

Most participants had been a PSNAP member for over 2 years (49%), with 24% being members for less than 2 years, and 27% less than 1 year. ASW 2024 was the first Annual PSNAP-funded Workshop for 35% of this year's participants, with the remainder having attended two (28%) or more (39%) ADW/ASW/ADSW events. A total of 67% of participants had previously attended a PSNAP-facilitated webinar/skill development workshop or residential.

Evaluating ASW 2024

On evaluating ASW 2024, 68% polled the workshop was excellent, while 32% polled that it was average, and 0% polled that ASW 2024 as below average.

Program segments of ASW 2024 which participants found most useful included: Networking opportunities (50%), presentations (41%), shoulder workshops and the panel session (both 5%).

Evaluation on future network activities

Key activities/topics listed by participants for future Annual Workshops included a field trip, pathology- and entomology-focused content, industry-representation, and discussions with international experts. The key surveillance training needs identified by participants, in order of most frequently to least frequently listed, included: engagement, methods, extension, diagnostics, applications of new tools/technologies, risk modelling, and field training. Nematology was the only plant pest group listed as a key gap in surveillance.

Stakeholders ASW 2024 participants wanted to hear more from at future events included industry (39%), international presenters (23%), research and development corporations (20%), Chief Plant Health Officers/Managers (11%), policy (5%), and CSIRO (2%).

A total of 78% participants indicated that they would be interested in attending a residential, and only 22% were uninterested in participating.

Up to 91% of participants preferred that future ASW events take place overlapping with ADW, like ASW 2024, or joint with ADW (i.e., ADSW events), with the remaining 9% indicating their preference to have these as separate events.

Appendix

Appendix 1: Participant lists for the Annual Surveillance Workshop (ASW) 2024.

Table 1: In-person participant list of ASW 2024, presenters/workshop facilitators in bold font.

No.	First name	Surname	Job title	Organisation	Jurisdiction*
1	Abel	Ximenes	Chief of Diagnostic and Quarantine	Timor-Leste Directorate for Quarantine and Biosecurity (DNQB)	TL
2	Amy	Rinaldo	Manager Biosecurity and Chemical	Grains Research and Development Corporation (GRDC)	ACT
3	Anastasia Priscilla	Kawi	Biosecurity Officer	National Agriculture Quarantine & Inspection Authority	PNG
4	Andrew	Baker	Research Director	Data Effects	SA
5	Ben	Page	Plant Biosecurity Officer	PIRSA	SA
6	Benjamin	Schwessinger	A/Professor	Australian National University	ACT
7	Binyin (Patrick)	Di	Biosecurity Industry Liaison Officer	The Northern Territory Farmers Association	NT
8	Brittany	Greet	Project Officer – Plant Surveillance	Agriculture Victoria	VIC
9	Burgess	Rohan	Surveillance Manager	Plant Health Australia	ACT
10	Callum	Fletcher	Manager - Biosecurity	Grains Research and Development Corporation (GRDC)	ACT
11	Cameron	Murray	Regional Plant Biosecurity Officer	NSW Department of Primary Industries (NSW DPI)	NSW
12	Chris	Rothwell	Senior Policy Officer	Department of Agriculture, Fisheries and Forestry (DAFF)	ACT
13	Danielle	Wiseman	Research Scientist	Industry Plantation Management Group	WA
14	Darren	Peck	Director, NAQS	Department of Agriculture, Fisheries and Forestry (DAFF)	QLD
15	David	Lane	Scientist	Queensland Department of Agriculture and Fisheries (QDAF)	QLD
16	David	Smith	Forest Pathologist / Entomologist	ArborCarbon	VIC
17	Desi	Ramoo	Director B3	Better Border Biosecurity (B3)	NZ
18	Duy	Le	Cotton Pathologist	NSW Department of Primary Industries (NSW DPI)	NSW
19	Elisse	Nogarotto	Project Officer Plant Pathology	Agriculture Victoria	VIC
20	Elizabeth	McCrudden	DAFF International Plant Health	Department of Agriculture, Fisheries and Forestry (DAFF)	ACT

21	Emily	Lamberton	Assistant Director - Pacific Engagement	Department of Agriculture, Fisheries and Forestry (DAFF)	ACT
22	Fiona	Filardo	Senior plant pathologist	Queensland Department of Agriculture and Fisheries (QDAF)	QLD
23	Flavia	Sarti Bonora	Plant Pathologist	Queensland Department of Agriculture and Fisheries (QDAF)	QLD
24	Francisco (Paco)	Tovar	National Forest Biosecurity Manager	Australian Forest Products Association	WA
25	George	Harunari	Surveillance team	Biosecurity Solomon Islands	SI
26	Gideon	Suda	Surveillance team	Biosecurity Solomon Islands	SI
27	Hazel	Parry	Senior Research Scientist	CSIRO	QLD
28	Heleen	Kruger	Social Scientist	Australian Bureau of Agricultural and Resource Economics and	ACT
29	Isarena	Schneider	Entomologist	Department of Agriculture, Fisheries and Forestry	QLD
30	Ivy	Chen	Scientist	Queensland Department of Agriculture and Fisheries (QDAF)	QLD
31	Jacob	Yombai	Entomologist	National Agricultural Research Institute (NARI)	QLD
32	Jane	Royer	Director NAQS Plant Surveillance	Department of Agriculture, Fisheries and Forestry (DAFF)	NT
33	John	Nielsen	Surveillance modeller	Department of Agriculture, Fisheries and Forestry (DAFF)	ACT
34	Leanne	Young	Senior Biosecurity Officer	WA Department of Primary Industries and Regional Development (DPIRD)	WA
35	Leoneto Martins	Oliveira	Technical investigation	National Directorate of Quarantine Biosecurity	TL
36	Luke	Halling	Biosecurity and Entomology	Private Consultant	QLD
37	Majorie	Kemoi	Acting Chief Plant Protection Officer	National Agriculture and Quarantine Inspection Authority	PNG
38	Mandy	Jarvis	Marketing Specialist	Plant Health Australia	ACT
39	Mary	Findlay-Doney	A/g Assistant Director Surveillance	Department of Agriculture, Fisheries and Forestry (DAFF)	NT
40	Matthias	Jost	Project Officer	Plant Health Australia	ACT
41	Mee-Yung	Shin	Senior Officer Plant Pathology	Agriculture Victoria	VIC
42	Michael	Douglas	Professor and Hub Leader, NESP	University of Western Australia (UWA)	WA
43	Michael	Hodda	Senior Principal Research Scientists &	CSIRO	ACT

44	Michelle	Balfour	Senior Policy Officer	Department of Agriculture, Fisheries and Forestry (DAFF)	ACT
45	Mumta	Chhetri	Postdoc Research Associate Cereal Rust	The University of Sydney	NSW
46	Nicole	Thompson	Program Leader Plant Health and	SARDI	SA
47	Paul	Campbell	Principal Plant Pathologist	Queensland Department of Agriculture and Fisheries Queensland	QLD
48	Rachael	Lee	Technical Services	Swan Hill Chemicals	VIC
49	Rachel	Taylor-Hukins	Plant biosecurity surveillance	NSW Department of Primary Industries	NSW
50	Rebecca	Powderly	Project Officer, Biosecurity Planning	Plant Health Australia	ACT
51	Rebecca	Roach	Plant Pathologist	QDAF	QLD
52	Rebecca	James	A/g Senior Plant Pathologist	Department of Agriculture, Fisheries and Forestry (DAFF)	NT
53	Rohan	Kimber	Research Scientist	SARDI	SA
54	Rosalie	Banks	Principal Policy Officer, Surveillance	Queensland Department of Agriculture and Fisheries (QDAF)	QLD
55	Sandy	Watts	Plant Health Scientist	Biosecurity Queensland	QLD
56	Shakira	Johnson	Farm Biosecurity Coordinator	AUSVEG	VIC
57	Sharyn	Taylor	Manager, Surveillance	Plant Health Australia	SA
58	Shaun	Cullerton	Senior Entomologist	Department of Agriculture, Fisheries and Forestry (DAFF)	NSW
59	Simone	Heimoana	Research Scientist	CSIRO	NSW
60	Tim	Hurst	Senior Officer Plant Surveillance Design	DEECA	VIC
61	Tracey	Steinrucken	Research Scientist Plant Pathology	CSIRO	QLD
62	Visnja	Steele	Senior Laboratory Technician	QDAF	QLD
63	Yvonne	Ogaji	Project Officer - Surveillance	Plant Health Australia	VIC
64	Zac	Hemmings	Regional Plant Biosecurity Officer	NSW Department of Primary Industries (NSW DPI)	NSW
65	Jimmy	Lu	Project Officer, Digital Systems	Plant Health Australia	ACT
66	Marjorie	Kemoi	Acting Chief Plant Protection Officer	PNG National Agriculture & Quarantine Inspection Authority	PNG

67	Antonette	Walford	Project Officer - Entomology	Agriculture Victoria	VIC
68	Bianca	Rodrigues Jardim	Networks Coordinator	Plant Health Australia	NSW
69	Catherine	Mathenge	Assistant Director	Department of Agriculture, Fisheries and Forestry (DAFF)	ACT
70	Harsh	Garg	Protocols Coordinator	Plant Health Australia	NSW
71	Lucy	Tran-Nguyen	General Manager, Partnerships and	Plant Health Australia	ACT
72	Rachel	Mann	Manager, Diagnostics	Plant Health Australia	VIC
73	Matias	Silva Campos	Research Scientist	Department of Agriculture, Fisheries and Forestry (DAFF)	VIC
74	John	Roberts	Senior Research Scientist	CSIRO	ACT

* Summary of in-person participants by jurisdiction: ACT (18), NSW (9), NT (4), QLD (15), SA (5), TAS (0), VIC (11), WA (4), NZ (1), PNG (3), SI (2), TL (2).

Table 2: Virtual participant list of ASW 2024, presenters/workshop facilitators in bold font.

No.	First name	Surname	Organisation	Jurisdiction
1	Ben	Burchett	NT DITT	NT
2	Bernie	Wittwer	DAFF	QLD
3	Brooke	O'Connor	SCION	NZ
4	Carlos	Babativa Rodriguez	WA DPIRD	WA
5	Carol	Quashie-Williams	DAFF	ACT
6	Dante	Adorada	USQ	QLD
7	Emily	Rames	QDAF	QLD
8	Emma	Hudgins	University of Melbourne	VIC
9	George	Gill	MPI NZ	NZ
10	James	Kim	MPI NZ	NZ
11	Jane	Royer	DAFF	NT
12	Jessica	Lye	Citrus Australia	VIC
13	John	Alawneh	QDAF	QLD
14	John	Moore	WA DPIRD	WA
15	John	Nielsen	DAFF	ACT
16	Julie	Pinto	DAFF	WA
17	Kate	Glastonbury	NSW DPI	NSW
18	Kwasi	Adusei-Fosu	AgResearch NZ	NZ
19	Kylie	Ireland	Department of Biodiversity,	WA
20	Lachlan	Barrett	WA DPIRD	WA
21	Leen	Albert	WA DPIRD	WA
22	Lisa	Kelly	QDAF	QLD
23	Louise	Rossiter	NSW DPI	NSW
24	Marcus	Visic	WA DPIRD	WA
25	Melinda	Moir	WA DPIRD	WA
26	Matt	Hill	PHA	ACT
27	Nadine	Guthrie	WA DPIRD	WA
28	Nicholas	Ward	MPI NZ	NZ
29	Paul	Guthrie	DAFF	VIC
30	Paul	Stevens	MPI NZ	NZ
31	Pragya	Kant	AgVIC	VIC
32	Rachaell	Lee	Swan Hill Chemicals	VIC
33	Ranjith	Subasinghe Arachchige	DAFF	NSW
34	Ranjitha	Hande Harikrishna	MPI NZ	NZ
35	Rosalie	Mccauley	WA DPIRD	WA
36	Simon	Ong	NT DITT	NT
37	Stefania	Bertazzoni	WA DPIRD	WA
38	Zohara	Scott	Murdoch Uni	WA
39	Madaline	Healey	USC	QLD
40	Simon	Lawson	USC	QLD

* Summary of in-person participants by jurisdiction: ACT (3), NSW (3), NT (3), QLD (7), SA (0), TAS (0), VIC (5), WA (12), NZ (7), PNG (0), SI (0), TL (0).

Appendix 2: ASW 2024 Program



2024!
ANNUAL SURVEILLANCE WORKSHOP
Surveillance in remote locations

PROGRAM

Plant Surveillance
Network Australasia-Pacific

Annual Surveillance Workshop (ASW) 2024

PROGRAM

Note: all times are in AEST/QLD time (add one hour for AEDT NSW time)

DAY ONE Wednesday, 20 March 2024 River Room			
Workshop 1 - AUSPestCheck® overview and demonstration River Room			
TIME	PRESENTER	ORGANISATION	TOPIC
8.30am	Matt Hill Matthias Jost Jimmy Lu	Plant Health Australia (PHA)	AUSPestCheck® overview and demonstration
Registration and morning tea 10.40am - 11.10am			
Session 1: Communities			
Chair: Tim Hurst Co-chair: Callum Fletcher			
11.10am	Rachel Mann	PHA	Welcome
11.20am	Bianca Rodrigues Jardim	PHA	Plant Surveillance Network Australasia-Pacific (PSNAP) professional development updates
11.30am	Tim Hurst	Agriculture Victoria (AgVic)	Subcommittee on National Plant Health Surveillance (SNPHS) updates
11.45am	Harsh Gaig	PHA	National Surveillance Protocol (NSP) updates
11.55am	Michael Douglas	University of Western Australia	Invited speaker: The evolution of a large research collaboration to support the biodiversity conservation and environmental management - innovation and learning from setbacks
12.25pm	Antoinette Walford	AgVic	Residential report: Invasive exotic snail surveillance
12.35pm	Brooke O'Connor	SCION	Residential report: Surveillance and management techniques for the invasive species <i>Lymantria dispar dispar</i> (Spongy moth)
12.45pm	Darren Peck	Department of Agriculture, Fisheries and Forestry (DAFF)	Northern Australia Biosecurity: How do we manage the dynamic risk?
Lunch 1.00pm - 2.00pm			
Workshop 2 - An introduction to National Surveillance Protocols (NSPs) and their applications River Room			
2.00pm	Rachel Taylor-Hulkins Tim Hurst	NSW Department of Primary Industries (NSW DPI) AgVic	An introduction to National Surveillance Protocols (NSPs) and their applications
ASW 2024 social event Canapés served for 2 hours. Drinks available at cash bar Milling Room 4.30pm - 6.30pm			



Annual Surveillance Workshop (ASW) 2024

DAY TWO | Thursday, 21 March 2024 | River Room

Arrival tea and coffee | 8.30am - 9.00am

Session 2: Connections

Chair: Callum Fletcher | Co-chair: Ben Page

TIME	PRESENTER	ORGANISATION	TOPIC
9.00am	Panel Session	Timor Leste Directorate of Biosecurity and Quarantine (DNQB) The National Agriculture and Quarantine Inspection Authority (NAQIA) Biosecurity Solomon Islands	Surveillance perspectives from our near neighbours Delivery of plant health surveillance in the highlands of Timor Leste, a collaborate approach Plant surveillance in Papua New Guinea (PNG) Designing plant health surveys for collective benefit: a Solomon Islands case study
9.45am	Jacob Yombal	National Agricultural Research Institute, Islands Regional Centre, PNG	A galip nut ecotype mediated population dynamics and range expansion of a native and poorly known weevil affecting galip trees (<i>Canarium indicum</i>) posing a threat to the emerging galip nut industry

Morning tea | 10.00am - 10.30am

Session 3: Risks and challenges

Chair: Sharyn Taylor | Co-chair: Mee-Yung Shin

10.30am	Benjamin Schwessinger	Australian National University (ANU)	Integrate to innovate: Melbourne-Dili-Canberra and beyond
10.45am	Monique Sakalidis	Department of Primary Industries and Regional Development, Western Australia (DPIRD WA)	Mitigating threats to plant health: Red dwarf honeybee in Western Australia – the intricate landscape of plant biosecurity in remote areas and the critical role of local communities
11.00am	Rohan Burgess	PHA	Expanding the Early Detector Network to support the CitrusWatch program
11.15am	Heleen Kruger	Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), DAF	Invited speaker: Unlocking the potential of general surveillance programs in remote regions
11.45am	Duy Le	NSW DPI	Challenges associated with symptom-based disease surveillance in cotton in NSW
12.00pm	Rebecca Powderly	PHA	Australia's rural and remote horticulture surveillance system: Down the rabbit hole

12.15pm ASW 2024 group photo

Lunch | 12.30pm - 1.30pm

2024!
ANNUAL SURVEILLANCE WORKSHOP

4

5

Plant Surveillance
Network Australasia-Pacific

Plant Surveillance
Network Australasia Pacific

Annual Surveillance Workshop (ASW) 2024

Session 4: Opportunities				Chair: Elizabeth McCrudden Co-chair: Leanne Young
TIME	PRESENTER	ORGANISATION	TOPIC	
1.30pm	Desi Ramoo	Better Border Biosecurity (B3), Aotearoa/New Zealand	Invited speaker: Surveillance and preparedness: a marriage of necessities	
2.00pm	Paco Tovar	Australian Forest Products Association (AFPA)	Forest Watch Australia – a new national program improving forest biosecurity	
2.15pm	Rohan Kimber	South Australian Research and Development Institute (SARDI)	Spatiotemporal surveillance of airborne pathogens using vehicle-mounted smart traps	
2.30pm	David Smith	ArborCarbon	Remote sensing, artificial intelligence and user interface tools can assist in forest biosecurity preparedness and response	
2.45pm	Nadine Guthrie	DPIRD WA	Dipteran surveillance, monitoring and diagnostics workshop in the digital age: using MyPestGuide® as a resource	
3.00pm	PolIEV	PHA	PolIEV: ASW 2024 and PSNAP evaluation	
3.10pm	Callum Fletcher	Grains Research and Development Corporation (GRDC)	ASW 2024 closing remarks	
Afternoon tea 3.15pm - 3.30pm				
Workshop 3 - Putting National Surveillance Protocols into action River Room				
3.30pm	Rachel Taylor-Hukins Tim Hurst	NSW DPI AgVic	Putting NSPs into action	
Event concludes 5.00pm				

WORKSHOPS

DAY ONE Wednesday, 20 March 2024 River Room			
WORKSHOP	TIME	TOPIC	MAX NUMBER
Workshop 1	8.30am - 10.40am	AUSPestCheck® overview and demonstration	40 in-person
Workshop 2	2.00pm - 4.00pm	An introduction to NSPs and their applications	80 in-person
DAY TWO Thursday, 21 March 2024 River Room			
Workshop 3	3.30pm - 5.00pm	Putting NSPs into action	25 in-person

Plant Surveillance Network


Australasia-Pacific 

The Plant Surveillance Network Australasia-Pacific (PSNAP) enables members to communicate about plant pest surveillance and acts as a coordination point for surveillance professionals and practitioners.

The network was formed in 2017 as an initiative of the Subcommittee for National Plant Health Surveillance (SNPHS). The concept of the Plant Surveillance Network follows the success of the National Plant Biosecurity Diagnostic Network (under the Subcommittee on Plant Health Diagnostics).

The National Plant Biosecurity Surveillance Professional Development and Protocols Project is coordinated and delivered by Plant Health Australia and funded by the Department of Agriculture, Fisheries and Forestry. The objectives of the Project are to enhance and strengthen Australia's surveillance capacity and capability to identify priority plant pests that impact on plant industries, environment and the community.

Visit psnap.net.au

-  planthealthaustralia.com.au
-  [planthealthaustralia](https://www.facebook.com/planthealthaustralia)
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Appendix 3: Abstracts accepted for ASW 2024

Northern Australia People Capacity and Response Network – Darren Peck

Darren Peck (DAFF)

The risk profile of northern Australia, along with the small population and vast area creates a particular dependency on attracting and retaining biosecurity expertise in the region. The area is also diverse across communities, industries and geographical regions, and there is a distinct requirement to be agile in response. The Northern Australia People Capacity and Response Network (NAPCaRN), has been developed under the Northern Australia Biosecurity Strategy, in an effort to identify and address the specific challenges of people and resources in the region. The network aims to foster Indigenous and industry capacity and capability through the development of liaison officers, improve technical experience through mentoring initiatives and internships and share, leverage and broker knowledge more effectively to enhance biosecurity leadership capability in the north.

Integrate to innovate: Melbourne-Dili-Canberra and beyond

Benjamin Schwessinger (ANU), Abel Ximenes (MALFF)

It all started over a beer or two in the lovely atrium of Agribio sometime at a late winter night in 2022 at ADSW. What followed were several surprise phone calls, weekend discussions, and two grant applications. With the fortune of the lucky, both of these were successful and are now the foundation to build long lasting collaborations between Australia's biosecurity sector and Timor-Leste's biosecurity officers. Late 2023, Abel and his colleagues, Delfina, Luisa, Sancha, and Jose, visited the Australian National University for 6 weeks of plant biosecurity and molecular biology training. In addition, their visit provided ample opportunities to network with government and other research organisations, plus some exciting sight seeing of Sydney. Who could have left them in Canberra for 6 weeks straight?!? Their visit was sponsored by a DFAT Australia Fellowship. Further engagement and collaboration opportunities will be provided by the second successful grant, ARC ITTC in Plant Biosecurity, for which the Timor-Leste plant biosecurity team is a key international partner. This form of engagement with our Pacific Island neighbours might well be a blueprint to further strengthen biosecurity cooperation in our region. This presentation will cover all the fun facts.

Remote sensing, artificial intelligence and user interface tools can assist in forest biosecurity preparedness and response.

David Smith, ArborCarbon, Pty Ltd, Australia, Paul Barber, ArborCarbon Pty Ltd, Australia, Harry Eslick, ArborCarbon Pty Ltd, WA, Australia, Angus Carnegie, Forest Science, Department of Primary Industries, Parramatta (Sydney), NSW, Australia.

There are many threats to Australian native forests, plantations and urban forests from exotic and endemic insects and pathogens. Biosecurity surveillance programs focus on mitigating the risks posed by these biotic agents. Understanding pest's pathways and their hosts is essential for preparedness and surveillance. Urban forests around high-risk entry pathways like ports can be used as sentinels for early detection, but assessing large numbers of trees can be time-consuming. In Melbourne, Australia, many local governments maintain accurate tree databases that allow for precise host mapping within public land. However, this is not the case for other cities in Australia and remains a challenge within private land. Host mapping during a response following the detection of a pest is time-consuming and resource intensive; generally conducted in vehicles and foot patrols. Recent work in Australia has shown that using ArborCam™ airborne remote sensing camera system mounted to a fixed-wing aircraft and the use of artificial intelligence allowed automation of the detection of *Pinus* and *Platanus* with an overall accuracy of 92.1% and 95.2%, respectively. The 11-band multi-spectral system developed by ArborCarbon also provides data on tree health, size, and shape, detailed information on vertical and horizontal structure, and spectral and thermal information for object identification and measurement. The benefit of the system is that it is focused on detecting spatial and temporal changes in vegetation and particularly tree health across all land tenures enabling early response to impacting factors or evaluation of control activities. Remote sensing can be valuable in remote communities where on ground surveillance is difficult due to limited access and their vast areas. Remote sensing can aid in identifying areas for targeted surveillance, speed up responses and reduce the

costs of boots-on-the-ground surveillance. ArborCarbon’s user interface allows individuals and communities without formal GIS training to engage deeply with the data to rapidly plan responses to biosecurity outbreaks.

Spatiotemporal surveillance of airborne pathogens using vehicle-mounted smart traps

Rohan Kimber¹, Jamus Stonor¹, Stuart Wili², Paul Coldrey³ and Jon West⁴

¹ South Australian Research & Development Institute, Crop Sciences, Urrbrae, 5064, Australia

² Agri Samplers Ltd., High Wycombe, HP15 6SJ, England

³ Data Effects, Adelaide, South Australia, 5000, Australia

⁴ Protecting Crops and the Environment Group, Rothamsted Research, Harpenden, AL5 2JQ, England

A science-engineering partnership led by SARDI is creating new opportunities for surveillance of airborne pathogens through end-to-end spatiotemporal surveillance for regional or remote agricultural landscapes. The platform utilises ‘smart’ spore trapping technology that collects air biota referenced to time, space and climate data (temperature and RH) linked to downstream molecular diagnostic pipelines. The next evolution of this Mobile Jet Spore Sampler is being tested in Australia for mobile surveillance of several significant fungal pathogens threatening agricultural industries. The device is mounted to a vehicle’s roof and samples at high frequency (200-450 L/min) directly into DNA extraction tubes using virtual impaction. A mobile phone application is used to program automatic sample collection when the vehicle passes within designated GPS polygons. This technology was developed in a collaboration between SARDI and Data Effects and builds on initial prototypes in partnership with Agri Samplers Ltd and Rothamsted Research (United Kingdom). This innovation approach can improve spatial resolution of airborne spore dispersal patterns across a broad landscape, which is particularly important given the size and scale of Australian agricultural industries. The system utilises barcoded samples to be interlinked with the molecular diagnostics pipeline for efficient traceability to output point of origin incursions or abundance patterns, achieved through digital output visualisation packages developed with the project’s technology partner Data Effects. The platform compliments fixed monitoring sites, to expand end-to-end surveillance pipelines serving device-to-data delivery for end-user community needs, and deployable to remote regions, risk pathways, border protection points or generating data to support area freedom. This further demonstrates cutting edge innovative and sustainable solutions serving Australia’s biosecurity programs.

Mitigating threats to plant health: Red dwarf honeybee in Western Australia – the intricate landscape of plant biosecurity in remote areas and the critical role of local communities.

Marcus Visic, Monique L. Sakalidis, and David Cousins (Department of Primary Industries and Regional Development, DPIRD)

Plant biosecurity is essential for safeguarding agricultural ecosystems and global food security. However, implementing surveillance measures in remote locations present unique challenges that demand innovative solutions and active community engagement. This is typified in the National Response by the Department of Primary Industries and Regional Development (DPIRD) to the exotic Red dwarf honey bee (RDHB) (*Apis florea*) in Western Australia (WA). RDHB are known vectors of mites, bacteria and viruses that can seriously impact European honey bee (EHB). RDHB was first detected in WA following a March 2023 report from the Pilbara Port Authority via MyPestGuide® Reporter of suspect exotic bees at the Dampier wharf on the Burrup Peninsula (Murujugaa). Access to this site, communications and photographic data is restricted due to resources infrastructure, and surveillance staff require escort by resources company personnel. The remote location, difficult terrain, venomous and aggressive wildlife, and high temperatures place surveillance staff at risk of dehydration and injury. However, the Burrup Peninsula is an area rich in indigenous cultural value and has one of the highest concentrations of petroglyphs found in the world. Additionally, the site is rich with rare and diverse wildlife and wildflowers. Effective surveillance is critical to protect this unique site and the rest of Australia from RDHB and the pests they vector. The Australian Department of Agriculture, Fisheries and Forestry and DPIRD jointly surveyed this site. DPIRD engaged with Murujuga Aboriginal Corporation to ensure activities conducted respect the cultural significance of the area. DPIRD also worked closely with relevant resources companies to ensure any activities conducted on these sites met safety and security requirements. Training that outlined the concept of biosecurity as a shared responsibility, along with information on how to recognize and report RDHB

was enhanced with the provision of print collateral and physical specimens of RDHB and EHB. This led to additional reports to MyPestGuide® Reporter and detections of RDHB by stakeholders. Engaging with communities builds trust, encourages reporting of suspicious activities, and ensures that surveillance efforts align with the cultural and social context of the region and are invaluable for identifying and addressing emerging threats effectively.

A Dipteran surveillance, monitoring and diagnostics workshop in the digital age: using MyPestGuide® as a resource.

Nadine Guthrie (Department of Primary Industries and Regional Development)

The aim of this workshop was to address knowledge gaps and evolve the diagnostic techniques available for Diptera. The workshop was presented by Dr Dan Bickle (Aust Museum), Prof Raph Didham (CSIRO/UWA) and Dr Keith Bayless (CSIRO) to 20 participants, February 2024 in Perth, Western Australia.

The workshop focussed on using field and laboratory-based sessions in conjunction with seminars: existing surveillance collecting and monitoring techniques for key biosecurity Dipteran groups; morphological identification of important species; and addressing efficacy of other surveillance methodologies such as triaging and identification from digital images.

Participants gained surveillance skills through practical sessions covering design, placement and set up of a variety of fly traps in field situations. Laboratory sessions covered rapid sorting, basic identifications, and preservation of flies for potential molecular diagnostics and long-term storage.

An overview of Dipteran family diversity was given, focussing on species of biosecurity concern, including leaf miners, exotic fruit flies and hessian flies. Seminars were given on morphological recognition, use of relevant taxonomic keys to major Dipteran families, followed by species level identification of selected Dipteran species of biosecurity, agricultural, forestry, stored product, or pollination importance.

Participants applied this knowledge to assess samples from field sessions and previously collected specimens. These skills were then applied to identification of Dipterans in digital images from a variety of sources, including the MyPestGuide® system, to triage and locate key characters to allow for identification at the family, genus, and species levels, enhancing capability in general surveillance via reports received by the general public.

Attendees increased their capability to conduct surveillance for and identify Diptera from samples as well as digital imagery, benefiting government, industry, and community. As a new tool for Diptera surveillance, digital imagery identification skills will enable continuing collaborations between researchers, strengthen Australian and international diagnostic and surveillance networks, and in turn improve early detection of exotic flies when undertaking surveillance activities in Australia.

Australia's rural and remote horticulture system: Down the rabbit hole

Rebecca Powderly (Plant Health Australia)

In an age of the internet, we are more connected than ever. With a few taps on your phone or a search on Google we have access to endless information and can receive live updates on events almost as they are happening. This may be the experience for people who live in cities, where an afternoon traffic jam may delay a journey home by 15 minutes, or navigating through a densely populated city may send your phone GPS haywire.

However, this is by no means a universal experience, especially for members of remote and rural communities. While out on rural properties issues arise including a complete lack of any signal for calls, a trip to a neighbouring property or nearby town and back may take half a day, and sending a sample for a suspicious pest or disease could take weeks or months to receive a result. The importance of equal opportunity for surveillance in remote or rural locations, particularly in a time where we are so connected on a global scale, cannot be ignored.

Programs such as the NISSPP and commitments to bolster rural and remote regions by DFAT are a first important step in raising awareness of the current limitations and challenges faced by growers or workers in these locations. While there could be many solutions posed to these questions, the importance of communication and dialogue cannot be understated. People who have lived and breathed in these communities, seen the struggles, and triumphed with innovative solutions are key contacts to create a system of surveillance which may not all look the same, but produce results that both adhere to data standards and that then feedback into further

surveillance efforts.

People in remote and rural communities can give invaluable insight into surveillance and with a collaborative approach are the key to progressing surveillance efforts, responding to biosecurity threats efficiently and most importantly, making all involved feel heard.

Forest Watch Australia – a new national program improving forest biosecurity

Paco Tovar (Australian Forest Products Association), Rohan Burgess (Plant Health Australia)

New exotic pests in our forests would have significant impacts on the Australian economy, trade and market access, environment, and way of life. To mitigate the risks of exotic pest establishing in Australia a National Forest Pest Surveillance Agreement between governments, the forest sector and community environment groups established a nationally coordinated post-border surveillance program, Forest Watch Australia.

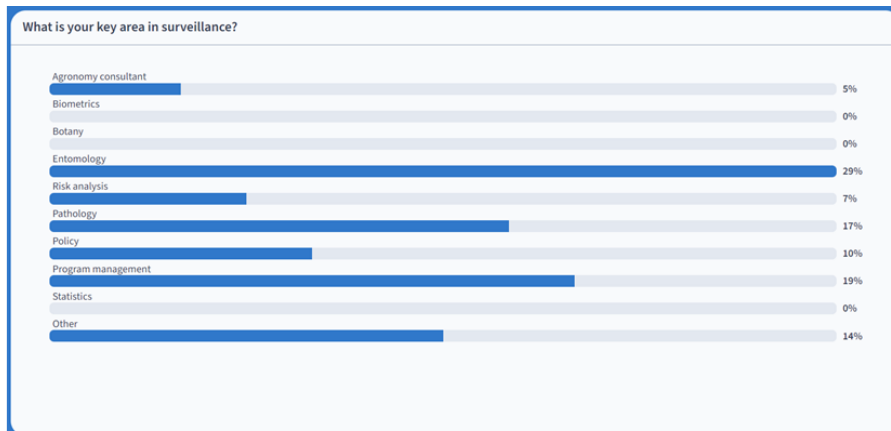
Forest Watch Australia aims to enhance Australia’s biosecurity system through coordinated, risk-based forest pest surveillance activities, that enable early detection of exotic forest pests and improve the likelihood of pest eradication or containment before significant impacts occur. 2022-23 marked the first year of operations and resulted in the deployment of 163 traps and the assessment of over 2700 trees for exotic pests near major ports in Perth, Adelaide, Melbourne, Sydney, Port Kembla, Brisbane and Darwin.

Complementing surveillance activities, Forest Watch Australia also includes a focus on stakeholder training. Training provided by the program follows a national training package and includes face to face training as well as an online learning. This training which is aimed at improving the awareness of all forest stakeholders of the importance of forest biosecurity, key forest pests, their signs/symptoms and encourages the reporting of unusual pests. Complementing this training is MyPestGuide Trees, a mobile application designed to facilitate the identification and reporting of suspect pests to relevant jurisdictions.

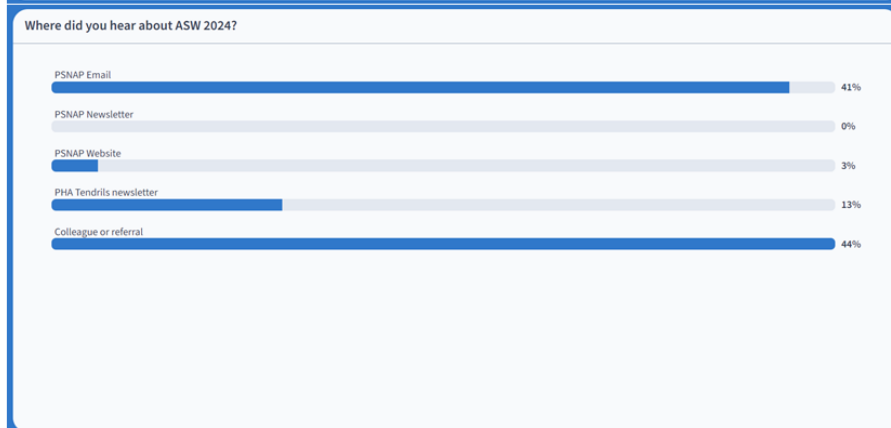


Appendix 4: PolEV survey responses from ASW 2024.

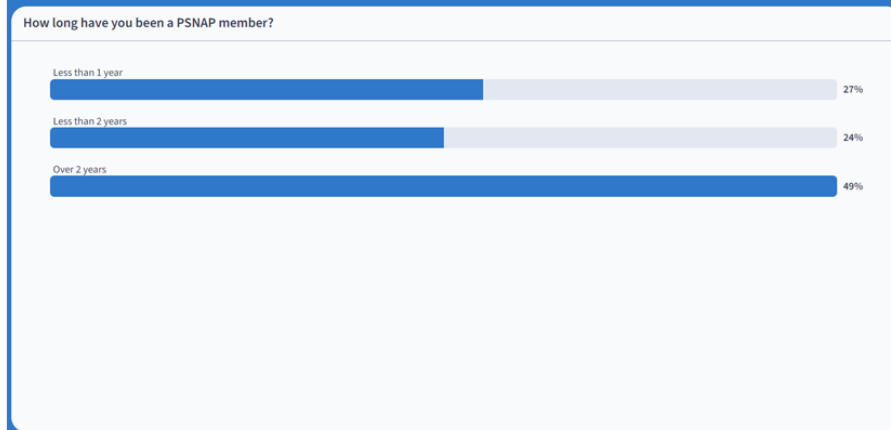
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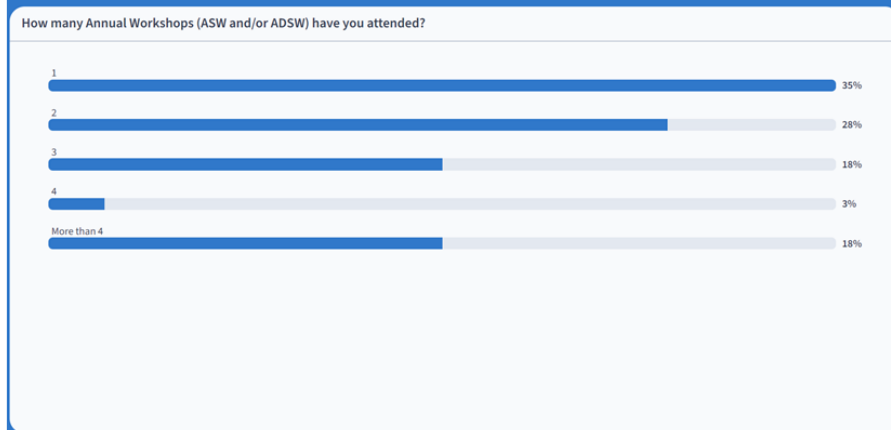
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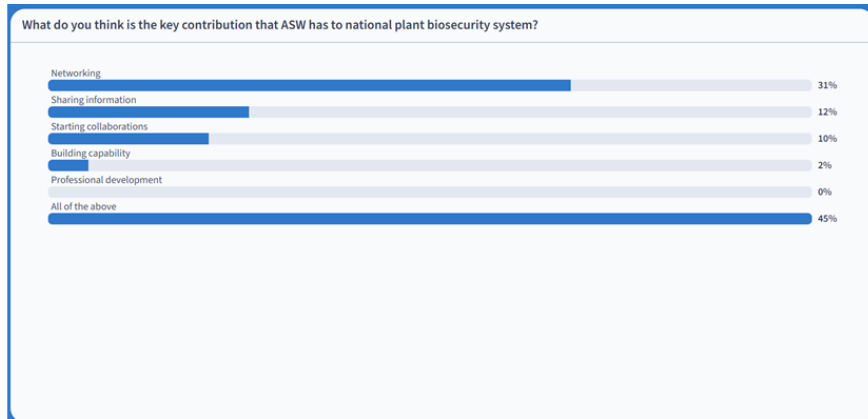
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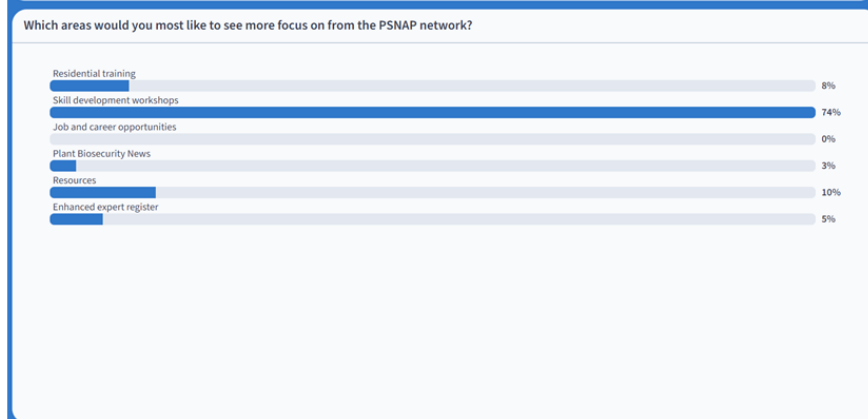
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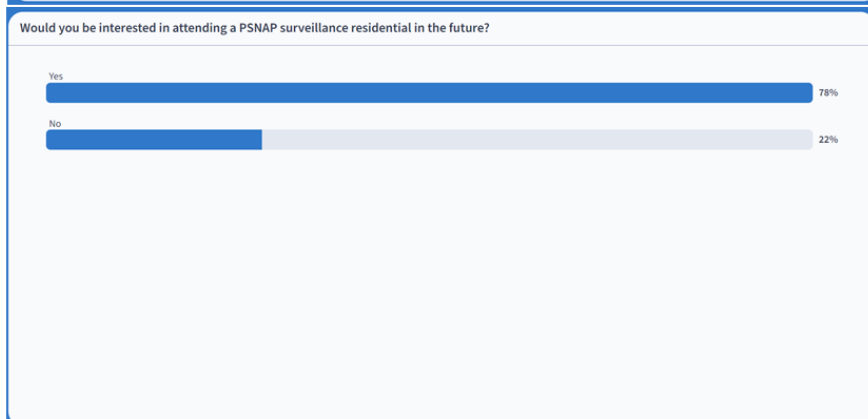
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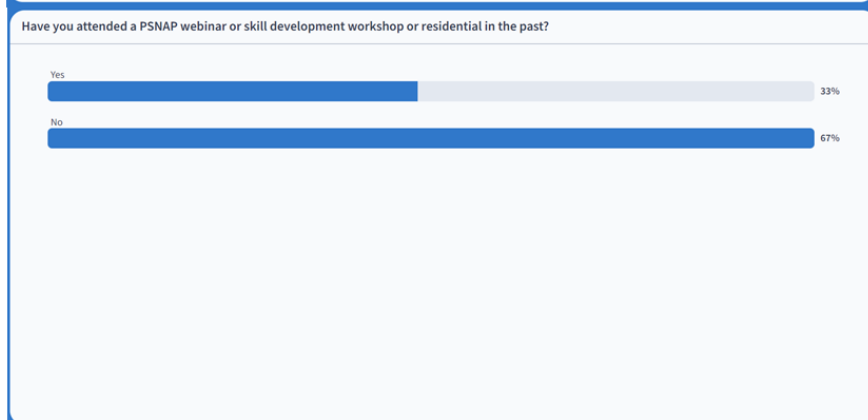
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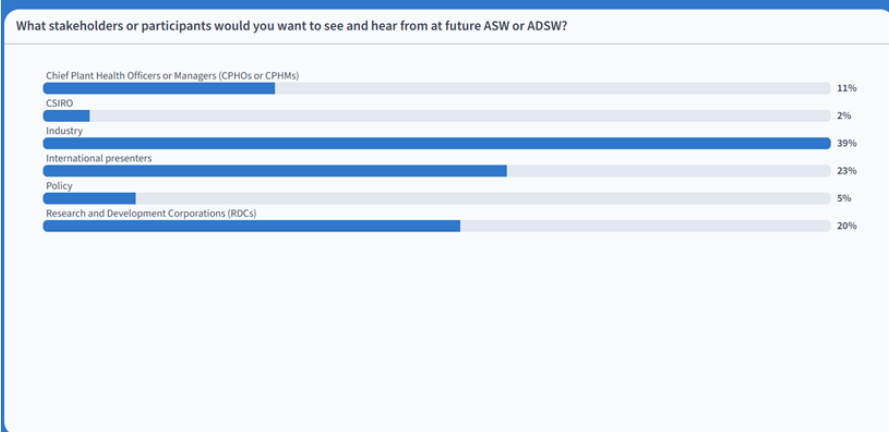
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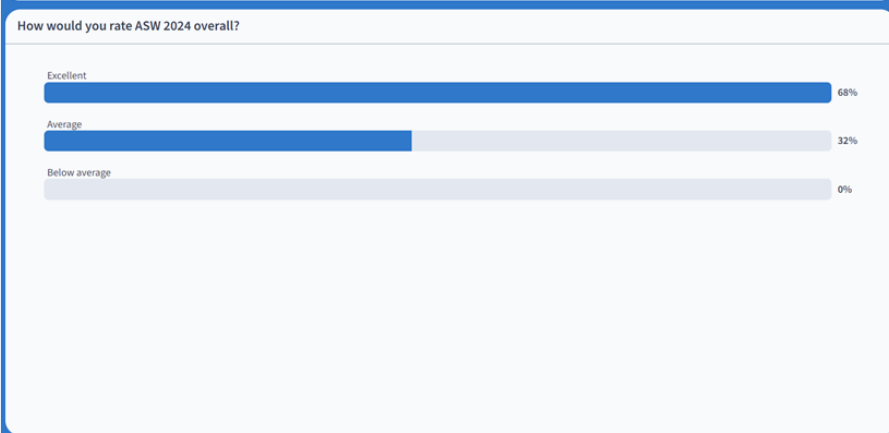
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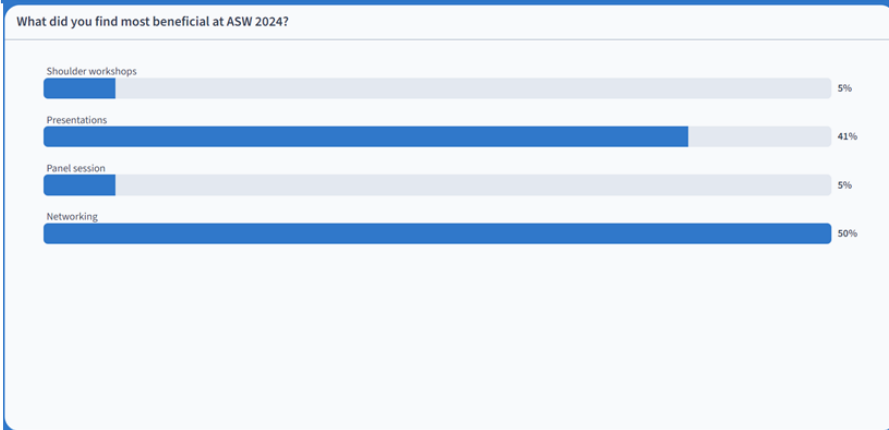
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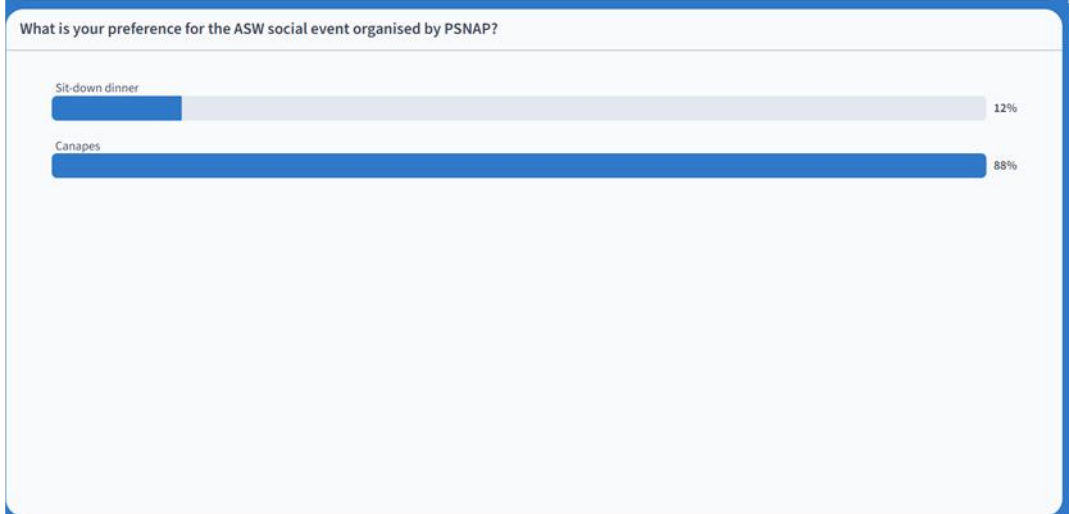
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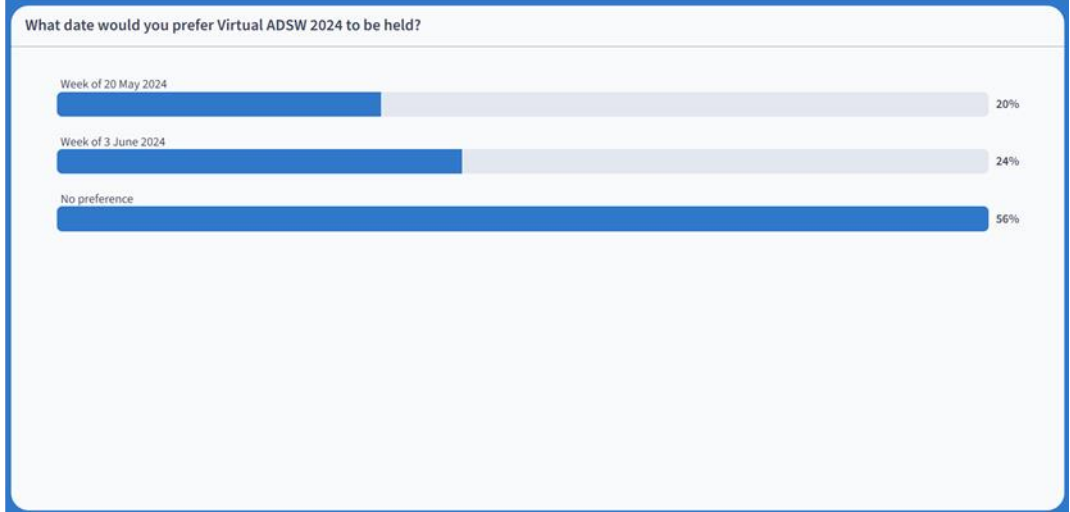
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No. responses: 41



No. responses: 36



No. responses: 45

